

THE CAVALRY JOURNAL

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Sand edges*



A squad of the 1st Cavalry Division Provisional Reconnaissance Unit enters the division rear echelon on Leyte, Philippine Islands.

JANUARY-FEBRUARY, 1945

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Armor and Its Place in

*by Major John North**

THE most famous of all the divisional signs in the British Army is that of the Desert Rat. Three times in this war that division has fought its way backward and forward across the sands of Libya. The fourth time it continued into the mountains of Tunisia, onward through Sicily into the mountains of Italy, thence to Normandy, and thereafter through France and Belgium.

What are the highlights of this formidable sum of practical and highly varied experience in the field? What lessons do they point for the future of tank warfare and of tank design?

It is always dangerous to draw a general conclusion applicable to any and every theater of war, but there is one such conclusion which all exponents of armored warfare must be prepared to accept in the light of general experience. The brightest expectations of the prewar exponents of armored warfare can now hope to be fulfilled only at certain rare moments.

If the unique and essential characteristic of the tank is its power to combine fire with movement, the African desert was the perfect battlefield for tank warfare. It

*British Staff Officer.

This scene in the village of Cagny, France, shows tanks knocked out while supporting the infantry during heavy street fighting. The Sherman tank at right has a broken track which is being repaired by a Royal Engineer crew.



provided unlimited room for maneuver, and natural tank obstacles were virtually non-existent. Only the problem of supply acted as a brake on mobility.

THE ANTITANK GUN

Nevertheless it was in the African desert that the tank met its master in the antitank gun, which might or might not be mounted in another tank. Before the emergence of the antitank gun as the only satisfactory answer to the tank, a succession of tank v. tank battles had been fought from the borders of Egypt to the fringe of Tripolitania—battles that evoked obvious comparisons with naval warfare and were fully deserving of the description of tank battles. The arrival of the modern antitank gun virtually killed the tank as an independent weapon in the spearhead of the attack. Indeed, tank tactics were reduced to the negative form of luring one's opponent on to one's own antitank guns.

Ironically enough, it was that energetic exponent of tank warfare, the late Field Marshal Rommel, who became the victim of these tactics, which, in earlier battles, he had employed successfully against out-gunned and out-armored British tanks whose only chance of hitting the enemy had been a quick "dash-out." On August 30, 1942, in a special order of the day, Rommel announced: "The Army is moving into the attack for the final annihilation of the enemy." But it was his own armor that was annihilated—by salvos from British antitank guns and British tanks, lying in hull-down positions on ground of their own choosing.

THE MINE FIELD

The second answer to the tank proved to be the minefield. It was on its two-thousand mile "march" from Alamein to Tunis that the British Eighth Army had first-hand experience of the dominating contribution of the mine field in the enemy conduct of a long-fought delaying action. The mine, however, is effective less for its destructiveness than for the limitations it imposes on that freedom of maneuver which is vital to the function of the tank as an aggressive weapon. The last humiliation of the tank is to find itself converted into a stationary pillbox.

As already pointed out, the brightest expectations of the prewar exponents of armored warfare can hope to be fulfilled now only at certain rare moments; that is to say, at those times when an armored force is not

the Future

This armored vehicle of the Royal Engineers; known as the A.V.R.E., is similar in design to the famed Churchill tank. Its striking external feature is a special mortar mounted in the turret. This mortar, known colloquially as the "Petard," can hurl a charge containing many times the weight of explosive of other projectiles of similar dimension.



EXPLOIT IN TUNISIA

crippled in its power of movement by the mine and the well-sited antitank gun. One such moment occurred in the Tunisian campaign. In the final battle of that campaign, in the second week of May 1943, as soon as the infantry had cleared a gap in the enemy defenses, three armored divisions were flung into the battle, not to fight enemy tanks, not to kill enemy troops, but to cripple the enemy organization by ripping asunder the whole fabric of his fighting machine. During that battle every available tank was directed on Tunis and beyond; and within the space of a few days a hitherto redoubtable German army had ceased to exist. It will be observed that, as in all the later desert battles, tanks could not become the spearhead of the attack until the infantry and supporting tanks had opened a path for them.

Thus, in face of the development of antitank defensive measures, it must be accepted that the main rôle of armor in Africa had taken the form of exploiting infantry success. Its other rôle—that of infantry support—was to take first place in Normandy and in Holland.

NORMANDY

Indeed, in the Normandy battles, tanks were used in a rôle which hardly can be said to come within the category of tank warfare. At one time it was axiomatic that tanks could not be expected to engage in street fighting. Nevertheless, in order to assist the infantry attack and to sustain infantry morale, they were called upon to "brass" windows where snipers might be lurking and "spray" village streets with high explosives. Contrary to African desert experience, they had to be used in "penny pockets" in the closely wooded Bocage country, where their view of a winding lane was confined to what could be seen over the adjoining hedges.

There the tanks, far from being the spearhead of the attack, required its own infantry support—a fashion thoroughly developed by the Germans, who allotted a section of Panzer grenadiers to accompany each tank on foot and to clear the way for it. The infantry, indeed, may be said to have led their tanks into battle like monster pets, and were "almost constrained to pat them on the nose by way of encouragement!"

Under such conditions of terrain, objectives which used to extend up to 3,000 yards, had to be cut down to 1,000. The only guarantee of success was close personal coöperation between the infantry and tank commanders, based on careful preparation before the battle. If the armor joined up only on the start line, real coöperation was out of the question.

Once the infantry objective was reached, the tank commander was often called upon to stay on it in support of the infantry even at the cost of the almost certain loss of his tank, since it was often impossible to take up a position which was hull-down from all angles. Finally, it should be noted that the majority of the tanks engaged in this style of warfare were of the cruiser type, whose speed and maneuverability could not hope to offset their lack of heavy armor.

HOLLAND

In Holland these same cruiser tanks were called upon to operate under conditions which, although entirely different, were not less difficult. There the raised road embankment silhouetted the tank against the skyline. The road itself was often mined and its canal and river bridges certainly blown. The penalty of getting off the road almost as certainly was to get bogged.

Again the prime function of the tank arm was to sustain infantry morale under appalling conditions of fire and mud and water, and to engage, when possible,

concealed enemy weapons. More often than not these were sited almost at ground level and almost impossible to detect until they had got in the first shot.

These "grey periods" in the story of tanks in this war are illuminated by two of those "rare moments" which justify the faith of those who, in prewar days, preached the gospel of mechanization. The wide encircling drive of the American Third Army is unlikely ever to be excelled as a classic episode in the history of tank warfare. Likewise the drive of the British armored divisions from the Seine to Amiens, Brussels and Antwerp provides an example of what tanks can achieve in the way of dislocating an entire enemy front when that enemy is given neither time nor opportunity to resort to his two prime defensive measures against tank penetration—the minefield and a screen of antitank artillery.

TANK DESIGN

It will be agreed from these observations that more than one type of tank is required under the varying conditions of modern warfare. It will also be agreed that a multiplicity of types is a complication in manufacture and maintenance which should be avoided. It must also be obvious that a dual-purpose tank—that is, a tank suitable for working with infantry and also for operating in an armored division—will permit of its ubiquitous employment. This is a major consideration in the eyes of a commander-in-chief, since he will be allowed greater flexibility in the planning of a battle and will not be compelled to keep a large percentage of his armor unemployed. It is significant that the heavy infantry tanks which did excellent work in the difficult fighting in Normandy could take no part in the pursuit because of their relatively slow speed.

Since there can be no question that a light tank is necessary for reconnaissance and pursuit, and since it is generally agreed that a really good dual-purpose gun (both armor-piercing and high explosive) is essential, the whole question of the future of tank design resolves

itself into the simple query, "Must there be two types of the fighting tank—an infantry and a cruiser tank?"

The question arises as to whether or not the contribution of the heavy infantry tank in the Normandy fighting was conspicuously superior to that of the cruiser type. If it was not, its continued existence can hardly be justified, since its usefulness must be confined to the close-quarter fighting that precedes the pursuit.

Weight, armor, and speed must always be matters for compromise, and the compromise here to be effected is the increase in weight of armor on the cruiser type. It may be a compromise which is not likely to have serious repercussions if it should be accepted—as it must be in the light of experience—for a super-heavy slow-moving tank, however effective it may be on occasion, is too unwieldy to be an economic proposition in the long run. It is probably safe to suggest that no tank should exceed 45 tons. On this basis of reckoning the logical procedure for tank designers of the future would be to select the best possible dual-purpose gun, to produce an engine with sufficient horse power to obtain the required speed, and then to fit armor to the agreed maximum weight.

Practical experience in the field has served to throw useful light on the correct positioning of this armor. The side of a tank receives more hits than the front; and, in the average, the hull receives more hits than the turret. If the maximum basic protection is to be obtained for those vulnerable places disclosed by battle experience, care in the angling of the plate is as vital a study as the actual thickness of the armor.

Thus tank design for the future will need to adjust itself to the one cardinal fact that emerges from this survey of tank employment in this war. It is the enemy antitank or self-propelled gun which usually does the damage, and not the enemy tank; and the cardinal fact about these guns themselves is that they rarely, if ever, fire head-on.



The Cromwell tank, which made its debut in Normandy, is one of the latest types of British cruiser tanks. It incorporates a 75mm gun and a high capacity British engine. It proved to be a most reliable and effective addition to British armor on the Normandy front. This picture was taken during a visit of Mr. Churchill to British troops in Britain and shows the Prime Minister inspecting a Cromwell tank.

Command Control of an Armored Amphibian Battalion

by Lieutenant Colonel James L. Rogers*



Signal Corps Photo

Landing forces of the 7th Infantry Division aboard an alligator head for shore at Enubuj Island, Kwajalein Atoll.

PROBABLY the hardest phase of an amphibian operation is maintaining control of the operations of the amphibian unit. The operating of this control does not merely apply at the time of actual combat but also comes during the preparation phase, prior to actual departure for the combat zone. This control hinges upon two factors, namely; proper communication, and adequate disposition of liaison officers with the headquarters with which direct contact is necessary.

It is first necessary to find out the tactical mission of the organization, how it fits into the general plan, and what specific jobs it is to perform. From an analysis of these things the unit commander can readily find out with whom he must have communication, and what type of communication is necessary. An amphibious operation without proper communication is not an operation, but a melee, and the loss of lives through such a melee is tremendous.

It is necessary to determine the following:

- (a) What types of radios are necessary, and what types are available.
- (b) How many channels are necessary.
- (c) What persons should utilize these channels.
- (d) Where should the liaison personnel be placed.

(e) What kind of communication should they have.

The normal tractor battalion, usually attached to a regiment for an amphibious operation, has sufficient vehicles to carry ashore two assault battalions. Normally the tractor company is attached and is under tactical control of the commander of the infantry battalion that is carried in by this company. Therefore, initially, the tractor battalion commander and his staff is employed by the regimental commander as a staff for LVT's.

The infantry regimental commander normally sets up his advance command post on the control vessel which is responsible for the landings of personnel and supplies on his beaches. If the tractor battalion commander rides on this control vessel with the infantry regimental commander, then the three branches controlling factors in the landing can be closely coordinated—the naval beach master or control officer, who is responsible for the proper landing and control of all traffic on his beaches; the infantry regimental commander, who is vitally interested in this operation since upon it depends his future operation ashore; and finally, the commanding officer of the amphibian vehicles which are carrying the troops and supplies ashore. With all three of them together, they can decide any unforeseen problems and have a vital effect upon the landing.

*Commander, 708th Amphibian Tank Battalion during Kwajalein and Eniwetok operations and landings on Saipan and Tinian.

If the regimental commander has his command post on the transport rather than on the control boat, it is still desirable to have the tractor battalion commander ride on the control and have his executive officer back on the transport as liaison with his regimental commander.

It is believed advisable to have an officer from the tractor battalion staff ride on the sub-control boat of each beach, which accompanies the first wave into the beach and then, pulling off to the flank, acts as a dispatcher for all types of craft entering and leaving the beach. It is the normal practice for tractor units to rendezvous with this sub-control boat in a position on the flanks of the boat lane, out of range of small-arms fire, when they have unloaded their troops or supplies on the shore.

An amphibian tank battalion will normally be attached to one of the higher headquarters controlling the landing. At Saipan the amphibian tank battalion was attached to the Marine division. The division split the battalion between the two assault regiments, with two tank companies assigned to each. The regiments, in turn, assigned each tank company to support an assault battalion.

In such a case, the tank battalion should furnish a liaison officer to each regimental commander to act as an amphibian advisor on his staff. The tank companies should furnish liaison officers to the assault battalion which they are supporting to act as an amphibian advisor on the battalion commander's staff. Of course, these liaison officers should have radios set up on proper

channels so that they are able to contact the persons with whom they are most likely to deal. In the case of the tank company liaison officer, it will be his company commander, the assault battalion commander, and probably the tank Battalion commander. In the case of the regimental liaison officer, it will be the tank companies that are attached to his regiment, the regiment itself, and probably the tank battalion commander.

If LST's are permanently assigned to the battalion, it is also advisable to establish some kind of communication or liaison with the LST group commander. A ship or two may be pulled out leaving part of the amphibian vehicles without a home. I found that by setting up a rear command post on the command ship of the LST Group, and using my executive officer as a liaison officer, I was able to keep up with, and govern the movement of the LST's to fit into the movement and care of the tractors. If radios are available, it is well to have one per LST to set up topside for intra-battalion communication when the battalion is loaded.

It has also been suggested that an LVT representative be placed in the boat of each naval wave guide officer to help him in the handling of the tractor waves. This, in my mind, is not desirable because:

1. Sufficient LVT officers are not available for this duty.
2. The naval wave guide officers are with the wave actually only a short period of time. Hence any officers with them would be lost to the battalion except for this short period of time.
3. If LVT officers are necessary with the naval guide



Signal Corps Photo

Carrying men and equipment of the 7th Infantry Division, assault boats and alligators approach the shores of Enubuj Island, at low tide. Mother ships can be seen in the distance. As soon as possible, amphibians become shore-based.

officers, why not just do away with the naval guide officers?

If the Naval Guide Officer knows where to pick up his wave, where its rendezvous area is situated, and where it is to land, the LVT Officer in charge of that wave should be able to do the rest.

As an example, suppose that a tractor battalion is attached to the assault regiment of a division landing in column of regiments. The regiment is landing on two beaches, one battalion on Beach Red 1 and one battalion on Beach Red 2. The tractor battalion commander is with the regimental commander on the senior control boat. The infantry battalion commanders are each riding in a "free tractor" with the commander of the tractor company that is carrying his battalion in. Two LVT officers are riding on the 2 sub-control boats which will flank the first wave on its run to the beach, and then pull off to the flanks of the boat lanes and act as dispatchers and rendezvous points for all craft after they have unloaded on the beach. Initially, the battalion rear CP has been set up on the command ship of the LST group. The time is H minus 90.

The LST's are now in a position approximately 800 yards in rear of the line of departure; the tractors are being launched; and the naval wave guides, flying the "Wave Flag," have picked up their waves, and are guiding them to their proper rendezvous area. The tractor carrying the LVT officer in charge of the wave is also flying the "Wave Flag."

The waves have been formed in their proper position, but the current is carrying them off to the right flank of the boat lanes. The naval control officer contacts the LVT battalion commander and they decide to move the waves back up into position. The naval control officer contacts his naval guide officers by radio and explains the situation to them. The LVT battalion commander does likewise with his company commanders, and the units are moved into their proper positions.

It is approximately time for the first wave to cross the line of departure, so the naval control officer has the "One Flag" run up. This is the signal for the first wave to get its final position and prepare to cross the line of departure. The battalion commander sees that the waves get their proper positions and proper intervals.

The "One Flag" is lowered, and the first wave, flanked by the sub-control boat, moves across the line of departure toward the beach. The following waves close up on the line of departure automatically, or by radio order from the naval control or battalion commander. The "Two Flag" is then hoisted. This procedure will continue till all waves have crossed the line of departure and are on the way to the beach.

When the tractors have unloaded ashore, they return to the rendezvous area to the flanks of the boat lanes, where they are ready for further use. The regimental commander decides to send in his reserve battalion on Red Beach 1. The naval control officer and the battalion commander, after consulting, decide to move the tractor

company that has rendezvoused to the flank of Red Beach 2, over to a position flanking Red Beach 1, so that all tractors can be used for the trans-shipment of troops in the minimum of time.

The first wave of 6 LCVP's carrying troops are sent across the line of departure with orders to report to the sub-control of Red Beach 1 for trans-shipment of troops to LVT's. The naval control officer calls the sub-control officer and tells him that 6 LCVP's are on their way for trans-shipment of troops to LVT's, which are to land them on Beach Red 1. The sub-control officer asks his LVT representative to prepare twelve tractors for this trans-shipment of troops. This procedure is carried out until all troops and assault supplies have been delivered to the proper beaches.

If at any time the beach master ashore needs tractors for the evacuation of casualties or for the transportation of supplies to the front line troops, he notifies the senior control officer. The senior control officer will then ask the tractor battalion commander to have them dispatched to the proper place, or he can give his request through his sub-control officer, who can have the LVT representative dispatch them to the proper place.

If vehicles are in need of repair, they should contact the battalion commander who, in turn, will have the maintenance LST move in and pick up the vehicle by contacting his executive officer at his rear command post. Again, if a maintenance tractor is available, he can order that tractor to the position of the disabled vehicle.

When it is time for the tractors to load that evening and the battalion commander has obtained a release to load from the regimental commander, he calls his rear CP and asks to have the LST's moved in to pick up the tractors. At this time the executive officer will assume control and when the LST's have moved in he can guide the tractors to their proper LST and help them load. He receives their vehicle and personnel casualty reports, helps them out with maintenance problems, and submits the final report to the LVT battalion commander. By use of the deck radio any order for the following day's operations can be passed out to the companies.

In this exercise the battalion commander has had perfect and absolute control of all his vehicles at all times. He was ready for any emergency, and could pass the proper information on to his personnel in order to change or correct any plans. In his position, he was able to contact, either by his own communication set-up or by the naval control communication set up, anyone whom it might be necessary for him to contact.

After D Day, for the purpose of unloading supplies, it is advisable that all tractors be relieved from units and placed under one control under headquarters controlling the landing. When space is available ashore, it is believed best for all tractor battalions to become shore-based. Then all battalions are readily available and can be parcelled out according to the priority of the unloading that has to be carried out.

AIRBORNE



British Airborne troops receive supplies near Arnhem, Holland, during their stubborn 8-day fight which began on September 17, 1944. Army photographers who crossed the lower Rhine with them brought back pictures of their gallant stand. Here, glider-borne jeeps and trailers rush along a Dutch road as more supplies land near a damaged glider.

British Official Photograph

by Brigadier E. C. Anstey,
D.S.O.*

SUPPLIES have been dropped from the air on many occasions in the present war, and in considerable quantities, but until recently, most of the occasions have been abnormal and under desperate conditions, such as existed at Stalingrad and elsewhere in Russia. Nowhere had the problem of supplying troops by a regular air service been studied until the British and the Americans formed their airborne divisions in the West and began novel airborne operations in the East.

It is perhaps not surprising that this should be so. Civil air transport was certainly making strides when war broke out. In the United States attention was paid chiefly to passengers and mail; Russia claimed to be handling the greatest amount of freight; and Britain was busy establishing her "Empire Air Mail Scheme" designed to carry first class mail to the whole Empire at ordinary rates. The German Lufthansa Junker airliners were carrying 40-42 passengers; the Russians had completed a 65-passenger landplane weighing about 44 tons; the Short flying boats were carrying 74 passengers. These were the civil prototypes of military transport aircraft.

On examination, however, it was found that the military value of air transports was questionable for four major reasons: Air transport was uneconomical, restricted in bulk, dependent on weather, and extremely vulnerable.

The uneconomical aspect of air transport involved not only finances—which counts for little in total war—but also the affect on aircraft production, manpower, and gasoline consumption. Modern military supplies

are colossal in amount and often awkward in bulk; their delivery must be punctual; and the size, clumsiness and slow speeds of giant machines make them easy targets. Above all, the primary task of the air forces of the belligerents was the expansion of their fighter and bomber squadrons. This was so markedly the need in the British and Dominion Air Forces that their development of air transport and supply had to be postponed.

GERMAN DEVELOPMENT

On the other hand, Germany, with her initial vast air superiority over her victims, found opportunities for the use of transport aircraft in which they were immune from attack. It is believed that in the Polish campaign gasoline was flown to leading Panzer units. Certainly, some light cross-country tractors were landed. In Norway supplies were dropped from the air to German troops temporarily isolated in the Narvik area.

In Crete practically all supply had to be by air. By a single transport fleet of some 700 aircraft, 30,000 men were landed and had to be maintained by air until Britain's fleet withdrew. The success of this operation was due mainly to the 2,000-ton carrying capacity of 480 German transports and 1,440 gliders.* As the daily requirements of a division may be taken as about 100 tons of food and 160 tons of ammunition, the supply of three or four divisions in the absence of any air opposition or strong antiaircraft defense presented no great difficulties.

Nevertheless, the German losses at Crete were so great that they themselves described them as tragic, and it is to be noted that they have never again attempted an airborne operation on a big scale. Since then German fleets of transport planes have been used in exceptional circumstances as a last resort for the supply of isolated troops who could not be reached by any

*Military correspondent of the *Sunday Times* and *Daily Sketch* (London).

*Major F. O. Miksche in *Paratroops*.

other means. This was done at Staraya Russa and at Halfaya, in Africa, and during the first deep advance into Russia, while railway tracks were being repaired and Russian air opposition was still weak. According to the German press, at that time a single squadron of German Junkers 52's delivered 2,700 tons of war material to the front and evacuated 2,831 wounded with the loss of only three of their 15 aircraft in 7 weeks.

It was a different story in Africa where the Allied air forces had grown in strength. There it became manifest that to make air supply reliable and feasible local command of the air was essential. Thus, as air superiority passed to the Allies, so did the opportunity for the use of air transport.

METHODS OF SUPPLY

The Germans had developed three methods—dropping by parachute, carriage in transports, and carriage in gliders.

Dropping by parachute is essentially an abnormal method, extravagant in machines and limited in loads. It is used only when landing is impossible, as over jungle or an enemy-infested area.

Air transports can return when empty, can defend themselves to a minor extent, can be converted into ambulance planes for the removal of wounded, and can carry small vehicles and guns. The Italians established a regular supply service to Abyssinia by a southern route over the desert from Libya when they were cut off by all other means and even carried complete dismantled CR 42 Fighters inside their heavy transport machines. But the fuel consumption of transport aircraft is so high as to affect their useful load over a long run. On a 2,400-mile journey a Boeing J. 14, with a fuel reserve of 4½ hours, needs 4,000 gallons—a weight which alone amounts to 29% of the gross load and 73% of the useful load.

Gliders, on the other hand, are cheap to make, carry heavy and bulky loads, and can be built for end-loading. This greatly increases the speed and ease of both loading and unloading. German Merseburg gliders carry a 5.91" field gun with ammunition but require two or three Ju. 52's to tow them. Under tow, however, gliders have to be handled carefully, and since they reduce the speed of the towing aircraft by not less than 25%, they are dangerously vulnerable to attack. It is clear, therefore, that complete local air command is necessary before gliders can be used.

When the British and Americans were in a position to develop air transport, they had both German and Russian experience to guide them, and their late start was soon counterbalanced by the unequalled opportunities for air supply which occurred in China, the Pacific, and Burma.

VALUE OF AIR SUPPLY

Sudden emergencies may arise anywhere at any moment. On the liberation of Paris, for example, an urgent request was received at 6:30 p.m. on a Saturday evening for 500 tons of food to be flown into the city the following day. Not only was the consignment dispatched as requested and delivered safely, but similar loads of medical supplies, vitamins, cocoa, coffee and sugar were flown in daily from England for the next week or ten days.

On the other hand, for some months preceding the invasion the supply of the Maquis in France almost amounted to a regular service. Both the transport aircraft and bombers used landed on secret airfields held by the F.F.I. or dropped containers in prearranged areas. These containers, made of 3-ply wood with a light metal covering, were shaped like a bomb and thus could be carried conveniently in the bomb racks, from which they were dropped by parachute.

SUPPLY

A light tank backs into a British Hamilcar glider under its own power. The Hamilcar Glider was "tailored" from the beginning of its design to fit round the Tetrarch, a fast tank weighing over seven tons. Many Hamilcars were used in Holland September 17, 1944.

British Official Photograph



A regular air supply service, however, has been brought to a higher pitch in China, the Pacific and Burma than anywhere else. British and American pilots are flying more material over the Hump into China than was ever carried by the Burma Road. Throughout the year, almost irrespective of weather, they are delivering gasoline, bombs, jeeps, ammunition, artillery, small arms, clothing, aircraft engines, and spare parts.

The Australians could not have cleared New Guinea, as they did so brilliantly, without the supplies they received by air, nor could those supplies have arrived in such volume and with such regularity without the supremacy established by the Allied fighters. Of all the lessons learned in those theaters concerning air supply none has been assimilated more thoroughly than the lesson that airfield construction goes hand in hand with supply and that the airfield construction companies are an integral part of a great service.

Nevertheless, in the Pacific air supply has remained supplementary to seaborne supply. It is only in Burma that the task of maintaining a sizeable force for weeks on end has been shouldered exclusively by the air forces. The astonishing operations inaugurated by the late Major General Wingate had no communication whatever with the base except by air. Of course, the force was not large; it existed on a Spartan scale of a "luxury drop," and its guerrilla tactics did not demand the heavy ammunition resources of a European battle. Enough was done, however, to prove that Burma is an unusually appropriate theater for air supply, as the difficult and mountainous nature of the country makes ground supply a tremendous problem. The Allies hold air superiority and Japanese antiaircraft defense is poor. Land communications are so long and bad that for operations to wait on their repair or construction would impose intolerable delays and would cramp maneuver.

The freedom conferred by air supply offers the means to surprise the enemy—a moral weapon which is even more effective against the regulation-bound Japanese than against western races. Owing to the weakness of Japanese air forces, gliders can be used with unusual freedom. Experiment in picking up the tow ropes of undamaged or repaired gliders have shown that where gliders have landed in spaces too small for powered aircraft they can still be salvaged and need not be written off as lost.

Finally, the moral effect of an efficient maintenance of troops by air organization is stupendous. The knowledge that casualties will find themselves spared the weary joltings of the old nightmare journeys by stretcher along jungle paths, but instead will fly in comfort direct to modern hospitals in India, heartens men immensely. As Mountbatten's troops approach the heart of Burma and the airfields in their grasp multiply, it is possible that the supply of a whole army by air will overleap hundreds of miles of jungle and mountain and be the main factor in the defeat of the Japanese in Burma and China.

Invasion of Crete

For an hour, it was just a confusion of mad noise and flying steel. The red earth erupted in fountains where the bombs, anything from a hundred to five hundred kilos, exploded. Antiaircraft and concentrated small-arms fire shot down some of the raiders but the German pilots seemed insensible of anything but their objectives. They simply flew through the fire, two abreast, and blitzed gun emplacements and weapon pits.

The thunder of bombing, the crackle of machine gunning died suddenly. The bombers and fighters drew off. And now the air was filled with the drumming of engines, like the beat of great wings. They came in, the Junkers 52s, the old Aunty JUs, flying slowly in formations of three. And with them came ghost planes, planes that made no sound—gliders.

Many of the British antiaircraft gun positions had been silenced in the air blitz, but a few still remained in fighting trim. The Junkers and the gliders were flying low. They were easy targets, as easy as fat pheasants to a crack gunshot, and the gunners let them have it. The men on the ground took at least partial vengeance in those minutes for the battering they had suffered from the Luftwaffe. Here and there, one of the lumbering aircraft lurched and nosedived into the ground. Some burst into flame, and the Germans they were carrying burned alive if they did not break their necks first. But for every aircraft hit, twenty flew on through the ruddy brown fog of dust stirred up by the bombs that had heralded the invasion. They were like circus horses trained to a routine. . . .

Most of the paratroops dropped from heights of 200 to 300 feet. They fired their tommy guns and hurled hand grenades as they floated down, but their aim was wild as they swung in the cords of their parachutes. They were only a few seconds between aircraft and ground, but in those few seconds they were easy targets for any man who could aim a rifle and press the trigger. Young Germans died in scores above Canea, Maleme, and Galatos that morning. One instant, a man would be alive, firing his tommy gun with one hand, steering his chute with the other. The next, he would jerk, then sag dead in his harness, and his tommy gun would go tumbling to the ground below him. . . .

Gliders were sliding to earth simultaneously with the paratroop landings at the three focal points of the attack. Some were shot up in the air, some as they grounded. A few capsized on the rough surface and broke the necks of the men they carried. But a good proportion, notably of those which crash-landed on the beaches and in the dry bed of the Tavronitis River, west of Maleme, completed their task of getting down and unloading their men. Each glider carried twelve men, armed with mortars, machine guns, tommy guns, and hand grenades. These men were ready to fight the moment they sprang out onto the ground. . . .—*Airborne Invasion*, by John Hetherington. Duell, Sloan, and Pierce, 1944.



FRANCE December '44

Above—Snow-covered cars of a cavalry reconnaissance unit with the Seventh Army, France, move down slippery roads lined with snow-covered trees. 11/12/44.

Signal Corps Photo

Below—Troops of a cavalry reconnaissance squadron use the scarred, outdated Maginot casemate as a shield from which to observe enemy activity. France, 12/13/44.

Signal Corps Photo



Reconnaissance in Norm

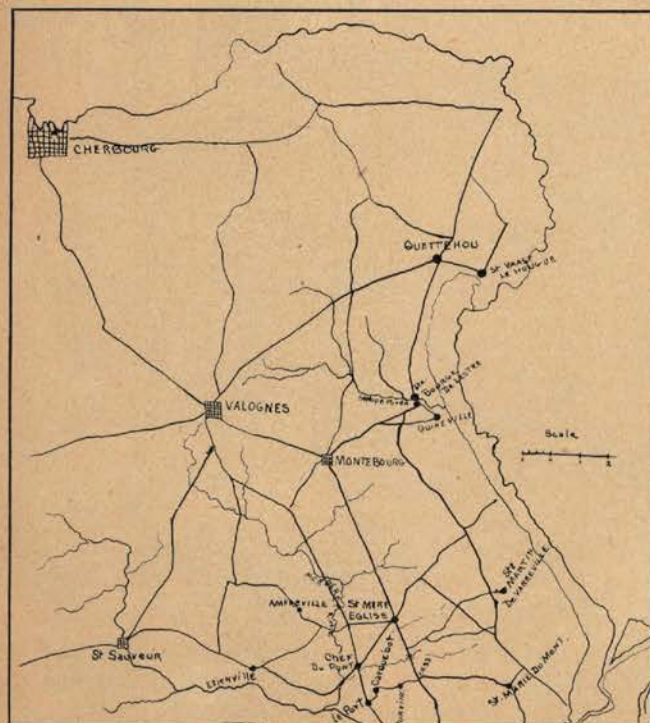
—In Support of Airborne Troops

IN an amphibious operation combining the use of airborne troops, the paratroops and glider-borne infantry have a vital rôle in landing behind the beaches and disrupting communications. They prevent mobile enemy reserves from shoving the beachhead back into the sea; they attack local reserves held for counterattack purposes; and they knock out vital enemy artillery firing against the beaches.

Mechanized reconnaissance troops can serve these airborne forces admirably if they are landed early enough and are able to make their way inland past the beaches. Such cavalry has an important mission in screening for the seaborne elements, acting as liaison between scattered paratroops and glider units, and reconnoitering known enemy installations behind the beaches.

The following record of the 3d Platoon, Troop "B," of "Y" Reconnaissance Squadron (Mecz), which took place in the assault operations on the Normandy beach, is believed to be an account of the first such unit employed as a seaborne element in direct support of an airborne force.* The employment of this platoon, from the time that it landed on the beach at H plus 175

*See last paragraph "Reconnaissance in Normandy—"Y" Cavalry Reconnaissance Squadron," November-December, 1944, CAVALRY JOURNAL.



minutes on June 6 until it was joined by the rest of its troop three days later, served to prove that the principles of reconnaissance as laid down in field manuals and training directives are sound, but the small cavalry unit commander must be agile enough at all times to apply these principles in a manner which fits the situation in which he finds himself at any time, or with respect to any type of terrain.

For this operation the 3d Platoon, commanded by 2d Lieutenant Gerald Penley, was attached to a mobile column consisting of a company of tanks, a company of glider troops and a small infantry force which were the seaborne elements of the 82d Airborne Division. The mission of the platoon was to reconnoiter routes and act as a screening force for the column which was to land on the beach at H plus 175 minutes and proceed to the headquarters of the 82d Airborne Division. This headquarters was to have been dropped by parachute and glider some 6 hours earlier in the vicinity of Ste. Mere Eglise. The platoon disembarked from the LCT on time, but was landed a half mile below the place originally intended. As a result, a small mud flat had to be crossed instead of the firm sandy beach which had been anticipated. Because of this mud flat most of the vehicles of the platoon were drowned out in landing and had to be towed ashore. During the half to three-quarter hour delay, there was considerable congestion and confusion on the beaches, while enemy artillery pounding the shore caused the loss of two ¼-ton trucks and 4 men wounded. These casualties were the only ones suffered by the platoon during its entire 3 day operation.

After all vehicles were ashore the platoon moved to a de-waterproofing area about one mile east of Ste. Martin de Varreville, where it waited for the remainder of the seaborne elements of the 82d. By that time it was approximately 1200 hours. (See map.)

When the rest of the column arrived, the platoon commander was ordered to find a clear route to Ste. Mere Eglise. Having learned that Ste. Marie du Mont was in the possession of the 101st Airborne Division, the lieutenant moved his platoon to this town unopposed. From there he moved west to Crossroad 33. At this point a paratrooper told him of seeing German troops on Hill 20, approximately one mile north toward Ste. Mere Eglise. The paratrooper also reported having received small-arms fire and claimed that only one machine gun with several riflemen were holding the point. Lieutenant Penley was ordered to clean it

mandy

The Story of the 3d Platoon, Troop "B," "Y" Reconnaissance Squadron, from H plus 175 minutes to D plus 3.

Troops with assault equipment move along a road in Normandy on D plus 3. Machine-gun ammunition strung around the soldier's neck will soon be pouring through weapon carried by man at left.



out. He took his own and one other armored car, plus one medium tank from the column in the order: armored car, tank, armored car. (Against a known enemy position, his jeeps were useless. He was unable to carry forward his light machine guns and mortars in jeeps because of the open terrain. Only small arms had been reported, and against these his armored cars were invulnerable.)

Upon arrival at the south end of the bridge, approximately midway between the crossroad and the hill, the lieutenant's car was fired on by a 7.6cm anti-tank gun and some small arms fire. Because of swamps and inundation on either side of the road it was impossible to by-pass the position, so the lieutenant was forced to withdraw to his previous position at the crossroads.

The enemy position was then successfully attacked by the tank company, although three tanks were lost.

The platoon made no further attempt that day to reach Ste. Mere Eglise, but was given the mission of acting as "glider rescue squads." Of the numerous gliders landing in the area, some were burning, others badly broken up, and first aid was being given to the troops in the gliders who could not yet be reached by medical personnel.

At 1000 on D plus 1 (June 7), Lieutenant Penley was ordered to move to Chef du Pont, thence northeast to a rendezvous point approximately 1,000 yards southwest of the town of Ste. Mere Eglise. The platoon's move to this point was unopposed except for occasional

sniper fire, which caused no casualties. For this move of his platoon the lieutenant adopted an SOP formation in the following order: 2 machine gun jeeps, platoon leader's armored car, section sergeant's armored car, 3 mortar jeeps, platoon sergeant's armored car and the third machine gun jeep. These vehicles moved by bounds within supporting distance of one another.

(Although the roads had not been swept for mines, the lieutenant was right in leading with his jeeps. As Lt. Colonel Hoy has pointed out in *THE CAVALRY JOURNAL*, "You cannot waste valuable time in sweeping roads. You have to take chances and apply the principle of 'Economy of Force,' even with a platoon; therefore, the jeep was used in the point instead of an armored car.)

Upon arrival at Chef du Pont the lieutenant radioed the column that the road was clear to that point. Then he waited for the column to arrive; but when it had not appeared by 1200, he was ordered to the rendezvous point.

On occasions when the platoon received small arms fire it did not halt because it was impossible to determine the direction from which the fire was coming. The road was bounded on both sides by deep ditches backed up by tall hedgerows with very thick foliage and undergrowth, which made it almost impossible to detect any movement, and the platoon commander had quickly learned the lesson, "keep moving." It was very difficult for the snipers, located along the hedgerows and in the trees, to hit a moving vehicle; whereas the minute the vehicle stopped, it presented an excellent target.

As the platoon arrived at the rendezvous point, it started receiving artillery fire so was ordered back to Chef du Pont. There it was learned that the column had arrived earlier and moved to another location by

*S-2—Cavalry Group (Mecz).

*by Major Robert R. Tincher**

a different route approximately one mile west of Ste. Mere Eglise. Then a patrol of two machine gun jeeps, sent to contact the column, failed to locate it, but instead found the headquarters of the 82d Airborne Division, located in an orchard north of the Ste. Mere Eglise-St. Sauveur Highway. Because the patrol was unable to contact the lieutenant by its 510 radio, it rejoined the platoon and reported the location of the headquarters. The platoon then moved into a bivouac area near the original rendezvous point and reported to the 82d Airborne Division headquarters at 1930.

During the night artillery was again received in the bivouac area, and the platoon moved under cover of darkness to a new area approximately $\frac{3}{4}$ of a mile away. (By experience it has been learned that once the enemy has registered on a target, he often engages it again "just in case." Therefore, if within range of enemy artillery it is well to avoid previously shelled areas if possible.)

At approximately 1130 on D plus 2 a report was received that approximately 50 German troops had been observed in the vicinity of Carquebut. Two companies of parachute infantry were sent to investigate the report, and Lieutenant Penley was ordered to send two armored cars as an advance party. Preceding the infantry, the lieutenant and his platoon sergeant, each in an armored car, set off on a mission to reconnoiter the town and return. Their orders were to make a complete circle of the town with the armored cars and await the arrival of the infantry at a crossroad north of the town.

While making this circle they received only desultory fire from one or two enemy riflemen. As they arrived at the crossroad, however, a French civilian, waving wildly, reported that 150 Germans were in a barracks just south of the town. When the infantry commander arrived, he ordered the lieutenant to attack this force with two armored cars. The only approach to the barracks being down a very narrow trail, the cars approached in column. As he arrived at the building, Sergeant Jensen opened fire on the upper windows with his .50 caliber antiaircraft gun, and immediately 120 men and 5 officers gathered in the courtyard and surrendered.

The road from le Port to Eturville was then patrolled, but no enemy were encountered, and the platoon bivouacked for the night in the vicinity of Carquebut.

During the night of D plus 2 and 3 the infantry succeeded in forming a small bridgehead over the Merderet River west of Ste. Mere Eglise, and at 1100 on D plus 3 the entire platoon was ordered to move to the bridgehead, there to receive further orders. Although both the bridge crossing the river and the causeway over the inundated area flanking the river were both under artillery fire, there was no other way by which the platoon could get across the water, so it was necessary to

move the vehicles singly and rapidly over the bridge and causeway.

Across the river without loss, the lieutenant was informed that a truck column had been reported moving northeast from Etienville toward Ste. Mere Eglise, and was ordered to investigate it. He took the platoon's three armored cars and moved out. About one-half mile farther he met a column of approximately 150 Germans, who immediately hit the ditches on both sides of the road. Farther down the road were three antitank guns in position. The lieutenant's 37mm gun engaged the antitank guns with cannister and succeeded in destroying or dispersing the crews of those guns. While the .50 caliber antiaircraft guns on his car and the two other cars swept the ditches. Proceeding down the road in this manner, they destroyed all enemy personnel in the ditches. Meanwhile, 6 German half-track motorcycles turned out of a side road, and they too were destroyed. The lieutenant then turned his armored cars around and proceeded back to the road junction on the west side of the Merderet River.

During this action a report had come in of a battalion of paratroops which had been dropped in the vicinity of Amfreville and were cut off from any friendly forces. The reconnaissance platoon, with two medium tanks attached, was ordered to contact this force. It moved and upon reaching point "X" received heavy antitank fire. No paratroops were found and the platoon returned to the rendezvous point.

About this time it was learned that the infantry, which had succeeded in extending their bridgehead over the Merderet River by about 1,000 yards, were in danger of a counterattack by a strong force. The platoon's armored cars were sent forward to assist the infantry by fire from its 37mm guns. Because of the terrain, however, it was impossible for the armored cars to leave the road and with the high hedges and small fields the gunners were unable to obtain any fields of fire on the enemy. The cars then withdrew to the rendezvous and patrolled the road from the rendezvous southwest to the next principal road junction as a protection to the south flank of the bridgehead forces. This they continued until dark of D plus 3.

On the morning of D plus 4 the remainder of Troop "B" arrived and went into bivouac southwest of Ste. Mere Eglise.

During these three days the platoon destroyed or captured 300 Germans, including 5 officers; knocked out three 7.6cm antitank guns; 6 half track motorcycles and two 2-ton trucks. Its losses were two $\frac{1}{4}$ -ton trucks and 4 men wounded, all due to artillery fire on the beach during the landing period.

CONCLUSIONS

1. On a fluid front, vigorous action against an enemy who is defensive minded will usually succeed. You

cannot stop and hide when fired upon. Instant return of fire will make the defender duck or surrender unless he is in a fortified position.

2. The .50 caliber antiaircraft gun on the armored car is an excellent antipersonnel weapon, and the German was terrified by it.

3. 37mm cannister is extremely effective against any personnel at close range. Rapid action is essential.

4. The M-8 armored car is impervious to German small arms fire.

5. Terrain encountered in Normandy consisted of narrow, sunken roads lined with mud walls 4 to 5 feet high and thick and covered with dense foliage. Small fields averaging 30 to 40 by 100 yards were similarly lined. Thus observation was restricted and fields of fire limited except along main roads. (Secondary and tertiary roads are narrow, often steep, with sharp, frequent turns.) The terrain was excellent for constructing road blocks, at which the Germans are skilful and cover with antitank fire whenever possible.



—In Capture of Bourge de Lestre

"Y" Reconnaissance Squadron in Cherbourg Campaign

DURING the course of the Cherbourg Campaign the many and varied missions given mechanized cavalry reconnaissance squadrons called for all of the resourcefulness of all echelons in meeting new and unexpected situations.

The German defenses extended in depth not only along the coastline of the peninsula, but into the interior as well. As the enemy fell back on Cherbourg he dug in deeper and, although morale in general was low, the German soldiers continued to fight well if their officers were with them.

Thus, reconnaissance had to become more and more aggressive, and strong points had to be reduced instead of merely reported and by-passed. In fact, by-passing would have been impractical, if not impossible, because of the terrain and the extension of enemy installations. The following account of the action of one cavalry reconnaissance squadron illustrates this point.

THE RECONNAISSANCE PATROL

On the 16th of June (D plus 10) the "Y" Reconnaissance Squadron (Mecz) relieved the 22d Infantry and established a counterreconnaissance screen along the high ground extending 4,000 yards west from Quineville. During the night of the 17th and 18th it received constant interdiction and harassing fires from enemy artillery and heavy mortars, while enemy patrols attempted to penetrate the screen. (See map, page 12.)

The squadron, on the other hand, was also sending patrols along the Sinope River to report any enemy contact, possible crossings, and conditions of bridges. Incidentally, the only bridge intact was the main highway bridge south of Bourge de Lestre and at no time did the enemy attempt to demolish it.

Troop "C," commanded by Captain Howard C. Bone, was extended along a 1600-1700 yard front with a strong point of two light machine guns and a 60mm

mortar near the left flank. On the left, contact was made with the 22d Infantry, and on the right with Troop "A."

Lieutenant Keinath and 6 men were stationed at the main bridge for observation, but the only enemy observed on the 17th and 18th were a few dismounted men; night patrols were driven off by fire.

In order for Troop "C" to maintain its position on the high ground it had to drive the enemy from Bourge de Lestre and relieve the pressure of heavy mortar fire on the ridge.

At about 1800 hours on the 18th, Troop "C" was ordered to send a strong patrol across the river to reconnoiter crossroad 21. Assigned this mission, Lieutenant Harry Gardner's 2d Platoon was to leave at 0300 hours. Meanwhile, Lieutenant Keinath and the 6 men at the bridge were to move in advance of Lieutenant Gardner, reconnoiter the crossroad, and remain in observation until the 2d Platoon arrived.

These missions so depleted the Troop "C" line that it was necessary to use headquarters troops for observation. In fact, troop cooks manned an abandoned German OP, sunk into the top of a hill and equipped with a periscope. (Incidentally, the OP was quite luxurious—complete with beds, electricity, a kitchen, and *air conditioning*.)

Lieutenant Gardner and the 20 men of the 2d Platoon who formed his patrol, moved out across country at 0300 and arrived at the bridge. There they picked up a bantam with a SCR 510 for use in contacting troop headquarters and left it under cover at the bend of the road just north of the bridge.

At 0530 the patrol made contact with Lieutenant Keinath and the 6 men at the crossroad. The lieutenant reported that two of his men, in the second floor of a house just north of the crossroad, had excellent observation of the crossroad itself and the road to the north; the other men were in the ditches on both sides of the



M-5 light tanks, used on combat reconnaissance mission, advance along a road in Normandy a few days after D Day.

road south of the crossroad. He also reported that there were sounds of digging and other activity in fields north-east of the crossroad and that he believed there was a machine-gun nest in a house east of the road about 300 yards south of the crossroad.

In the Cherbourg Campaign the German's local security at night was often very poor. Positions were seldom outposted, and patrolling was reduced to a minimum. This trait had enabled the lieutenant and his men to pass within 20 yards of this machine gun without detection.

The 2d Platoon was then disposed to cover all approaches to the crossroad, and the two officers returned to the radio to report to Captain Bone, who meanwhile had left the CP on his way up for a personal reconnaissance. Lieutenant Gardner met him at about 0630 and explained the situation.

Three Germans came out of the house, which had been suspected of having the machine-gun nest, and Sergeant Stater, who had been observing, tossed a hand grenade and destroyed the crew. Immediately, fire started from all directions, and a force of approximately 50 Germans moved toward the crossroad from the field where previous activity had been noted. The German officers called on the patrol to surrender. As another enemy force approached from the west, a sharp fire fight developed, and at about 0930 Captain Bone ordered the patrol to withdraw back across the river.

The two men stationed in the house at the crossroad were captured after expending all of their ammunition. Reports state that by sniping from the windows they accounted for 50 or 60 enemy before their supply was exhausted. These two men were later recaptured in the fall of Cherbourg. *The principle of staying well back in a room to avoid detection really paid off in this case. Both men did this, and created a great deal of confusion among the enemy, who were unable to determine where the fire was coming from until after the ammunition had run out. The men were finally driven into the open by the enemy throwing grenades in all buildings in the area.*

At 1027 the reconnaissance patrol reported to the squadron CO that the crossroad was strongly held by about a reinforced company; that there was some activity in the village, and that no antitank guns were observed in the vicinity of the crossroad. Whereupon, the squadron commander decided to attack the crossroad and town with his tank troop, supported by the fire of the assault gun troop. This attack, if successful, would free the main road north along the coast to Quettehou and St. Vaast la Hogue.

THE TANK ATTACK

On the night of June 16, Company "F" of the cavalry reconnaissance squadron (mec) had been bivouacked in an orchard just south of the Quineville-Montebourg road on the reverse slope of the ridge. Troop "E" was in battery position near by with an OP on the forward slope of the ridge just west of the north-south road through Bourg de Lestre. Fire direction was by 510 radio.

Early on the morning of the 19th, Company "F" had been alerted for movement to support any sector of the squadron zone and was prepared to move on 10 minutes notice.

At 1400 hours the squadron CO and Company "F" commander, Captain Christianson, were at the OP when the company was ordered to attack. Troop "E" was to support the attack on squadron order.

At 1415 the troop was in column with an interval of 75 yards between tanks, and it was decided that the initial attack be made by one platoon. The rest of the company would be committed as the action dictated. The commander's tank was moved to the vicinity of the OP, and the attack was directed by radio. The head of the column was at the crossroad in rear of the OP.

At 1425 the 2d Platoon, under Lieutenant Sam T. Mitchell, advanced in column. The bridge over the Sinope River was still intact, and the platoon moved rapidly toward the crossroads. Troop "E" opened up with a five-minute preparation with HE and ended with two volleys of WP, laid down on the highway just south of the crossroad.

The lead tank, on breaking through the smoke at the crossroad, saw an antitank gun approximately 100 yards to the front.

The enemy is very agile in the positioning of his anti-tank guns. He moves them rapidly from position to position and camouflages them expertly. Many times during the Cherbourg Campaign no guns were reported where, in fact, they did exist. Sometimes they escaped detection because of excellent camouflage, and sometimes they were moved in after patrols had returned. A good rule of thumb is to figure that wherever they should be is generally where they are.

Moving tanks up to an attack under a smoke screen is excellent if terrain and wind permit, but such tanks must be prepared to fire upon any target of opportunity that is presented. Jerry does not like our WP and is helpless under a concentration of it.

Three rounds of HE at the antitank gun knocked it apart and the bow machine gun destroyed the crew. (The bow machine gun, used to spray hedges on both sides of a road, leaves the turret guns free to bring fire on more profitable targets.)

The lead tank continued past the crossroad, stopped, and covered the approach from the north. The second tank moved up and covered the first tank. Numbers three and four covered the approaches from the east and west, while the platoon leader's tank covered the rear. At 1435 the platoon leader reported that the platoon, after seizing the crossroad, had sighted but few infantry, but that it was receiving mortar fire.

The squadron commander then ordered a reconnaissance of the railway station, and the 1st Platoon, under Lieutenant Kiffin W. Browning, was ordered to pass through the 2d Platoon and reconnoiter the station. At 1440 the 1st Platoon moved out, and when the lead tank approached the crossroad which, by this time, was clear of smoke, it discovered another antitank gun, which had been under the smoke screen and had thus been by-passed by the 2d Platoon. Meanwhile, the enemy had turned the antitank gun around, facing north, and waited for the smoke to clear to engage the 2d Platoon, which had already passed through. This certainly indicated that the enemy did not suspect the presence of more tanks, and had made a definite tactical blunder in leaving his rear unprotected. The WP also probably confused the enemy into thinking that no more tanks would follow up the smoke.

One round of HE from the lead tank of the 1st Platoon hit the ammunition supply of the gun and the whole thing blew up. The 1st Platoon then passed

through the 2d Platoon at the crossroad, and moved on to the railway station, where it surprised and destroyed a force of about 40 Germans.

Sergeant Hartin in the lead tank of the 1st Platoon spotted a cave in the side of a slope behind the station and fired three rounds of HE into it. It was an ammunition dump, and exploded with terrific force. Meanwhile, another tank flushed a small column of infantry, attempting to move toward the town from the northeast, and destroyed it.

By this time, fire from mortars and artillery was falling consistently on the crossroad, so both platoons were ordered to withdraw; the 1st to cover the withdrawal of the 2d, which was to return by way of the town.

Commanders of small tank units must be impressed with the fact that they have a hard hitting, mobile force, but one which becomes extremely vulnerable to heavy mortars and artillery fire if forced to halt for long. Once they have hit their objective they must be reinforced or withdrawn. Tanks invariably draw artillery and heavy mortar fire, and any display of tank strength will cause the enemy to open up with everything he has.

The 2d Platoon withdrew through the town and, after reorganizing at the bridge, moved back to its former position behind Hill 54. The 1st Platoon then withdrew from the highway.

During the entire action the ridge was also being heavily shelled, so that the whole troop had to withdraw to the old bivouac area where it closed at 1530.

The enemy withdrew during the night and it was later learned that the column consisted of about 150 infantry, mostly wounded, two antitank guns, and two field kitchens.

At an OP overlooking Cherbourg, observers report the accuracy of artillery fire on strategic targets. "Y" Reconnaissance Squadron was instrumental in the rapid clearing of the Cherbourg Peninsula and fall of the city that opened a main French port to the Allies.



Normandy to Brest—

RECONNAISSANCE on the beachhead was a very difficult proposition. From the moment that the first elements of the assault regiment of the 29th Division hit Omaha Beach on the morning of 6 June 1944 until the capture of St. Lô 42 days later, the division was engaged in close combat with the enemy, and contact was seldom lost. The nature of the terrain in Normandy—high hedgerows bounding the 4 corners of almost every field—made vehicular reconnaissance virtually impossible or at best an extremely costly business.

As a result the 29th Cavalry Reconnaissance Troop (Mecz) was assigned a variety of missions during those bloody days of fighting as the division fought its way south toward the key communications center of St. Lô.

The troop (less the 1st platoon) was originally scheduled to land at 2200 on the night of D Day, but the unexpected heavy enemy resistance put a priority on infantry and artillery, and we had to sweat it out until 1500 on the afternoon of D plus 2 before our LST was called in by the beachmaster.

The 1st Platoon, landing dismounted at H Hour with the 116th Infantry, was equipped with SCR 300 radios in order to report back to division headquarters on the progress of the landings. The platoon was divided into 7 teams, each equipped with one of these radios. This set-up worked out extremely well and for some time provided the only radio communication which division headquarters had with the beachhead forces.

The troop's first mission after landing was to help mop up remnants of enemy resistance around Pointe du Hoe, where the enemy had strong artillery concentrations.

REACHING THE 101ST AIRBORNE

During all our training in England, which amounted to almost 2 years, no one thought that the troop would be used as an assault force, but on the afternoon of D plus 3 it participated in as novel a form of attack as witnessed in over 5 months of combat. Here was the situation:

The bridge across the Vire River had been at Auville-Sur-le-Vey. Since early morning Company "K" of the 175th Infantry had been fighting to reach the river but had been prevented by heavy enemy fire from the opposite shore.

To solve the problem the Reconnaissance Troop made numerous rafts from bits of odd lumber which were found, then used its M-8's to carry the rafts right up to the river and dump them. The troop then deployed all its firepower—11 M-8's and 9 60mm mortars—and from a range of 600 yards assaulted the town with everything it had—37's, .50 caliber machine guns, and mortars. Under cover of this barrage, Company "K" advanced to the river and, using the rafts as means

by 1st Lt. Thomas J. Fernley

of transportation, established a successful bridgehead with only minor casualties.

That night Army engineers repaired the bridge, and on D plus 4 the troop pushed reconnaissance to the outskirts of Carentan where it met strong resistance. During the day patrols contacted the 101st Airborne Division, which, for 3 days had been fighting a war of its own on the Cotentin Peninsula. I never saw a group of men as happy as they were to see us that day—completely exhausted and battle-weary though they were.

ASSAULT ON ST. LÔ

One of the finest accomplishments of the troop was the occupation of St. Lô on 18 July 1944.

Early that day it had become apparent that the city could not hold out much longer. The final goal, the prize for which so much blood had been shed, was at last within the division's grasp. A task force was formed consisting of the troop's 3d Platoon and Troop Headquarters, a platoon of tanks, a platoon of engineers and a battalion of the 115th Infantry.

Late on the afternoon of the 18th, Task Force "C" (for Charlie) attacked St. Lô—the reconnaissance troop in the lead, with the tanks in close support. We reached the outskirts of the city before we encountered any real resistance. All along the way we had passed our own wounded, lying in the ditches. The infantry had been unable to evacuate them because of the intense enemy fire—but our orders were to stop for nothing until we had reached our objective.

As the column started up the long hill leading into the city, it came under strong small-arms fire from entrenched infantry at the top. There was nothing to do but go ahead and hope that they didn't have any anti-tank guns. Luckily, they did not, and the M-8's started to grind up the shell-pocked road to their destination. Half a dozen times we stopped and used our .50 caliber machine guns and 37's with devastating effect.

Many times since then we have been thankful that we had those .50 caliber machine guns mounted on the turrets of our M-8's. This was one of them. The Huns really hate those 50's!

Firing all the time, we gradually approached to within 20 yards of the main enemy positions at St. Lô. Then suddenly, the German resistance broke.

We entered the city proper. It was the most thoroughly devastated, ruined city that I have ever seen. As our armored cars pulled into the city square, the infantry came up behind us on either side of the street and proceeded with the always nerve-racking job of ridding the ruined city of snipers.

It did not matter. We were in St. Lô! And the fact that the Jerries subjected us to a terrific artillery and mortar bombardment from their positions on the hills to the south did little to dampen our enthusiasm.

RECONNAISSANCE WITH THIRD ARMY

The troop's first real chance at reconnaissance occurred 10 days later, shortly after the initial breakthrough by the Third Army. The objective was Vire, and the opposition came not so much from enemy personnel, but from their mines and roadblocks, which for the most part consisted of fallen trees at strategic points.

It was found that the best way to neutralize mines was to attach a long rope to the mine and pull it. About 30% were booby trapped and exploded when pulled. Generally speaking, Teller mines are fairly easy to detect, but the Germans have a habit of varying their technique, which makes taking things for granted a very dangerous proposition. For instance, Jerry's newest trick is to assume that the mine will be pulled and to attach an igniter that will detonate the mine 30 seconds after it leaves the ground.

In the initial stages of the Third Army's breakthrough, the Germans made extensive use of self-propelled guns to make up for their shortage of manpower. Inevitably, the Huns would have the level stretches of road covered with flat trajectory artillery. However, the extreme efficiency of our fighter-bombers—always prowling in front of the division route of advance—knocked out these guns as quickly as they were reported and turned what would have been a nightmare for the reconnaissance patrols into just that for the enemy.

In this phase of the campaign, it was found that the Germans seldom waited for the Americans to arrive. Time after time the 29th Reconnaissance Troop would reach a French village—the first Americans on the scene—only to be told by the overjoyed townspeople that the last Boche had left 8 hours before. The people threw flowers at us, climbed all over our vehicles, gave the men gifts of cognac, eggs and butter, and demonstrated their happiness with fervor for which the French have always been noted.

Consequently, the whole troop felt a tinge of regret when the 29th Division was pulled out of the action on August 16 and shortly thereafter started on the long trip down to the Brest Peninsula.

STORMING BREST

The supply situation had become critical and the great Breton port of Brest had to be liberated to allow supplies to flow more freely to the mounting Allied armies and the needy French populace.

We had no idea, at the time, of the bloody battle that was shortly to be waged! Initially the Germans



Troops of the 29th Division move through Vire, France.

had very few troops in the city of Brest itself. Knowing that the city would be subject to intense aerial bombardment, the German commander, General Ramcke, had deployed his crack 2d Paratroop Division, supported by another infantry division and numerous marine and naval units, in a rough radius of 8 miles from the center of the city proper. It was only after several weeks of bitter fighting that they were driven back to an intricate series of concrete pillboxes, bunkers and forts which protected the city itself. Here they had to be dug out, burned out, or blasted out by the indomitable doughfeet. It was a bloody battle—Brest.

The troop's initial assignment was a reconnaissance mission on the right flank of the division to determine enemy strength between the infantry units and the sea.

The troop soon found that the enemy was strongly entrenched in a series of massive forts along the rocky seashore. Originally these strongholds were designed for coastal defense, and they were considered invulnerable. We then battered them with what firepower we had, but all to no avail. Division then attached a forward observer to the troop and used the M-8's for communications back to artillery headquarters. The system worked out very well, but the 105's hardly chipped the concrete.

One reconnaissance platoon sergeant laid down his arms, walked up boldly to a Nazi fort and demanded that the Nazis surrender. The reply of the Nazi commander was that he would fight to the last man. The next day a battalion of Rangers stormed the garrison, and the Nazis changed their minds.

As the Americans drew closer to the city, the enemy's intensive use of artillery made vehicular movement impossible, so during the last week of the campaign the troop fought dismounted.

*Ed, NOTE: Comments from the officers and noncommissioned officers of this reconnaissance unit were printed in the November-December, 1944, CAVALRY JOURNAL under the caption, "Comments from Combat—Normandy, Brest, and the Present.—From 'Q' Cavalry Reconnaissance Troop (MECZ)."

29th Cavalry Reconnaissance Troop (MECZ)*



Signal Corps Photo

THIRD ARMY RECON

HOW a cavalry unit became the eyes and ears of the army commander is part of the saga of the U. S. Third Army and its spectacular dash across France. The unit was the 6th Cavalry Group (Mecz), commanded by Colonel Edward M. Fickett.

With armored divisions spearheading in several directions and other Third Army components literally scattered all over northern France, Lt. General George S. Patton, Jr., was able to maintain a complete and running picture of the progress and situation of all his major combat units.

On a directive from General Patton, the 6th Cavalry Group resolved itself into an Army Information Service. Normal signal communications and command channels were by-passed, and the information was obtained on the spot by patrols in the front lines, then relayed by radio and teletype to Third Army Headquarters. All means of communication were used.

INFORMATION—FROM BATTALION TO ARMY

The fundamental unit of strategic maneuver is the army. To control and direct the campaign, to allot major combat elements from corps to corps for the accomplishment of assigned missions, and to employ supporting and reserve troops effectively, *the army commander must have current and continuous information from the front line elements.*

A system that will bring this information with both speed and accuracy is a vital adjunct to a highly fluid and mobile campaign. In Sicily, where such reports were often late and inaccurate, it was found that it was necessary to know the location of all troops at all times.

In position warfare or in a more or less stable situation, normal signal communications are adequate. The battalion commander reports his position and progress in a fairly detailed form to regiment. After this infor-

mation is analyzed and sifted, it goes on to division G-2 and G-3. After further study and sifting there, it is sent to corps where it is drawn in on the overlay and incorporated in the periodic reports. Finally, army—usually 10 to 12 hours after battalion reported—gets the over-all picture.

Such a procedure has its points in a stable situation, but it will not do in a campaign of quick and sudden movement. In such warfare the army commander must know—and know at once—the position, situation and progress of every major element within his command.

No criticism is meant or implied of the normal system of signal communications or of such information passing through the chain of command. Delay is part and parcel of the system—but for an army with ambitions to go places fast, it simply will not do.

ORIGIN AND TRAINING OF AIS

While still in the United Kingdom, long before his Third Army became operational, General Patton foresaw the need for a fast and efficient system of information and in a directive to Colonel Fickett assigned him the responsibility of organizing and operating an Army Information Service.

The 6th Cavalry Group, comprising the 6th and 28th Cavalry Squadrons, both mechanized, commanded by Lt. Colonels Tom E. Matlock and Walter

Members of a cavalry unit with the XV Corps pass wreckage of German equipment near Luneville, France. When strong resistance was met in this sector the unit turned a captured German gun and ammunition on the Nazis.

NAISSANCE

E. Day, respectively, was to establish a channel, under Third Army control, to make and report front line G-2 and G-3 information direct to the Army advance command post. The Information Service was to utilize not more than one squadron; the remaining squadron was to be available for Army ground reconnaissance missions and for special Army tasks.

Colonel Fickett, with Major Thomas H. Stewart, III, Group S-3, immediately set to work to comply with the directive. A few days later a plan and a request for additional equipment, including communications items and vehicles, was submitted and approved, and an intensive training period was begun.

As originally planned, the Information Service was to monitor friendly battalion, regiment, division and reconnaissance units operating within the Third Army. After the initial stages of the campaign in France, however, the monitoring was dropped entirely as it

*by Captain
Robert Willoughby Williams**

*As Told to
1st Lieutenant Lyman C. Anderson***

proved to have little value. If, through static or other interference, the operator missed an important part or phrase of a message, he was not permitted to break into the radio net to clarify what he had missed.

The extreme flexibility of the Army Information Service, as conceived and set up by Colonel Fickett and Major Stewart, proved to be one of the greatest values of the system. Conditions of the campaign anticipated during the training stages were not always met in the field; on the other hand, problems never thought of arose. One such example was the daily shifting of corps and divisions. But the Army Information Service was molded to fill the current need, and it was done so well that at no time was General Patton or his staff ignorant of the disposition or situation confronting any of his major elements.

ORGANIZATION OF AIS

A troop commander and troop headquarters of the reconnaissance squadron were assigned to each corps, and a lieutenant and a reorganized platoon to each division. Personnel administration remained with the squadron headquarters employed on the mission. Tactical control over the entire AIS system was exercised by the group commander.

As initially planned, the detachments were not organized as standard reconnaissance platoons. Each detachment had two officers and provided a monitoring section and a command and patrol section. When the monitoring was dropped, the monitoring section was merely incorporated as part of the divisional AIS detachment. Later it was found that the detachment was too large and unwieldy, and that two officers, while working satisfactorily together, were a luxury but not a necessity. After a month of operation the divisional AIS detachment finally resolved into a normal reconnaissance platoon.

Another example of how the lightning campaign in France changed the original AIS setup was illustrated in the relaying of front-line information by radio. During the first stages of the operation, the division detachments reported by radio directly to 6th Cavalry Group Headquarters. This traffic became increasingly heavy and by the latter part of August the Group Headquarters was receiving messages from 16 divisional detachments. When it was found that Group could not handle such a large volume of traffic, the

*6th Cavalry Group.

**Public Relations Section, Twelfth Army Group.

situation became critical and on August 25 the radio setup was changed so that division detachments sent their messages to the troop commanders at corps levels.

Here the troop commanders assembled the information and relayed it to Group HQ by radio. At the Group HQ the information was received, plotted, evaluated and sent to the AIS liaison section stationed at Army HQ, in close proximity to the operations section. From there the messages and information were distributed to G-2, G-3 and other concerned members of the Army Staff.

As it successfully worked out, one lieutenant and his reconnaissance platoon maintained constant contact with division G-2 and G-3, in addition to patrolling with forward elements, and obtaining and exchanging information with battalion and regimental S-2's and S-3's. A good part of the information obtained was from the patrols' own observations at battalion CP's and OP's and in the midst of actual engagements.

OPERATIONS

When a division planned to attack with two regiments, the platoon leader usually placed a patrol consisting of an armored car and one or two ¼-ton trucks with each regiment to follow the attack and report its progress to the lieutenant by radio and sometimes by messenger. Should only one regiment make the attack, the lieutenant might send a larger patrol to cover its front-line activity. Ordinarily, the patrols were commanded by NCO's, sometimes even by privates; in important instances, by the lieutenant himself.

A tank destroyer of the Third Army fires its 75mm gun point-blank at a Nazi pillbox emplacement in Brest, France, September, '44. Third Army lines extended over 500 miles, from tip of Brest Peninsula to Moselle River.

Signal Corps Photo



If these officers and men had not been extensively trained in tactics, movement and nomenclature of troops, military terms, and above all, *map reading*, they would have been hopelessly lost, and the system instead of being of inestimable value, could well have proved catastrophic. Important and far-reaching decisions were made on what Sergeant Richard Roe or Private John Doe saw or heard and reported. The service not only had to be fast, it HAD to be accurate.

These patrols often were involved in the fire fight. Although dog fights with the enemy were to be avoided, it often became necessary for the patrols to fight their way from one point to another.

During the sweep through France, the communications problem was a nightmare, but in one way or another the information was obtained and relayed to Army. Never during the drive from Avranches to Chalons sur Marne was the Third Army CP in one place for more than 5 days. At one time, during the latter part of August, the VIII Corps was in Brittany fighting for Brest and containing enemy forces in Lorient and St. Nazaire, while at the same time it was conducting sieges of St. Malo and Dinard. Meanwhile, other corps of the Army were actively engaged along the Moselle River, from Thionville south to include Nancy. The total distance between VIII Corps elements at Brest and the forward elements of the remainder of the Third Army along the Moselle measured the breadth of France, yet Army Headquarters relied on AIS for information of all elements in the fight.

COMMUNICATIONS

To make communications possible between such distant areas as Brest and the Moselle River with the limited radio equipment available, the ingenuity and the ability of all personnel was strained to the utmost.

One important item, the radio personnel were all selected men, picked for their jobs because they generally had 3 to 4 years of radio experience.

Twenty-two of these men had been sent to a training school for a short course in communications. There they learned how to lay wire and operate and maintain switchboards and teleprinters.

Pigeons were also used during the latter period of AIS operations. Conditions were stable at the time and about 40 birds a day were used, or about 740 in a three-week period. This method of communication was fairly successful in a static situation; the losses of messages for the entire time amounted to only 3.06 per cent. Pigeons were of value to distant patrols when the radio blanked out or when radio messages could not be sent.

Messenger and courier service proved to be of great value in keeping communications open during the breakthrough. At this period solo motorcycles were found to be better adapted for this work than ¼-ton trucks. But when the cold, wet weather set in, the going

by motorcycle became extremely precarious and their use was limited.

A STUDY FOR LEAVENWORTH

How the AIS came to the rescue in many totally unexpected situations during the highly mobile campaign in August is illustrated by the following account. The action involved the XV Corps, commanded by Major General Wade Haislip, in which an enemy infantry division was all but wiped out.

When the XV Corps was advancing through the Neufchateau region on the south flank of the Allied forces in the west, it encountered one of the strangest situations of the war. The German 16th Infantry Division had been brought from the Bay of Biscay area northeast to halt the advance of elements of the U.S. Third Army, advancing rapidly toward Epinal. The enemy division took up positions on a general south-west-northeast line between Neufchateau and Epinal.

In its rapid advance the XV Corps passed the U.S. 79th Infantry Division along the northernmost of the two main highways between the two cities and the French 2d Armored Division along the southern route, which generally paralleled the other. The average distance between these two roads was approximately 5 miles. In the process of this advance the entire German 16th Division was by-passed in front and rear by the Allied columns. Only when forward elements were within approximately 10 miles of Epinal did the XV Corps realize that the German division was sandwiched between the columns.

General Haislip promptly faced the 79th Division to the south and the French 2d Armored Division to the north, attacked vigorously and proceeded to annihilate almost to a man the trapped German division. The engagement occurred when other elements of the Third Army were already along the Moselle River.

The constant reporting of locations and dispositions of elements of the XV Corps by the AIS in great measure made this maneuver possible.

CONCLUSION

After the system had been in effect for about a month and a half, the reporting by AIS of intelligence information was abandoned. It was found that corps G-2 could better handle this information, and after its evaluation there, it passed directly to Army G-2. A heavy burden was here lifted from the shoulders of the AIS.

The Army Information Service had accomplished its highly important mission during the fluid stages of the campaign. When the front became relatively stable during the Battle of the Moselle, and later after the fall of Metz, the AIS was suspended.

While it is acknowledged that the use of the 6th Cavalry Group for such a purpose was relatively an expensive employment of combat troops, it is felt that it was more than justified during the period of highly mobile operations. It is difficult to conceive how the

Third Army could have made its sweep after the breakthrough at Avranches had not the AIS been functioning.

In retrospect, it can be said that the officers and men of the 6th Cavalry Group really completed their tactical education during the AIS operations. All of them, through their close proximity to the various components and subordinate units of an army, have a clearer picture of the absolute inter-dependence of corps, divisions and even battalions.

Whether or not the AIS will ever be resumed again—after four and one half months' operation—is, of course, not known. In future wars and campaigns provisions should and probably will be made for a service similar to the AIS, but during the Battle of France General Patton had to improvise with the tools at his disposal.

Third Army in Luxembourg

January, 1945

Paris, Jan. 21 (AP).—The United States Third Army was overrunning northern Luxembourg tonight, crumpling the once-powerful south flank of the Germans' "Belgian bulge" with gains of nearly 5 miles and smashing with big guns at the enemy now racing for the haven of the Siegfried Line.

Pacing Allied armies that are attacking along most of the 200-mile Western Front, Lt. General George S. Patton's forces struck from the west and south, bursting into the mountain-bound little duchy from Belgium and fighting to within a mile of one main enemy escape road.

The sweep from the west drove the Germans out of Belgium at a point southeast of Houffalize, and carried a third of the way across Luxembourg's 12-mile-wide northern tip into the village of Lullance, threatening to outflank any enemy positions anchored on Wiltz, 6 miles south.

As he poured tanks and infantry into this 3-mile front, General Patton loosed another drive in the southeast that deepened the Sure River bridgehead to 4 miles and overran Landscheid, a mile south of one main east-west escape route.

The Germans were rushing troops out of their imperiled Ardennes positions over this highway into Vian-den, crossroads town at the Reich border, in a storm of American artillery fire.

A dozen or so Belgian and Luxembourg towns fell to the Third Army, most of them to the 6th and 11th Armored Divisions.

The 6th Cavalry Group swung into action on the south flank of these forces and crossed the Wiltz River a mile west of the town of Wiltz, enemy mountain stronghold.

Nowhere did the Germans hold positions more than 10 miles west of the Siegfried Line along the axis of their deepest penetration, which had carried almost 45 miles west toward the Meuse.

Berg, France—A Recon Troop in Dismounted Action

by Captain Richard B. Stolze, Reconnaissance Troop Commander

OPERATIONS for the attack on Berg were carefully planned.

Located comfortably on a high hill, the town furnished remarkable observation over the entire surrounding area (see map). Jerry in command of hill "226" made operations even more difficult. At any event, orders were to bag the town.

It was estimated that there were between 30 and 40 Germans in Berg, and the proposed plan was for the 3d Platoon, dismounted, to advance through existing road mines up the main road, with a platoon of engineers following to clear the road of mines. The 2d Platoon, also dismounted, was to seize the blockhouse, which was expected to be a machine-gun position, and then continue into the town from that direction. The 1st Platoon, mounted in its vehicles was to follow on "clear-ahead" from the engineers. The troops were to move up under cover of darkness; then after a half-hour artillery barrage, were to advance into the town.

The first phase of the plan was carried out smoothly until an engineer accidentally set off a booby trap. Thus

alerted, Jerry immediately opened up with well placed machine-gun fire which kept the platoon pinned down and prevented its advance.

Although not yet time for the attack, the platoon signified its readiness for assault, and called for artillery fire. As the barrage opened, the platoon pushed forward, until Jerry opened up with mortar and machine-gun fire and again halted the advance. As dawn broke, enemy fire became more effective, and the platoon finally had to withdraw.

Two tank platoons, held near by in mobile reserve, were then called to spearhead the advance.

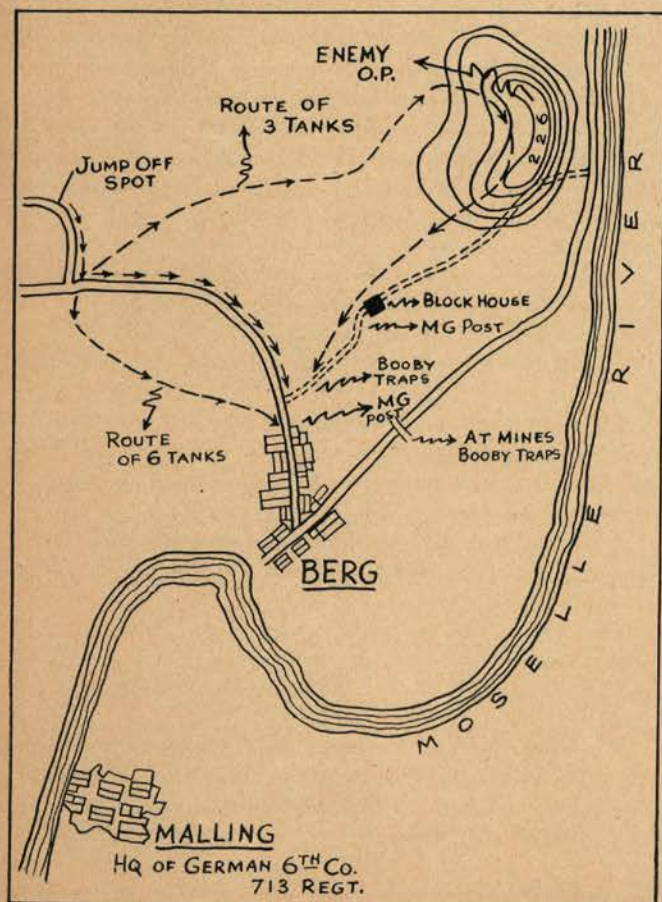
The tanks advanced in single file until the first one struck a triple Teller bar mine and blew up, and immediately the remaining tanks withdrew to make a different approach.

Captain DuPree of the tank company and I went into a huddle and mapped out a new plan of attack. He was to get 6 tanks into the town by moving cross-country from the west. After knocking off the enemy machine guns, the tanks were then to outpost that end of the town. Meanwhile three other tanks were assigned to clean out hill 226 and neutralize Jerry's fire from there. Thus covered, the dismounted recon troop was to follow into the town from the road route.

The new plan ironed out smoothly. The tankers got their 6 tanks into the town, knocked out the machine gun outpost on the approach side, and allowed the dismounted troops to move up. Their advance was slowed considerably by heavy mortar fire and a great many booby traps, but the troop pushed ahead. The tanks, however, were a little too fast for the men on foot, and the first unit did not get in as soon as had been planned. The 2d Platoon was the first to reach the town with its dismounted men. Meanwhile, the tanks continued outposting and shooting up anything they could see—neutralizing and pinning down enemy fire while the dismounted forces moved in.

The 2d Platoon immediately set up an outpost on the approach edge of town, and then dispatched 5 men hurriedly to the far end to set up another outpost in order to trap any escaping Germans. The balance of the 2d Platoon, plus the 3d Platoon, proceeded with an extensive house-to-house cleanup.

Although the operation continued to function fairly smoothly, casualties began to mount, and it became imperative that more men be brought in immediately. With mines still impeding progress on the road, the 1st Platoon vehicles were rerouted to approach the town over the cross-country route taken earlier by the



ts from Combat

tanks. A small detail of engineers was then left to work on the roads, while the balance of the engineer platoon was called into town to hurry operations in the house-to-house fighting.

During the entire operation the combination of artillery, tanks, and dismounted cavalymen worked in perfect tactical coordination to accomplish their mission.

CONCLUSIONS

The complete action at Berg, from the start of the attack by the tanks until the town was cleaned up, covered about two hours. Total results netted 24 German prisoners and 8 killed. The troop's casualties, mostly from booby traps and mortar shrapnel, were 4 killed and 15 injured. Most injuries were not serious, as the majority of those wounded were disabled for only two to three weeks.

Throughout the attack it was of utmost importance that platoon leaders and noncommissioned officers physically lead their men, with the platoon leader leading and a high ranking N.C.O. bringing up the rear. Men will follow if they are led. The job to be done should not be left up to a few men, and the platoon leader and the N.C.O. must see to it that every man does his part. The men will do anything, but they must receive orders. If they are not told what is to be accomplished, the tendency will be toward disorganization rather than toward an organized assault. This difficulty became very apparent during the attack on Berg. Fortunately, however, enough officers and N.C.O.'s were made available in time to reorganize disorganized groups which had started to "sag in the middle" by the loss of ranking N.C.O.'s.

Mechanized cavalymen should be trained thoroughly in dismounted action as well as in their more normal rôle of mounted action. As the attack on Germany continues, it is apparent that more and more dismounted action will be necessary.

In an operation of this nature, the best weapons are tommy guns, grease guns (M-3 submachine gun), M-1 rifles, carbines, and plenty of hand grenades.

The 509 radio (dismounted 510) is an excellent radio and the best that the cavalry can employ in the present TO/E. One for each platoon in dismounted action is sufficient. Two men, however, are required to man and carry this radio. It is also imperative that communications be continuous at all times, at all cost, especially during the attacking period. If possible, an established competent man should be assigned to assist with the radio so that if the radio operator is actively

engaged elsewhere, the alleged competent radio assistant can give a high light description of the action as it progresses. An absolute necessity is that an officer or N.C.O., if possible, be close to the radio at all times.

It is believed that the attack on Berg would not have been possible without the employment of the tanks which knocked out the hostile machine-gun outposts that were pinning down the dismounted cavalymen. The tanks also kept Jerry busy ducking their continuous machine-gun and 37mm fire, while a clearing was made for the house-to-house cleaning.

Berg, France—A Tank Company in Support

by Captain Donald J. DuPree, Company Tank Commander

THE taking of Berg was generally considered as General Patton's last military objective on the west side of the Moselle River, and the mission was given to Company "F" tanks, and Troop "B," of the Reconnaissance Squadron, dismounted.

The commanding ground to the left of Berg had been taken once by a platoon of Troop "A," which later had been forced to withdraw, and the ground retaken by the enemy.

The attacking schedule, set for 5 November, 0600, was to be preceded by a 10-minute barrage on the enemy towns adjoining Berg and a 155mm barrage on the town itself.

Troop "B" moved in at 0600 with an attached platoon of engineers. At 0730 the commander reported that the troop had been pinned to the ground by heavy enemy fire—small arms, mortar and artillery—and could not advance.

It was then that the two tank platoon's and headquarters section of Company "F" were committed to make a breakthrough and get into the town. The tanks moved out with the 1st Platoon to the front, the company commander in the middle, and the 2d Platoon in the rear—more in a column and well dispersed for purposes of immediate control and deployment by the company commander.

The leading tank, assigned to proceed as far as it could while locating any possible antitank guns or mine fields, struck a triple Teller bar mine, which totally destroyed the undercarriage. Three men were wounded.

This casualty, however, enabled the balance of the attacking forces effectively to by-pass this mine field by going cross-country. For deceptive purposes, the



Signal Corps Photo

Tanks advance on Berg, France, December 1944. Approaches to Berg were heavily mined, and the Germans, occupying the high ground overlooking the town, held excellent gun positions from which to direct fire on approaching troops.

enemy had employed dummy mines in the field adjoining the road.

Against a rain of heavy mortar and small-arms fire the first tank entered the town of Berg at 0800.

The 1st Platoon, used in echelon form as a flanking movement around the mine field, was well dispersed to flank the town and reduce any small-arms fire on the dismounted men. The 2d Platoon on the left flank covered the enemy-held high ground with 37mm HE and machine-gun fire. The action of the 2d Platoon in covering this hill served to reduce the amount of mortar fire by harassing their forward observers. Once the town was entered and secured by the two tank platoons, the dismounted cavalymen moved forward, encircled, chased, and captured the enemy and in general, conducted mopping up operations.

After taking and handcuffing Berg, it was necessary to detach the 2d Platoon which, with the aid of the dismounted cavalymen, attacked the high ground coming into the town and successfully drove the enemy from their position.

Two platoon's were then detached from Troop "A" to dig in and hold that high ground—the key terrain to the entire section—and deny Jerry his commanding observation posts.

CONCLUSIONS

The surrounding terrain was muddy, with plowed fields adjacent to the roads. Hostile observation remained on three sides of the town. For a time the enemy had been in full possession of the hill and high ground which afforded the commanding observation. This had allowed Jerry excellent gun positions for directing effective fire. Throughout the entire mission, enemy fire—artillery, mortar and small arms—was constant. Visibility and atmospheric conditions were good.

Morale was excellent; estimated enemy morale was fair.

Most of the tank casualties were incurred as a result of individual crew members exposing themselves for too long a period in the open turret.

Radio control is a prime necessity and definitely should not be conducted on squadron command channels because of undue traffic which interferes in the employment of the vehicles. Loss or partial disruption of communications reduces maneuverability, especially in small, flexible units.

Inasmuch as cavalymen have been called upon to do doughboy teamworking, it is certain that combat training should take in the basic fundamentals of all branches of the combat arms—at any event, as much as possible—infantry, cavalry, artillery (fire control from forward positions), etc. Thus the enemy can more easily be outwitted, lives will be saved, and victory will be the dividends.

Another noteworthy fact for anyone's thinking cap is the necessity of inspiring soldiers with the same confidence when they are dismounted that is so noticeable when they are in their vehicles. The more a soldier learns to master his wits without the roof of armor about him, the more effective and producing he will be. Confidence—courage to withstand the rigors of combat under dismounted conditions—makes for cool thinking, assured teamwork, and eventual success in the field.

1 1 1

Time in the Jungles

by 2d Lieutenant Ross S. Hadfield*

"**L**IEUTENANT, the Exec. wants to see you." With this salutation from one of his men, the platoon leader received his first inkling that something

*81st Cavalry Reconnaissance Troop (Mecz).

was up. He checked his watch and noted that it was 1620—rather late in the afternoon for much preparation as it would be dark by 1830. The platoon had previously been sent on late afternoon patrols, which normally should have required 4 to 6 hours of daylight to perform; so with apprehension the lieutenant looked up the executive officer of his troop.

The orders the executive officer gave him were, "Get your platoon ready to move out. Take 5 machine guns; use 3 of headquarters guns and one unit of fire."

"Where are we going and what are we to do?" asked the platoon leader.

"The captain will give you the dope when he gets back from G-2," the executive officer replied.

With that warning the platoon leader started preparing his platoon to move. The members of the platoon were already in a state of confusion, as they were trying to build shelters to keep their equipment and supplies dry, and so that they, themselves, could get dry after 4 days of continual rain. Some of the men were out in the jungles locating logs for building purposes and had to be called in. The others, under their squad leaders, began getting the platoon's equipment lined up.

About 1635 the troop CO returned, and the platoon leader immediately checked in with him.

The bits of vital information which the platoon leader received in the next 15 minutes were:

1. Where he was to go (approximately).
2. What he was going out to get.
3. What supplies he was to take.
4. What time he was supposed to be there.

Things which were not given him, even after asking, were:

1. The enemy situation.
2. Where friendly forces were located.
3. What units comprised those forces.
4. Any information of the terrain other than the issue map, made from aerial photos.

The platoon was assigned Section Z of the island (see map) to outpost against sea invasion. It was to establish a central CP and 4 outposts, as shown on adjoining map. Each OP was to be equipped with the following:

One LMG.

One unit of fire.

One sound power telephone for communication with CP.

The CP was to have:

One EE8 type telephone to Central Defense Control.

One SCR 510 radio for communication to Central Defense Control.

One SCR 284 radio for communication with troop.

Three SCR 300 radios to be placed by the platoon leader.

The platoon was to use ¼-tons for transportation as far as possible and be in position by 1700.

Asked about the enemy situation, the captain could

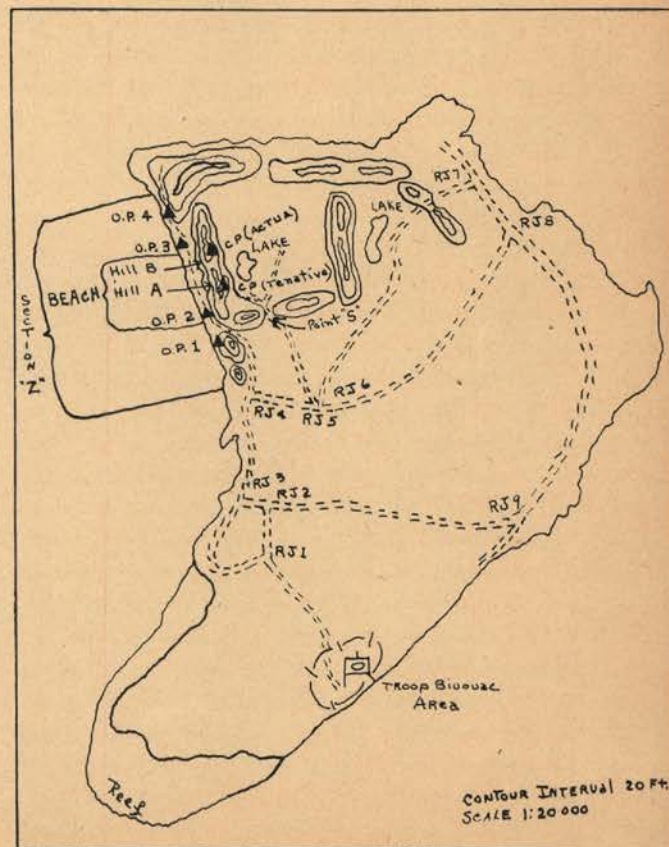
not tell the platoon leader any more than what had been rumored around for several days: The doughboys had some of the Japs holed up in caves (exact location unknown), but snipers were still present in the area. The CO could not tell the platoon leader where the friendly forces were located or exactly what units were on the front lines.

By the time the CO finished issuing the orders, it was 1650. Another 15 minutes were required to get the extra equipment which the CO had ordered to go with the platoon and in checking to see that it was in order. Another 5 minutes passed while waiting for the return of two of the three ¼-tons which the platoon had available.

The platoon was to be in position by 1700, but with a warning order given at 1620 and final orders at 1650, it was an impossible task.

The platoon leader moved his platoon as a unit to RJ No. 4 (see map), where he turned over to the platoon sergeant 8 men, two machine guns, and one SCR 300 radio to set up OP's No. 1 and No. 2. The platoon leader instructed the sergeant to set up the OP's and, if it was not then too late, to join him on Hill "A." He then moved the rest of his platoon around toward the lake by RJ No. 5 with the intention of establishing his CP and, if possible before dark, to push on with his other two OP's.

At point "S" the platoon leader contacted the infantry and found that he could not get up to Hill "A" from that side because of a deep ravine which did not show on the map. In attempting to scale the rock cliffs on



the east side of the ridge, the patrol would be exposed to fire from Jap forces holed up in the area northwest of the lake.

After getting as complete a picture of the situation as possible from the infantry, the platoon leader immediately moved his platoon back to RJ No. 4, then north along the trail as far as a ¼-ton could go. Contacting OP No. 1, he found that the platoon sergeant had pushed on to set up OP No. 2. The platoon leader then moved on north along a dim trail which ran along the coast but was not shown on the map.

By the time that the patrol reached the vicinity where OP No. 2 was supposed to be established, it was quite dark, so the platoon leader decided to hole up for the night. The gravest concern in moving at night was in being fired on by friendly troops, who had already experienced being grenaded by the Japs after challenging. As a result, most troops holed up at dark and fired at anything that moved. Because of the thick jungle and rugged terrain the platoon leader and the men with him failed to contact the platoon sergeant. (Next morning it was found that they were less than 50 yards apart.)

The second day, after a personal reconnaissance by the platoon leader, the patrol set up the CP on Hill "B," because it offered better facilities for a CP than Hill "A." OP's No. 3 and No. 4 were established, and the platoon supplies were all hand carried in and wire strung to all OP's by 1500, when the platoon leader gave orders for all men to prepare their defenses for the night and clean their weapons.

The third day the platoon repaired the wire which was continually being shorted or broken by the infantry, who were packing supplies to their units, or cut by Jap snipers. The wire was placed up in the trees—the men working in pairs or more as protection against snipers. By 1300 communications were established to CDC and all outposts, and the platoon was relieved by another platoon from the troop.

CONCLUSIONS

Although the platoon had orders to establish an OP system by 1700 on the first day, it was not really set up until the morning of the third day—about 42 hours late.

Who was responsible for the delay?

With a little more experience the platoon could have set up the system faster. On the other hand, the platoon leader did not receive a warning or orders early enough on the first day to make use of daylight. He did not have time to make a personal reconnaissance, so he could not tell his platoon how or where they would move. He did not get the complete enemy and friendly situation. In fact, he had only rumored information until he found out for himself.

The troop CO did not get his orders from G-2 until late in the afternoon, and then he never received complete enemy and friendly information so that he could pass it on.

If an outpost is to be established in jungle terrain, at least double the normal time is required if there is any movement by foot because of the difficulties of orientation, the heat, and the hardships of hand-carrying all supplies through the jungles.

Orders should be handed down from the top as fast as possible in order to allow the patrol itself the daylight hours in which to work.

/ / /

Coöperation With the Infantry

by Captain M. M. Cutler*

CLOSE coöperation with infantry is the keynote of all arms, and this fact has never been more noteworthy than in actions involving infantry and cavalry, specifically, the division reconnaissance troop.

Coöperation can best be accomplished on the battlefield when personal contacts have been made prior to battle. Not only should the reconnaissance troop commander know the regimental commanders and their staffs but he should also know the battalion commanders and staffs as well. The best place for making these acquaintances is back in the states, but if it was neglected there, acquaintances should be made as soon as possible wherever the units are.

In a rapidly moving situation, when the infantry cannot maintain contact with the enemy, the reconnaissance troop, logically, can best perform this mission. By riding 8 or 10 infantrymen "pig-a-back," a reconnaissance platoon gives to the following infantry, first hand information whenever it is stopped temporarily by enemy action. By the same token, no time is lost by the infantry main body in becoming disposed for action, because the mounted point has the situation "diagnosed," and reduction of the enemy interference is materially quickened. Usually, the fire power of the reconnaissance platoon is sufficient to reduce local resistance and handling of prisoners by two of the infantrymen allows the platoon to proceed without delay.

In situations of close contact between our infantry and the enemy, the reconnaissance troop is squeezed to a flank for the purpose of maintaining contact with the adjacent unit. In keeping this contact, it has been found desirable to leave an armored car with radio at the battalion headquarters of each flank unit. The purpose is twofold:

1. Platoons operating patrols can readily keep up with moving flanks and thereby never lose contact.

2. Adjacent unit commanders always desire information of the other units situation and position, and there, close at hand, is a continuous source of information.

Coöperation cannot be overstressed. Passing of information both friendly and enemy, to commanders, dispels the fog of the unknown and makes it possible to keep the enemy continuously off balance.

*Commander, Reconnaissance Troop.

Mountain Goat, M-4

by Lieutenant Richard K. Gottschall

THE 70 road-mile attack of the 1st Armored Division from Grossetto to Volterra, Italy, in June and July, 1944, was over the most unsuitable tank country that the division had encountered. Yet the operation was as successful as any in which the division had participated because unit commanders, the staff and the ordinary soldier all adapted themselves and their weapons to the situation.

The terrain was mountainous, laced by streams and deep gorges. The roads, what few there were, were built into the sides of the hills like nightmare shelves. Every mile had its quota of bridges and culverts, which the Germans consistently demolished. The roads twisted as every Italian mountain trail does, and each curve, with its blown bridge or culvert, became an excellent site for a roadblock. Armor is not designed to operate over such terrain, but it did.

The sector of the Fifth Army front assigned to the 1st Armored Division began with the coastal mountains and extended approximately 30 miles inland. On the armor's left an infantry division was attacking up the coastal plain, and on its right elements of the French Expeditionary Corps were attacking through the mountains.

The 1st Armored Division, with enough attachments to make its strength that of an embryo corps, was faced with the problem of covering a 30-mile sector which lacked enough roads and which had no terrain away from the roads that permitted the textbook employment of armor.

TEN TASK FORCES

The only solution was to cover every available road with a small task force. The sector was divided between the combat commands, each of which operated with three small task forces, but almost as soon as the attack was opened, it was found necessary to commit the division reserve in the center to cover the large gap between the combat commands. Using the staff of the 13th Armored Regiment, this group operated with two small forces and was called Task Force Howze. To protect the flanks of the division, and to keep contact with the adjacent units, reconnaissance battalions operated on the east and west boundaries. Although their mission implied a more or less passive rôle, their activities might be considered as those of a ninth and tenth task force since the neighboring divisions often lagged miles behind.

The task forces varied in composition, both between and within the combat commands. On the left of the division sector, Combat Command B placed a mobile

1st Armored Division from Grossetto to Volterra, Italy, June 21 to July 10, 1944

force of a light tank battalion, an armored infantry company and a medium tank company. The center CC "B" force included a medium tank battalion, an armored infantry battalion and a reconnaissance company. On the right CC "B" placed a battalion of armored infantry, a company of light tanks and a platoon of medium tanks.

The reasons for the variation were the superior roads generally available to the center force and the concentration of German armor in the center of the sector. The right and left forces were weaker but more mobile for the same reasons. Common to all three forces, however, were engineers, tank destroyers and reconnaissance elements. A platoon of each was usually assigned to each task force.

In the division center and right, the formations of Task Force Howze and Combat Command A remained generally the same throughout the operation. Enemy armor did not constitute the threat to these groups that it did on the left.

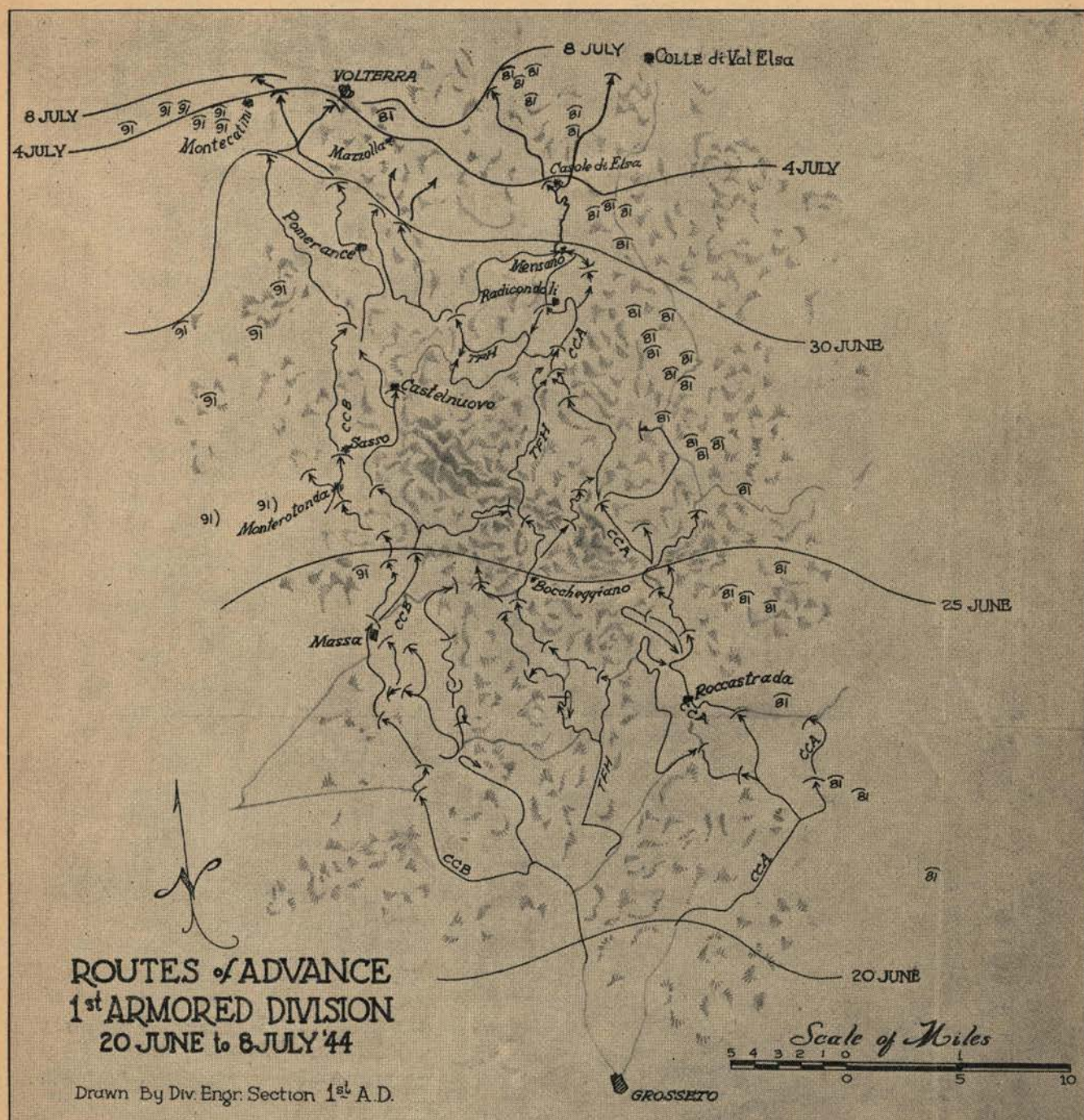
Common to the forces of Task Force Howze and CC "A" were a medium tank company, an infantry company, a reconnaissance platoon, a light tank platoon, an engineer platoon and a tank destroyer platoon.

After the first few days of the attack there was no appreciable division reserve. The nature of the terrain, the width of the sector and the necessity for meeting a thinly spread but solid German defense forced the division into what amounted to a skirmish line.

THE OPPOSITION

The Germans probably expected the Fifth Army to employ the 1st Armored Division on the broad coastal plain in an attack aimed at the flank of the German position. The terrain was generally more suitable and the quick capture of seaports was a prize worth considering.

The Germans evidently concentrated their armor to meet such a threat, and were forced to shift it quickly to the east when 1st Armored tanks made their appearance in the coastal mountains. Combat Command B, on the division left, took the brunt of the armored defense at first, but the Germans were forced to shift



their armor still farther to the east as they realized the width of the sector through which American tanks were operating.

For defense against the 1st Armored attack, the Germans employed a battalion of Mark IV tanks and a battalion of about 50 Mark VI (Tiger) tanks. The German 162nd Infantry Division was the main force in the sector, and was reinforced with self-propelled guns.

It also developed early in the attack that the available maps were not satisfactory. Aerial photographs showed better the conditions of small trails and a few of the demolitions. These photographs were used extensively throughout the operation.

No planning was possible any farther ahead than

could be seen on the ground, and since the observation was strictly limited, none but local day to day objectives could be chosen. An over-all mission was assigned, of course, but throughout the attack many decisions were performed left to unit commanders. The best available observation came from the small artillery planes, which were flown almost continuously.

Small engagements were fought repeatedly on the division's routes, but for the most part these skirmishes were simply the orthodox reduction of strong points and roadblocks.

"IMPASSABLE TERRAIN"

The most glaring error the Germans made in their defense was their reliance on apparently impassable

terrain for flank protection. Repeatedly they left a flank unguarded only to discover too late that a company of M-4's was sitting on the "impassable terrain" and shooting up their position.

According to intelligence reports, midway in the operation, the German 162d Division advised subordinate units that since the "opposing armor" was using trails generally considered impassable to tanks, bazooka teams were to be placed to guard all trails, regardless of their condition, which led into or past German positions.

In the capture of Roccastrada, heavily mined hill town in the CC "A" sector, a task force was sent up Highway 73, a two-lane road that confined the column rigidly to a march formation. The small German garrison in the town had no difficulty stopping the armored force, which could employ only a tank or two at a time. However, the CC "A" commander quickly sent a second task force around to the left. A faint trail, which showed on the aerial photographs, led north past Roccastrada and intersected Highway 73 again above the town.

The trail was so narrow, rocky, steep and twisted that the Germans had not even bothered to mine it. The route would have been difficult even for a mule, but the tanks managed to worry their way through and came into Roccastrada from the north and east. The Germans, failing to discover the threat to their flank until the tanks were within range, were forced to evacuate their position with heavy casualties.

On the west, CC "B" had left Route 1 and turned north into the mountains on the road to Massa, chosen as a main axis. Two thousand yards north of the highway, the force had to pass through a narrow saddle. On the far side of the saddle, distributed across a small plain, nine Tiger tanks waited. As the column of CC "B" tanks crossed the rise, the Tigers struck. Although several of the Tigers were destroyed, the Germans retained control of the position.

A force was then sent 10 miles back over Route 1 and around to the right. This force, which was given the mission of making a demonstration northeast of the saddle to relieve pressure on the main column, met few demolitions or mines and only slight resistance until the tanks rolled into position. Then six Tiger and four Mark IV tanks attacked from four directions, and knocked out four M-10's and 12 light tanks. The remaining platoon of light tanks hastily withdrew to a roadblock which the infantry company had organized 2,500 yards to the rear. The German position guarding the saddle had been only slightly affected.

Since a frontal assault was still out of the question, the only alternative open to the CC "B" commander was a flanking maneuver to the left. The photographs showed only a faint trail. It was not a route for armor, but a reconnaissance company, reinforced by a platoon of tank destroyers, was sent over it. Again the Germans had relied on the terrain to protect their

flank, and the force, reaching the hills to the left of the saddle, cut the road above by fire.

By morning the reconnaissance group, reinforced by an armored infantry company and a medium tank company, had weakened the German position enough to force a withdrawal.

ARTILLERY IN ANTITANK RÔLE

These Mark VI tanks, which repeatedly appeared in the CC "B" sector, were the most serious threat to the division's advance.

The terrain, as has been pointed out, was perfect for roadblocks, which effectively neutralized the 1st Armored Division's numerical superiority by limiting the use of tanks to only the first one or two M-4's in each column.

The bulk of the attached heavy artillery was concentrated in the CC "B" sector. A 155mm howitzer battalion and a 155mm gun battalion were used primarily as indirect fire antitank guns. Every time a Mark VI was discovered on the combat command's route, which was often, the fire of the two attached battalions, and of the organic 105mm battalion, was poured on the tank. It was expensive warfare in regard to ammunition, but it was the only method of destroying the Tiger tank without heavy loss of personnel and equipment.

The method and skill of the German tankers were illustrated shortly after the incident of the "saddle." The reconnaissance elements of the task force on the left passed through a defile into an open area formed by a small river. They investigated the area on foot but discovered no enemy and returned through the defile for their vehicles.

As they prepared to mount, an artillery cub plane buzzed the column and dropped a note. The observer had detected three Mark VI tanks in the open area. They had been so well camouflaged that he had not seen them until they had removed part of the disguise to give them better vision and a field of fire. The artillery destroyed two of the tanks.

Farther north in the attack toward Massa the left column of CC "B" employed the main axis. Of the other two task forces, the right hand column five miles inland had the customary mountain road, but the center column was forced to split into two small forces. One of these was sent over an unimproved, narrow road, while the other, setting off across gullies and streams, made its trail as it went.

The pressure of the four columns, plus the activities of the reconnaissance battalion on the left flank, forced the German garrison to withdraw from Massa. With five forces coming at and past their position, the Germans were unable to fight for the town because of the impending threats to their flanks and rear. They evidently did not have enough troops and armor to defend all five approaches, or enough time to dispose what strength they had.

TANKS WITHOUT INFANTRY

The vulnerability of even Tiger tanks without infantry was illustrated in the Task Force Howze sector during the same period. At Bocchegiano, TFH completely wiped out a German infantry company which had occupied the town. Sixty were captured and the remainder of the company killed.

A few miles farther north, where the narrow shelf road curved sharply to the right to enter a deep gorge, foot reconnaissance discovered two Mark VI tanks. Even though the task force had made no attempt to be quiet in its advance up the road, it was able to occupy a wooded slope above the road with an infantry platoon and fire a round of bazooka at the lead tank before being discovered.

Small-arms fire kept the German armor buttoned up, and a tank destroyer was able to knock out the lead tank. The second retreated and was later found several miles north where it had broken down from a damaged suspension. Throughout the fight, neither German tank was able to fire a shot, either from their 88mm guns or from their machine guns.

The two tanks had posted no lookouts to warn them of the TFH column's advance. They had obviously relied on the Bocchegiano force to fight a delaying action to their position. If even one German had escaped, the tanks would have been warned. Instead, the TFH column approached with complete surprise.

At Bocchegiano, the German infantry had no anti-tank protection and were no match for the TFH combination of tanks, infantry and artillery. Above Bocchegiano, the German tanks were no match for the column because they were forced to fight without infantry.

Between Massa and Castelnuovo in the CC "B" sector and extending east in a belt across the division sector was a higher range of mountains which limited even more the use of armor. In many cases the demolitions could not be bridged by the engineers under combat conditions and the division's tanks were confined to a very few routes. The infantry had to be dismounted from their halftracks or from the backs of tanks for long periods. Bridgeheads over the demolitions the engineers could repair were fought for bitterly by the retreating Germans.

TEN MILES ON FOOT

At Massa, CC "B" discovered that the area its left column must cover not only had no roads for the next ten miles but had no passable trails. The hills were occupied and could not be passed by the main column of armor until they had been cleaned out. The threat to the left flank was serious.

The armored infantry was dismounted and proceeded northwest from Massa. Luck and the ability to move fast and aggressively enabled the infantry battalion to surprise a battery of horsedrawn artillery, and capture 45 personnel, the guns and a number of horses.

The battalion had been forced to leave even its quarter-ton trucks behind, so had it not been for the captured horses, the column could not have been supplied until it reached Monterotondo about 8 miles north. A western peep driver became the battalion blacksmith during the four-day fight.

In the fight from Monterotondo to Sasso 3,000 yards to the north on June 28 the battalion completely exhausted itself. The sector formed a bottleneck for the CC "B" forces and allowed the Germans to concentrate their defenses in the area. The town could not have been held without armor, but there were no roads or trails, so a force of tanks was sent across the "impassable terrain." Making its own roads, it passed to the left of one 600-meter peak and arrived in Sasso in time.

THE CECINA RIVER

Once the high range was passed, the advance was "downhill" to the Cecina River defenses of the Germans. The attack moved rapidly, and by dark on June 30, CC "B" and TFH had established bridgeheads on the north bank of the river. Radicondoli had fallen and Mensano was occupied by CC "A," which had passed to the east of the Cecina River valley. In the 10-mile run of the CC "B" left column on June 30 the troops had again alternated between mule trails and no roads at all to get their tanks to the river.

The advance on the left and center of the 1st Armored Division sector was so rapid that many Germans were trapped and captured before they could prepare their defenses. That night there were still untouched German positions on the south side of the river between the attacking armored columns.

One of the CC "B" columns crossed the river and took up positions straddling Highway 68, key lateral route connecting Volterra and Route 2 with the coast. After dark three Mark IV tanks came east on the highway and reached the outskirts of the American position before they were discovered. A tank destroyer, pumping three-inch AP at the exhaust, knocked out the lead tank, and the second Mark IV pulled off the road to the north and stopped by a haystack. On the other side of the haystack was an M-4. Unable to fire through the haystack because it limited his turret, the M-4 commander pulled his tank forward, pumped two quick shots into the Mark IV and backed up. The German tank exploded and burned. The range of the one-sided battle was seven feet. The third Mark IV tank was burned by its crew which escaped into the hills.

CASOLE D'ELSA FIASCO

On the division right, CC "A" reached Casole d'Elsa on July 1. The walled town, occupying the key terrain feature in the area, was strongly defended. The only roads toward the town were on ridges within sight and range of the Germans' antitank guns. The terrain prohibited the employment of more than one or two tanks. The only solution was a night infantry attack

with medium tanks and M-10's reinforcing the position before dawn. An attached battalion of infantry was ordered to attack.

Shortly before dawn the infantry reported their troops had secured the town, and tanks were sent up. Mines slowed the tank movement, and at dawn the tanks were caught on the ridge road 1,000 yards south of the town. Before they could pull out, six medium tanks, three light tanks, and two tank destroyers were lost. The Germans had thrown off the infantry attack and still occupied the town.

The attack was repeated the next night but again failed. A contributing factor was the forewarning of the defenders. The third night the attack succeeded. A company rushed the northeast gate while a second company scaled the 15-foot town wall.

The town probably would have fallen the first night except for the relative inexperience of the infantry battalion. Whatever the reason for the failure of the attack, or the incorrect report to CC "A" that the town had been taken, the incident illustrates what can happen to a command when communications channels break down.

CUTTING HIGHWAY 68 TO THE EAST

Across the Cecina River, the Task Force Howze attacked Mazzola and secured it on July 2. Out of nine medium tanks used in the attack only one reached the objective that day. One tank was knocked out by enemy fire, two struck mines and five threw tracks from trying to go over unsuitable terrain. The force pushed reconnaissance on to Highway 68 east of Volterra and cut the road by fire.

On the left, CC "B" attacked Montecatini and held the town against heavy German fire. During the operations just north of the river, both CC "B" and TFH were receiving the heaviest artillery, small arms, mortar and direct tank assault gunfire of the past few weeks. Volterra, situated on the very peak of a 500-meter mountain, was the core of a German position held by at least two battalions of infantry with artillery and tank support. The occupation of the hills to the west by CC "B" and the TFH position on the east flank of the Volterra did not materially weaken the German position. Farther east CC "A," in straight infantry attacks, pushed troops to within small arms range of Highway 68. In supporting the infantry, CC "A" sent a company of medium tanks into several lateral wadis to provide indirect fire support, but because of the terrain, only eight tanks were able to work their way into position.

Since Volterra, key to the defenses north of the Cecina, could obviously not be taken by armor alone, and the division did not have enough infantry with which to attack, the 1st Armored was withdrawn from the line July 10. A detachment of tanks and tank destroyers was drawn from TFH to support the infantry division's attack on Volterra.

THE ENGINEERS' RÔLE

The Grosseto-to-Volterra operation of the 1st Armored Division covered 33 airline miles, but the most direct road between the two points measured 70 miles. Every one of those 70 miles contained a number of bridges and culverts, each of which was destroyed by the retreating Germans. The logical sites for by-passes were mined, sometimes to a depth of several feet so that a bulldozer would be knocked out when it scooped dirt for a fill. The creek beds were mined. Gaps were blown in the shelf roads. Abatis were thrown across roads where no other type of roadblock could be used, and in several instances bridges were blown where the gap could not be repaired under combat conditions. In those cases the task force using the road was forced either to leave its vehicles and fight on foot or else turn back.

The tankdozer proved to be one of the division's most valuable pieces of equipment during the operation. Its armor permitted it to travel with the detachment of engineers which formed part of the advance elements of each task force. Its blade was essential to construct by-passes and fills. Even its 75mm gun could be used if a fire fight developed unexpectedly. The entire operation could not have moved as successfully as it did without the engineer battalion's extraordinary work.

THE BOX SCORE

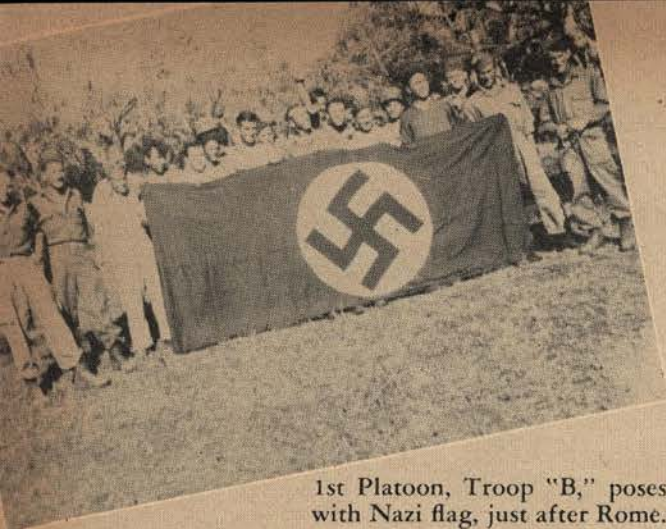
Terrain which would permit as many engineering obstacles as an average two per mile is unsuitable for an armored division. Yet in its attack from Grosseto to Volterra, the 1st Armored Division captured 1,606 prisoners of war, and according to prisoner of war information, the Tiger tank battalion opposing the division lost four-fifths of its effective strength.

Enemy matériel destroyed during the operation included 115 trucks, 58 self-propelled and antitank guns, 48 artillery pieces and 62 tanks, 34 of which were known definitely to be the 60-ton Tigers.

The rapidity with which the operation moved would not have been possible if the Germans had not been harried and pursued by units of the Fifth Army for more than 100 miles. The German divisions had no time for adequate defenses in the mountain sector. If they had had time for preparation and enough troops to man the positions, the story would have been entirely different.

The division's attached infantry battalions were inexperienced and tired. Yet every defended obstacle on the route had to be cleared by infantry before engineers could prepare a passage for the armor. The infantry and engineers were in action continuously. Since it was not possible to employ many tanks at any one time, tank crews were able to rest periodically but briefly.

It was necessary during the operation, and after the division had been relieved, to make extensive repairs to tanks, trucks and gun carriages. The terrain had been as hard on the vehicles as on the men of the division.



1st Platoon, Troop "B," poses with Nazi flag, just after Rome.



This AT gun, abandoned by Germans, was captured by Troop "B."



A German Ferdinand tank was left by retreating Germans.



The Germans abandoned much matériel in their haste. Here two tanks were left.

The 81st Reconnaissance Sq

by *Lt. Colonel Michael Popowski, Jr.**

THE 81st Cavalry Reconnaissance Squadron, (Mecz)—formerly the 81st Armored Reconnaissance Battalion—the reconnaissance agent for the 1st Armored Division, has had more combat experience than any other similar cavalry organization in this war. Its record began with the Tunisian Campaign and is still continuing. Prominent in its history are the battles of Sened Station, Sidi Bou Zid, Sbeitla, Kasserine, Maknassy, El Guettar, Mousetrapp, Mateur, Cassino, Anzio, Rome, Tuscania, Canino, and innumerable smaller battles not so well known to everyone.

Like all good cavalry, the 81st has fought dismounted, mounted, and in combinations of both. It has made rapid advances. It has fought delaying actions. It has performed security missions of flank and advance guard. It has raided enemy positions in limited objective action and harassing action.

Some of the high lights in the squadron's history are: joining of the British Eighth Army and the American II Corps in Tunisia (the 81st met the 12th British Lancers some 40 miles from Gabes); capturing Mateur, one of the keys in the defense of Tunisia; being the first cavalry unit to employ the M-8 armored car in combat; and being the first Allied formation in Rome.

The squadron has accounted for at least twice its number in enemy dead and many times its number in prisoners of war. It would be very difficult to estimate how many prisoners were captured in Tunisia, for during the last two days of that campaign the squadron did not bother to report prisoners, but just lined thousands of them up on the road without escort and told them to march toward the American lines, where they would be taken into custody.

In Italy, the squadron has easily accounted for at least its numerical strength in enemy dead and also its strength in prisoners.

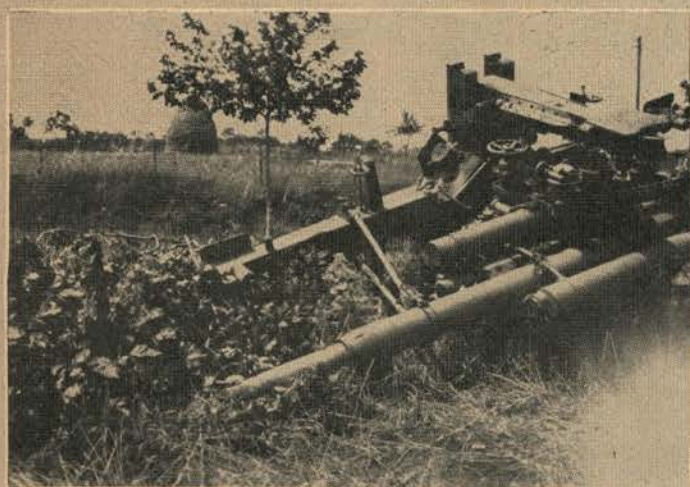
*Former Commander, 81st Cavalry Reconnaissance Squadron, Italy.



This Mark III tank was captured in Rome.



This burned German vehicle was one of many destroyed by Troop "B."



One of the 88's captured by the 81st lies in a field outside Rome.

1st Sergeant Phillips and Sgt. Snawder, both of Troop "B," display another Nazi flag.



Squadron Fights Way to Rome

Of all the interesting days in the squadron's history, one of the most outstanding was that of June 4, 1944—the day it entered Rome. The events leading to this occasion date back to the Anzio beachhead, where the 81st landed on D plus 4 and remained until the break-out.

On May 23, the day that the attack began, which broke the beachhead perimeter, the squadron was split. Troop "A" was attached to Combat Command "B," and the rest of the squadron to Combat Command "A." For the first day the unit was held in reserve, but on the second day and every day from then on, some part of the squadron was in action.

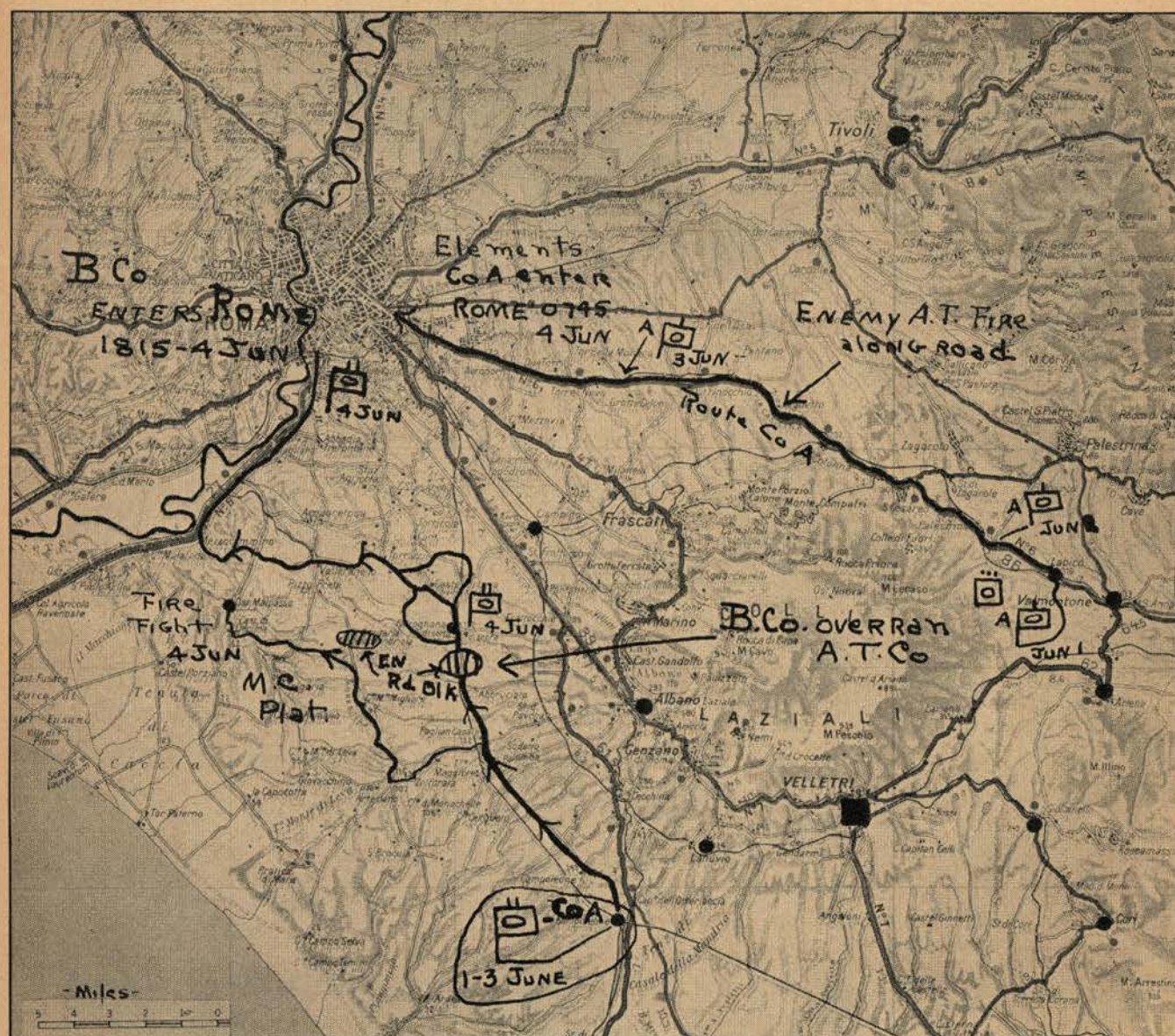
On June 3 Troop "A" was with Task Force Howze, slugging it out on Highway 6 a few miles out of Rome. The remainder of the squadron was in the line serving as infantry in the Campoleone area on the right of the British 1st Infantry Division and on the left of the American 45th Infantry Division. Its mission was to maintain contact with the British and protect the left flank of the 45th Division. During the night of June 3-4, the British assumed responsibility for the sector

held by the squadron, and the unit prepared to advance on Rome with the 1st Armored Division on June 4. Its mission was to protect the left flank of the armored division with its main axis on the route shown.

It was not light when the first elements of Troop "B" (Captain Jewett A. Dix, commanding) pulled out and passed through the infantry of the 45th Division. The first obstacle that confronted the troops was a mine field which they immediately by-passed, then continued their rapid advance along the road. Apparently, the main German force had withdrawn during the night. Troop "C," commanded by Captain "Dutch" Karcher, followed, and Troop "D," the light tank company, commanded by Captain Walton Goodwin, III, brought up the tail.

Along the route of advance, Jerry had blown every bridge and culvert and left many craters in the road wherever they would be of most value to him. These were covered by small rear guard detachments, and sometimes mines were sprinkled around the scene.

The forward platoon of Company "B," commanded



by Lieutenant Fagan and Lieutenant Farr (the old reconnaissance battalion organization had two officers in each platoon) was advancing so rapidly in the darkness of the early morning that these small enemy rear guard detachments were being scooped up before they knew what had happened to them. The real bottlenecks were the demolitions, and the platoon was forced to take some time to find routes around them. In spite of the demolitions, however, the advance continued at such a pace that Troop "C" and "D" were actually having a road march. It was fun to watch Germans along the route as they came out of the farm houses surprised to see such a formation traveling along the road. They could not understand how it had happened that they were prisoners so quickly. That day even the squadron headquarters took prisoners who had been overlooked by the hurrying troops.

The first resistance encountered was at a point 1,500 yards south of the little village of Falcognana. The morning was still hazy and progress had been so swift and silent that before Lieutenants Fagan and Farr

realized it, they had overrun an antitank gun on the side of the road, and the point car was in flames about 100 yards beyond.

In the early confusion of the skirmish it was difficult to make a good estimate of the situation. Tracers were everywhere. Four columns of black smoke spiraled skyward. Later a quick inventory proved that two of the smoke columns were from the squadron's own armored cars and two were from German halftrack personnel carriers, which apparently had been used as prime movers for antitank guns.

The advance unit already had forward momentum, and now it was decided to bring the entire force to bear on the enemy.

Troop "C" was ordered to attack to the left of the road, "B" around the right, and "D" on both sides initially. The scrap lasted about an hour and a half and resulted in the complete overrunning of the enemy position. Four armored cars from Troop "B" were burned and two light tanks from Troop "D" were temporarily disabled. The enemy lost the entire Antitank

(the 14th) Company of the Lehr Regiment attached to the 362d German Infantry Division. About 60 prisoners were counted; the dead were left on the field. Twelve antitank guns, including two 88's, and one American 57 were captured. The smallest gun was a 47mm. In their haste to escape the situation the jerries also abandoned one Mark IV Special Tank at Falcognana. The squadron's personnel losses for this engagement were very light for the advantage gained.

During this skirmish, the squadron became attached to CC "B" and was given the mission of protecting the left of the combat command and seizing and holding the bridge on the Tiber River south of Rome (see map.) Troop "B" had been committed to such an extent that it was out of the question to recall it to put it on the flank of the combat command, so because of the momentum already gathered "B" was to continue on to Rome. "D" was maneuvered on the right flank of CC "B" to protect the exposed flank. "C" was ordered to the bridge south of Rome, and in moving would also protect the combat command's left flank.

Squadron headquarters was leapfrogged in rear of the squadron and finally lit in the Falcognana area where the headquarters personnel enjoyed mopping up and catching the remaining hiding Germans.

At 1815 hours Troop "B" reported that its command post has been set up at the St. Paul's Basilica in Rome. CC "B" was proceeding on "B's" tail into Rome. One platoon of "C" (commanded by Lieutenants Yonkoff and Fellows), which had been thrown out of position during the different engagements of the day, was also in Rome. The platoon was ordered to seize and hold the bridge in Rome just north of Basilica, which it did after a small fire fight, and by 1900 hours both cars and personnel of the platoon had reached the west bank of the Tiber.

Squadron headquarters was then moved to Rome, and the trains were ordered up. Since the area was not entirely clear of Germans, the Tank Troop was given the mission of escorting the trains in. A few Jerry self-propelled guns and antitank guns, which had not been eliminated, were pot-shooting at the traffic on the roads. Under escort of Troop "D", however, the trains pulled into the battalion area at the Basilica about 0200 hours on the morning of June 5.

Troop "B" bore the brunt of the move. Of the 14 armored cars with which it started, only 7 reached Rome. Other losses within the squadron were negligible. When squadron headquarters rolled into Rome, it found Troop "B" guarding some 150-200 PW's that had been picked up on the way. Altogether, the squadron accounted for over 200 prisoners that day—most of them from the German 362d Infantry Division.

The area around the Basilica also became the command post for CC "B". The Chief of Police of Rome shortly appeared on the scene to ask the general's help in event of any trouble in the city that night, and said

that to the best of his knowledge there were no other Allied troops in Rome.

The airline mileage from the squadron's starting point that day to the St. Paul's Basilica was about 20 miles, but the route necessarily followed by the squadron was about 35 miles—a good advance in the face of an enemy.

During all of this time Troop "A" was detached from the squadron. In the beginning it was attached to CC "B"; later to Task Force Howze. Troop "A" had the honor of cutting the Cori-Velletri road at Giulianello on May 25, of capturing Artena on May 26, and of performing splendid reconnaissance for this task force. From Artena to Rome Troop "A" was a part of the armored column which broke the back of German resistance in that area.

Captain Roy Manley, commanding Troop "A", in his report to the squadron tells of Lieutenant Kline and staff Sergeant Matthews leading their platoon into the suburbs of Rome early in the morning of June 4 at approximately 0700 hours. Sergeant Matthews in the point car, first to cross the city line, was followed by medium tanks of TFH. At this point the lead tank was knocked out by waiting German self-propelled guns on the outskirts of the city. This stopped the advance formation for a while, but the reconnaissance platoon by-passed this resistance and guided some M-10 tank destroyers into position to knock out the resisting self-propelled guns. Then the entire force entered Rome, and stayed.

During the early hours of the morning of June 5 the 81st received orders for the next day—to continue the advance to the North. The entire unit then rolled across the Tiber in advance of Combat Command "B", and the pursuit of the Germans continued.

Members of the 81st Reconnaissance Squadron are greeted by cheering Italians as they enter Rome, June 4.



General Hawkins' Notes

The First Requirement of a Citizen Army

IN the issue of the *Saturday Evening Post* for December 23, 1944, there appears an article written by Brigadier General John McA. Palmer, U.S. Army, entitled "General Marshall Wants a Citizen Army." This article is exceedingly well written and interesting. General Palmer has been well known for many years as a student of American military policy and a writer on the subject.

In the current article, General Palmer has set forth a theory to which he has held for a long time and which he claims General Marshall has approved as published in War Department Circular No. 347, dated 25 August, 1944.

The plan for a postwar military structure as advocated by General Palmer, he states, is the simple plan for a Citizen Army which President Washington submitted to the First Congress in January, 1790, but which was overlooked and forgotten in all of the subsequent plans and projects as expressed in the various studies and proposals through the years until he, General Palmer, dug it up out of the Washington Papers in the Library of Congress shortly after World War I. At that time, it is believed, General Palmer submitted his Washington plan to General Pershing, who approved it. As had always been the case, however, the plan was opposed by certain officers and congressmen who believed in another plan described by General Palmer as the Expansible Regular Army Plan.

In a very interesting way in his brief article, General Palmer describes the two opposing plans—the Citizen Army Plan based on universal service, and the Expansible Regular Army Plan. The first of these plans as proposed by Washington is the plan which General Palmer wants adopted now for the future, and, recommends it in a very convincing way.

My object in writing this article is to recommend the reading of General Palmer's article and to call attention to some problems which would have to be solved if Citizen Army Plan is adopted.

Universal service, including military training of all suitable young men between the ages of 19 and 22, would be approved probably, by the majority of our people at this time. So far, so good. General Palmer says, however, that the army of the future would be composed of a "relatively small regular army," reinforced when necessary from a "great citizen army reserve composed of trained citizen officers and soldiers." He states many times in his article that highly trained professional officers would be necessary in sufficient numbers to leaven the whole when it became necessary

to expand the army to moderate or great proportions. It is not explained just how these highly trained professional officers would be obtained in sufficient numbers. What number would be considered sufficient?

A man cannot become a highly trained professional officer simply by going for a few years through the course at a military school. The school is the A B C of his training. After graduation in such a school he needs experience in handling troops. He needs experience in training and leading small units, then larger units, and then great units. Staff officers also need both schooling and practice. The training of a professional officer never ends during his entire active service. He must keep abreast of the changes wrought by new weapons, new inventions and new ideas. And experience through all the grades of rank is desirable if not always possible.

It would be impossible for the regular officer to obtain this training and this experience unless he has many opportunities to serve with troops and in staff work. There must be enough troops in the regular army to afford the necessary training and experience for a "sufficient number of professional officers." If a great proportion of the professional officers spend most of their time in supervising the basic training of groups of the citizen army reserves, they will never become highly trained officers. They need training in leadership of well trained regular units up as high, certainly, as the regiment. They need to participate in many tactical exercises for all these units.

The regular units themselves need to be trained, and to be fully officered and fully manned in order to give regular officers the necessary experience. Otherwise, when regular officers are training the citizen reserves it will be the blind leading the blind.

The size of the regular army must, therefore, be predicated upon the number of troops necessary in the regular army to give this experience-training to a sufficient number of professional officers. First of all, however, an estimate must be made of the number of professional officers needed.

Now, if universal service is established, a great number of regular officers of lower grades—trained in the regular army, not merely in schools—will be necessary to supervise the elementary training of the citizen officers and soldiers. Therefore, many more professional officers will be needed than merely those required to officer fully all the units in the regular army. These regular units must be fully officered at all times. They must not be left to do the best they can with insufficient

officers and men in the units. The units must be kept at war strength. Otherwise, the training of officers and noncommissioned officers in the army will not only be insufficient, but absolutely wrong or false in many respects.

During the years after World War I, and up to World War II, the regular officers were dispersed among the Organized Reserves, the R.O.T.C., and the National Guard, to such an extent that the regular units in the army were pitifully under-officered. The policy was to let them "get along" with far too few officers to carry out properly a tactical exercise of the simplest character. Of course, the army did not have the necessary number of men either. Both were necessary. The result was that many officers got no troop training for periods of ten and fifteen successive years at a time.

If this plan of a citizen army and universal training is to be a success, these problems must be solved or the people will be deceived as to the competence of the professional officer and the correctness of the training he is giving to the citizen soldiers and officers.

Training citizen soldiers in basic courses for the individual will not require the highest order of professional ability and knowledge. But leading those soldiers in collective training and battle is another matter. The professional officer must know far more than how to train recruits individually.

The training of the officers of the citizen army, who are not professional officers, presents still another problem. Our system for training reserve officers during the twenty-odd years after 1918 did not work out too well. The best part of it was found in the R.O.T.C. which provided for military training of young men in colleges and schools. But these schools did not always go about it with enthusiasm. The time devoted to it was much too small, and the number of students so trained was very limited. Military training in all high schools, academies and colleges should be compulsory for all students. The graduates of colleges who have qualified for commissions as officers in the reserve army must also be required to devote several years of their lives to the basic training of the citizen soldiers in local units. If this is not done, too many regular officers will be required for citizen training, and this will interfere too much with their own training in the regular army. As stated before, such was the case in the twenty-year period after World War I, even though the number of reserve officers and soldiers receiving training was many times less than is contemplated in the universal service idea.

Furthermore, the training of students in schools for qualification as reserve officers is not enough. These young men will need the additional training and experience that will be afforded by their assignment to duty as officers of the local units of citizen soldiers. Thus it appears that drastic changes in the training of

our citizen officers must be adopted if the universal service plan is put into effect.

It becomes more apparent, therefore, that the universal service idea does not mean that we shall be able to "get along," with a small regular army. It may be true that, as General Palmer says, a *relatively* small regular army may be sufficient. But, as compared with our ideas of the past, the regular army must be very large. A sufficient number of "highly trained professional officers" is not to be obtained by our methods of the last quarter of a century.

One of General Palmer's ideas is that the citizen army plan, based on universal service, will enable us to put a trained army in the field in much less time than ever before. No doubt this is true—but even a comparatively small expeditionary force would require valuable time to organize and be made ready. A sufficiently large regular army from which such a force could be drawn instantly is necessary if such a force is not to be "too little and too late."

Any force of any size, needed in the field at once, must be a trained force. Then while that force is carrying out its mission in the field, a sufficient number of the local units of the citizen army can be concentrated and organized into predetermined large units commanded and staffed mostly by officers drawn from the Regular Army, the National Guard, and the most experienced officers of the Reserve Officer's Corps. With the soldiers already fairly trained, the large units can be made ready for the field in about one-sixth the time it has heretofore taken to activate and train a large army. This, of course, could be done only if equipment earmarked for the contemplated units has been kept up to date in various conveniently located store houses.

Now, the principal difference between this Citizen Army Plan and the Expansible Regular Army Plan is that, in the former plan, there would be universal service and predetermined units into which the citizen soldiers would be placed; and in the latter plan, there would be no universal service and, therefore, no large citizen corps of trained officers and soldiers to call upon for immediate service.

In both plans, a Regular Army larger than we have ever had before is necessary.

And so, by all means, let us have universal service. By all means, let us have General Marshall's citizen army as advocated by General Palmer—if the plan includes a regular army large enough to produce highly trained professional officers in such numbers as may be determined necessary by a careful study of the subject.

Certainly, the futile system used for twenty-odd years after 1918 should not be perpetuated nor duplicated. In that system a number of officers were trained fairly well for staff duty, but very few regular officers had enough service with troops. Even when they were assigned to troop duty they found the ranks so depleted of soldiers that they could not, in most instances, begin to gain the experience and practice in troop leadership

that they sorely needed. To fit an officer for combat leadership, he should have for some years experience in command of small combat units. He should not skip over this training. It is most important if he expects ever to be a competent leader of large combat units. In the past, many officers have attained high rank and have been assigned to command large units—from a regiment up to an army—without having had any really sufficient training in command of a platoon, a company or battalion of combat troops. The results have not been fortunate.

An officer who took the courses in a Special Service

School, the so-called Command and General Staff School, and the War College was deemed a trained officer, whether he had had long experience with troops or not. Most of them had not had such experience.

Universal service without a proper system for training professional officers is only a half measure. It is not necessary to have a standing army large enough to fight a serious war by itself. But it is necessary to have an army large enough to train professional officers with full strength units. To have a standing army which is not adequate for that purpose is to waste at least half of the money that supports it.

Commentary on Current Ideas About Missions of Cavalry

A PRESS RELEASE on the subject, "The Cavalry," was given out by the Bureau of Public Relations, War Department, on November 19, 1944. This article was well written and very interesting. It describes the organization and armament of the mechanized cavalry units which have played an important rôle in the campaigns in Africa, Italy and western Europe. It gives examples of the indispensable service which mechanized cavalry units have given.

However, when this release attempts to describe the missions of cavalry it becomes inconsistent. In one place it states, "Primarily, cavalry is reconnaissance." And then, later on, it describes the cavalry missions of pursuit, surprise attacks, harassing the main body of the enemy in retreat, "encircling maneuvers to cut them off," fighting to break through the enemy screen, etc.

Now, these missions certainly require something more than reconnaissance. In our cavalry, it was always maintained that reconnaissance was not the most important duty of cavalry, but only *one* of its important duties.

Later on, this release includes the following statement: "Working in close coöperation with the infantry, artillery, and other ground force elements, the cavalry often is assigned specialized tasks, such as seizing specific important objectives in surprise operations and holding them until other units can arrive. It acts as a mobile reserve. It fights delaying actions when other units meet with reverses. It maintains liaison between larger units. It fills in gaps until regular reserves can arrive. It engages in flanking attacks and maneuvers."

That is a fair statement of the missions of horse cavalry. Although horse trained cavalymen are often required to act in a mechanized or dismounted capacity, we doubt the capacity of mechanized cavalry to perform all of these missions. Practically all of these missions, as well as the mission of reconnaissance, require cross-country movement. There are no vehicles in existence which can move across all sorts of varied ter-

rain as speedily, as safely, or with the same stealth and effectiveness as a horse.

The mechanized cavalry squadrons are equipped with jeeps and armored cars, light tanks, and self-propelled assault guns. The jeeps have no armor. The armored car (M-8), which is the only real armored vehicle that the mechanized cavalry troop has for its protection while on reconnaissance, is described in this release as having the punch and armored protection of a light tank. But reports from battlefields in Europe say that the armored car (M-8) is definitely *not* an off-the-road car. Its armament, which consists of a 37mm cannon and a .30 caliber machine gun, is wholly insufficient to protect it against fire of light cannon or .50 caliber machine guns in enemy tanks. There are no antitank guns with a troop of mechanized cavalry which would permit it to fight delaying action against enemy tanks, or, in fact, to take over any of the rôles recited in the paragraph just quoted from the release.

The cavalry reconnaissance squadron has three reconnaissance troops, one assault gun troop and one light tank company. The assault guns are 75mm Howitzers, self-propelled. Their mobility is insufficient for cross-country cavalry operations. The result is that these mechanized squadrons of cavalry are often badly shot up or almost completely destroyed when they are required to fight to carry out dangerous missions of reconnaissance, to say nothing of the other missions recited in the release.

Furthermore, one wonders why these other missions are recited at all, since there is no U. S. cavalry in Europe other than these mechanized cavalry reconnaissance squadrons or troops. Mechanized cavalry has certain attributes that make it invaluable, but it does not substitute for horse cavalry. It is not suitable for missions of reconnaissance off of roads or for the many other missions that horse cavalry could, and in the Russian cavalry does, perform with celerity, safety and effectiveness.

Our armored divisions have taken over the rôle of

cavalry, however unsuitable they may be for some missions. The mechanized cavalry reconnaissance squadrons should be used only for reconnaissance and mostly for the security of the forces to which they are attached. When reconnaissance in force is used, it should not be performed by reinforced reconnaissance squadrons but by full powered armored units whose security from surprise is provided by cavalry reconnaissance squadrons.

This release goes on to state that all cavalry units are basically mechanized and, therefore, do not take horses overseas with them. It explains that further reasons for not taking horses overseas are the difficulty of transporting horses in ships and the probability that American horses would get sick in foreign climates such as are found in the tropics. It states that if horses are needed they will be purchased locally where the troops are serving. It states that a provisional squadron of horse cavalry, mounted on horses purchased locally, was organized in Italy, and recites some of its exploits.

One wonders if the necessity for mounting horse cavalry in Italy was not the same necessity which exists everywhere. It is believed that the difficulty of shipping horses overseas could have been overcome had it been understood and believed unreservedly that horse cavalry was needed. Thousands of horses were shipped to the Philippines in 1899, and only a few weeks were required to get them used to the climate. They served splendidly during the entire insurrection.

Really efficient horse cavalry cannot be improvised. Nor can horses purchasable locally in the field of operations be satisfactory. The only way to procure good horses is to establish and maintain home depots at home. And the only way to have both horses and cavalry horsemen properly equipped, trained and conditioned for field service is to do it at home.

To break up our cavalry deliberately by mechanizing it is to suppress horse cavalry completely. To talk about improvising it when and where it is found necessary is foolishness. Such improvisations may be made here and there in very small numbers; but even in small numbers such units cannot be as efficient as they should be. And, in large numbers, which are really needed, such improvisations are impossible.

The use of cavalry reconnaissance units, either mechanized or horse, has been very much curtailed on the Western Front in Europe since the virtual stalemate that occurred after the Germans established their line of resistance along the Siegfried Line in western Germany. Up to that point, however, there was a great demand for these cavalry units. There was need for them in North Africa and in Italy. And there will be great need for them again in Germany and in the Philippines, to say nothing of China. Gallant and efficient as our cavalry personnel has proved itself to be, it has been shown very definitely that in many instances horse cavalry units could have done better work at less cost in casualties.

And, for missions other than reconnaissance, large

units of horse cavalry could have given splendid aid to our infantry in every theater of the war. Indeed, the 1st Cavalry Division, trained as a horse cavalry unit, has already distinguished itself in the Southeast Pacific area, although, because of the island hopping nature of the operations it had to be used without its horses. In fact, it has no horses.

Future operations in Europe, in the Philippines, and possibly in China, would be filled with opportunities for the useful employment of large horse cavalry units if there were any such units in our army. However excusable it may be, the absence of such units will be very unfortunate.

Many of our most expert horse cavalry officers are now serving in armored divisions where, together with excellent officers drawn from other branches of the service, they are doing splendid work. These armored divisions are indispensable in modern warfare—but they are not the only useful branch of the service.

Our people have now discovered that infantry still remains fundamentally the basic arm of the service despite the predictions of some pseudo experts before and after the beginning of the World War II. Although armored troops have won and are winning many battles, or have assisted the infantry and other branches in winning, experience has proved that they are not as effective on as many occasions as they were before the advent of the antitank gun and the mine field.

There are situations in battle where armored troops are unsuitable and cannot be used effectively to assist the infantry. Very often it is in such situations that strong horse cavalry forces could be very effective if they were available. Wherever infantry operates in large numbers, cavalry is needed to help it. And very often, as pointed out many times before, cavalry (meaning horse-cavalry) in combination with tanks can be more effective than cavalry alone or armored troops alone. This is what led to the famous tank-cavalry teams in Russia.

As stated before in former *Notes*, there is nothing to be gained by bemoaning the fact that we shall not have an adequate highly trained force of horse cavalry to use in the war. But, perhaps, it may be well to bear in mind for future use the facts and principles that have been repeated so often in these *Notes* and confirmed as substantially in some theaters of this great conflict.

Philippine Islands
14 January 1945

"The U. S. Cavalry Association

"Dear Sirs:

"... One thing that has been difficult for many to understand is how the cavalry, dismounted, can move so fast. I believe the cavalry, even though dismounted, still thinks in terms of mounted cavalry, which is a fast and mobile force.

"Yours truly,

"_____, Lt. Colonel
Hq. 7th Cavalry."

Editorial Comment

Know Your Enemy—The Jap

Pearl Harbor and Bataan brought forth a flood of highly imaginative stories about the invincibility of the Japanese soldier. Most of these pictured the Jap as a superman. Then, after Guadalcanal, we became overconfident and tried to make him out a buck-toothed, near-sighted, pint-sized monkey. As usual, the truth lies somewhere between these extremes.

In war, it is always a serious handicap not to know your enemy, yet we Americans are at a loss when we try to understand just what makes the Jap tick—particularly his predilection for *face saving*, *hara-kiri*, or the *banzai* charge against hopeless odds.

It is now becoming crystal clear that the Jap is a robot-like creature whose thoughts and actions are influenced largely by ancient custom, fanaticism, and thorough basic training. He has proven himself to be uniformly brave, aggressive, and a first-class fighting man. He definitely is no superman; neither is he a pushover.

The Japanese high command probably understands the tactical employment of the combined arms, but deficiencies in armament and equipment have generally prevented their decisive employment. It may be affirmed that in no category do the Japanese possess superiority in fighting equipment over American forces.

In their concept of war the Japanese exploits to the fullest extent the ancient law that the human element is the decisive factor. Hence the infantryman is the heart and soul of Japanese military power. By comparison the Allied armies consider this concept to be sound basically but requiring modification to take advantage of scientific invention and the present industrial age.

The capabilities of the foot soldier constitute the strength, and his deficiencies, the weakness of the Japanese military machine. He is not as adaptable to new situations as is the American soldier. Being a creature of habit he does things best that he has done over and over again. His basic training has been exceptionally thorough. The Jap soldier uses his basic weapons efficiently; in fact, he uses them so well that he is able to accomplish more than might be expected or predicted. His camouflage, concealment, reconnaissance, and the employment of ambushes, patrols, and raiding parties are superior.

The Japanese ability to move sizable forces of foot soldiers through jungle and over rugged terrain is truly remarkable. The explanation is to be found in their system of thorough basic training of the individual, the Japanese soldiers rugged physical condition, and his extremely frugal requirements.

The Japanese is offensive minded. His attacks are

daringly planned and executed. His reliance upon the human equation with corresponding deficiencies in matériel often make his attacks weak in fire-power—too weak to overcome the material advantage of the Allies. Nevertheless, the Japanese may attack at any time, even when they are thoroughly whipped.

The Japanese are masters in the art of terrain appreciation and utilization. The stubborn and sustained defensive powers of small units have been the most difficult single feature of Japanese warfare to deal with and to overcome. The superior defenses of small units have contributed more to the combat effectiveness of the Japanese ground forces than all other tactics combined. It now seems reasonable to assume that the rate of advance of Allied operations will depend primarily upon the rate at which men and supplies can be concentrated for each succeeding operation and relatively small Japanese units at critical points can be annihilated.

A. E. R.

The Value of a Service Journal

What is the value of a Service Journal?

As stated in Article III of the Constitution of the United States Cavalry Association "The aim and purpose of the Association (which publishes The CAVALRY JOURNAL) 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." The CAVALRY JOURNAL or any other service journal, is not an official publication of the War Department. Contributions appearing therein do not necessarily reflect official thought or indorsement. Articles 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."

The editorial policy of The CAVALRY JOURNAL has been, and will continue to be, one of coordination and cooperation. The JOURNAL endeavors to bring to its readers articles and ideas from any branch, theater or country which are considered of value in promoting professional improvement.

It is not intended that the Service Journals be policy making, nor that any part of any article be construed as substituting for or deviating from information contained in training manuals. Articles which might appear to differ from accepted policies set down in the manuals should be interpreted as representing expedencies pertaining to a particular situation.

Material is intended to promulgate various tactical and technical aspects of fighting which have proved

sound in combat. But each situation confronting the fighting man in battle is bound to be slightly different in one way or another. The final decision, therefore, must rest with the commander. Lessons are learned from experience—sometimes our own, and sometimes that of others.

In a letter to the editor of the Military Review General Marshall wrote:

"Lessons learned in recent campaigns are a valuable contribution to our present training program . . . and will facilitate the revision of our Command and General Staff doctrine in the light of recent battle experience."

"Many commanders and staff officers are having unusual and valuable experiences in battle. Whenever it is possible, it is my hope that these officers will make available to the Service as a whole this important information while it is still fresh in their minds."

What have you learned in combat?

Write it down—100 to 2,000 words.

Tell your own story; tell it your own way.

Write about what to do—what not to do—to save lives, time, weapons—how to outwit and outfight the enemy.

Write what your unit did in battle—what the enemy did—and what lessons were learned.

Send your story through your Public Relations Officer for "field clearance." Mark it for THE CAVALRY JOURNAL, 1719 K Street, N.W., Washington 6, D. C.

Let others benefit from your experience.

Wrong Addresses

The list of addresses published in the November-December issue of THE CAVALRY JOURNAL brought in so many letters that we were unable to send our thanks individually, so we should like to express thanks here to all who sent addresses. Your help is greatly appreciated. Can any more of you help locate these subscribers? Is your name here? Send in the correct address, and THE CAVALRY JOURNAL will be mailed at once.

Abdulah, T/5 Calvin
Akins, Lieut. Ted B.
Andrews, Lieut. Armour J.
Andrews, Lieut. Walter E.
Apparius, S/Sgt. R. C.
Arndt, Pfc. Thomas R.
Arnold, Lieut. Wm. H.
Bahr, Lieut. Andrew P.
Bailey, Lieut. Leon E.
Baker, Lieut. Hugh C.
Barnhart, Lieut. Frank H.
Barrett, Lieut. James F.
Beiswenger, Sgt. Hugo
Bennett, Lieut. Thomas H., Jr.
Bennett, Capt. W. C.
Bensley, Capt. Harry R.
Bielss, Capt. August C.
Birkett, Lieut. Bion B.
Blackford, Pvt. Dayton S.
Braddy, Lieut. Wm. L.
Brady, Lieut. Ben
Brodkhoff, Lieut. Paul C.
Bruce, Lieut. Robert W.
Buckingham, S/Sgt. Robert

Bukowski, Lieut. Bernard V.
Bumbarger, Lieut. John O.
Burns, Lieut. Delno R.
Buser, Capt. George W.
Byrns, Lieut. Wm. C.
Caldwell, Lieut. Tommy
Campbell, Lieut. Virgil L.
Carlson, Lieut. Donald W.
Caton, Lieut. John
Cave, Lieut. R. F.
Chaffee, Lieut. Thomas K.
Chapin, Capt. John S.
Chiolino, Major Frank J.
Clark, Capt. H. L.
Clayton, Lieut. H. D.
Clement, Capt. Wallace L.
Cole, Lieut. Joseph R.
Colman, Lieut. Lee J.
Cotton, WO James
Critchlow, Capt. George C.
Crozier, Lieut. Baalis B.
Cunningham, Capt. Wm. J.
Currier, Capt. J. W.
Cutler, Lieut. Benjamin M.

Dallas, Lieut. Burt E.
Daran, Capt. Patrick B.
Davidson, Lieut. Richard M.
Davisson, Major J. E.
Day, Lt. Col. Walter E.
Dennison, Lieut. V. A.
Duisman, WO Joe
Duncan, Lt. Col. Scott M.
Dunn, Lieut. Kenneth P.
Duntun, Lieut. David P.
Dvoracek, Lieut. George F.
Eckman, Lieut. Alton R.
Elder, Lieut. John E.
Evans, Lieut. Joe M.
Evans, Major Morris H.
Farrell, Lieut. Allan G.
Fenner, Lieut. Louis N.
Fick, Lieut. Henry H.
Field, Capt. James C.
Field, Lieut. Willis E.
Fletcher, Major Louis W.
Fox, Pfc. Gerard
Garfield, Capt. Robert E.
Gardner, S/Sgt. Odell J.
Giesen, Lt. Col. Arthur R.
Goodall, Lieut. Herbert W., Jr.
Goodman, Major R. M.
Graham, Major Chas. H.
Grant, Lieut. James B.
Gravit, Lieut. Martin A.
Gray, Major John E.
Greely, Lt. Col. Brenden McKay
Gubbe, Lieut. Lawrence W.
Hamilton, 1st Sgt. Jeffrey
Hamilton, CWO Kenneth D.
Hand, Lieut. Robert J.
Hantke, Lieut. Russell C.
Harman, Lieut. Henry J.
Harper, Major Dale E.
Harris, Lieut. Glen H.
Harris, Lieut. Robert W.
Hawley, Lt. Col. D. C.
Hawley, Lieut. Dan W.
Henderson, Lieut. Leigh W.
Hinton, Lieut. Walter V.
Holderby, Lieut. Benjamin H.
Howze, Col. R. L.
Hughes, Lieut. Carl R.
Hurst, Lieut. Jack
Iseley, Lt. Col. C. M.
Jenkins, Lieut. Hubert J., Jr.
Jochum, Lieut. Clarence C.
Johnson, Lieut. Erik A.
Johnson, M/Sgt. Robert B.
Jones, Lieut. Joseph W.
Justus, Capt. Gordon S.
Kaytis, O-C John A.
Kearney, Lieut. John T.
Keller, Lieut. Elso James
Ling, Lieut. Kenneth
Kinnear, Lieut. Douglas F.
Kirby, Lieut. Frank L.
Kistler, Major W. P.
Koon, Lieut. Billy W.
Lacey, Col. A. T.
Lacey, Lieut. Howard W. T.
Laney, Lieut. Harry M.
Langford, Lieut. John R.
Lawson, Lieut. S. Chapin
Lindblad, Lieut. Ralph L.
Lindloff, Lieut. Roy G.
Lindsay, Lieut. Samuel L.
Lindsey, Lieut. Chester A.
Livingston, Lieut. Willis A.
Logan, Capt. Samuel S.
Long, Lieut. Fred C.
Long, Lieut. William E.
Luckey, Capt. Marion W.
Lumley, Lieut. Charles S.
Mc Allister, Capt. James W.
Mc Clain, Lieut. Wilofard A.
Mc Culloch, Capt. Joseph A.
McCune, Lieut. Gerard F.
Mc Pherson, Lieut. Robert G.
Mc Ternan, Major William R.
Macleod, Major Geo. I.
Magers, Capt. Frederick P.

Martin, Lieut. John E.
Maxwell, Lieut. Jesse N.
Mazur, Pfc. John G.
Means, Lieut. Alfred G.
Merrill, Capt. John E., Jr.
Meyer, Sgt. Earl H.
Modisett, Lieut. S. A.
Moore, T/Sgt. Jack J.
Morrison, Lieut. Herman H.
Morrissey, Lieut. John F.
Murdock, Capt. Warren D.
Neel, Cpl. Robert W.
Nelson, Lieut. Wm. E.
Neuhaus, Lieut. Philip R.
Noll, Lieut. Sherwood
Norton, Lieut. Clifford J.
Norwood, Lieut. Leonard L.
O'Connor, Major Edwin
Pelletier, Lieut. Edmund
Perry, Lieut. Robert P.
Pfeiffer, Lieut. William E.
Pincetl, Capt. M. F.
Poovey, Lieut. Clinton H.
Portwood, Lieut. William P.
Price, Lieut. Cole B.
Price, Lieut. Madison C.
Purcell, Capt. Graham B.
Quinlivan, Lieut. William D.
Raley, Lieut. A. C.
Raymond, Capt. Richard E.
Read, Lieut. Russell F., III
Reed, Lieut. Ted E.
Riede, Lieut. E. P.
Roessler, Lieut. Frederick F.
Roub, 1st Sgt. Russell H.
Ryan, Capt. Thomas J.
Sarratt, Lieut. Charles S.
Sawyer, Lieut. John J., Jr.
Schmitt, Lieut. Paul J.
Schutt, Lieut. William C.
Secandari, Lieut. Hermes
Seiley, Lieut. Carl A.
Shackelford, Lieut. Paul A., Jr.
Shields, Lieut. Harold A.
Short, Col. J. C.
Shultz, Capt. William G.
Sitzestock, Lieut. Robert L.
Slovacek, Lieut. Elmer F.
Smallens, Cpl. Alfred M.
Smith, Lieut. Chas. Z.
Souther, Lieut. Howard C.
Spencer, Lieut. Gayle H.
Spratt, Capt. Leonard F.
Stafford, Lieut. G. T.
Stoddard, Lieut. Col. Ralph A.
Stokes, Lieut. Wm. S., Jr.
Storm, Lieut. Arthur A.
Sutherland, Lieut. Wm. A., Jr.
Thomas, Pvt. Edward W.
Thomison, Pvt. Jasper L.
Thompson, Col. F. J.
Thompson, Capt. Lynn G.
Thompson, Capt. Olin W.
Throckmorton, Capt. John M.
Tritsch, Lieut. Arthur A., Jr.
Van Patten, Lieut. Max M.
Wadelton, Lt. Col. W. S.
Waldron, Capt. A. S.
Walker, Lieut. Philip G.
Waring, Lieut. Charles W.
Warner, Lieut. J. W.
Warren, Lieut. James A., Jr.
Watts, Lieut. Thomas C.
Webb, Capt. Richard A.
Wells, Lieut. Claude M.
Wessels, Capt. G. A.
White, Major Gerry L.
White, Lieut. S. E.
Whittenberg, Lieut. P. W.
Willard, Pvt. J. J.
Williams, Lieut. Willard C.
Willis, Lieut. Charles B.
Wright, Lieut. Owen O.
Wright, Sgt. Wilbur
Yeargan Major A. C.
Yow, Major John W.
Zeskey, Lieut. Harry C.



"Somewhere in the Philippines" Major General Verne D. Mudge (left), Commander, 1st Cavalry Division, confers with Major General Innis P. Swift (right), former Commander 1st Cavalry Division. Lt. Colonel Stevens in rear.

Left to right, Major General Verne D. Mudge, Commander 1st Cavalry Division, General Douglas MacArthur, Lt. General Richard K. Sutherland and Colonel Charles A. Sheldon, Chief of Staff, 1st Cavalry Division.

CARDED

1st Cavalry Division on Leyte

At Tacloban, Leyte, P. I., Colonel Charles A. Sheldon, Chief of Staff, 1st Cavalry Division, talks with Sergeant Antonio Maningo, former Philippine Scout. Both belonged to Troop "B," 26th Cavalry (P.S.) before the war.

Horses captured on Leyte were quickly rounded up and utilized. Here four cavalrymen pose proudly as they mount to seek out elusive Japs. Cavalry, sent dismounted to the Philippines in 1899, was eventually remounted.





A squad of the 1st Cavalry Division's Provisional Reconnaissance Unit on line. Horses are native Filipino, captured Japanese, and a few re-captured Preston-branded U. S. Cavalry horses, used by the Japs on Leyte during their occupation.



The size of this and other mounted elements of the division has grown considerably since the start of the Philippine Campaign when these photographs were taken. These improvised mounted units have proved an invaluable asset.

Below: Provisional Reconnaissance Unit moves out of the division rear echelon. Horses are being used by 1st Cavalry Division for both reconnaissance and for packing in the rugged mountainous terrain of Leyte Island. (See Cover.)



Ist Cavalry División

In the Admiralty Islands – Part II

AFTER the strategic points on Los Negros had been secured and Seeadler Harbor opened to naval vessels and convoys, the 1st Cavalry Division proceeded with mopping up Jap stragglers and performing various reconnaissance missions to the smaller harbor islands.

PATROLS

On March 10 Troop "B" of the 8th Cavalry was the first to be off. Its mission was to clear the entire Mokerang peninsula of the enemy. The troop, pushing forward rapidly, reduced isolated pockets of enemy resistance and by nightfall reached the top of the peninsula.

Meanwhile, the 5th Cavalry, having consolidated their positions and effected resupply of the units, pushed out strong combat patrols in an effort to locate and pinpoint Jap positions in the area west of Papitalai.

A patrol from Troop "B" 5th Cavalry, which was part of the squadron working its way west along the

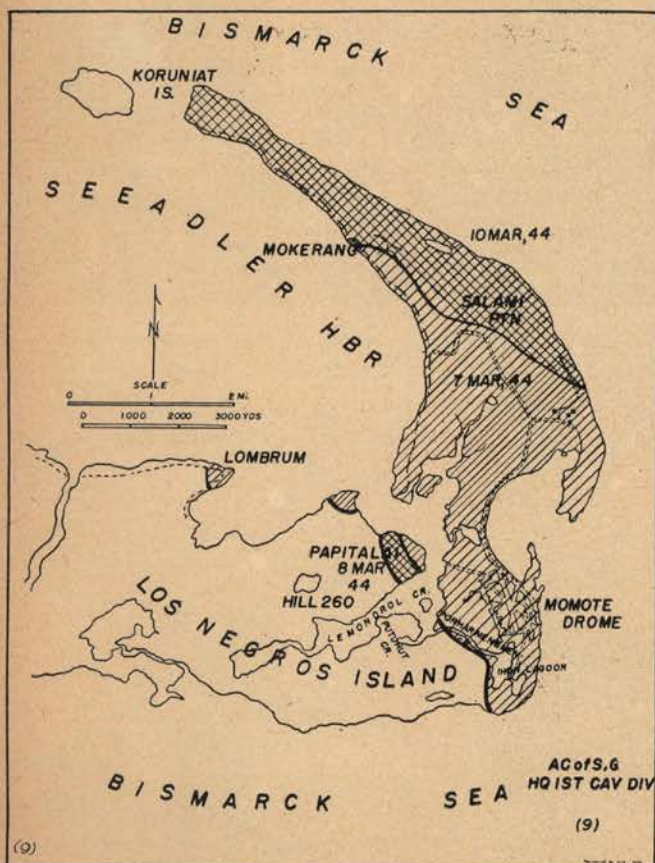
southern coast of Los Negros, encountered a strong enemy position about 500 yards southeast of the Palapi Hills. The patrol by-passed the enemy and, continuing on its mission, encountered no other Jap positions as far as the Palapi Hills. During its return to the Troop CP the patrol ran on to a group of 5 Japs on a trail 500 yards southwest of the Pitilu Lagoon at what had apparently been a Jap platoon bivouac the night before. As the Japs fled, the patrol followed in hot pursuit, but the Nips unfortunately escaped.

A small patrol from Troop "B," 5th Cavalry led by Lieutenant Ralph E. Hill, who was later killed in action, made a reconnaissance in a native dug-out canoe from the Ihon Lagoon through Porharmenen Creek to the small bay just south of Puthut Point, where they sank one Jap supply barge heavily laden and under way.

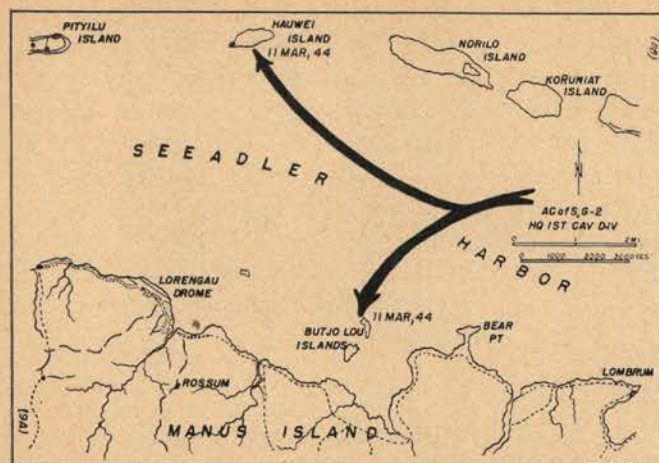
The 5th Cavalry Regimental Reconnaissance Platoon under the command of Lieutenant Tellefson left the "E" Troop bivouac area at 0945, and patrolled to the west as far as the hill that later was to gain much local renown as Hill 260. Unable to advance farther because of the heavy concentration of enemy machine-gun and rifle fire, they called for an artillery concentration. When the concentration lifted, another patrol, led by Lieutenant Hanson, requested permission to penetrate the Jap lines and gain the high ground in the rear. Again the patrol was able to penetrate the lines, but was unable to gain the hill. After suffering a number of casualties, the patrol withdrew.

At last it appeared that the 5th had run the Jap to earth. It was anxious to dig him out and really get at him. By the end of the day, the ranks of the Jap barges were seriously depleted. In addition to one sunk by the patrol, another had been sunk by the Weapons Troop of the 5th Cavalry.

The Troop "B" OP, situated at Porlaka, sighted a barge with 10 to 15 Japs in Lemondrol Creek. A mortar concentration, reinforced by the fire of a 37mm antitank gun, was placed on the target, and the barge sunk. A third barge, sighted in the same area at 1830, succeeded in escaping and the gunners and the mortar crews fell to accusing each other of being rotten shots. A fourth barge was sighted about 30 minutes later, but since it was out of range of the regimental weapons, an artillery concentration was registered. The first salvo flushed two more barges from their hiding places. All three fled to the south; although one was hit, all made good their escape.



Map 1. Checkered area indicates strategic points of Los Negros Island which the cavalry had secured by March 10.



Map 2. Arrows point to two strategic harbor islands reconnoitered in force by elements of 5th Cavalry, March 11. The patrol to Hauwei ran into serious opposition.

The day ended without any serious engagements, but the Japs had been located and the morrow augured well for the cavalymen.

In addition to patrols on the Mokerang peninsula, the 2d Brigade was busily engaged in clearing the beaches of supplies and equipment. The engineer squadron was performing prodigious tasks. The combination of rain and heavy trucks was too much for the roads. The bottom fairly fell out of them. Even the amphibious tractors became mired, but the engineers somehow kept the roads open and the supplies and equipment moving.

RECONNAISSANCE IN FORCE

On March 11 reconnaissance patrols of the 5th Cavalry located heavy Japanese fortifications about 1,200 yards southwest of Papitalai, and immediately directed a concentration of mortar and artillery fire on the sector. The high ground of this area was occupied by elements of the 5th Cavalry just after noon, following the high-explosive preparation.

The division commander decided that in order to support an operation against Lorengau, forward artillery positions must be located, and directed that immediate steps be taken to select and occupy the positions. The division artillery commander recommended that the three battalions to be used in the operation be located on Hauwei Island, Butjo Lou Island or Bear Point. These places were all in enemy territory, but whether or not they were occupied was not known except that an enemy garrison had been located on Hauwei some time previously. Three reconnaissance teams were formed and one team was assigned to each position. All were given the same instructions: (1) reconnoiter for suitable landing beaches, (2) locate enemy disposition and installations, (3) find out the enemy's strength and (4) determine whether or not the location was suitable for artillery.

The patrol to Butjo Lou encountered no opposition. Its report indicated that there was a suitable landing

beach and suitable gun positions for one battalion.

The patrol to Bear Point reported that it was not occupied, that there was no suitable landing beach, and that gun positions for one battalion only were available.

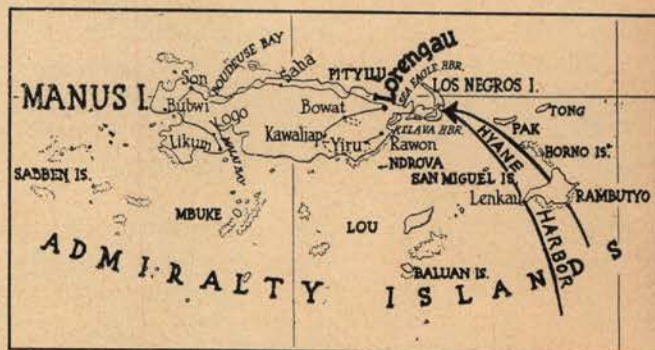
The patrol to Hauwei Island ran into a hornet's nest. After making a thorough search for an approach through the reefs surrounding the island, the patrol discovered a narrow channel near its western end. The channel was treacherous—weaving its way around the western end of the island and coming into a beach on the sea side. While only one boat at a time could pass through the channel, the beach was sufficiently large to accommodate two LCM's.

After landing on the beach the patrol immediately pushed its way inland. The island was a coconut plantation and it showed signs of recent occupation because the underbrush was fairly well cleared.

After moving inland about 100 yards, the patrol was engulfed in a withering cross fire of rifles, machine guns, grenades and mortars. The patrol leader coolly disposed his patrol in the available cover, made a quick visual reconnaissance, and an estimate of the situation. He found that his position was precarious, cut off from the beach and unable to go farther inland. Since he already had the information which he had been detailed to obtain he decided to fight his way back to the beach, reembark, and return to headquarters.

When the patrol had made its way back to the beach, it found that the LCV had backed off when the firing had started. It immediately put back in, however, when the troops reappeared. Some of the members of the patrol had jumped in the water, and the LCV on its way in to the beach picked up these men. About 6 men, and the boat crew were aboard when a mortar shell hit the boat, already damaged by machine-gun fire, and sank it.

As the men saw their only means and hope of escape go down with that boat, undaunted, they took to the water and started to swim to friendly shores 7 miles away. PT boats from Squadron 18 stationed in the harbor rushed to the rescue and picked up most of the survivors. An LCM was later dispatched from Salami Plantation. This boat picked up one man, who had been in the water for over 5 hours.



Map 3. Arrow points to Hyane Harbor, Los Negros, where original landings were made February 29. The larger island of Manus, invaded March 15, lies to the west.

It was an expensive reconnaissance, but the information gathered indicated that two battalions of artillery could be put on Hauwei, and the placing of two artillery battalions on this coveted location saved countless lives in the ensuing operations.

CLEARING THE HARBOR ISLANDS

On the following day the 2d Squadron, 7th Cavalry, moved from its position on Lombrum Plantation and landed in LCV's, LCM's, and Buffaloes on the western tip of Hauwei Island. The attack was preceded by a heavy concentration of artillery from Mokerang Plantation and a naval bombardment from inside Seeadler Harbor. Prior to the assault, Kittyhawks bombed and strafed the landing beach and inland areas of Hauwei. Stern Jap resistance was rapidly overcome, and by nightfall the landing force occupied the western half of the island.

Enemy barge activity during the night appeared to be increasing, but watchfulness of the PT patrol reduced to almost zero the chances of them ever arriving at their destination.

On March 13, the 2d Squadron of the 7th Cavalry on Hauwei Island committed its reserve, which had been waiting patiently on Lombrum Plantation. Continuing their advance eastward, the squadron inflicted heavy casualties on the occupants of the enemy's deeply entrenched positions and the tanks again proved their worth in destroying pillboxes.

Reconnaissance patrols operating southwest of Papitalai Mission encountered a platoon of Japs, which they quickly dispersed after a skirmish which resulted in 6 enemy casualties.

Meanwhile, supporting naval units shelled Pityilu Island, 4 miles west of Hauwei. It appeared that the 1st Cavalry Division intended to make short work of clearing out surrounding islands in the Admiralties.

The western approaches to Lorengau on Manus were bombed and strafed by B-25's, flying as low as 40 feet over the dense jungle. Artillery units on Los Negros registered on enemy troop concentrations on the southwest tip of the island. Antitank guns and PT boats continued to disrupt Jap barge activity between Manus and Los Negros.

The following day, after combat patrols had reconnoitered the occupied enemy entrenchments and determined his front line in the area about 600 yards southwest of Papitalai, the 1st Squadron of the 5th Cavalry attacked with two troops abreast and the third in support. A heavy mortar and artillery barrage, lasting an hour and a half, preceded the attack.

The 5th found a brick wall awaiting the charge, but managed to pierce it in several places, and disposed their own lines at nightfall for pressing the attack immediately upon the arrival of daylight.

Naval fire on Pityilu Island continued throughout the day, while the field artillery loaded up its 105mm guns and proceeded to Hauwei Island.

The 1st Squadron, 5th Cavalry, was ordered to attack enemy positions on Hill 260 west of Papitalai. The advance was made along a narrow ridge covered with dense undergrowth, which limited the front of the advance to about 20 yards. The assault by a platoon of Troop "B," 5th Cavalry reached a point 15 yards in front of the enemy position, when Lieutenant Ralph Hill, the platoon leader, was killed. Lieutenant Swan then came forward and assumed command. After reorganizing the platoon, he continued the attack and neutralized the enemy position.

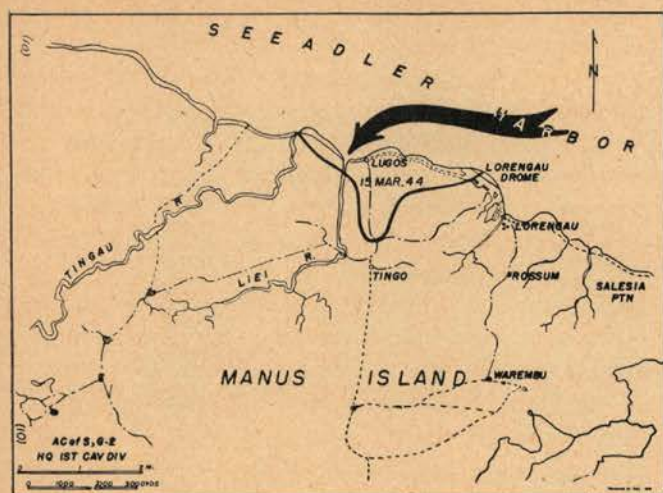
THE FIRST DAY ON MANUS

On March 15 the dismounted 2d Cavalry Brigade combat team, under the personal direction of Brigadier General Verne D. Mudge, landed at Lugos Mission on northern Manus Island, in one of the most perfectly coordinated land, sea, and air attacks of the Pacific campaign. The split-second timing demonstrated in this operation steeped further glory on the 1st Cavalry Division, and the two historic regiments involved gained additional laurels. The 7th Cavalry Regiment, made famous under General Custer at the battle of the Little Big Horn, landed with the regiment that boasts more Congressional Medals of Honor than any other single unit in the United States Army, the 8th Cavalry. William Courtenay, London *Sunday Times* Correspondent who made the landing, called the attack west of Lorengau a "... brilliantly executed, daringly conceived operation. . . ."

Before dawn ominous clouds hovered over the eastern section of the Admiralties, and impending rains were indicated all around Seeadler Harbor. As the cavalry landing force left its base to move along the southern edge of the harbor in small amphibious craft, the sky began to clear, and by early morning expectant eyes turned skyward in search of our aircraft.

Tension mounted among the troops as they approached the scene of their first battle. Naval guns left the landing beach in shambles and shattered all possible enemy strong points covering the proposed landing sites. As the sun split the remaining clouds, formations of 5th Air Force B-25's, droning into sight from the east, winged their way toward the target. Wave upon wave of Mitchells, skimming up and down the beach and along the roads to Lorengau, dropped eggs and split tracers by the thousand. PT boats on either flank of the assault wave lurched toward the shore at full speed and opened their cannon on the beach.

As the maze of smoke from bombs, bullets, artillery fire and naval shells lifted, the assault wave, made up of the 8th Cavalry, hit the Lugos Mission beach and swarmed ashore. No immediate resistance was encountered. The landing forces quickly dispersed and set out on their advance to the east and Lorengau Air-drome—the only airstrip in the Admiralties in enemy hands.



Map 4. Arrow points to Lugos Mission, point of landings by 7th and 8th Cavalry west of Lorengau, March 15.

As the division commander observed the landing from a PT boat in Seeadler Harbor, he commented, "Our timing was a minute and a half off; we failed to take into account the heavy sea which retarded the landing craft as they turned toward the landing beach. Well, that's not too bad."

On the move eastward on the "No. 3 Road," running along the beach, the 1st Squadron of the 8th Cavalry met stiff opposition from enemy pillboxes, but with support from strafing P-40's and heavy weapons, succeeded in pushing toward its objective—the Lorengau Airdrome and Village. (See map 5.)

The 2d Squadron of the 8th Cavalry landed and moved directly south of Lugos, then east along No. 1 road from the village of Tingo to Lorengau. Temporarily held up by heavy mortar fire, the squadron dug in for the night under enemy fire at the Tingo road junction.

Meanwhile, the 5th Cavalry was entangled in hand-to-hand fighting and thick jungle undergrowth on Los Negros as the Jap staged another frantic counter-attack in an effort to smash the 1st Squadron's left flank. Enemy machine guns and rifles were firing at 10 and 15 yard ranges, but the counterattack was easily beaten off—in fact the troops were beginning to relish these attacks. It was an easier way to kill Japs than to dig them out of bunkers.

Back on the Lorengau strip harassing naval gunfire lasted all through the night. The enemy got very little sleep and most certainly did not enjoy his breakfast. Anticipation of death at the hands of the fast-approaching force and the screaming, nerve racking, 5-inch shells pouring into his dugouts at regular intervals were not conducive to his vaunted serenity.

For the second time the Japanese were outsmarted in trying to anticipate what the cavalrymen would do. As the troops advanced east on Manus, it became more and more evident that the enemy had expected a landing in the immediate vicinity of the airdrome, for it was there that he had established his prepared de-

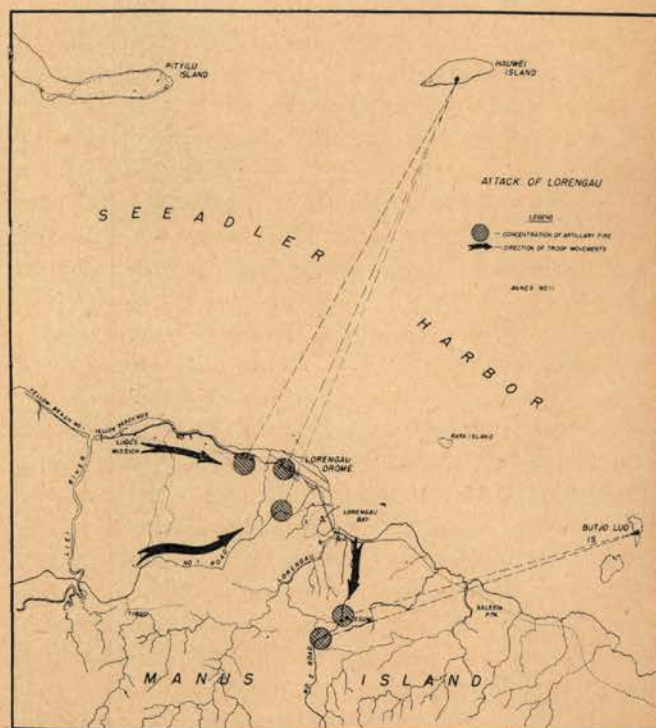
fenses. Too late, he found it necessary to do a left face and reorganize his defensive system to meet the oncoming massacre, and his time was running out.

The use of artillery in the occupation of Manus Island was outstanding in its proper tactical employment. The artillery commander had selected ideal gun positions from which to deliver supporting fire for troops advancing along any of the main roads in the vicinity of Lorengau.

Prearranged targets all along the path of movement and thoroughly covering all possible enemy strong points were pinpointed on maps and given to the ground troops and the artillery. As our attacking forces met resistance from bunkers, a call for fire on the enemy's position merely required a brief "Target No. —" and in a few seconds a "boom" and a devastating barrage would come down on the target. It was the type of artillery support that one reads about in the field manuals.

Without fear of being trite, it is possible to say that on this day the Nips truly received a large dose of their own medicine. Two valuable pieces of equipment had been captured. One was a pair of the finest type of 20-power binoculars. The other a 5" naval gun emplaced on Hauwei Island together with a goodly supply of ammunition. The division artillery commander set up the binoculars on their stand in Hauwei and from them was able to supplement with great accuracy the sensings of the air and forward ground observers.

Meanwhile, a squad from the field artillery got to work on the naval gun. They soon had the brass ring, through which the barrel moves in recoil and counter-



Map 5. Artillery from Hauwei and Butjo Luo, secured Mar. 13, softened strategic points of Lorengau and Ossum.

recoil, repaired, filled the recoil mechanism with a mixture of light oil, glycerine, and kerosene, tested emplacement and were ready to fire. The gun sight had been damaged beyond repair, so the laying was accomplished. The initial target selected was a reported Japanese dump area on Salesia Plantation. The air observer was alerted and soon over the air came the voice of the battalion commander, "No. 1 on the way, range 2,000 cherry blossoms—watch it when it goes." The cannoneers soon had the gun calibrated, and thereafter it was used in support of the attack on the Lorengau area and Manus Island and against the Japanese installations on Pityilu Island.

LORENGAU AIRDROME

Just after daybreak on the 16th the reinforced 1st Squadron of the 8th Cavalry attacked the Lorengau Airdrome, heavily defended by pillboxes and machine-gun nests. Having reached their jumping off point the previous night, they had dug in and planned the organized attack in detail.

Preceded by thundering artillery and mortar concentrations and supported by medium and light tanks, the attack was launched. Our forces encountered some of the stiffest opposition yet seen while advancing on the airfield. The Japs had constructed an unbelievable number of bunkers and automatic weapon emplacements for the close-in defense of the drome, and the cavalrymen advancing from the west flank had to reduce each and every one of them in turn. Heroic feats by individual soldiers in the charge on Lorengau seemed to be the order of the day rather than the exception, and through many incidents of personal heroism and sacrifice the squadron was able to advance.

Meanwhile the movement of the 2d Squadron of the 8th Cavalry on Number 1 Road to join forces with its counterpart was temporarily stymied by muggy jungle undergrowth, bad roads, and strong resistance along the track east of Tingo. An air-strike by Allied P-40's, operating from the now functional Momote Airfield on Los Negros, aided in reducing enemy opposition and paved the way for a sizable advance before nightfall.

The cleverly concealed machine-gun emplacements were indeed the work of a cunning and resourceful enemy. In a sense it was a graphic illustration of the well-defended road to Tokyo, but the rapid destruction of this short sector bode ill for the remaining defenders.

The third day following the landings on Manus, the troops moving along the Tingo-Lorengau trail joined elements of the 7th Cavalry, support echelon of the combat team, which took over the 8th Cavalry unit and pressed on toward Lorengau village. Many pillboxes were knocked out along the route, and by nightfall a concentrated attack secured the airdrome.

As the attack gathered momentum, the troops forced a crossing on the Lorengau River near its mouth. Nightfall found the brigade astride the river, but the

bridgehead on the east bank was well secured, and the troops dug in.

With the conclusion of the day's fighting, American troops had the one remaining enemy garrison in the Admiralties at their fingertips. The occupation of Lorengau drome shortened supply lines from Los Negros—now practically a "rear-area"—and operations designed to capture the township and destroy the very last Jap could get underway.

During the night of March 17-18 the 2d Squadron of the 8th Cavalry moved into position to deliver the final blow on Lorengau township. They held a commanding view of the town from a high ridge to the northwest.

Lorengau township and its small but excellent harbor are situated in a cup-shaped valley, surrounded by jungle-covered hills which rise to 400 feet. The defenses of the area—the most likely spot for a hostile landing from the Jap point of view—were sited to cover the shore line and its offshore approaches, and three roads entering the settlement from the east, south, and northwest.

The beach itself was heavily planted with naval demolition mines containing 20 pounds of black powder and detonated by a master switch located in a control bunker well up the hillside overlooking the beach. Approximately a hundred yards in rear of the beach a series of rifle pits and gun emplacements were constructed in the side of a dike which paralleled the shore. On the hills surrounding the harbor, beach, and town, approximately 12 heavy Jap bunkers, similar in construction to those previously encountered, were dug in to reinforce the beach defenses and give the position depth. Although very neatly camouflaged, a number of bunkers had been uncovered by our concentrated artillery and naval gunfire. The beach itself was thoroughly mined and covered with barbed wire, giving further evidence that this spot, rather than Lugos Mission, was the expected place for a landing.

The only approach to the township from the west required crossing of the Lorengau River, a low-flowing stream 120 feet wide and from 10 to 20 feet deep. Vigorous combat patrols pressed the enemy back into the hills overlooking the village, and permitted a more rapid advance of the attacking forces.

By afternoon small groups had successfully demolished every Jap bunker in the area and had either killed or driven off all organized enemy resistance. The regiment moved into the township for the night and sent Troop "E" down the road to Rossum, running south, to clear the way for the next attack. Patrols were also sent eastward to Salesia Plantation. Supported by rifles and machine guns, these patrols forced the Japs to abandon 7 bunkers. In their haste the Japs also left behind an antitank rifle and a 20mm machine gun in perfect operating conditions. The vacated bunkers were destroyed by naval demolition bombs, captured during the occupation of Lorengau.

Mounted Attack In West Bataan—1942

This story was told to me by a Filipino who, as an officer in the Philippine Army had been an aide to the commanding general of the division holding the west flank of the Bataan position. It was his mission to observe the fight in order to report it to his commander. The exact time and place he did not say; however, I believe that this incident happened in the area of Bagac, central West Bataan, in the latter part of January.—Arthur K. Whitehead, Major, Cavalry.*

THE Jap infantry, working down the west coast of Bataan Province, had penetrated the line held by the U. S.-Filipino forces and occupied a barrio or village of nipa huts. This area, as are most other parts of the province, is covered by dense jungle practically impassable. Cutting through this jungle is one road broken here and there by clearings for nipa settlements. The Japs had penetrated one of these clearings.

Three times during the day Philippine Army infantry had tried to retake this barrio, the occupation of which was necessary to secure the holding of the line. Toward afternoon the Japs were receiving reinforcements and digging in. Something had to be done in a hurry. Attached to the Philippine infantry division was a troop of the 26th Cavalry (P.S.). The division commander ordered this cavalry troop to retake the barrio and reestablish the line.

The officer's description of the position was this:

The highway ran north and south through the barrio. On each side of the highway, and surrounding the barrio clearing, was the jungle. Where the road entered the barrio, on the south side, the Philippine infantry troops had a road block; and, fringing the barrio in a crescent shape on the south side, they had cut paths into points where they had established observation posts and placed snipers. It is assumed that the cavalry commander, knowing that three attacks on foot had failed and seeing that the barrio clearing gave space for horses to move around, decided that it was worthwhile to try a mounted attack. The only practi-

cable place to initiate this was from the point where the road entered the barrio.

The position of observation of the officer who related this story was at one of the sniper's posts overlooking the southern part of the barrio to the left of the road. He said that the first that he heard was the pounding of running horses. Then four horsemen abreast with drawn pistols came into view. They were already disappearing when another wave came in sight, followed by another, and another—until the whole troop had gone past. The Japs had not started firing at first, so he assumed that they were taken by complete surprise. When the Japs became alert, firing came from everywhere—some from positions close to the observer. He said groups of four horsemen, yelling and firing their pistols, would turn off the road and charge into places from which fire was coming. He saw Japs running frantically from the horses. Some of the cavalymen dismounted, turned their horses loose, and fought on foot.

After the cavalry charge, Philippine infantry moved in, and my informant moved up with them. He said here and there were dead Japs and cavalymen, and a few horses standing bleeding from wounds. When he was able to see the north edge of the barrio, he could discern cavalymen on the ground, forming something of a line, firing up the road and into the jungle at the retreating Japs, who had been forced to withdraw in the face of the sudden and daring assault.

After the infantry moved in, they put up a road block at the north entrance of the road, dug in, cut fire lanes, and were able to hold the position, taken by the cavalymen.

*(EDITOR'S NOTE: A similar story, reported by Captain John Wheeler and published in the March-April, 1943, issue of The CAVALRY JOURNAL, describes the Battle of Moron, about January 16th. It is possible that the two accounts are of the same action.)

RED AR



The author, Major Rigg, demonstrates the *djigitovka*. He is one of the few Americans who has mastered this game.

INDIVIDUAL EXCELLENCE

THE Cossacks place great stress on individual skill at arms and riding. It has been their experience in many wars that when outnumbered, their *individual* excellence has often made up for their numerical deficiency. Thus, much time is devoted to marksmanship training with rifle, tommy and machine gun. Antitank gunnery has received much greater stress since 1941; also trench mortars, which the cavalry adopted during this war; Cavalry units are now armed with both the 50 and 82mm mortars. The Cossacks concentrate on molding individuals into toughened, qualified soldiers by rigorous individual training. The *djigitovka* is an example of how Cossacks emphasize and train for individual skill.

THE DJIGITOVKA

A person cannot fully appreciate Cossack daring and aggressiveness until he has seen a *djigitovka*. This swift-moving, neck-risking, training-at-the-gallop is an old Cossack institution designed for individual training. By virtue of its spectacular quality the *djigitovka* is

often presented as an exhibition. Originated by the Cossacks, the *djigitovka* is now a part of the training of all Red cavalrymen.

There are two types of *djigitovka*—the “free” and the “military”; the former is optional and is performed without full military equipment. The “free” *djigitovka* includes a great variety of Cossack stunts, whereas the “military” one is a prescribed obstacle course.

The military *djigitovka* is obligatory for all line Cossacks, and the course is normally run with combat equipment, less the rifle for one or two stunts. As a rule Cossacks begin training in the free *djigitovka* as boys, and by the time that they enter military service they are somewhat prepared for the obligatory mounted courses. To qualify in the military *djigitovka* a Cossack must be able to gallop down the field on a horse and pick up certain objects like a pistol, saber, money, etc. He must also be able to pick up a dismounted man, to make his horse lie down, to carry one and two “wounded men” off the field on his mount, and to jump off of his horse when it is at a dead run. The saber course (described later) is one part of the military *djigitovka*.

Unencumbered by full field equipment, the free *djigitovka* is an even rougher and more strenuous undertaking than its military counterpart. The object of this voluntary training (which, incidentally, is very popular among Cossacks) is to foster the competitive spirit and to develop further the Cossack's self confidence and mounted skill. Innumerable hazardous stunts are performed in this *djigitovka*. Jumps are taken by riders who either stand on the saddle or sit facing backwards on the horse. Other stunts involve jumping on and off running horses, changing from one to two and even three galloping horses, crawling down, under the belly and up into the saddle of a fast running mount, etc. Few horsemen can match the Cossacks in stunts such as jumping from side to side over a running animal while carrying a saber in the teeth, or placing a handkerchief on the ground and picking it up with the teeth while riding by at full speed. These and many other stunts require a well developed set of nerves in addition to mounted skill. A rider who miscalculates in attempting to pick up a handkerchief may easily upset his horse or receive a battered face if his judgment or timing is poor. Like our obstacle course, training in the *djigitovka* makes for physical hardening.

Some *djigitovka* stunts were originally created for military purposes. For example, riding standing up in

Part III — Training and Organization

MY COSSACKS

by Major Robert B. Rigg, Cavalry

the saddle. Years back this became obligatory for all line Cossacks. On reconnaissance they were not allowed to sit in the saddle and ride over the crest of a hill. Instead the Cossacks trained their scouts to *stand* in the saddle and ride up the crest; the result was that a Cossack only exposed his head as he peered over a hill crest.

Because of the open steppe quality of so much of the Russian terrain Cossacks have always trained their horses to lie down so as to present a minimum target; some Cossacks can perform this stunt without dismounting and they mount while both horse and rider are on the ground before making the animal rise and gallop off. Many a Cossack who has lost his horse in combat has ridden short distances on the stirrups of two of his fellow horsemen riding abreast.

The combat usefulness of many Cossacks stunts is small, but the real value of the *djigitovka* is that it fosters aggressiveness, and creates daring, pugnacious soldiers.

SABER TRAINING

The regular saber course consists of ten fence posts set upright about seven yards apart. Protruding from the top of these posts are fresh branches. The Cossack rides at full gallop down this row of posts and slashes at each one of these saplings. Spacing of these targets is such that the rider just barely has time to lift his arm from one downward stroke before making another one. Slowness, poor timing, or unskillful handling of the horse will cause several misses. First, the rider charges down the left side of the posts while swinging his saber to the right. Reversing this, he gallops down the right side and with the saber still in the right hand he swings to the left. The next time the horseman does the "weave" or "in-and-out ride" between each of the posts. This requires a series of fast, alternating strokes to left and to right—not to mention a deft handling of the horse. The author has witnessed Red cavalry competitions during which the horsemen have had no difficulty in cutting all branches, but the "in-and-out ride" was always the most difficult. In one exhibition a Cossack major demonstrated perfection in the use of the saber when with a blade in his teeth and one in each hand he rode the "weave" course; steering his horse with only his knees and body he succeeded in cleanly cutting every target. He was of course an exceptionally skilled rider.

In addition to the standard course, the Cossacks have a variety of special ones. Some of these are clay dummies for testing and developing the power of one's saber stroke. Sometimes the more skillful Cossacks use another method: A heavy rope is stretched waist high between two trees. The Cossack, rides a *blindfolded*

horse straight at the taut rope barrier. As the animal cannot see the rope he will not attempt to jump it. Therefore, the rider must lean forward and cut the barrier with one stroke in time to avoid having the rope upset horse and rider. This sometimes proves to be a rather rough method of perfecting one's skill.

THE SABER IN WORLD WAR II

Saber actions normally occur during raids, skirmishes, and small engagements. They are generally small actions involving less than a cavalry regiment. U. S. newspaper "accounts" of such actions are generalized and too often over-exaggerate these small combat incidents.

Saber actions are only successful under circumstances greatly favoring the cavalry. Once such an attack has begun, the shock action of a charging avalanche has a certain psychological effect on the enemy, especially if he is not too stubborn. The present day Cossack saber charge is the *final* demoralizing blow against an enemy already caught off guard and surprised, or disorganized and faltering.

Sabers are sometimes used when cavalry is following its own tanks. In the initial phases of such a charge the Cossacks use the tommy guns which are slung on their chests; they fire these guns until the clips are expended, then, shoving the muzzles down, they push the guns onto their backs and draw sabers.

Confused and disorganized enemy troops have suffered the most casualties from saber wielding Cossacks who are ever anxious to use the *shashka*.¹ By reason of this state of mind the Cossacks have been quick to capitalize on unexpected situations. Once they are at close grips with the enemy their dexterity with horse and saber can create violent manslaughter.

Night raids present opportunities for the use of the saber mounted because the saber does not endanger other cavalry personnel in close combat. Furthermore it is a silent weapon which does not serve to alert adjacent areas immediately. The pattern of night fighting often

¹Russian for "saber."

**"The object of the *djigitovka* is to develop Cossack boldness, skill and daring. For that reason it is obligatory for every Cossack soldier."—
Old Cossack Military Regulations.**



Saber actions normally occur during raids, skirmishes and small engagements. Here Cossacks participate in a charge.

involves attacks on enemy occupied villages which are situated behind the enemy's main lines. By reason of such, these enemy troops will often be less careful in regard to local defense, and the Cossacks have had success in surprising many of these garrisons. Thus, as enemy troops have rushed out of buildings they have been sabered amid their running confusion of trying to organize some opposition to the attack.

In March 1944 on the Third Ukrainian Front the Russians surprised and attacked a German motorized column on a highway near the Ingulets River. The attack was climaxed when a large mass of mounted cavalrymen, with sabers drawn, rode down on the somewhat shot-up German column. A Soviet war correspondent who visited the scene very shortly after the battle said that he counted hundreds of enemy corpses that had been sabered in this battle. As it happened, this situation was favorable to the use of sabers—as against many others where blades could not be used.

Cossack successes with the saber—although they are minor achievements compared with their other accomplishments—have in part been due to the Cossack temperament and their pugnacious combat spirit.

FIELD RIDING

Cossacks maintain that their type saddle is best suited for their purposes; it quite obviously affects their peculiar seat on a horse. The Cossack seat is well forward with considerable weight on the stirrups, and some observers comment that the Cossack saddle is so uncomfortable that one cannot sit any other way! The seat is progressively more forward with each increase of gait. At the gallop the inside of the rider's thighs are well against the thickly padded *pommel*, while the main weight of the body is in the stirrups.

Much as Cossacks dislike walking, they are taught to spare their animals by leading them over rough and snowy terrain where speed is not the dominating factor.

Cossack commanders are taught to analyze carefully such difficult footings as vast plowed stretches, swamps, etc., and to modify their gaits, march tables and leading so as to preserve every bit of their animals' strength and endurance. Formerly, the Cossacks were taught to go around fences and to take ditches on an oblique, rather than jump these and other obstacles as U. S. Cavalry does. Cossacks of the old Imperial Army were inept and generally untrained in jumping. This was in marked contrast to their ability to do practically everything else on a horse. Today, however, obstacle jumping is stressed in all Red cavalry units.

MARCHES

The Red Army command expects a high degree of mobility from its cavalry, and the vastness of Russian terrain demands much in the way of long marches by military horsemen. Russian cavalry and Cossacks have proved that they can endure much in the way of combat-marching, but the Red Army does not try to match horsemen against mechanization, for each has its own rôle, speed and ranges.

Russian cavalry march procedure corresponds in general to that of U. S. cavalry. Their march tables are keyed to so many *verts* instead of *miles* per hour. Russian cavalrymen use the same system as U. S. cavalrymen in respect to alternating the walk and trot, although the Russians use the gallop more frequently. Night marches of 30 to 35 miles cross-country have not been uncommon in this war.

There are some forced marches of 70 miles in 24 hours on record, but where it can, the Russian cavalry chooses to conserve its animal strength. One Red cavalry colonel told the author that when his unit was on the front it made a series of forced marches of from 60 to 80 miles per day by the use of an alternate set of horses. The unit simply rode one group of animals as long as practicable, and then transferred men and equipment to the lead group and continued; the used mounts followed in rear of the unit. This system lessened the fire power of the regiment while on the march due to the additional horseholders, but it was practical for quickly moving the unit to another sector.

DISCIPLINE

In observing Red Army units the one item which has impressed the author most has been the discipline. It is not only excellent; it is consistent among all ranks. Other observers concur in this opinion.

Red Army achievements in battle have been due in no small part to this factor. As a part of the Red Army, the Cossacks have had to conform to this hard discipline, and they have been benefited accordingly.

Russian military discipline is achieved by methods common to most armies, but their system has its own peculiarities. The average American soldier would be greatly surprised at the penalties that the Red Army has for violations of orders, regulations and misconduct. A Russian soldier can be executed for a misdemeanor which under the U. S. system would only merit con-

finement. This is not to say that Russian discipline is built on fear, but the Soviets have reduced the number of courtmartial cases by severe penalties. The differences between nationalities, likewise, cause differences between military systems and methods of achieving the same goal. The Russian system differs from the American on this basis.

Red officers appear to be well respected for their professional knowledge and good military conduct.

OFFICERS AND LEADERSHIP

Strangely enough the Cossacks have never produced any outstanding number of great general officers, either today or in their past history.

Under the Tsars Cossack units were often recruited and officered by men of the same community. There was a certain military disadvantage to this because many officers were relatives or intimate friends of the men under them. The Red Army has corrected this. According to the Russian officers with whom the author has talked, a substantial portion of the officers of present day Cossack units are *non-Cossack* in origin. Cossack soldiers are promoted to officer rank in the field when they can demonstrate their ability in combat for such positions. Thirty years ago this was not a regular practice in the Russian Army. Cossack men, NCOs and others not in combat can also qualify for officer training; in peacetime they were required to have at least a secondary school education in order to go to officer schools.

COSSACK STRENGTH

Numerically speaking the Cossacks represent a very small portion of the U.S.S.R.'s population. For their numbers, however, they provide a high ratio of excellent fighting men. Most is heard about the Don and Kuban Cossacks because they are the largest Cossack groups. Based on previous proportions and a nominal amount of present day information, the Don Cossacks furnish about 35% of the *total Cossack* armed strength, while the Kubans provide roughly 20%. The Terek and Orenburg Cossacks contribute about 10% each. The remaining 25% is made up of Ural, Siberian, Amur, Astrakhan and other small Cossack groups.

When the war began, the Red Army had about 40 divisions of cavalry. This has since been increased to an estimated total of about 65 divisions. Details are lacking on the exact total of Red cavalry strength, and the ratio of Cossack units to that total. However, a conservative estimate based on what is known, is that the Cossacks make up 30 to 36% of the total Red cavalry strength—or an equivalent of from 20 to 24 cavalry divisions. Cossack regiments have always been scattered through cavalry divisions in the Russian Armies. This practice is in vogue today, with the result that there are some all-Cossack divisions, but a great many more regular cavalry divisions contain both Cossack and non-Cossack regiments.

By reason of the fact that the regiment is the basic

tactical unit of the Cossacks, it is well to examine its structure.

THE SOVIET COSSACK REGIMENT

Since the 1940 Tables of Organization were announced the Red Army has, for security reasons, kept details of unit organizations secret. From all indications however, the basic structure of the cavalry regiment has remained essentially the same since 1940, except that the firepower of the regiment has been increased.

The Cossack regiment consists of four saber squadrons and one machine-gun squadron; the latter is made up of platoon of *tachanki*.² The Russian squadron is roughly equivalent to the U. S. Army cavalry troop. In addition to the saber (rifle) and machine-gun squadrons there is a battery of 76mm field artillery guns which is attached to regimental headquarters. Since the war the AT fire power of the regiment has been increased to where there is a battery of 45mm AT guns with regimental headquarters. The regiment is completed by an 82mm trench mortar section plus engineer, veterinary, medical, antiaircraft (20mm), signal, and supply troops; the latter vary in size between 15 and 50 men depending on the type of troop.

The Cossack squadron is called "*sotnia*," a Cossack term which literally means "100 men." Actually, today the Cossack *sotnia* contains about 140 men and 5 officers, and is divided into four troops of four sections each,

²Light horse-drawn carriages with MGs.

These Kuban Cossack antitank gunners are using the Soviet 45mm AT gun. This horse-drawn weapon, a standard cavalry AT piece, fires both AP and HE shells.



plus a squadron or *sotnia* headquarters. A captain commands the squadron.

In the Cossack regiment the machine-gun squadron is employed or used in much the same fashion as the U. S. machine-gun troop. The Cossack machine-gun squadron is slightly faster than U. S. cavalry machine-gun units; this is due to the Russian use of the *tachanki* which allows for a faster gallop than pack animals can muster. Soviet machine-gun units may be slightly more aggressive than are U. S. machine-gun units because the Russian machine guns are at all times in a ready-to-fire position.

The Red Cavalry machine gun squadron can operate as one unit, but normally it is broken up to support the rifle squadrons. The same is true of the regimental field artillery and antitank batteries; very often the battery is broken up so as to put a gun with each rifle squadron. When necessary, division artillery supplements regimental artillery.

The total regimental strength in men and officers is about 1200. Horse-drawn vehicles total about 130, while the number of motor vehicles is very small.

With all due respect to a very able correspondent, Mr. Cyrus L. Sulzberger, the author would like to point out that Mr. Sulzberger's statement in the July-August, 1943, *CAVALRY JOURNAL* to the effect that "The old cavalry, hampered by horse-drawn baggage trains, has been largely eliminated by the gradual introduction of motor transport," is not entirely correct. *Within the regiment*, transport is almost entirely wagons, and the reason for this is that regiments are often obliged to cross terrain not suited for motor transport. Imagine a Cossack regiment held up in rough muddy terrain because its motor vehicles cannot supply it. To avoid such a situation, the Cossack regiment still uses wagons. With division and corps, however, there is a higher proportion of motor transport.

DIVISIONS AND CORPS

In direct contrast with present U. S. cavalry, whose main rôle is reconnaissance, Soviet cavalry is organized into divisions and corps and employed on a mass scale in combat. Russian cavalry successes have in great part been due to the fact that it has been committed *in force*.

Red Cavalry divisions vary between three and four cavalry regiments plus a horse-drawn field artillery regiment which is always a part of the division. The FA regiment is divided into two groups and totals six batteries (76mm guns and 122mm howitzers). In addition to the division headquarters there is a squadron each of engineers and signalmen, plus a troop each of medical, AA, supply, and veterinary personnel. Prior to this war the division contained a mechanized regiment. A major general^a normally commands the division, although occasionally a colonel is in temporary command.

The corps is the largest permanent cavalry organiza-

tion in the Red Army. The cavalry corps is formed by three cavalry divisions, plus a minimum of one horse-drawn artillery division and a mechanized unit believed to be a regiment. A lieutenant general commands a corps. In the summer campaigns of 1944 Marshal Joseph Stalin cited no less than ten cavalry corps for outstanding action on the front. This totals about *thirty cavalry divisions*, and there were perhaps one or two other corps in the fighting which were not cited. It is generally conceded that the Red Army employs about 30 to 50% of its total strength on the front at all times, and these unit citations seem to bear this out.

About the largest all-Cossack organization is the division, although in a few corps the Cossacks dominate to the extent that these corps can be appropriately called "Cossack Corps." The following corps come under this latter condition:

Lt. General Issa Pliev's Kuban Cossack Cavalry Corps, which was cited for heroic and outstanding action in 1944 at Odessa (April), Baranovichi (July), Brest-Litovsk (July), Vilička, Krasny, and Stolbtsy (July), and at Debretsen and near-by points in October.

Lt. General Gorshkov's Don Cossack Cavalry Corps, which received Marshal Stalin's citation in August, 1944, for outstanding action on the Second Ukrainian Front and again in October at Debretsen.

Lt. General Vladimir Kriukov's Cossack Cavalry Corps, which was cited in July, 1944, for conspicuous action in the Minsk area.

Lt. General S. V. Sokolov's Cossack (Kuban and Ural) Cavalry Corps cited by Marshal Stalin for actions at Rovno and Dubno in June, 1944.

Lt. General Baranov's Cossack Cavalry Corps, cited in July, 1944, for successful actions near Brodi-Poritsk, Busk, Gorokhov and at other points.

TASK FORCES

In viewing the aforementioned organization of regiments, divisions and corps it should be borne in mind that the Cossacks are not necessarily bound by standard TOs in field operations. There is great flexibility in the Red Army for the creation of varied task forces or combat teams. The organizations previously described simply form the structures around which these teams are built to carry out special tasks. Engineers and other specialists are often attached to the cavalry and, in turn, cavalry is often placed in mutual support of other arms. The most regular combination is the "tank-cavalry combat team." Aircraft is of course a very important factor to military success, and air units are parts of these teams.



The fourth installment of Major Robert B. Rigg's extremely enlightening discourse on Red Army Cossacks, which will appear in the March-April issue of *The Cavalry Journal*, will deal with the Tactics and Technique so successfully employed by Russian Cavalry in this war.

^aMajor General is the lowest general officer rank in the Red Army.



German Cavalry

These souvenir pictures of German cavalry were recently sent from near the German border by Major General Charles H. Gerhardt, Commander, 29th Infantry Division.



Soviet Cavalry from the German Point of View*

After the first World War, as a result of the lessons learned in it, there followed a general dissolution or motorization of the cavalry in most of the armies. Only the eastern nations, Poland and Soviet Russia, retained relatively powerful cavalry formations. As we know, Poland had forty regiments of cavalry, and Soviet Russia has many corps and divisions.

While, in the campaign of 1939, small German cavalry formations did excellent work in reconnaissance and security service (even enemy batteries were captured in surprise attacks), the Polish Uhlans, true to their traditions, offered themselves up bravely in cavalry attacks, but to no avail. The Polish cavalry lacked heavy weapons, the necessary fire power, and collaboration between horse and motor. Also, there seems to have been no observation or combat aviation assigned to it.

On the basis of the experiences of 1939, the Soviet Russians reorganized and rearmed their cavalry and motorized its supply formations. The men received new "Simonov" automatic rifles and machine pistols. The number of machine guns was considerably increased and some of them mounted on light horse-drawn wagons. Particular attention was given to antitank defense.

In the campaign of 1941, Hungarian, German, and Rumanian cavalry were engaged in the Russian theater of operations, and it was often possible to employ them with success. Their fire power was increased, especially by means of antitank guns and antitank rifles. The latter were transported on pack horses.

The development of the motorized formations and of aviation, as well as the increasing fire power of the artillery and infantry, influenced the tactics of large cavalry formations on both sides. Every cavalry officer who went through the first World War on the eastern front or was for years garrisoned in Eastern Galicia, knows that at certain times and in certain places in the spring and fall and frequently in the winter when there is a great depth of snow, *only a mounted man is capable of getting about at all times*. This fact had also to be learned recently in the eastern theater of operations in the campaigns of 1941-1944. Hungarian cavalry formations, individual squadrons, were able to record fine accomplishments in the retreat battles in the abnormal temperatures of over forty degrees below zero.

Naturally, the cavalry in the east also fights dismounted. The horse serves more or less as a means of locomotion. However, smaller detachments and patrols are able to execute successful surprise attacks on enemy formations, especially in retreat, and break them up.

The Soviet Russians always employ their cavalry in great masses—divisions and corps—for the solution of secondary problems, security, etc.; for according to their view, cavalry formations which are scattered out, when worn down by the enemy, rapidly lose their striking power.

*Translated at the Command and General Staff School from a German article by Emmerich Suhay in *Pester Lloyd Abendblatt*, Budapest, Hungary, March 4, 1944.

Mobile Groups

by Colonel N. Denisov,
Red Army

MOBILE groups have been widely employed in Soviet offensive operations in Hungary. Such units, comprised of tanks, cavalry, motorized infantry, and light artillery, are supported by IL-2's.

These mobile groups operate far behind enemy lines where team coordination with aircraft is very complicated. It is one thing for air power to deal a concentrated blow at the enemy when pilots can see the battle-line clearly and are led to the target by radio locators from the ground, and quite another thing when pilots have to penetrate deep into enemy territory, find their supporting mobile groups—which are ever on the move—and simultaneously locate and attack objectives of most importance to the raiding parties of tanks, cavalry, or motorized infantry.

The situation is further complicated when pilots have to support small forces of these mobile detachments, as they dash forward into enemy defenses. The success of an operation of this kind depends mainly on a well organized system of communication between the commanders of the mobile detachments and the aerodromes located behind the frontlines. Initiative on the part of the pilots is likewise important.

Activities of a certain Stormovik unit operating in Hungary will serve as an illustration of the difficulties involved in this type of operation.

A medium sized mobile detachment, which broke into a populated locality and dislodged the German-Hungarian forces, met with considerable opposition when the enemy brought up lorried infantry and surrounded the locality. The officer commanding the Soviet mobile group was confronted with the problem of either

*By cable to THE CAVALRY JOURNAL from War Department, U.S.S.R., Moscow, November 26, 1944.

Soviet tanks smash enemy defenses on the right bank of the Danube at the approaches to Budapest. In the Red Army horses and armor are used extensively in what the Soviets term their Mobile Forces—the tank-cavalry team.



ps with Air in Hungary*

trying to hold the position or fight his way back to the main Russian force. Sizing up his possibilities and reckoning on the support of the airforce, he decided to try to hold.

The bold decision of the officer was radioed to headquarters and received approval of the general, who was struck with the idea of taking advantage of the possibility of routing the whole enemy group. The Germans, having brought their reserves to this particular area, were weakened in other sectors, and it was there that the general decided to strike. Time, however, was needed.

The weather forecast was none too promising. Low, overhanging clouds, heavy rain and mist seriously hampered air operations. The air officers, however, were confident of their crews and promised that they would fulfill the general's assignment. Half an hour later the first Stormovik detachment took to the air, and the lead-pilot led the group directly to the village where the fierce battle was in progress. The mobile group on the ground, surrounded on all sides by the enemy, was fighting back fiercely.

Looking down, the Stormovik leader saw a line of tracer bullets leading toward a woods and knew that the infantry was pointing out the target that it wanted knocked out first. The target, consisting of two field batteries, was attacked immediately. In two runs, the IL-2's

hell," the pilot wrote on a slip of paper and threw in a pennant down to the village. Looking down, he saw Red Army soldiers of the surrounded mobile group wave their caps to the pilots.

For 4 days thereafter the Stormoviks helped the mobile force repel the German attacks. Not until the fifth day was the task completed. Then Soviet units, headed by the general who had foreseen the advantage in having the mobile group hold out, breached the enemy defenses and encircled the attacking enemy.

The general gave an order for a concerted assault,



Soviet planes head for an area near Budapest. Aircraft and Mobile Forces have been used in successful combination during the advance through Hungary to Budapest.



Horse-drawn artillery, used extensively with Red Army Mobile Forces, takes up new positions near Budapest.

released their bombs on the enemy guns, then followed with a strafing attack on the Germany infantry. The cannon and machine-gun fire forced the Germans to the ground and partially dispersed them. As the ammunition ran low, the leading pilot radioed the situation to headquarters and was told that a second group of IL-2's was about to take off. "Hold on, we'll give them

which was carried out simultaneously from both inside and outside the ring. By evening it was all over. The routed enemy hoisted a white flag. In that populated locality where fierce battles had raged for so many days, the general established his headquarters, while the mobile group, which had so successfully accomplished its task behind the enemy lines, proceeded onward with the main force.

Another interesting example of the cooperation between Stormoviks and ground forces occurred during a battle for a railway station in Hungary. A cavalry force sent to attack the station was only a few kilometers away when a reconnaissance flyer reported arrival of enemy troop trains at the station. Troops, tanks, and guns were being unloaded. Immediately the air unit commander concluded that the Germans were undoubtedly determined to hold the station and offer stubborn resistance. He ordered a few Stormovik groups into the air. Running in, they blasted the trains and blew up ammunition stores. Then the cavalymen, taking advantage of the enemy's confusion, attacked and seized the station.

Artillery Cover for Shipping



by Major P. Danilov

A Soviet gun and crew are silhouetted by an enemy searchlight. Searchlights became prime targets for such crews.

WHEN the front moved to the coast and lines of communication by sea, Soviet coastal artillery was confronted by a number of new and altogether original problems calling for the closest possible collaboration with the fleet. These problems, it can be said, wrought a change in the very nature of this collaboration.

In the main, the Soviet batteries had to wage a struggle against the enemy shore batteries that were shelling Soviet shipping and bases. The counterbattery action of the Soviet artillery was designed to extinguish enemy searchlight installations, smash his pillboxes and disperse his concentrations of troops and equipment—in a word, not naval, but land objectives on the given sectors were the main targets of the fighting collaboration of the shore defenses.

This called for the working out of tactics of fire cover for shipping. How this was done is illustrated by the experience of one artillery unit upon which devolved the job of securing navigation for shipping on a route in direct proximity to the enemy's guns.

During the first phase of this action, Soviet gunners pursued purely defensive tactics. They opened up only after the enemy searchlights had gone into action, and after the enemy batteries had fired their first salvos. It was not long before the gun crews became expert at "getting" the enemy searchlights.

By concentrating their fire on the searchlights and batteries, using mainly flare shells, the Soviet gunners prevented the enemy from determining the exact lo-

cation of vessels. This practice represented the initial tactical methods elaborated by this particular unit.

On one occasion a number of Soviet ships set out from their bases. Toward midnight, when their course lay off the enemy-held coast, with the aid of soundfinders, the Germans determined the approximate location of the convoy, and, thirsting for success, they turned on the searchlights so as to be able to fire from the darkness at brightly illuminated targets. But the Soviet gunners were on the alert. From an observation point the exact location of the enemy searchlights was transmitted to the gunners, who, with two shells, finished them off. The convoy proceeded on its way.

A little later, the Germans succeeded in getting another searchlight station going but had the mortification of seeing it share the same fate as its predecessor.

Seven times the enemy got lights going, and seven times Soviet gunners on land extinguished them. Only once, when the convoy was almost beyond the danger zone were the ships caught in the beams. The German guns opened up on their fast disappearing prey, and immediately the land batteries went into action. The enemy guns were quickly silenced, and for their exemplary conduct in this action, the Soviet gunners were mentioned in dispatches.

The immediate ascertaining of the targets (in this case the searchlights and batteries) and the opening of fire in good time is the basic condition for affording cover to ships on the move.

The tactics of the struggle against enemy batteries shelling coastwise shipping are not fixed and rigid. Changes will be caused by the dispositions of the enemy's guns, by the extent of the observation post network, the locality in which the enemy fire points are located and by the general situation on the front.

If the enemy batteries are within good view of the observation posts, then it is more advantageous to shell them by correcting the fire of each salvo and by shelling at a rate that prevents the enemy from causing damage to the ships. When the range has been found, the best method is to concentrate a massed fire on the target and then, by methodical shooting, to pin the gun crews to their shelters until the ships have passed the danger zone.

In operations designed to secure a safe passage for coastal shipping, the winning of time is a decisive factor. It follows, therefore, that the enemy must not be allowed to fire even a single shell. For this reason, battery commanders are allowed to use their own discretion in opening fire. On the sector on which the unit we have been discussing is operating, two or three special targets are allotted to the gun crews and, at the moment that the ships are passing these points, the guns go into action at the very first signs of enemy activity. Without previous permission from the senior officer, fire is opened against the floating batteries and coastal artillery which the Germans use specially for shelling the narrow parts of the fairway.

In a number of cases, during the 1943 campaign, this particular land battery changed from defensive to active tactics. After close and careful observation of the enemy's fire system, the gunners, prior to the passage of convoys, distributed the targets among themselves and subjected them to a thorough shelling.

Accurate shooting drove the German gun crews to their shelters and kept them there until the ships had got safely out of the danger zone. Reserve forces held in readiness to deal with new enemy fire positions, went into action on the instructions of the senior officer and at the call of the officer in charge of the convoy. Such tactics completely justified themselves.

In May and June of 1943, the men of Captain Shinelev's batteries and others, by this accurate shooting, prevented the enemy from discharging even a single shell at ships passing within a few miles of their positions. The artillery formations covering the sea communications retained the initiative in their hands and not only secured the safe passage of the ships but actually inflicted heavy losses on the enemy.

These "cover" operations in which the Soviet gunners held the initiative, demonstrated the effectiveness of offensive tactics. It does not automatically follow, however, that the offensive tactic must always be pursued. "Cover" tactics depend on the requirements of the given convoy, on the situation on any particular sector, relation of forces, on the season, and on the weather.

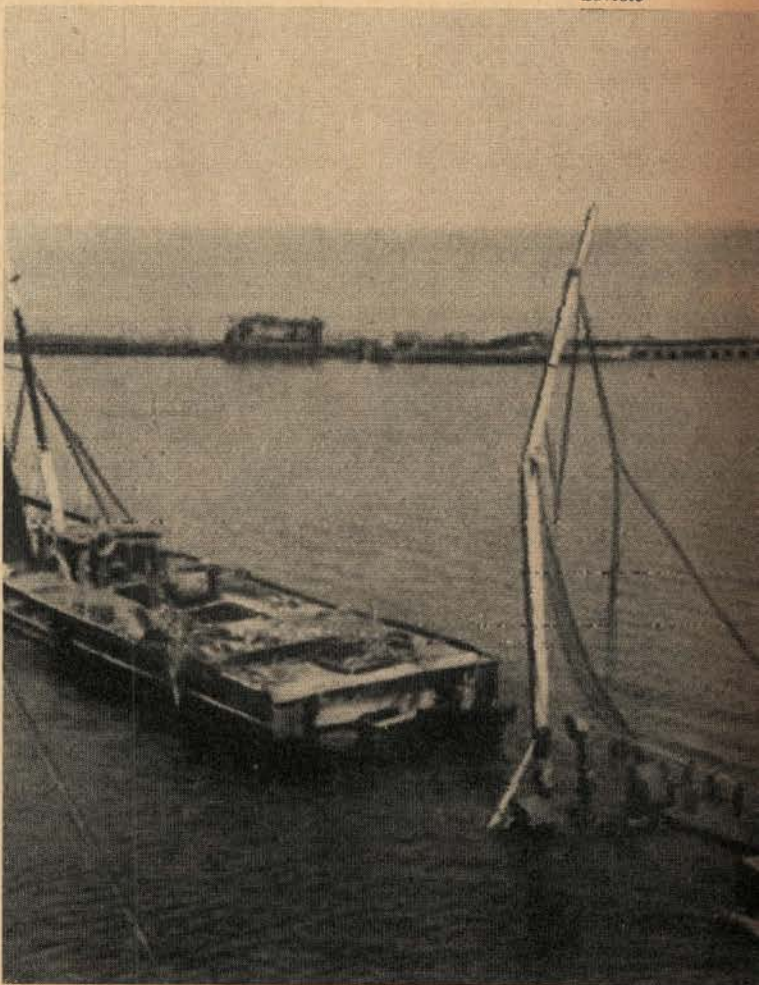
On moonlight nights when the enemy is bound to observe the ships, the tactics will assuredly be those employed of offense. This, of course, involves a considerable expenditure of ammunition, but it also means dictating your will to the enemy, causing him serious losses and securing a safe passage for the vessels.

When there is poor visibility, and the chances are that the enemy will have considerable difficulty in locating the ships, then it is possible to enjoy the luxury of the defense tactic—only opening fire when the enemy guns show signs of coming to life.

In other circumstances, it pays to combine both methods—to silence in the first place the more active of the enemy batteries shelling the narrow parts of the fairway and its approaches, put the enemy searchlight installations out of commission, and then concentrate only on the enemy guns endeavoring to get the range of the passing vessels. Having firmly mastered the tactics and methods of fire cover for ships and having achieved a high standard of gunnery, the artillery men of the Soviet coastal defenses have done remarkably well in securing free passage for ships and, simultaneously, have caused the enemy huge losses in manpower and equipment.

This German vessel was sunk in the harbor of Odessa by Soviet gunfire from a shore based battery of artillery.

Sovfoto



Maneuver Formations

For the Cavalry Division Artillery

by Colonel H. C. Demuth, FA

MANEUVER is only one of the problems which confronts the artilleryman of the cavalry division and, insofar as it affects the timely delivery of fire, it is most vital. In other days when the artillery occupied direct fire positions, the problem of speed was non-existent. Fire was delivered by single pieces, platoons, or single batteries against visible targets. The fire of a battalion was seldom used and was never massed as it is now known.

Direct fire positions today are suitable, at times, as against mechanization, but the improvement of methods and equipment makes the habitual occupation of these positions suicidal. Indirect fire positions are, therefore, the rule with the consequently slower, though more effective, methods and techniques. Massed fires with their tremendous effect are essential. They take time to prepare. However, the same necessity for speed still exists. Profitable, then, are devices that will save time before entry into action; since time saved here is spent in the preparation of fire.

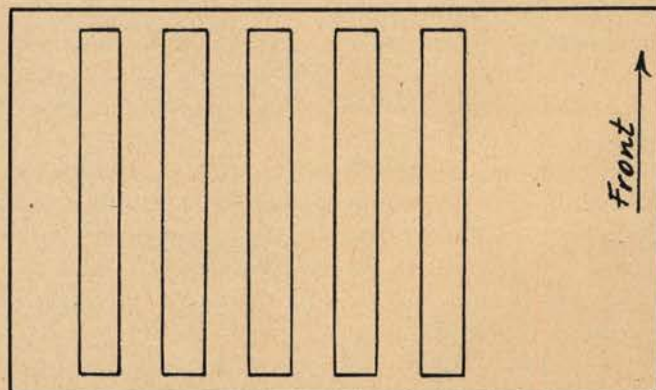
The spirit of General Hawkins' article, "Tactical Exercises and Maneuver Formations for a Cavalry Division," (CAVALRY JOURNAL, July-August 1943) is rapidity of maneuver and entry into action. This applies equally to the artillery of the division. Though not mentioned in artillery field manuals, maneuver formations expanded to include fire plans, both of which must be SOP (Standing Operations Procedure), can save much time which is so important in preparing fire. Experience dictates their use. A simple code group, in conjunction with close liaison with the supported cavalry, must do initially as orders to the artillery. SOP attaches the horse battalions to their cavalry brigades except for special operations.

BATTALION MANEUVER FORMATIONS

Only one formation is necessary to move a battalion across country in these rapid situations, but this formation must be such that trails can be dropped and fire opened immediately. Formation B (below) satisfies this requirement. However, the battalion commander will, for other purposes, need other formations.

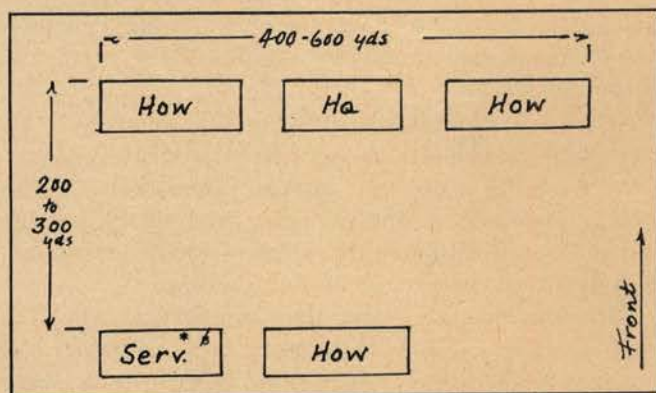
Three maneuver formations, therefore, seem desirable for the artillery battalion. They are diagrammed below.

Formation A is used only to mass the battalion outside range of enemy air. Closed interval; order of batteries in line immaterial.



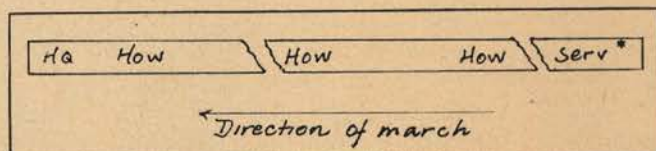
Formation A

The battalion in line. Batteries in section column.



Formation B

Battalion in two lines for cross-country. Batteries in line or double section line. Extended interval between sections.



Formation C

The battalion in section column—appropriate for marching on roads only. Interval decreases effect of air bombing.

Formation B, used for marching across country, lends itself to immediate action and to firing in any direction—necessary at times in modern warfare.

This interval in Formation C is such that if the situation calls for the battalion to drop trails and open fire the parallel sheaf is the open sheaf. While it saves but one simple calculation and one command on the part

of the battery commander, it gains valuable time. It also decreases the effect of air bombing.

These maneuver formations are adapted from those used by the 2d Bn, 82d Field Artillery (Horse), 1st Cavalry Division, during 1938-1940.

Rules for marching and changing from one formation to another are easily devised. Headquarters battery is the base unit, the guide, and leads the column because the battalion executive officer is with it and commands the battalion from there. Other batteries, changing gaits and direction as necessary to conform with headquarters battery, conform as prescribed by the battalion SOP.

These formations are appropriate for all battalions.

MANEUVER FORMATIONS AND FIRE PLANS FOR THE DIVISION ARTILLERY

Maneuver formations for the division artillery as a whole are desirable. By the use of these, the division artillery commander places his artillery in the division formation and rapidly shifts the 105mm battalion by a simple radio group when necessary. His 105mm battalion and either of his horse battalions constitute the bulk of his artillery.

Three formations are necessary. (Different battalions should use different numbers, or letters, and those of the division artillery should be different from the battalions. This is in order to prevent execution if heard by another battalion.)

Formation 1: An order to the 105mm battalion to march, trailing the horse battalion of the first cavalry brigade if the division is in line of brigades, or the first brigade column if the division is in several columns.

Formation 2: An order to march between the rear of the brigades when the division is in line across country, or at the tail of center column if there is one.

Formation 3: The same as 1, except with the second cavalry brigade.

FIRE PLANS

Like maneuver formations, prearranged fire plans save much time in the transmission of orders. They are absolutely necessary, since it is seldom possible for the division artillery commander to see his battalion commanders after the division is set in motion. Visits by staff officers are, likewise, usually impracticable in the limited time prior to action.

Three plans are necessary to direct the fire of the division artillery properly. When any one of these plans is announced, it immediately releases the 105mm battalion from march formation.

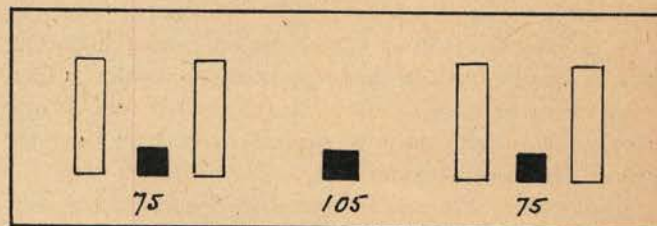
Plan X—The 105mm battalion reinforces the fires of the first (horse) battalion. (First cavalry brigade's horse artillery battalion.)

Plan Y—The 105mm battalion remains in general support of the division.

Plan Z—The 105mm battalion reinforces the fires of the second (horse) battalion. (Second cavalry brigade's horse artillery battalion.)

These plans are orders, and are announced immediately the scheme of maneuver of the division is known. Any one of them is an order to the battalion commanders to prepare for a definite line of action. Although the horse artillery battalion commanders will probably know the general scheme of maneuver by the time that this order is received from division artillery headquarters, it definitely assigns the 105mm battalion a mission. It orders the 105mm battalion into action. It notifies the horse artillery battalion commanders of the disposition of the 105s.

Example 1. The division commander assembles his senior commanders and tells them that he is going to march across country on a reconnaissance to ———. Line of brigades; first cavalry brigade on the right; the division on an extended front. Since the situation is indefinite, the division artillery commander will desire his 105mm battalion centrally located. He orders Formation 2.



Example 1.

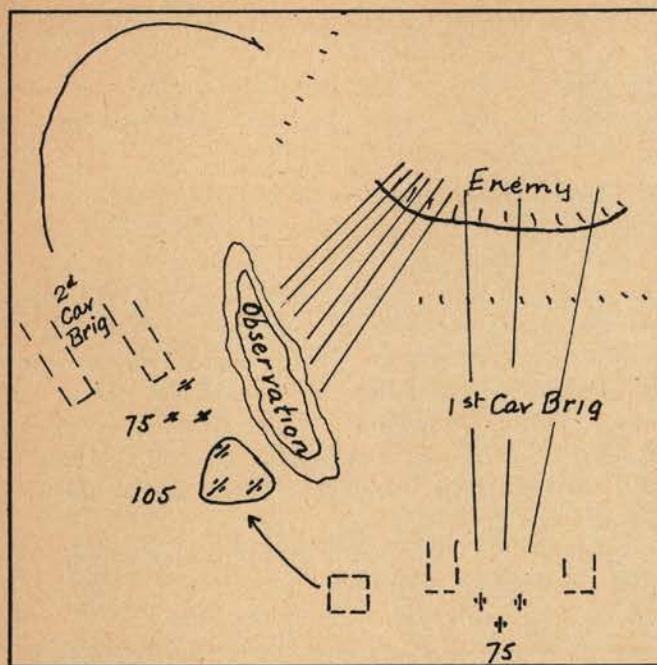
Example 2. When the enemy situation becomes clear and the division commander decides to envelop the enemy right, he orders Formation 3. This moves the 105mm battalion to the vicinity of the horse artillery battalion of the second cavalry brigade. He also orders Plan Z, for firing.

By this movement of the 105mm battalion, prior to action, the commander saves time by shortening communications with the reinforced battalion. This facilitates fire direction. He thus supports the main effort with the mass of his fire.

In no sense must the maneuver formation be construed as rigidly fixing the artillery battalions to a particular column or piece of ground once action is imminent. Only by allowing the battalion commanders great latitude and freedom of action, within the frame work of common sense, can cavalry be supported properly.

The preceding and following illustrations show how the battalion commanders may be influenced in choice of positions by terrain.

If the division commander adopts a standard formation for some special purpose such as, "delaying action against strong mechanization," an additional formation, or plan, can be added to announce this situation. All

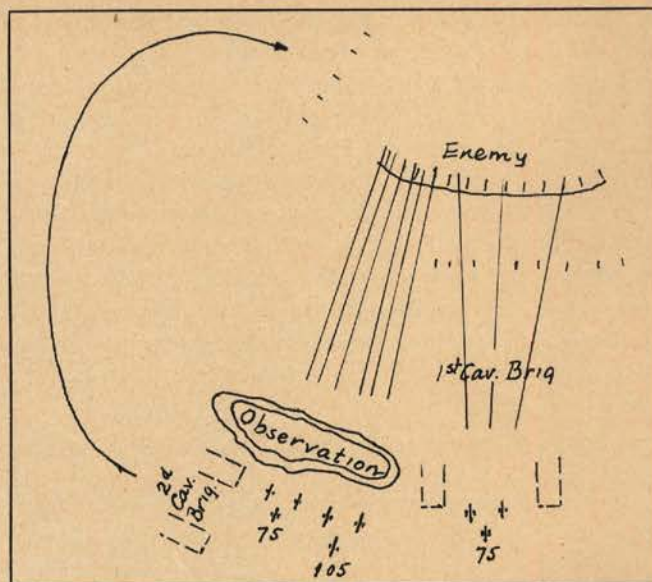


Example 2-A.

in all, the above formations and plans, with the addition possibly of this one, seem adequate to cover all situations.

Artillery officers must have a proper tactical appreciation of and be imbued with the spirit of cavalry action. They must be able to select targets which will do the cavalry action the most good, for there is no time for minute directions from above.

Rapid entry into action and rapid accurate fire sup-



Example 2-B.

port are the ends to be attained. Practice and field exercises should be pointed to these ends. All personnel must be highly trained.

By the use of maneuver formations and plans which, if SOP and understood by all, can be transmitted as a short code groups to the battalions—the division artillery commander in these rapidly moving situations initially employs his artillery to the best advantage of the division.

In other situations, when time and circumstances permit, the more orthodox methods of engaging the artillery are employed.

Tactical Lessons and Maneuver Formations

IN ORDER that the division, and any of its component units, can be handled quickly and with greatest mobility, each unit must have a number of set formations that can be understood by all in a few established words, which become common language to everybody without the necessity of describing them in detail every time an order is issued or reference is made to them in instruction or conversation.

Except when the division, or any smaller unit, is marching in route-order in protected or safe areas (even safe from airplane attack), it does not march on roads. It must be able to move across country in any direction—forward or backward, left, right, or toward any ground feature or point of the compass—merely by the issue of a few simple words of command or brief vocal or written messages. These set formations enable such movements to be started almost instantly.

Aside from route marches, the division has to understand only a few set formations which are named "Maneuver Formations." These Maneuver Formations

are practically deployed formations, either as foragers or lines of squads or platoons. No unit larger than a platoon is in close order. They are convenient for cross-country movement, for dispersed defense against air attack, artillery fire or small arms fire, and for quick dispositions of all units for combat.

By utilizing the four Maneuver Formations of the division, the commander can issue quickly, by voice to his commanders, or by message or radio, his brief orders for the direction of march—the Maneuver Formation No. 1, 2, 3 or 4—and the rate of march. Thus, it is like giving drill commands to a small unit. The division can accommodate itself to the terrain, change direction or formation or gait, and immediately be ready for combat of any kind in a very short time.

In daytime, cross-country movement is made easier and safer. At night, the columns must be condensed in the manner of route order marches, although they must be across country.—Brigadier General H. S. Hawkins, *THE CAVALRY JOURNAL*, July-August, 1943.

Artillery with Reconnaissance

*by Captain James P. Barry**

CAN reconnaissance units use artillery fire? How often does a reconnaissance unit see a juicy enemy installation that it cannot engage without neglecting its mission? Artillery fire may be brought on the enemy installation while the reconnaissance party sits quietly off to one side, unobserved. How often, on the other hand, does a reconnaissance unit have to fight for information? A few well-placed artillery concentrations would be welcome then, too.

Artillery observers may accompany reconnaissance units, but only under unusual conditions. Usually the reconnaissance trooper who needs artillery fire must adjust it himself. The job is simple, once he knows the method.

The target must be within range of friendly artillery. Some prior arrangements must be made for communication, such as having a radio vehicle at the CP of the supporting artillery. Infantry division artillery CPs are normally close enough to division CPs so that the radio vehicle which the reconnaissance troop keeps at division may move to the artillery CP with little delay when artillery fire is wanted, or an additional direct line may be laid from one CP to the other. Reconnaissance units operating with other types of division, or with corps, in which the CPs are some distance apart, are large enough to furnish an additional radio vehicle to their artillery without great difficulty.

When the reconnaissance unit finds something that warrants artillery fire, it sends back a message describing the target and gives the position as accurately as possible, preferably by coördinates, in the following form: "Enemy troop concentration; map coördinates 985.1—345.3; request artillery fire; will adjust." The "will adjust" means that the observer will stay in position to observe and adjust the fire. Such messages are always sent in the clear, as are the sensings which follow them.

The radio operator who is stationed at the artillery CP gives the message to the artillery, and then stands by. The artillery will tell him how many guns are to be fired in adjustment (probably a battery of 4 or 6 guns) and how many battalions will be fired for effect, when the adjustment is complete. He should relay this information to the observer. Just before the guns fire, the operator will be given the message, "On the way." He should send it to the observer immediately, to alert him.

If the position of the target was reported accurately, the first shell bursts should be in sight, or at least in hearing, within a few hundred yards of it, say 400 to the left of it, and 200 over it. In making such sensings, the observer must remember to make them from the viewpoint of the guns. Four hundred left means left

of an imaginary line joining guns and target, 200 over means 200 yards beyond the target from the guns.

In artillery firing an effort should be made to get a bracket. About 200 yards should be added to the first sensing for both range and deflection, unless the bursts are very close. That being the method, this sensing would be reported to the artillery as, "600 left, 400 over." If the observer estimated the distances correctly, the next bursts should land 200 right and 200 short.

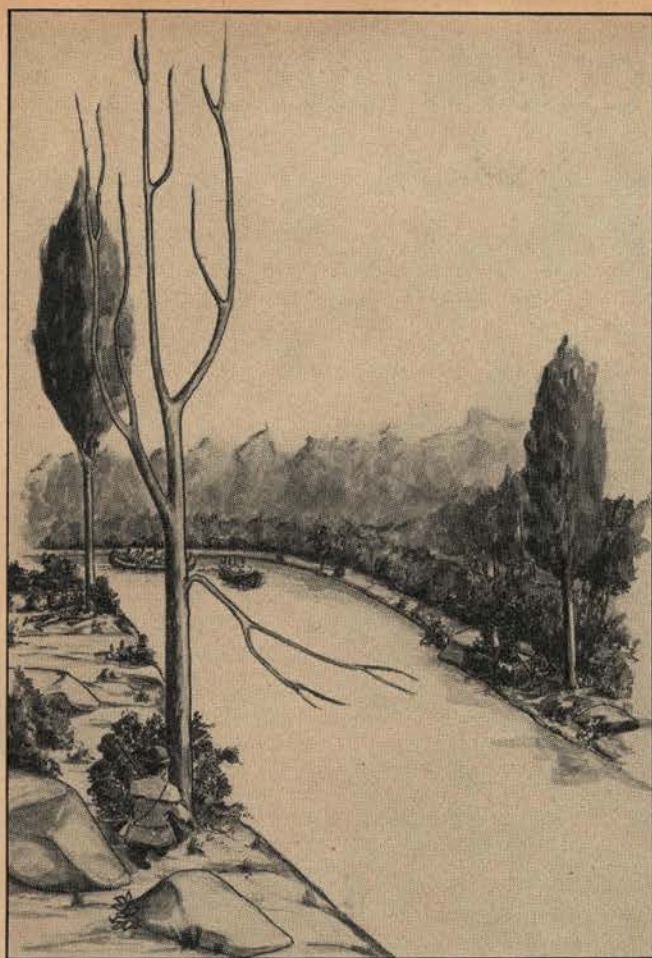
After those sensings are reported, adjustment should be continued until the bursts are within 50 yards of the target. Adjustment is then complete. The 50 yard sensing should be reported and fire for effect requested. It is necessary that the observer hit the target, though, for when the message is sent back, "50 short; fire for effect," the fires of all available artillery battalions will be brought to bear on it. A 105mm shell costs 18 dollars. That is one twelfth of the ammunition expended when a light battalion fires once, and that is probably the smallest thing that will be shot. That cost, of course, takes no account of the transport and personnel problems involved in getting artillery ammunition, which may make it infinitely more valuable.

When fire is first requested, if for any reason coördinates cannot be used, the position should be given by reference to some obvious landmark: "Water tower in Sened station is 800 left, 200 over; enemy tanks assembling; will adjust." Any system that will definitely indicate the position of the target will do the job; a thrust line can be used if the artillery knows the basis for it.

In a fluid, rapidly moving situation, when there is a great deal of gunfire, or in jungle fighting, it may be very difficult to determine the position of the friendly batteries which are furnishing fire. It may not be possible to decide what is right or left, and what is over or short. In that case, a compass should be used for directions, and such sensings as, "600 north, 200 west, sent back. Sensings, telling where the bursts land in relation to the target should be sent. The observer should not try to tell the guns what direction to shift, as he would with other weapons. If he does, he will get exactly the opposite of what he wants. If he has trouble in adjusting the fire, he should adjust either range or deflection until it is correct, then adjust the other element; at times that simplifies the matter considerably.

In some situations the artillery may furnish time fire, which is extremely effective against personnel, even personnel dug in. If the artillery does, they will say so. If time fire is wanted it should be requested. Though time fire is deadly against personnel, buttoned-up tanks may move through it unhindered; crews of antitank weapons can be destroyed or kept in their holes by it while tanks advance.

*Hq., 881st FA Bn.



Scouting a

Regulations of Rogers' Rangers and Indian War--present fund naissance patrols today, partic

"Rogers' Rangers" immortalized in *Northwest Passage* by Kenneth Roberts and a movie by the same name, trained and fought under the following regulations.¹

Inspections.

"All Rangers are to be subject to the rules and articles of War: to appear at roll call every evening on their own parade, equipped, each with a firelock, sixty rounds of powder and ball, and a hatchet, at which time an officer from each company is to inspect the same, to see they are in order so as to be ready on an emergency to march at a minute's warning; and before they are dismissed, the necessary guards are to be draughted, and scouts for the next day appointed."

Here is typified the emphasis placed on patrol inspection today. Equipment is checked with regard to noisiness, appearance, and suitability. Nothing that will give the patrol away is permitted—loose mess kits, rattling canteens, dog tags, or loose change. Camouflage principles are applied in keeping the equipment and clothing concealed from enemy eyes. Darkening with paint, dirt or grease eliminates the danger of light reflection. Arms—rifles, tommy guns, or automatic rifles are tested. Preparation, as with the Rangers, is still a keynote of all patrolling—preparation in knowing the mission, the terrain and the enemy before starting out on the patrol; preparation in being ready for any emergency that may arise.

Intervals and Distances.

"Whenever you are ordered to the enemies' forts or frontiers for discoveries, if your number be small, march in a single file, keeping at such a distance from each other as to prevent one shot from killing two men, sending one man or more forward, and the like on each side, at a distance of twenty yards from the main body, if the ground you march over will admit of it, to give the signal to the officer of the approach of the enemy, and of their number, etc."

The maintenance of proper intervals cannot be over-emphasized. In bivouac, on the march, or on patrol it plays an equally important rôle. In training it must be

THE old adage that history repeats itself is applicable to principles of warfare. Basic military tenets repeat themselves from one war to another, from one century to the next. Pertinent are the principles of scouting and patrolling which have remained unchanged for centuries—despite revolutionary changes in weapons and techniques of modern warfare.

Amazingly similar parallels can be drawn between present day scouting doctrines and those of military forces fighting centuries ago. An outstanding example of this is the regulations for Rogers' Rangers of the early 18th Century, which closely correspond to the rules laid down for patrols today—the modern American Rangers. In no way do they differ; they only serve to reaffirm basic principles of scouting that will always prevail.

Rogers' Rangers was a force of militia conceived and nurtured in this country by Robert Rogers during the Seven Years War from 1756 to 1763. Made up of frontiersmen, trained to fight the French and Indians, they incurred a large reputation for their successful military accomplishments and indomitable courage and endurance. Adopting Indian tactics, the Rangers were a sort of magnified combat-reconnaissance patrol. They distinguished themselves in campaigns around Lake George, Quebec, Montreal and Detroit. Aside from the fine caliber of leadership and men, the secret of the Rangers was in their training and methods of fighting. Based on sound principles, their methods are the same that scouts and patrols should use today.

¹Regulations of Rogers' Rangers extracted from "The Bulletin of the Fort Ticonderoga Museum," Volume VI, No. 1.

nd Patrolling—Then and Now

s--expert scouts of the French
amental principles for recon-
ularly those in the Pacific area.

by Major Rex Applegate

drummed into the men time and time again, or else in combat it will be learned too late. It is human nature for men to bunch up—at obstacles, etc.—but they must be taught and they must learn to keep at such a distance from each other as to prevent “one shot from killing two men.” Point and flank security must be maintained at all times, the use of a column formation is basic especially in dense woods. The formation must enable complete control.

“Scouts Out.”

“Some time before you come to the place you would reconnoiter, make a stand, and send one or two men to whom you can confide, to look out the best ground for making your observation.”

Scouts are sent out to reconnoiter dangerous points before the patrol is committed. The principle of “scouts out” is a basic one, and too often neglected. Failure may lead to the whole patrol being ambushed. Before the patrol is committed to a dangerous area, the patrol leader himself usually goes out to reconnoiter, but at all times the use of the scout must be constant.

Security.

“If you march in a large body of 300 or 400, with a design to attack the enemy, divide your party into three columns, each headed by a proper officer, and let those columns march in single files, the columns to the right and left keeping at twenty yards distance or more from that of the center, if the ground will admit, and let proper guards be kept in the front and rear, and suitable flanking parties at a due distance as before directed, with orders to halt on all eminences, to take a view of the surrounding ground, to prevent your being ambushed, and to notify the approach or retreat of the enemy, that proper dispositions may be made for attacking, defending, etc. And if the enemy approach on your front on level ground, form a front of your three columns or main body with the advanced guard, keeping out your flanking parties, as if you were marching under command of trusty officers, to pre-

vent the enemy from pressing hard on either of your wings, or surrounding you, which is the usual method of the savages, if their number will admit of it, and be careful likewise to support and strengthen your rear guard.”

Security at all times is another cardinal tenet. Flank and rear guards should guard against surprise both on the march and at the halt. Surprise is a very effective weapon, but security is just as effective a counter-measure. Too often patrols, careful to provide security during the advance, become lax and fail to provide all-round guards when they halt or when they are returning. Rear security is as important as security to the front and to the flanks, since patrols operate in enemy territory and the enemy is likely to appear from any direction.

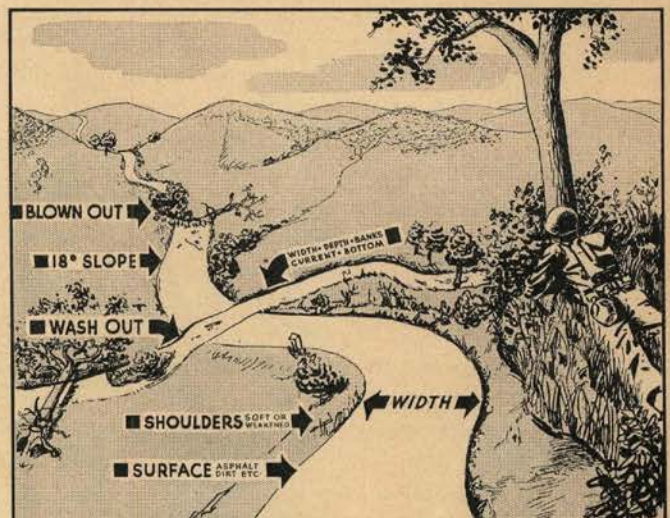
Movement by bounds continues to be a basis of patrol action. Frequent halts to determine the next bound and to listen for enemy sounds is an accepted patrol procedure. Keeping the flank guards well out lessens the chances of ambush or of being surrounded, “which is the usual method of the savages”—both modern and ancient.

Rest.

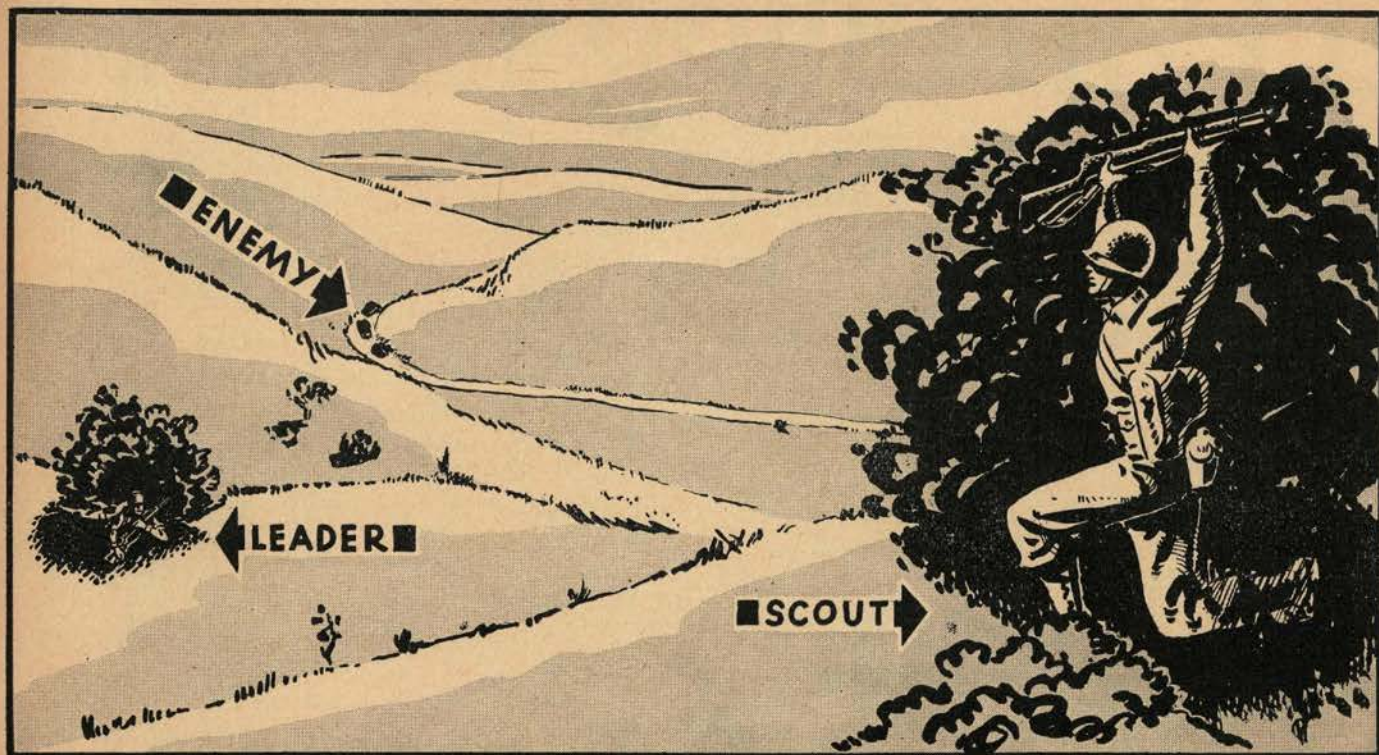
“When you stop for refreshment choose some spring or rivulet if you can, and dispose your party so as not to be surprised, posting proper guards and sentries at a due distance, and let a small party waylay the path you came in, lest the enemy should be pursuing.”

Tracks and Bivouac Security.

“If you march over marshes or soft ground, change your position, and march abreast of each other to



What S2 wants to know about a Road.



Enemy sighted—use of scout must be constant.

prevent the enemy from tracking you (as they would do, if you marched in a single file) till you get over such ground, and then resume your former order, and march till it is quite dark before you encamp, which do, if possible, on a piece of ground that may afford your sentries the advantage of seeing or hearing the enemy some considerable distance, keeping one-half of your whole party awake alternately through the night."

Nothing gives away a scout's presence more unnecessarily than his tracks. He may camouflage himself, and he may move silently, but if he leaves footprints or beaten down brush he no longer conceals his presence from the enemy. Moving over sand, the scout should carefully smooth over his tracks, either with a branch or with leaves. Moving over fields, he is careful not to disturb twigs or bushes. Rogers' ruse of many tracks to cover up one is a good one only if a large force and not a patrol is advancing. Often soft ground cannot be avoided, and by marching abreast a force will make it difficult for the enemy to pick up one particular track. "All around" security at a halt must always be maintained by the patrol.

Sentries.

"When you encamp at night, fix your sentries in such a manner not to be relieved from the main body till morning, profound secrecy and silence being often of the greatest importance in these cases. Each sentry therefore, should consist of six men, two of those who must be constantly alert, and when relieved by their fellows, it should be done without

noise; and in case those on duty see or hear anything, which alarms them, they are not to speak, but one of them is silently to retreat, and acquaint the commanding officer thereof, that proper dispositions may be made; and all occasional sentries should be fixed in like manner."

Security at night is important, but secrecy and silence often are even more so. Silence is the reconnaissance patrol watchword. A patrol is silent on the move; silent, at the halt. Sneak patrols are formed on the principle of silence. If the enemy cannot hear you, he will not have cause to look for you. Outguards at a halt must be as silent as a patrol on the move. Reliefs must be executed in silence. If sentries sight the enemy, they must continue to remain silent, for although you can see the enemy, he cannot always see you. The use of the Cossack type sentry post is still effective.

Alertness at Dawn.

"At the first dawn of day, wake your whole detachment, that being the time when the savages choose to fall upon their enemies, you should by all means be in readiness to receive them."

Alertness at dawn—that is stressed in all phases of combat. H-hours of today's battles often come at dawn. The enemy can attack at dawn, too. Preparation for an attack at dawn, whether one is expected or not, is required by all units in combat. Laxness at any time of day is inexcusable, but laxness at sundown or in the early daylight hours may be fatal. Patrol actions are often best performed at dawn or sunset.

Night Operations and Rendezvous.

"If you cannot satisfy yourself as to the enemy's number and strength from their fire, etc., conceal your boats at some distance, and ascertain their number by a reconnoitering party when they embark or march, in the morning, marking the course they steer, etc., when you may pursue, ambush and attack them, or let them pass, as prudence shall direct you. In general, however, that you may not be discovered by the enemy on the lakes and rivers at a great distance, it is safest to lay by, with your boats and party concealed all day, without noise or show, and to pursue your intended route by night; and whether you go by land or water give out parole and countersigns, in order to know one another in the dark, and likewise appoint a station for every man to repair to, in case of any accident that may separate you."

A larger combat patrol is frequently used as a base of operations. Smaller sneak patrols are sent out from it to reconnoiter the enemy.

It is often advisable to lay up during the day and make all movement at night. Modern means of recognition involves the use of challenge, password, and reply so as to provide additional means of recognition.

Assembly points that are progressive as the patrol advances must always be selected.

Travel by Night.

"If you are to embark in canoes, battoes or otherwise, by water, choose the evening for the time of your embarkation, as you will then have the whole night before you to pass undiscovered by any parties of the enemy, on hills or other places, which command a prospect of the lake or river you are upon."

Travel by night when in enemy country. Doing so prevents his observation from being effective. Night patrolling missions are more frequent than day when contact has been established.

Contact.

"In paddling or rowing, give orders that the boat or canoe next the stern must wait for her, and the third for the second, and the fourth for the third, and so on, to prevent separation, and that you may be ready to assist each other in any emergency."

The procedure to maintain control and contact is the same as that used in night patrolling in dense undergrowth. Each man in the column formation can be made responsible for maintaining contact with the men behind him.

Observation.

"Appoint one man in each boat to look out for fires, on the adjacent shores, from the numbers and size of which you may form some judgment of the number that kindled them, and whether you are able to attack them or not."

Know your enemy and his organization so that when his dispositions are observed, his strength can be better determined. Maintain constant observation.

Encirclement.

"If you find the enemy encamped near the banks of a river or lake, which you imagine they will attempt to cross for their security upon being attacked, leave a detachment of your party on the opposite shore to receive them, while, with the remainder, you surprise them, having them between you and the lake or river."

Utilize the element of surprise and natural terrain features. Figure out the enemy's possible lines of action and act accordingly.

Numerical Deficiencies.

"If the enemy should be discovered by your detachments in the morning, and their numbers are superior to yours, and a victory doubtful, you should not attack them till the evening, as then they will not know your numbers, and if you are repulsed, your retreat will be favored by the darkness of the night."

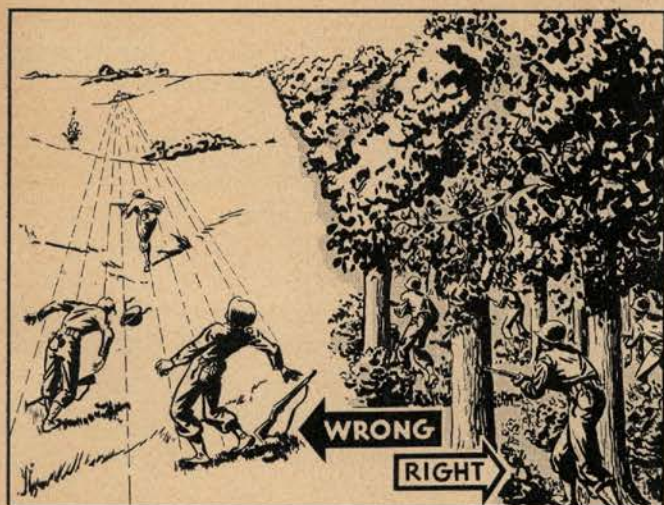
An attack at night, rather than during the day, always is advisable for a force inferior in numbers to the enemy. Night covers up numerical deficiencies and excessive firepower can make up for it. A combat patrol can do considerable damage at night to a large unit despite its smaller size. Should the attack be repulsed, again night favors a more successful withdrawal.

Dispersion.

"If the enemy is so superior that you are in danger of being surrounded by them, let the whole body



Security at the halt—must provide all around protection.



In daytime, utilize cover.

disperse, and every one take a different road to the place of rendezvous appointed for that evening, which must every morning be altered and the whole party, or as many of them as possible get together, after any separation that may happen in the day; but if you should happen to be actually surrounded, form yourselves into a square, or if in the woods, a circle is best, and if possible make a stand till the darkness of the night favors your escape."

Sneak patrol members should be instructed to disperse in the event of ambush. Each man moves away individually, meeting at a prearranged assembly point. Progressive rendezvous points are designated along the route of march to cope with any situation that may arise.

Fire and Movement.

"If you are obliged to receive the enemy's fire, fall, or squat down, till it is over, then rise and discharge at them. If their main body is equal to yours, be careful to support and strengthen your flanking parties to make them equal to theirs, that if possible you may repulse them to their main body, in which case push upon them with the greatest resolution with equal force in each flank and in the center, observing to keep at due distance from each other, and advance from tree to tree, with one-half of the party before the other ten or twelve yards. If the enemy push upon you, let your front fire and fall down, and then let your rear advance through them and do likewise, by which time those who before were in front will be ready to discharge again, and repeat the same alternately as the occasion shall require; by this means you will keep up such a constant fire, that the enemy will not be able easily to break your order, or gain your ground."

Fire and movement still serve as the basis for a tactical advance. Even the smallest units—squad—employ the principle. One squad takes cover and engages the enemy with fire while the other squad ma-

neuvers to the enemy's flank to get enfilade fire or to take the enemy by surprise.

Surprise Attacks.

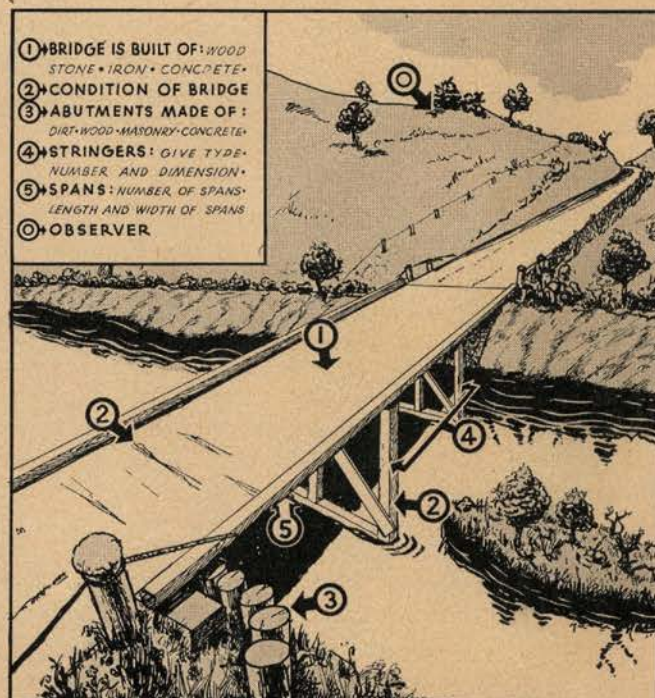
"If your rear is attacked, the main body and flankers must face about to the right and left, as occasion shall require, and form themselves to oppose the enemy as before directed; and the same method must be observed, if attacked in either of your flanks, which means you will always make a rear of one of your flankguards."

This regulation can be interpreted in present-day light to mean that the patrol must be ever on the alert and watch for surprise attacks, particularly from the rear. Patrols must be mobile and flexible enough to be able to protect themselves from an attack from any direction.

Withholding Fire.

"In general, when pushed upon by the enemy, reserve your fire till they approach very near, which will then put them into the greatest surprise and consternation, and give you an opportunity of rushing upon them with your hatchets and cutlasses to the better advantage."

The practice of withholding fire until the enemy approaches very close is an old one. The command "Don't shoot until you see the whites of their eyes" has echoed through all wars since. This principle is equally applicable today. An enemy patrol is more effectively eliminated and the element of surprise is stronger in an ambush if the enemy is engaged at close quarters.



What a good scout should note about a bridge.

Retreat.

"If you are obliged to retreat, let the front of your whole party fire and fall back, till the rear hath done the same, making for the best ground you can; by this means you will oblige the enemy to pursue you, if they do it at all, in the face of constant fire."

If a retrograde movement is unavoidable, a delaying action should be undertaken. Delay the enemy by smoke, fire, etc., while the main body makes an orderly retreat. "Oblige the enemy to pursue you in the face of a constant fire."

Terrain.

"If you determine to rally after a retreat, in order to make a fresh stand against the enemy, by all means endeavor to do it on the most rising ground you come at, which will give you greatly the advantage in the point of situation, and enable you to repulse superior numbers."

Upon the proper use of terrain depends the success of a patrol. All patrol members must know the terrain and how to use it. The effectiveness of Rogers' Rangers was based on such an understanding. They knew that a force which could locate itself on commanding ground had a superiority, for both firefighting and observation, and they knew how to fit themselves into the terrain in order to achieve such a position. They understood the lessons illustrated at Cassino and elsewhere—namely, that a force, inferior numerically, but well entrenched on a commanding piece of terrain can repulse a larger attacking force.

Enemy Counterattacks.

"If you oblige the enemy to retreat, be careful in your pursuit of them, to keep out your flanking parties, and prevent them from gaining eminences, or rising grounds, in which case they would perhaps be able to rally and repulse you in their turn."

To be ever alert for enemy counterattacks is as much a requisite now as it ever was. Counterattack is the basis of German defensive tactics. The capture of a German stronghold inevitably means a counterattack, and it must be strongly guarded against. Gaining ground from the enemy means only temporary victory unless the attacking forces can throw up a defense as strong at the attack. Combat-reconnaissance patrol must understand such tactics.

Alleviation of the danger can be enhanced by always maintaining contact with the enemy. Just as the Rangers kept contact with the Indians, so patrols today must always maintain contact with the forces of the Germans or the Japs. The enemy must be kept in visual view by forward elements—both in the attack and in the defense—otherwise the patrol is subject to surprise, and less able to anticipate or take precautions.



What S2 wants to know about a stream.

Prisoners and Route of Return.

"If you have the good fortune to take any prisoners, keep them separate, till they are examined, and in your return take a different route from that in which you went out, that you may the better discover any party in your rear and have an opportunity, if their strength be superior to yours, to alter your course, or disperse, as circumstances may require."

Two important principles are mentioned here. Prisoners must immediately be segregated. Interrogation is facilitated by keeping them apart, otherwise the officers and noncoms will tip off the privates as to what and what not to say. Combat-reconnaissance patrols may take prisoners, and no or little information will be forthcoming if prisoners are allowed to mix and talk to one another.

The second principle is that of patrols returning by a different route. Patrol experience has shown that if the enemy once discovers that patrols are in the habit of using the same approach, he will lay an ambush on it. Returning by a different route serves the added purpose of permitting the patrol to seek out other enemy dispositions and to acquire better knowledge of terrain.

Return.

"When you return from a scout and come near our forts, avoid the usual roads, and avenues thereto, lest the enemy should have headed you, and lay in ambush to receive you, when almost exhausted by fatigue."

Here again is the principle of avoiding traveled routes, and returning by a different route from the route of approach.

Rivers.

"If on your return, you have to cross rivers, avoid the usual fords as much as possible, lest the enemy should have discovered, and be there expecting you."



Reconnoitering a stream before crossing it, and having security out while crossing it is important. A pair of scouts should move upstream and down, looking for a suitable fording place and watching for signs of the enemy. Once a good place is found, one scout crosses the stream first, while the rest of the patrol remains concealed, ready to protect him by fire. The scout reconnoiters the other side, and if it is clear, signals back to the patrol. Patrol members then cross the stream one at a time. Flank and rear security is alert throughout.

Lakes.

"If you have to pass by lakes, keep at some distance from the edge of the water, lest, in case of an ambuscade, or an attack from the enemy when in that situation, your retreat should be cut off."

The principle here involves keeping away from traveled routes and likely points of ambush and enemy attack. Experienced patrols will always keep away from lakes edges, as they will from edges of woods. By keeping away from lakes, chances of being cut off are minimized. By avoiding the edges of woods in the daytime, patrols avoid being seen.

Ambush.

"If the enemy pursue your rear, take a circle till you come to your tracks, and there form an ambush to receive them, and give them the first fire."

Give the enemy a taste of his own medicine. If a patrol suspects it is being trailed, it can make a feint, and attempt to circle around and ambush the enemy itself or it can have part of its members lay in wait for pursuing the enemy.

Pursuit.

"When you pursue any party that has been near our forts or encampments, follow not directly in their tracks, lest you should be discovered by their rear-guards, who, at such a time, would be most alert; but endeavor, by a different route, to head and meet them in some narrow pass, or lay in ambush to receive them when and where they least expect it."

Don't follow the enemy blindly, give him credit for being as smooth as you are. Lay an ambush in a place where he is canalized or pick a place where the element of surprise will be used to its fullest extent.

Judgment and Initiative.

"Such in general are the rules to be observed in the ranging service; there are, however, a thousand occurrences, and circumstances which may happen, that will make it necessary, in some measure to depart from them, and to put other arts and stratagems in practice; in which cases every man's reason and judgment must be his guide, according to the particular situation and nature of things; and that he may do this to advantage, he should keep in mind a maxim never to be departed from by a commander, viz: to reserve a firmness and presence of mind on every occasion."

In patrolling nothing is stereotyped. Terrain, enemy and local conditions will always effect the situation. On occasion cardinal principles of patrolling will have to be violated to fulfill the mission. The judgment of the leader and his initiative must be relied upon in these instances. In the last analysis the use of experience, common sense and initiative on the part of the scout or patrol leader will decide the success or failure of the mission.

Conversion of Information to Intelligence^{*}

by Commandant McGeevor, 1st Brigade

THE object of the conversion of information to intelligence is to determine the probable accuracy, significance, and value of information received, so as to provide the commander with a clear cut picture of the enemy situation at any given time.

In order to prepare plans to deal with an enemy, the commander, irrespective of the strength of his command, needs to know the situation regarding his own forces, what he has at his disposal in men and matériel, where disposed, etc. To prepare these plans and to employ his command effectively, he also must know as much as possible about his opponent, the enemy. The more a commander knows about his enemy, the better prepared he will be to deal with him. To know where the enemy is located, the strength, armament, and composition of his force are all very important factors, but to get an idea also of the enemy's plans and capabilities is even more important.

Knowledge of the enemy's plans is not easily procured by combat intelligence. Nevertheless, sooner or later, as a result of movement, disposition, and other indications, the enemy will unmask his intentions. This is really where the most difficult part of the conversion of information to intelligence begins and ends.

It will be understood that in order to convert information properly, the individual responsible for the task must be not only in possession of all available enemy information in front of a particular sub-unit, sector or zone of action, but in front of neighboring sub-units or units. Sub-units, accordingly, not organized with an intelligence staff are not expected to attempt complete evaluation. This is where, during recent maneuvers, some sub-units were inclined to jump to wrong conclusions by evaluating or attempting to evaluate only that part of the enemy information that directly affected their own units, and consequently got a wrong picture of the enemy situation.

The following brief example should illustrate what is meant by the conversion of information to intelligence:

Enemy troops with an estimated strength of one company are located at "X." Another enemy force estimated as a company is at "Y." Another force estimated as at least a company is at "Z." An O. P. reports the movement of D. R.'s between the forces at "X," "Y" and "Z"; the D.R. at "X" goes backward and forward to "Z"; the D.R. at "Y," back and forward to "Z." Even

with only this information, it can reasonably be taken that "Z" is a battalion headquarters and that "X" and "Y" are companies of that battalion, and that a reserve is held convenient to battalion headquarters at "Z."

That is Military Intelligence and, accordingly, is much more useful as such than the knowledge that isolated enemy groups were located at "X," "Y" and "Z." With the capture of prisoners or by some other means, it may be established that the enemy battalion is the Nth Battalion. With some further information, it may be possible to state that this enemy battalion's objective is the capture of such and such a place or the defense of such and such a sector.

METHODS EMPLOYED

All information received is subject to a critical examination by the I.O. Such information must be examined in conjunction with the related items at hand. This is important for the reason already mentioned that if each item is examined separately without any relation to other items, the result will always be a wrong picture of the enemy situation.

The comparison of each item of information to a part of a jig-saw puzzle is a very appropriate analogy. Each item is only part of a whole—each item of information, like the parts of a jig-saw puzzle, having some relation to some other item.

To facilitate intelligence personnel in the solving of this puzzle, combat units should *ensure that wrong or misleading information is not presented*. Such wrong or misleading items of information are bound to do harm. It should be understood that very often intelligence personnel have no independent means of verifying the accuracy of information received from combat units. So long as combat units are allowed to send in wrong or misleading information the I.O. will have endless difficulty in forming a clear-cut picture of the enemy situation, and consequently commanders will be at a serious disadvantage in preparing plans to cope with the enemy opposing them.

Stale information is also misleading. Information, of course, should hardly ever be allowed to get stale. This would not happen if a "tag" were kept on the enemy observed. The longer you are acquainted with a person the better you will know that person. The same is true of the enemy—the longer you keep him under observation, the more you will know about him. You cannot know too much about the enemy. It should be appre-

^{*}An Cosantoir.

ciated, of course, that first impressions sometimes are unreliable.

Exaggerated reports from combat units are common faults that should be guarded against. Combat units are always inclined to overestimate the enemy strength. The eradication of this fault should be effected by more practical training in the units, and by giving all ranks a good general idea of the value and functions of combat intelligence. Until this is done, satisfactory intelligence work by brigade and battalion I.O.'s will be very difficult.

The good I.O., like the good detective, is ever suspicious of everything in the field. At the same time, while always eager to hear something about the enemy, he should not be prepared to take everything he hears as gospel truth. This should be the case with all officers. Much damage can be caused by an over-credulous officer broadcasting unreliable information. Unfortunately, over-credulous people are also inclined to supply their own verification, with the result that it is very difficult at times to disprove doubtful information before the harm is done.

It is the duty of all ranks to collect and transmit all classes of enemy information. It is also their duty to help in the conversion of information to intelligence by ensuring that only accurate information is transmitted. It is the responsibility of officers to ensure that all information collected by their subordinates is properly verified, if at all practicable, before its submission to their respective C.P.'s—and this, without having to be instructed to do so by higher authority.

DEDUCTIONS

In converting information to intelligence, one must concentrate on everything that helps to give a mental picture of the enemy situation. This can be done only if one has kept an open mind throughout the process of evaluation. Only acts that have been verified and evaluated should be considered. Unwarranted conclusions are dangerous and must be avoided. The mind should also be kept free from unnecessary detail, and the approach to the solving of the "puzzle" should be on a broad basis already prepared by the building up of small detailed but reliable reports.

Concentrate for example, on the enemy strength, weakness, reserves, protective elements, flanks, artillery, etc.

Enemy strength, which is always located much the same with relation to other elements of enemy force, is the most dangerous factor and consequently should receive more attention.

While *enemy weakness* is not so dangerous as his strength, it is nevertheless important and should be located.

Enemy protective elements generally fan out from the center of a main effort in attack, and from the center of resistance in defense, and decrease in strength as they deploy outwards.

Enemy reserves are usually concentrated in the most suitable location from which to support the main effort.

Don't concentrate on scouts here, scouts there, scouts everywhere; concentrate instead on what is behind the scouts, his protective elements, strength, and reserves.

DISTRIBUTION

To all whom it may concern—to higher formations, subordinate units, neighboring units, sub-units, or individuals—information *must be prompt to be of value*, and is useless unless it reaches the individuals or units concerned in time to serve their purpose. Accordingly, it is very important that all items of information are transmitted promptly from the combat units in touch with the enemy.

CLASSIFICATION FOR DISTRIBUTION

There are two classes of information for distribution—first, that which should be placed immediately in the hands of the commander and staff and higher, lower, and adjacent units; second, that which can be held for inclusion in the unit periodic report. It is impossible to state definitely what intelligence belongs to each category. The best guide is the I.O.'s knowledge of the situation in other units and their requirements. If in doubt as to what action to take distribute immediately. In the periodic summary or report, it is desirable to include intelligence of the first class already reported. This is to avoid having a wrong picture painted through the omission of some information of importance, which at the time may be overlooked by the recipient of the information.

METHODS OF DISTRIBUTION

1. Personal conference.
2. Map.
3. Memoranda.

Intelligence requiring immediate distribution is usually distributed by telephone, telegram, radio messages, map overlay, or personal visit.

Personal conference is the most effective for staff, as it allows for exchange of intelligence between different sections of a headquarters.

In addition, it will be necessary to adopt any of the following methods:

1. Summary.
2. Intelligence report.
3. Intelligence estimate.

The summary is the most important from the point of view of the squadron, battalion, and brigade. To be effective this summary must avoid unnecessary detail and yet give as clear a picture as possible of the enemy situation. Unlike the estimate, because of lack of information, it may not always be possible to give in it definite conclusions. The fact that this cannot be given, however, need not prevent the submission of the summary.

Good summaries are very helpful in orienting others quickly on the uptodate enemy situation. This can be appreciated when it is realized how various items of enemy information arrive at C.P. A mass of disconnected items arrive, and if one cannot arrange these in an orderly manner for presentation to others, very often the "wood cannot be seen for the trees." A mass of items of detail completely cloud one's brain, and with this cluttering up, the major points cannot be grasped properly. Attention to detail itself is important and must not be overlooked, but it must be treated as detail and not allowed to influence unduly one's opinion on isolated instances, nor kept so much in the foreground that it prevents one from forming a good general picture of the situation as a whole.

CONCLUSION

To overcome the enemy in battle, the commander must have as good a knowledge as possible of the enemy situation. In order to ensure this, he must be presented with a sound estimate, which can be done only if the person preparing the estimate, in turn, has been presented with all available enemy information. This is possible only if combat units in contact with the enemy submit prompt and accurate information.

Unfortunately, heretofore, we have been inclined to take it for granted that this information was always forthcoming without any effort on our part. We got it in general and special situations—"on a plate" so to

say. On maneuvers, we seldom got or expected to get more than that the enemy was approaching, or located in a certain field.

Nowadays, we can never expect to find our enemy accommodated in one or two fields. We must expect him over the whole countryside. An enemy now moves faster and oftener; he seldom sits for long anywhere unless he is forcibly prevented from moving. The ordinary rank and file must be trained in the collecting and passing on of accurate enemy information. It must be organized within the section, platoon, troop, company, squadron and battalion—all along the chain of command. It must be considered as an important military function and not as a semi-police activity. Military intelligence must be encouraged and bolstered up everywhere in the army.

Surprise is worth a great deal, especially to weak forces. It was achieved before in this country through *good intelligence by comparatively weak forces*, not so well armed or trained as we are. It can be achieved again with little effort on our part. The will to do, and some practical training, is all that is required. This training is simple, but nevertheless important and necessary. Even messages containing enemy information require practice and thought for their construction and writing.

Think harder and oftener. As one can see without observing, he can also think without doing any worthwhile thinking. That is thinking without reasoning.

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YOU can help stretch our tire supply by removing tires at exactly the right time for reconditioning.



TOO SOON — Tread is raised near center. Run tire farther before you remove for reconditioning.



TOO LATE—This is gross negligence. Tire is worn beyond repair. Instructions in TM 31-200 ignored.



TIRES WORN JUST RIGHT FOR RECONDITIONING

Note how the tread designs are worn down smoothly in the center and are just beginning to disappear. This is exactly the right time to remove these tires to have new treads put on. If a tire is removed too soon, it has to be returned to service for additional wear before it can be reconditioned. This wastes time. If a tire is removed too late, it is ruined. This wastes tires. Retire at the *right time*.

Book Reviews

THE SECRET HISTORY OF THE WAR. By Waverley Root. 2 volumes. Charles Scribner's Sons. \$10.00 set.

This book is the result of the careful compilation of all available information on the propaganda and political aspects of this war. Faithfully adherent to the canons of his profession, the author's statements are clear and unequivocal, his facts substantiated, his opinions stated as such with proper qualifications, and his deductions pursued with a thoroughness that would be an affront to the reader were it not essential to the peace of the world that these deductions be acknowledged in the light of cold reasoning.

In the first volume the various countries of Europe invaded by Germany are studied as separate entities in order of their conquest. The preinvasion propaganda is fully described, the method of the military conquest is reviewed for its political influence rather than its tactical importance, and the "New Order" is presented as completely as present information permits.

While the author makes no effort to pose as a tactical critic or amateur military strategist, he has inevitably included much of the military picture. Among the items of especial interest is the résumé by a high German staff officer after he had studied the first reports from the Russian front.

"1. We gravely underestimated the technical and scientific capacity of the Russian High Command.

"2. We underestimated the combative qualities of the Russian soldier.

"3. We underestimated the qualities of the Russian officers and noncommissioned officers.

"4. We underestimated the value of Russian equipment, particularly as regards planes and tanks." (This was in 1941.)

"5. We underestimated to an incomprehensible extent the will to resist of the Russian people, on the basis of the theory that Communist ideology had failed to take root in the country. . . ."

Mr. Root also confirms the well-known Russian use of cavalry in this war, and states that in preparation for offensive action in the Ukraine the reserves consisted of 120 divisions, 72 infantry, 24 motorized and 24 cavalry. An interesting ratio.

Under "Peace Offensives" Mr. Root reviews the most discussed mystery of this war, the ever intriguing story of Hess, with some new twists and a more logical explanation than is generally offered for the unceremonious arrival of this friend of the Fuehrer's. An unfortunate editorial slip in this passage is the author's confusion of the so-called "Oxford" Group, started by Frank Buckman, and the Oxford Movement. This should be corrected in future editions.

In the second volume the author deals with Germany's "New Order" in general, the internal fronts, the influence of the neutral nations, the war in Asia, and the political and military aspects of the American foreign policy and

the North African Invasion. It is to be lamented that the latter portion, comprising some 500 pages of the second volume, is not printed in a separate book. It will be most unfortunate if the important facts coordinated here are overlooked by having been included in so vast a work.

The weaknesses apparent in this history have been analyzed by the author with considerable accuracy. He writes, "It is uneven in quality. . . . Its various sections are not always developed in true proportion. . . . It started out to be anecdotal, and developed, as it matured, more serious purposes."

It will be some time before an adequate military history of the tactics and strategy of this war can be written, but it is not too early to begin to review the important political and propaganda developments and their effects on the European countries. Mr. Root's book is a mine of information which will serve as a reference for years to come. It is to be hoped that those who read it will "mark, learn, and inwardly digest" the material contained therein.

✓ ✓ ✓

MILITARY INSTITUTIONS OF THE ROMANS.

By Flavius Vegetius Renatus. Military Service. \$1.00.

Around 1000 A.D. Vegetius was the favorite author of Foulques the Black, able and ferocious Count of Anjou. From that time until the 19th Century his *De Re Militari* remained one of the most influential military treatise in the western world. It was translated into English before the invention of printing, and was first published by Caxton in 1489.

Military Service Publishing Company has selected the translation made by Lt. John Clarke, published in 1767, as the best version of this work to be added to their Military Classics. The text has been edited only to the extent necessary to conform to modern usage. Subheadings have been inserted to add readability and diagrams and sketches help to clarify the material.

✓ ✓ ✓

THE STORY OF A SECRET STATE. By Jan Karski.

Houghton Mifflin Co. \$3.00.

Democracy was reborn in the underground of Poland, as it has been in all of the conquered countries of Europe. Jan Karski tells the story of this rebirth through his own experiences with the four separate political parties that cooperated with the underground movement.

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The simple, direct biographical sketches, in spite of their brevity, give remarkably clear pictures of the personalities described. Excellent photographs and a few very good sketches enhance the attractiveness of an exceptionally fine format.

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The author exhibits a thorough knowledge of horsemanship and a keen sympathy and understanding of the historical background of the 19th Century.

The mystery of an involved family entanglement is somewhat overshadowed by the hunting field and does not command the intense interest that it might have created in more subdued company. However, the novel is well written, and its sustained action certainly does not permit the reader's attention to lag.

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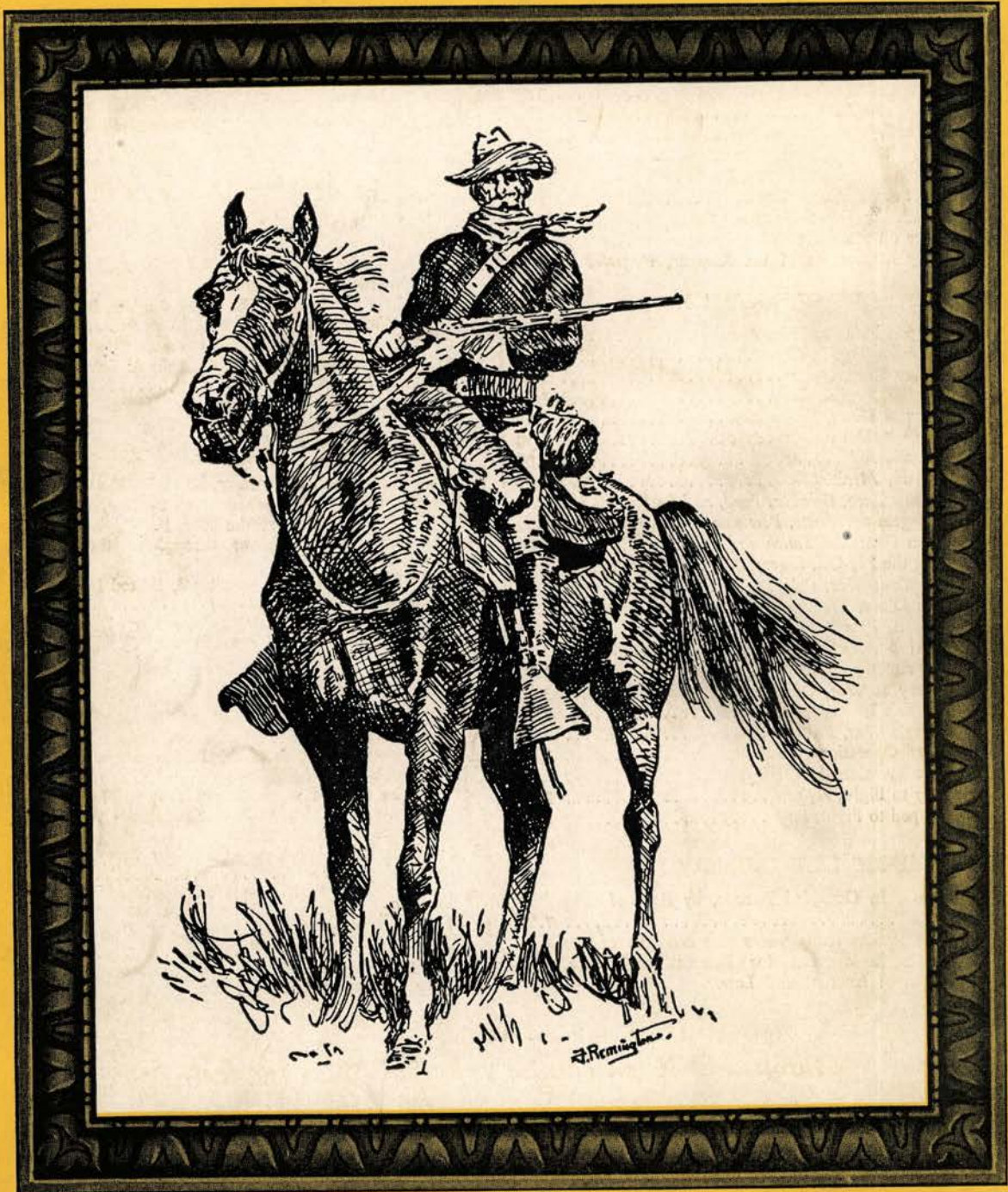
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MARCH-APRIL, 1945

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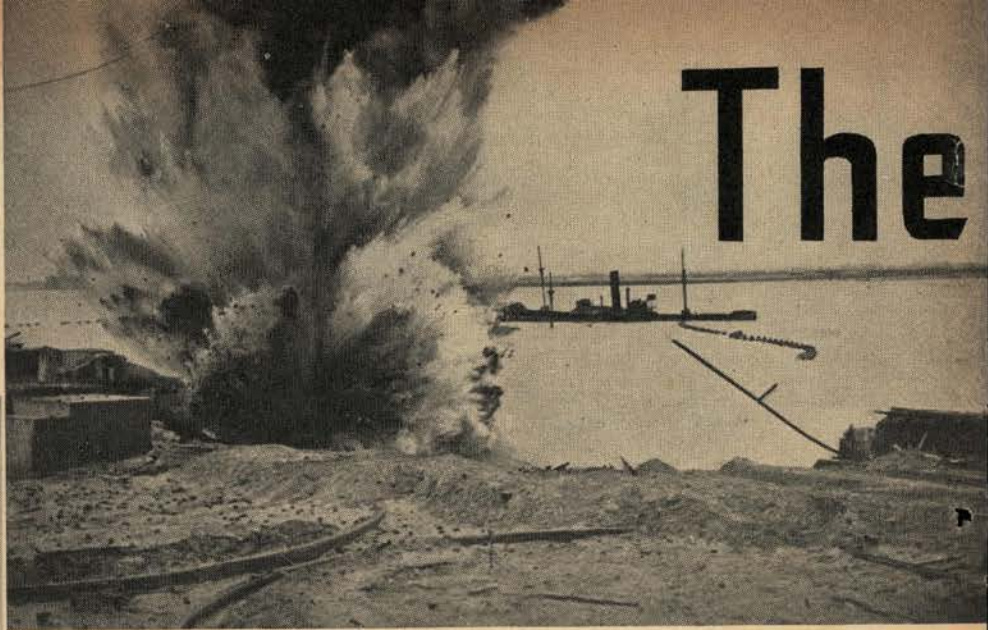
The Nazis' Ardennes gamble — which cost them 90,000 men — was aimed at the great port —————→



Above: Flags of Britain, America and Belgium fly on the quayside of Antwerp during the opening ceremony, November 30. The port is barely 60 miles from the German frontier, has nearly 30 miles of berths, 16 dry docks for ocean-going vessels and quays which extend for at least three miles. Antwerp is the third greatest port in Europe.

ON the afternoon of September 4, 1944, leading elements of the British 11th Armored Division reached the outskirts of Antwerp. They swept down the Avenue de Jan Rijkswijk, the southern road into the city, with only spasmodic firing from the surprised German posts. The Belgians were hardly less surprised than the Germans but reacted with speed. Men of the Resistance Movement appeared from nowhere, to guide the tanks by back streets around the road barriers and fortified buildings manned by the Germans. The tanks reached the quays so quickly that they are reputed to have fired on and sunk a German barge at work on some belated mine-laying in the river. By the end of the day the Germans had retreated north of the Albert Canal and into the suburb of Merxem. They were only 1,000 yards from the center of the town, but they had lost Antwerp and its docks.

Slightly more than three months later, on the morning of December 17, the German Army launched an assault on the Allied positions in the Ardennes. Twenty or more divisions under General von Rundstedt tried to split the British and U. S. Armies in two (and so enable



Above: Before the first Allied convoy could dock at the great port of Antwerp, 70 miles of Scheldt shipping lanes had to be cleared of enemy mines. Minesweepers of the Royal Navy began the hazardous operation of sweeping the Scheldt estuary even before the German guns on Walcheren Island were silenced. Picture shows mine exploding between ship and shore.

Rundstedt to repeat his 1940 success) and drive the Allies from Belgium and the port of Antwerp. The Germans spent approximately 90,000 men (killed and captured) and thousands of tons of precious fuel on the attempt. It failed.

Why was Antwerp so important a prize? Why was its loss as an intact port in September such a disaster to the Germans?

A QUESTION OF SUPPLY

The answer is that the defeat of Germany in the west is a question of supply, and that supply is a question of ports. The Allies have men, munitions, ships and trucks. All that they needed, in the autumn of 1944, was a place at which to unload them into France and the Low Countries.

They had the prefabricated port at Arromanches, but it was not sufficient for the enormous task. It had never been intended to be sufficient. It was intended to be one of a pair, but the other one was destroyed in the June gales. The Allies had Cherbourg, which had been partially restored as an anchorage, but not restored in its port machinery. In any case, Cherbourg had only poor road and rail exits.

The Allies had Dieppe, Boulogne and Ostende, but none of them could accommodate an ocean-going freighter. Rouen, le Havre and Brest were still shattered. The other ports on Europe's western Atlantic

Prize of Antwerp

by Captain Ernest Watkins*

seaboard were still under German domination. There was only Antwerp—a port which alone could handle 60,000 tons of freight a day, more than enough for all the Allied Armies.

Antwerp, before the war one of the major ports of Europe, lies 38 miles up the Scheldt from the seaward entrance of the estuary. Its docks are in two sections: (1) the river quays and the older basins around the western entrance to the Albert Canal, and (2) the modern dock system farther to the north—a series of deep water basins, with two entrances to the river and a total area of over 12 square miles. The entrance locks will take vessels up to 450 feet in length and 30 feet in draught.

Inside the basins are berths for 210 sea-going vessels, 600 acres of storage sheds (the largest, Entrepot Royale, holding 110,000 tons), granaries capable of storing 600,000 hectoliters of grain, refrigeration plant capable of taking 21,000 cubic meters of frozen meat, and coal hoists that can load 300 tons of coal into a ship in an hour. The whole port is electrically operated, the dock area has 500 miles of railway track, and there are 602 cranes of various sizes. South of the port itself is an extensive oil and gasoline storage installation.

Not only could the port equipment handle 60,000 tons a day, but the marshalling yards could sort and dispatch 6,000 railway wagons a day. Before the war over 40,000 tons a day could be sent forward by barge, along the Albert and Escaut Canals to the German waterways, or south by a network of canals to Belgium and France.

All these installations and equipment were left undamaged. This was the situation in September. The blow at Arnhem failed, so it meant a winter campaign, and that meant Antwerp must be put in use if a winter offensive was to be mounted.

GERMANS READY TO FIGHT

But the port was still without access to the sea and was useless without that. By the time the French Channel ports were captured or cut off, the Germans had reorganized their forces there and were ready to fight for the positions they held on either side of the Scheldt River between Antwerp and the sea—so the Scheldt operations began at the end of September.

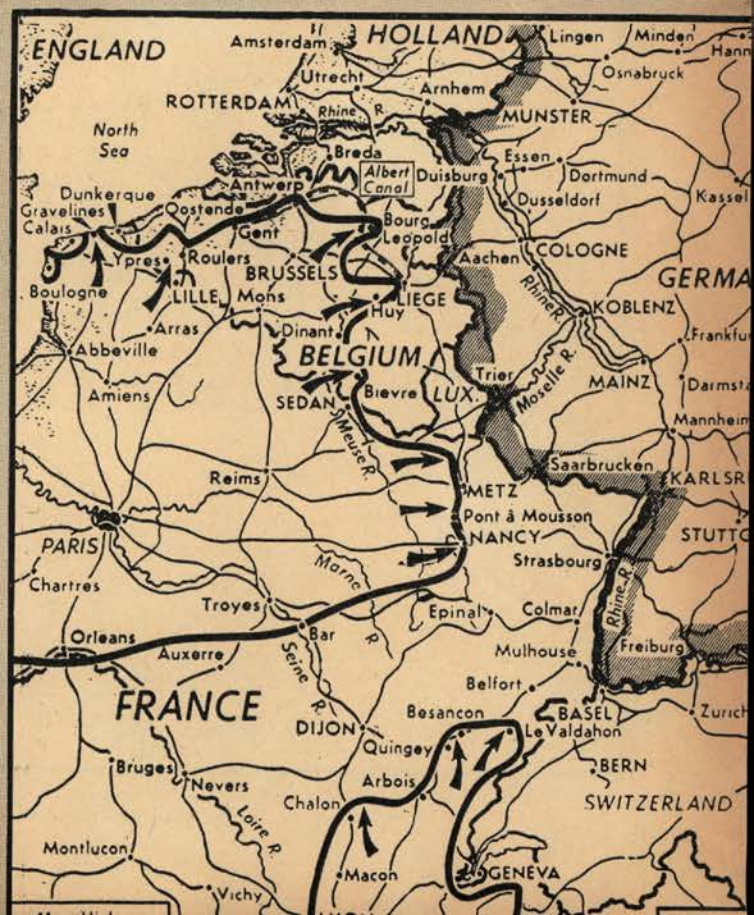
The Germans south of the river had withdrawn into the island made by the Leopold Canal to their south, and the Scheldt to their north. Most of the country

was Dutch Flanders—flat, empty country, waterlogged around the length of the canal, mine-strewn, crossed by innumerable causeways and drainage ditches, and, in late autumn, cold and inhospitable in the extreme. To the north of the river is the peninsula of South Beveland and the island of Walcheren and North Beveland. South Beveland is connected to the mainland by a narrow neck of land and Walcheren to South Beveland by an even narrower causeway carrying the road and railway to Flushing and wide enough for little else. (See Map.)

The operations on both sides of the estuary had to be coördinated and follow the same pattern. The plan was for a direct assault to be followed by a seaborne landing on the enemy's flank or rear.

On the south, the first assault was made by Canadians on the center of the enemy's southern line. It started on October 6 with two crossings of the Leopold Canal. Opposition was intense but the enemy's counterattacks were beaten off, more men passed over the temporary bridges, and gradually the bridgeheads were

Approximate Allied positions September 9, 1944—just after the capture of Antwerp and prior to operations along the Scheldt, which opened the harbor to Allied shipping.



*Britain's Army Bureau of Current Affairs, who has recently returned from the front in Holland.

linked together. On October 9 the seaborne assault was launched down the Scheldt on the eastern tip of the enemy's island of resistance between the Scheldt River and the Allied bridgeheads north of the Leopold Canal. Again the attack made by the Canadian troops achieved tactical surprise, and the assaulting waves were on their first objectives before the German fire (some of it from Flushing across the Scheldt) became serious.

From there on, it was a hard battle to break the enemy's defense lines. Breskens and Fort Frederik were liberated by October 25. Resistance in Knocke on the coast, the last point held by the Germans, ceased on November 2.

Meanwhile, north of the Scheldt River above Antwerp the first stage was to carry the approaches to the South Beveland peninsula. A Canadian division on the left made the direct attack, supported by the Canadian armored division on their right. Progress was slow. The mainland from Antwerp north is almost flat, but broken by clumps of firs and stretches of sandy heath, admirable for defense. It was not until October 16 that the neck of the South Beveland Peninsula was reached. Here again the land is flat and featureless—miles of wet marsh or boggy fields commanded by the few roads on elevated embankments.

WALCHEREN HARDEST NUT OF ALL

Resistance in Beveland was finally broken by the end of October after another seaborne landing made by British troops of the 52d Division on the southern

shore. There only remained Walcheren, perhaps the hardest nut of all.

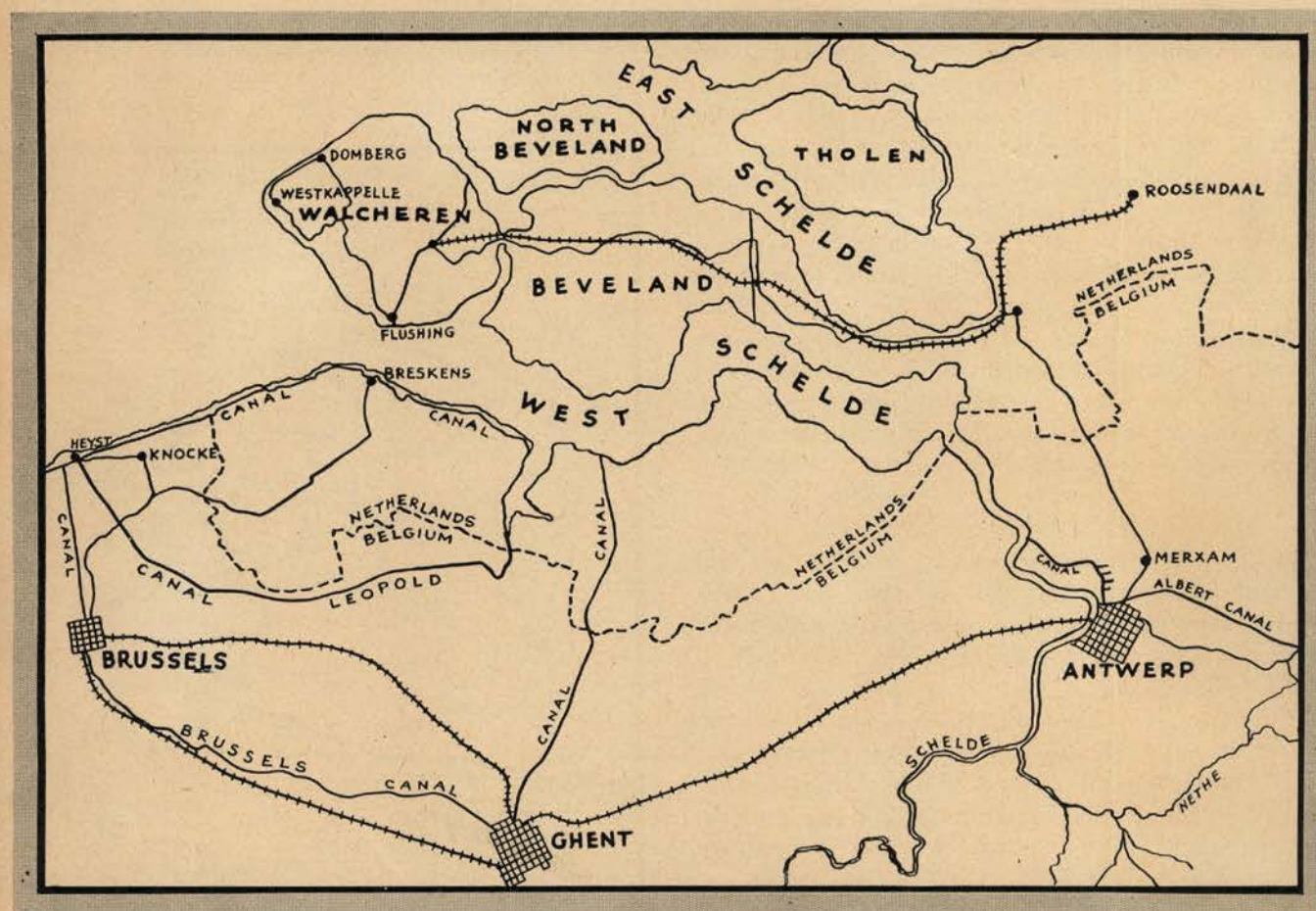
Time was pressing, and it was decided to make a three-pronged simultaneous attack on Walcheren Island—one on the east along the causeway from Beveland, one from the estuary against Flushing in the south, and one from the sea against Westkappelle on the west coast.

All were difficult. From the east it meant an attack over open ground against strong and well-sited positions backed by mortar and artillery fire. From the south and west it was a seaborne assault against fortifications and coast batteries that the Germans had spent years in completing.

The attack was rendered possible by the R.A.F.'s work in breaking the island's surrounding dykes at four points, so flooding the interior. The effect was to isolate the Germans where they stood, deny them any power of maneuver, and thus prevent any plans for defense in depth. It is grim, now, to see the fertile fields under water and ruined for years, but as a Dutchman said to me, "Better water than blood."

The attack on the causeway by the 52d Division entailed dogged fighting. The landing at Flushing achieved some measure of surprise, and the Special Service troops were able to sail over flooded ground to land in the town on the flank and rear.

At Westkappelle the attack was a plain frontal assault, in daylight, straight into the teeth of the enemy's fire. It was there that the naval support craft showed their endurance and heroism. They took most of the



fire. Out of 26 craft, 17 were sunk or damaged, and their casualties were proportionately high—but they put the assault troops ashore without too heavy a loss.

MINESWEEPERS MOVED IN

In four days of fighting the two commandos that worked south from Westkappelle had taken all the massive, mostly underground batteries along the stretch of sand dunes. Those advancing north and east from Westkappelle moved more quickly. In two days they had captured the major battery at Domburg and pushed on for over a mile beyond it. But Walcheren really fell when Flushing fell, on November 2, after bitter fighting in the western half of the town, and on that day the minesweepers moved in to the Scheldt Estuary.

Some day it will be possible to tell the full story of the minesweepers and how they deal with contact, acoustic and magnetic mines. Each type has its special risks. With all of them, there is no guarantee that it will not be the sweeper that explodes as well as the mine. A special tribute is due, too, to the Royal Navy and Royal Marine divers who must disarm under water those mines, that, because of their position (such as close to a dock) cannot be exploded. They work in ice-cold, muddy water, sometimes up to their necks in four years accumulation of silt.

With the minesweepers came the hydrographers, to map out the channel in the estuary and see how much it had changed in the four years since last an Allied craft had sailed in it.

While operations proceeded, in Antwerp itself preparations were being made to get the port ready for use. The Germans had used it for canal traffic, but the majority of equipment for ocean-going ships had been lying idle for 4½ years; and Antwerp's dock workers (9,000 skilled stevedores and 12,000 unskilled dock laborers) had had the same length of experience—not so much of idleness as of German occupation with its forced labor in Germany or undernourishment at home. Could the port work again efficiently?

The Sea Transport officials had arrived in Antwerp on September 5—the day after liberation—while the windows of the port buildings on the quay were still being sniped by Germans across the river. Their first task had been to see what the civil authorities, who owned the port, could do. The Burgomaster found the men to check over and repair all the electrical equipment. He also opened a register for former dock workers and the response was very gratifying. Finally, the Belgian Government agreed to defray all the costs of operating Antwerp as a port, including the total wages bill.

ONE AMERICAN, ONE BRITISH

Antwerp is both an American and a British port. The main dock area is divided into two sections, just as the road routes out of Antwerp are allocated between the British and the U. S. Armies. The joint operation is closely dovetailed, both at the top, on the Port Executive Committee, and at the bottom, in the posting of sentries and antiaircraft defense points. On one



Ducks and amphibious tanks head for the beach at Walcheren from landing craft. Twenty out of every twenty-five ships assisting in the British landings were sunk or damaged beyond repair—but the Royal Marine Commandos were landed and the big guns which threatened Scheldt shipping were silenced. The Allies secured a great port.

dock the sentry at one entrance barrier is American; at the other, British. Their patrol between is joint.

A port is a transshipment area, not a storage area, and it is just as essential to see to the clearance of goods as it is to see to its unloading. As the bridges and tracks were brought into commission, roads and railways raised no unusual operating problems, but canal traffic did. Britain does not use barges of continental size, which range up to 150 feet in length and carry 2,000 tons. The Germans had left behind over 500 of these barges. Many are now in work again, manned by Belgians, their movements controlled by the Allied Inland Water Transport units.

When the port was officially opened the Burgomaster wanted a ceremony, so one was arranged. To the delighted surprise of her crew the first Liberty ship drew alongside, opposite a dais on which the Town Council as well as the Allied Naval and Military Chiefs were well represented. And there was a band.

It was not an empty gesture. A port for ocean craft has a life of its own. So many of the town's inhabitants, from dock laborer to average adjuster, have an interest in the sea. For 4½ years Antwerp had been dead. For 4½ years the Belgians had wondered if it would ever come alive again. And now it had. Life was flowing in up the Scheldt from the sea.

Antwerp was very much a combined operation, from Belgians who held the docks in September to the Canadians who fought at Breskens, and from the British who landed at Flushing to the Belgian and Dutch river pilots who reappeared, most of them from the Royal Navy in which they had enlisted in 1940 rather than accept the occupation. From Cherbourg to Brussels is 315 miles; from Antwerp to Brussels 25 miles. Those figures represent how essential Antwerp was to the Allies, and the disaster its loss has been to the Germans.

CARDED

With the Unicorn West

by Captain Robert Willoughby Williams*

SOUTHERN BELGIUM in the winter is one of the coldest, most barren regions in the Eastern Hemisphere—especially around the middle of January when the thermometer has hibernated into its bulb for an indefinite period and there is a different wind in each valley and the armored cars glide down one side of a hill and spend twice as long getting up the opposite slope.

If the Germans had not launched a winter offensive in the Eifel region, which enjoyed overwhelming initial successes, the 6th Cavalry Group (Mecz) might still be engaged in dismounted fighting in the Saarbrücken area. To describe it lightly, the entire sector was studded with pillboxes and block-houses and the various other assorted prepared defenses which make a cavalryman's life a hectic one. It took the German winter offensive plus the need for cavalry in the north to shake the Unicorn loose from its dug-in positions along the Roselle

River in the Forbach-Saarbrücken area, and send it hurrying northward into Belgium to assist corps in halting the rapid advance of the Germans to the west.

The sequence of events leading up to this committal are interesting and at the same time typical of what any cavalry unit might expect to encounter under similar conditions. On December 19 the corps headquarters, which was to have controlled the Saarbrücken campaign, was suddenly moved north into Belgium, to take control of troops in the Arlon sector opposing the left flank of the German salient. Effective at once, the 6th Cavalry passed to control of the corps in that area, the following day was transferred to another corps (moved in to replace the first) and on December 21 became attached in place to the 6th Armored Division. On December 24 all elements of the 6th Cavalry were relieved in place by another cavalry group, and at 0930 the first serials began movement to the northwest.



Map No. 1. The advance to initial contact was made early on the morning of December 25 from a line of departure generally northwest-southeast through Libramont. Nothing was known of the disposition of enemy forces to the north.

of Bastogne



Signal Corps Photo

Members of the 6th Cavalry Reconnaissance Group roll through the streets of Wetz, Luxembourg, January 23, 1945—less than a month after the action "West of Bastogne." By then the "Belgian Bulge" had been rolled back and the way opened for the later drive to and beyond the Rhine. Germans lost an estimated 90,000 men in Ardennes offensive.

Mobility? Yes . . . by 1700 December 24 all elements closed in the vicinity of Habay-La-Neuve, Belgium, after completing a march of 90 miles, through 4 countries—Germany, France, Luxembourg and Belgium—on roads congested by heavy traffic pouring northward to halt the advancing enemy. It was one of the most difficult marches ever made by the Unicorn—famous since 1861 for being able to move quickly from point A to point B and fight like hell when it got there.

SITUATION

When the 6th Cavalry reached its assembly area in Belgium, the weirdest tactical situation since the Normandy breakthrough existed. Bastogne was surrounded by the enemy. There was no definite line of contact south or west of the city. Radio reports stated that the Germans were as far south as Neufchateau and as far west as Rochefort. Operations maps of higher headquarters showed information up to 72 hours old, which obviously could not be relied upon. There were virtually no troops west of Bastogne only the scattered remnants of the previously over-run 28th Infantry Division which were dug-in in the Neufchateau area and had no contact with the enemy. Thus the left flank of the corps in that area was left dangerously exposed. Especially was this flank a critical consideration, for the corps had been ordered to attack on the northeast and relieve the 101st Airborne Division and two ar-

mored combat commands cut off in the Bastogne pocket.

The 4th Armored Division, then the only armored division assigned to the corps, was given the mission of breaking through. With the open left flank, however, the drive could have turned into a military defeat had the Germans reacted to the armored thrust and counterattacked from the west. To secure this flank, the 6th Cavalry was to seize the three critical road centers of Libramont, Pironpre and Bercheux (see map No. 1), destroy all enemy encountered and by aggressive cavalry action give maximum assistance to the attack of the 4th Armored Division on the right.

As there were no friendly troops in contact with the enemy west of Bastogne, no front-line briefing could be given the troops prior to committal. It was one of those story-book situations which necessitates an advance into the unknown to gain ultimate contact and develop the contours of the enemy's OPLR (outpost line of resistance), main defensive line, and location of reserves, artillery and supporting troops.

TASK FORCE COMMITTED

Late in the night of December 24 the 6th Cavalry Squadron was temporarily detached from group control and attached to corps command for the purpose of filling a gap between the right flank of the 4th Armored Division and the 26th Infantry Division. With



Signal Corps Photo

The 11th Armored Division advances over wide plains near Longchamp, Belgium, en route to the Bastogne area during the latter part of December. Note snow-covered tanks scattered far across the area and silhouetted against the horizon.

this loss, the task force was committed early on Christmas day with the following lineup:

Hq. and Hq. Tr., 6th Cav. Gp.

28th Cav. Rcn. Sq.

Co. C, TD Bn.

Co. B, Engr. (C) Bn.

Btry. C, Armd FA Bn.

The line of departure for the operation ran generally northwest-southeast through Libramont, first of the three immediate objectives assigned the task force, known by this time as TF Fickett.

In a rather amusing way, one ¼-ton vehicle secured the line in the vicinity of Libramont. Major Thomas H. Stewart, III, the group S-3, rode recklessly into the town early Christmas morning to see exactly what was going on. To his surprise, the town was clear of enemy and the Belgian peasants were proceeding with their daily chores as though war were 1,000 miles away. Acting quickly, the command post of the 6th Cavalry Group moved into Libramont, closely followed by the reconnaissance elements of the 28th Cavalry Squadron.

Initially, the 28th Cavalry Squadron employed Troops A and C abreast, while holding Troop B and support troops in reserve. To each committed reconnaissance troop there was attached a platoon of engineers and a platoon of TD's. Troop A was directed toward St. Hubert and Moiricy, while Troop C was directed generally along the axis Bercheux-Morhet, with

the added mission of maintaining contact with CC "B" of the 4th Armored Division on the right.

Contact with the enemy was not gained until early in the day of December 26, when almost simultaneously reconnaissance patrols across the entire zone reported engagements with the enemy. The Germans, reacting strongly to our advance up the main Libramont-St. Hubert road forced forward elements of Troop A to halt just below the line Hatrival-Vesqueville. Heavy small arms and some antitank fire was encountered. The remainder of Troop A advanced northeast to the outskirts of Moiricy, where it was engaged by dug-in troops employing small arms, mortar, and assault gun fire. The presence of assault guns in this area was of immediate interest to all commanders.

On the right, Troop C reported only scattered contact, until late in the day, when it was halted before Morhet by a pocket of organized resistance. Earlier in the day, Bercheux, second objective of the task force, had been found unoccupied by the enemy.

Already the picture of the enemy was forming. But, *what* was facing the 28th Squadron? Identifications were needed and needed badly.

S-2

It is interesting to look back upon this particular operation from an Intelligence point of view and see the tremendous part that the S-2 of a cavalry group can

play in the conduct of operations. To those who wonder why the S-2 job is handled by a major rather than a captain, and why he needs an assistant, it might be stated that a cavalry reconnaissance unit, in spite of the many varying missions assigned it from time to time, is still, fundamentally, an Intelligence organization.

Intelligence within the group headquarters—which for obvious reasons cannot be handled on too large a scale—should be handled on a plane of thought comparable to that of the G-2 section of a division. Knowledge of the enemy and his capabilities forms the skeleton about which the cavalry commander plans his moves and directs his search for information.

To those cavalry groups and squadrons not yet committed on the Western Front, it should be said, "Stress Intelligence! Follow the trends in enemy organization. Study especially the German Volksgrenadier Divisions and the techniques of German small-scale counterattacks—these to mention only a few. Further, plan to operate with other Intelligence teams. Otherwise, the organization is sorely handicapped. A photo-interpretation team is also a valuable asset to the headquarters."

To return to the story—identifications were badly needed in the St. Hubert-Morhet area. Corps had only vague reports as to enemy forces there. St. Hubert remained a large question mark, unsolved by tactical air reconnaissance, which for the following week continued to report no movement about the city. Higher headquarters, on the other hand, continued to report indications from many sources that a large enemy force was concentrated just north of the city. What other forces were in the area, however, remained the mystery of the moment (see map No. 2).

INFORMATION

On the second day of the operation, Troop C attacked and cleared Morhet, with no determined resistance en-

The 4th Armored Division, which broke into Bastogne and rescued the harassed garrison January 3, is shown here moving toward that area from the south December 27.



Signal Corps Photo



Map No. 2. Approximate boundary of the farthest German penetration in "Battle of the Breakthrough," December 17-January 3. When the 106th Cavalry reached Libramont December 25 to reconnoiter the area for corps, neither disposition nor strength of the enemy was known.

countered. The town was obviously not a part of the enemy's OPLR. No identifications were obtained in this operation. To the west, resistance stiffened at Moircy and Remagne. Fire from 88mm and 20mm AA/AT guns halted all vehicular movement. Late in the day a patrol from a GHQ Flak (AA) battalion was encountered just south of Moircy. It was later learned that the battalion had been attached for some time to a German division not previously contacted in that area, but there were still no evidences of enemy infantry. The nature of the resistance at both Moircy and Remagne appeared heavy in large weapons but light in personnel.

Still farther to the west, the enemy displayed decided aggressiveness in screening along the general line Hatrival-Vesqueville. Artillery fire was encountered here as well as small arms, antitank and mortar fire. The situation below St. Hubert remained virtually unchanged throughout the remainder of the operation. Patrols were unable to pierce the enemy counterreconnaissance screen there.

The appearance of mine fields, road blocks and demolitions during the second day of operation along the entire front indicated that the enemy, for the moment at least, did not plan an offensive in this area. The enemy's attitude and the nature of resistance encountered combined to corroborate this observation.

On the third day of the operation, Troop B, committed in the Moircy-Remagne area, relieved the bulk

of Troop A, which then directed its attention solely to St. Hubert and the wide-open left flank west of the city. An attack on the enemy in Moircy during the day was repulsed, as was a similar attack on Remagne. It was obvious that he was serious about these towns.

On December 25 a GHQ AT battalion was reported en route to St. Hubert. The battalion was discovered to contain a company of 12 *jagdpanthers* (88mm PAK 43 on Mk V chassis) and two companies of 75mm assault guns on Mk IV chassis. The fact that assault guns had been reported continuously in the St. Hubert-Moircy area tied in perfectly with this information.

At the conclusion of the third day of operations, the general picture of the front ran something like this: The enemy, employing obstacles combined with fire principally from heavy, special purpose weapons, was screening vigorously along the line Hatrival-Vesqueville-Moircy-Remagne—and these troops evidently expected infantry to arrive at any moment to relieve or reinforce them. West of Remagne, no resistance had been encountered by Troop C until it reached the outskirts of Lavaselle. Here, for the first time, this troop came under well-directed artillery fire and opposition from dug-in positions. As yet no enemy identification had been made in this area.

On the fourth day of the operation, the 6th Cavalry Squadron was relieved of its job as contact squadron

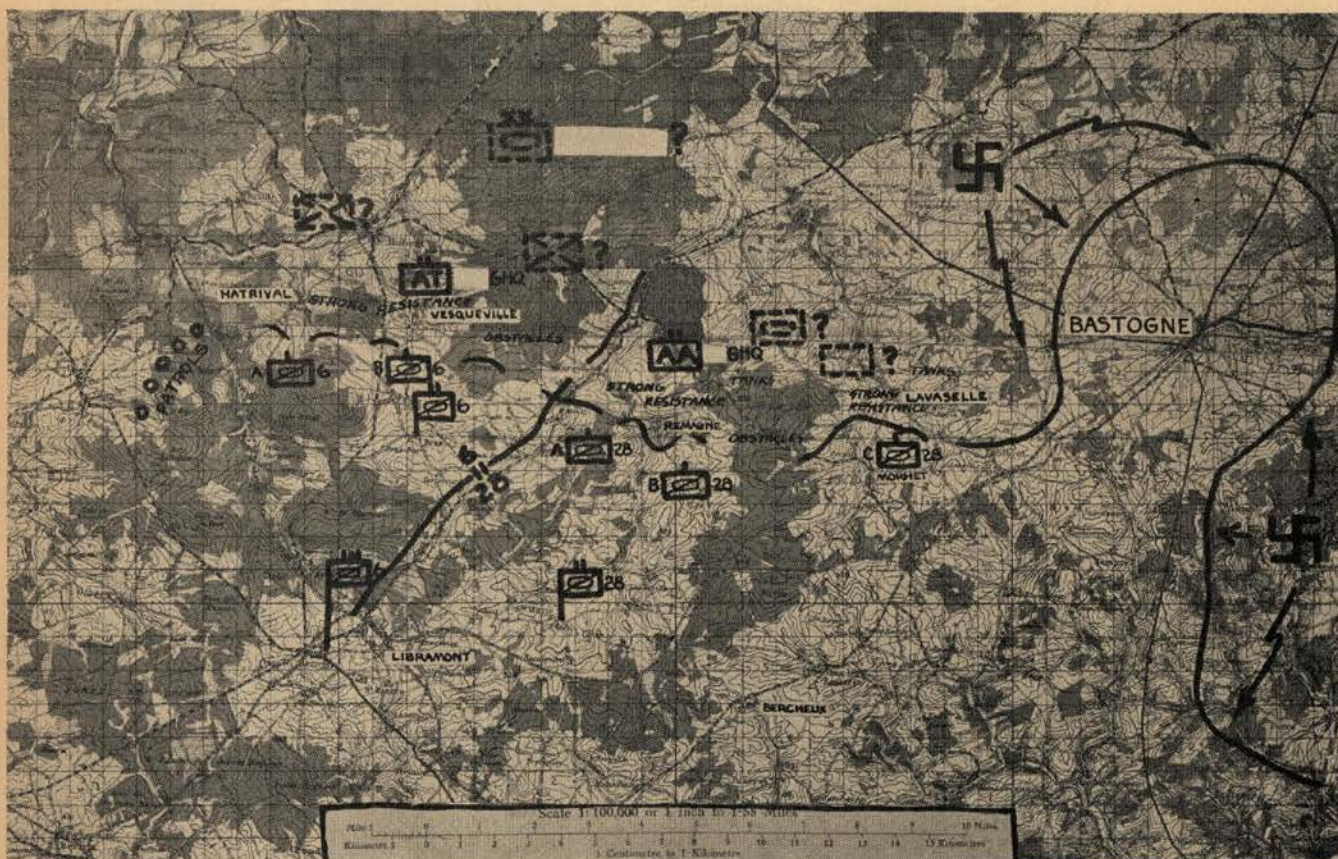
between the 4th Armored Division and the 26th Infantry Division and, rejoining the command, immediately took over the St. Hubert area east to, but exclusive of, the main Libramont-Moircy road (see map No. 3). Troop A, 28th Cavalry Squadron then moved east to a position in squadron reserve.

COMPLETING THE PICTURE

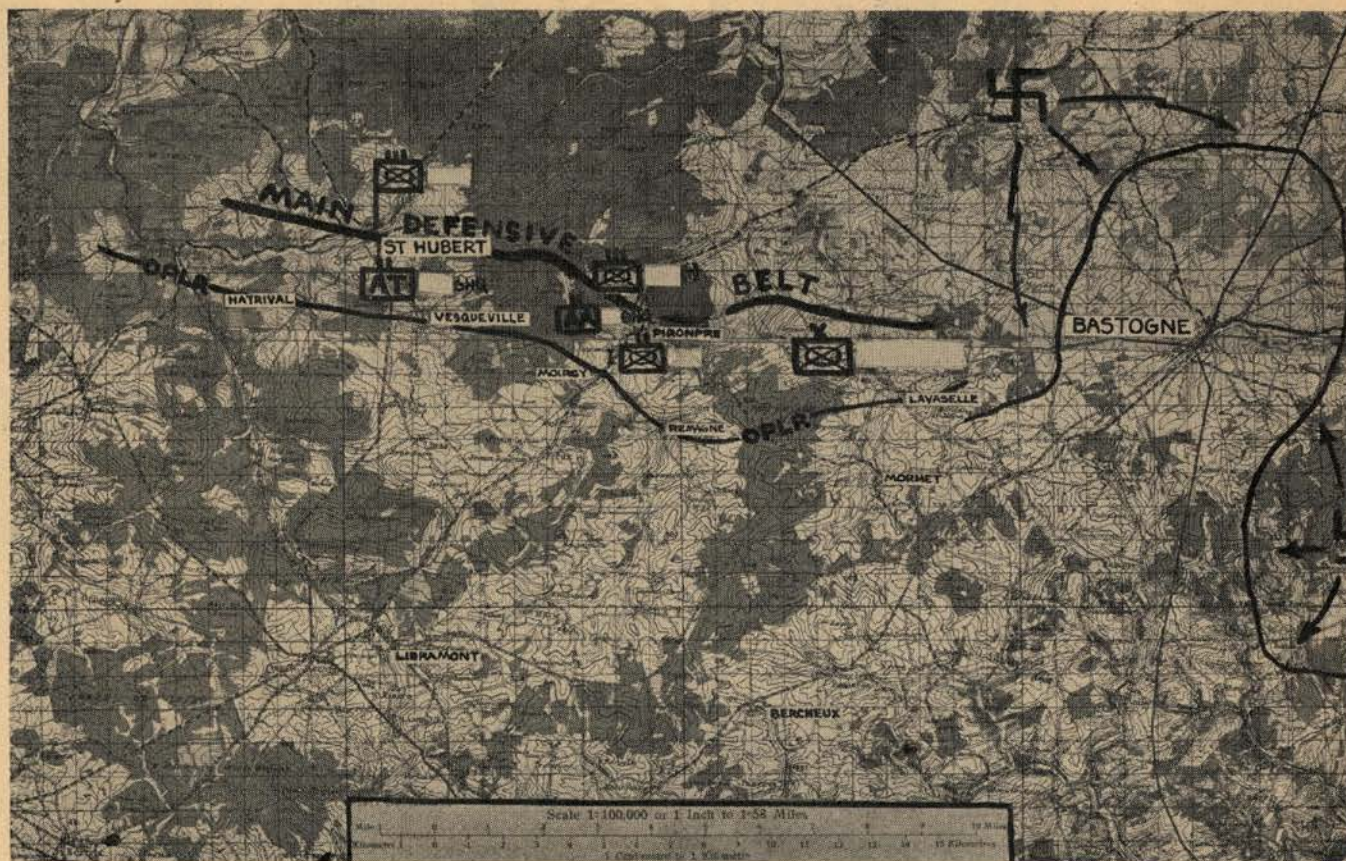
On December 29 several interesting developments took place. Troop C, 28th Cavalry Squadron combined with elements of CC "A" 9th Armored Division (then employed in an attack to the north between our right flank and the left flank of the 4th Armored Division), made an assault on Lavaselle, which did not succeed. Surprisingly heavy resistance was encountered here from all types of weapons including tanks. Again a puzzle. What were tanks doing in this area? There had also been previous reports of tanks in the vicinity of Remagne. To what did these reports add up?

The squadron verified the presence of an enemy task force made up of two battalions of panzer grenadiers and one tank battalion. The latter was being used in small groups as local reserves along the front from Remagne to Lavaselle. For the moment, the picture in this area was clear, but to the west new developments were taking place.

Elements of a panzer grenadier regiment of a panzer



Map No. 3. Map shows situation at end of day December 28, 1944. 6th Cavalry Squadron had taken over St. Hubert zone east to, but exclusive of, the Moircy-Libramont highway. The enemy picture was beginning to clear, although only the two indicated GHQ special purpose units had been positively identified at that time. Reconnaissance continued.



Map No. 4. At the end of the fifth day of the operation the enemy picture suddenly became clear. Unit identifications, PW statements and physical contact combined to give a true picture of the enemy's strength, location, disposition, and the contours of his OPLR and main defensive belt. On December 30, the 6th Cavalry was drawn from the line.

division, not previously identified since the outset of the operation, had been contacted near Moircy. It was learned that the entire regiment had moved into the St. Hubert area December 27-28, and one battalion had been sent to the Moircy-Remagne area to bolster the line there. One battalion of the regiment had remained in St. Hubert, while the third battalion was dug in along the main east-west road north of Moircy vic Pironpre. This regiment furnished the infantry replacements intended for the GHQ AA and AT battalions identified south of Moircy and at St. Hubert. There was no information to indicate that elements of the panzer division, other than this regiment, were in the area. From a patrol along the Pironpre-St. Hubert highway it was learned that the regimental CP was either in St. Hubert or in the close proximity of it, and that a minimum of one battalion was in the Moircy-Remagne area.

Now a complete picture of the front was forming. The bits and scraps of information which had been gathered together for 5 days had begun to take shape. It had taken lives and equipment, but the picture was there for the asking. At the conclusion of the 5th day of operation, a commander could have launched a well-planned attack by basing his scheme of maneuver on the information which had been pieced together up to that time.

Briefly, the conclusions were these: a strong outpost line ran from Hatrival to Vesqueville to Moircy-Remagne, thence northeast to Lavaselle. Behind this outpost line the main defensive belt ran generally St. Hubert-Pironpre (the vital road center here being of paramount importance), thence east and northeast to the high ground north of Lavaselle. (See map No. 4.) The OPLR was made up chiefly of a system of strong points built around the east-west line of towns mentioned above. Space between these strong points was defended by artificial obstacles, covered both by direct and indirect fire, which employed a minimum of personnel. It was the same old Jerry plan of defense . . . but Jerry's defense is tough if you don't know just where he is and what he is up to.

December 30 found the situation generally unchanged across the entire front. Two subsequent attacks on Remagne failed. The 6th Cavalry Squadron, commanded by Lt. Colonel Samuel McC. Goodwin, was attempting to by-pass St. Hubert to the west, and was making encouraging progress. Then the order came that the job was over. Corps had received sufficient troops to take over the area and attack to the north and northeast. All elements of the 6th Cavalry Group in the zone were relieved, and on December 31 the forward elements of the group were passed through by fresh troops attached to Corps.

FROM PARIS TO BEL

ON September 1, 1944, the 125th Cavalry Reconnaissance Squadron (Mecz), commanded by Lieutenant Colonel Anthony F. Kleitz, assembled in a chateau courtyard in the vicinity of Villers-Sous-St. Leu, northeast of Paris, where at approximately 1300 hours it was given the following briefing:

"The Germans are known to be retreating to the north and northeast. Their strength, composition and present location is not known.

"In the XIX Corps zone, the 30th Division (motorized) is to move to the northeast and assemble in the vicinity of St. Amand—Maulde, France. The 2d Armored Division will be on the left and the 28th Division of the V Corps on the right. Task Force Harrison, composed tanks from the 743d Tank Battalion and one battalion of infantry from the 30th Division, is to advance to assembly area at St. Amand, France—Maulde, Belgium.

"Squadron mission is to make an aggressive reconnaissance in front of Task Force Harrison and secure the 30th Division assembly area near St. Amand—Maulde, France, a distance of approximately 110 miles.

"The axis of advance will be as follows: Nogent, Les Ageus, Gournay-Sur—Aronde, Roye, Marchepot, Peronne, Cambrai, West of Valenciennes, St. Amand to assembly area vicinity Maulde, Belgium.

"Troop C will be on right of the squadron sector, Troop A on the left. Main axis is inclusive to C to Roye then it becomes inclusive to A. (The right and left boundaries were pointed out.)

"Supplies will follow on main axis. Squadron CP will be on main axis and follow by bounds. Initially, the squadron CO will be with CP.

"Troop C will move out as soon as ready."

Troop C

*by Captain Reuben F. Trant, Jr.**

THE previous mission of Troop C had shown that troop headquarters could not be set up even temporarily; movement was so fast that communication failed rapidly. With this in mind, the 3d Platoon was ordered to advance on the main axis followed by Troop Headquarters, the attached Assault Gun Platoon of Troop E, then the 2d Platoon. The 1st Platoon was to protect the right flank by advancing on the secondary roads on the right and abreast of the 3d Platoon on the main axis.

Troop C cleared the assembly area at 1330 hours and began its mission. On the main axis no resistance was

125th Reconnaissance In Pursuit of Routed

encountered until the troop entered Roye. To the right, the 1st Platoon met slight resistance in the form of light small-arms fire but was hardly slowed in its advance.

In Roye a considerable amount of small-arms fire was received, and French civilians warned that a large number of Germans were a short distance out of town to the northeast and said that they had tanks.

The 3d Platoon advanced approximately one mile toward Carrepuis when the point was fired on by small-arms fire. The point could see a column of German half-tracks and some dismounted men on the Roye-Marchepot road. Lieutenant James D. Neuman, commanding the 3d Platoon, called for the Assault Gun Platoon, which went forward and fired about 6 rounds of cannister on the opposition and a few rounds of HE on the German column on the other road. The German column was soon out of sight over a ridge line.

The 3d Platoon then resumed its march for about ¼ mile when the point was again fired upon by small arms. A patrol, sent to the right flank, discovered a Mark III tank with crew in position approximately 500 yards to the front. The assault guns, directed by Lieutenant Kenneth Scott, Troop E, again went into action and with two rounds of HE set the tank on fire. Two or three rounds of cannister fired in the direction of the small-arms fire ended further resistance there. Almost invariably two or three rounds of cannister from an assault gun would clean out any small-arms fire.

The platoon had just mounted up when a German staff car traveling at a high rate of speed, approached the column from the front. Seeing our vehicles the occupants tried to stop, turn around, and escape, but the .50 caliber on the lead armored car knocked it out. Two wounded German officers, the driver, and two brief-cases containing official papers and maps were captured and sent back to 30th Division Headquarters.

In the meantime on the right flank the 1st Platoon was encountering much the same type of opposition but was keeping abreast of the 3d Platoon. It also reported that all bridges so far seen across the Somme Canal had been destroyed.

On entering Carrepuis the 3d Platoon was again fired on by small arms. In a battle that lasted about 45 minutes the platoon captured 13 Germans, killed 8, and destroyed one auto in which several of the enemy

*Commander, Troop C.

GIUM-

Squadron Germans



Above: Tanks of an armored division (unit not identified) roll across Flanders. German units withdrew so fast that it was often difficult for the Americans to maintain contact.

Left: A jeep crosses the Belgian border September 8, several days after the 125th reached Belgian soil. Note traffic beyond gate. Roads were jammed with vehicles of all types.

Signal Corps Photos



had tried to escape. The platoon suffered no casualties.

These small-scale battles continued throughout the day. Every town was defended by a small number of Germans, most of whom were either killed or captured. The American forces were moving so fast that as many Germans were by-passed as were met. After the first attempt to send prisoners to the rear, which nearly resulted in the capture of the escort party, all prisoners were delivered to FFI forces (French Forces of the Interior), who were armed with the weapons captured with the Germans. The casualties inflicted on the Germans is not known, as the dead and wounded were not counted and prisoners were handed over to the French in bunches. Many times, after delivering captured arms to the French, the troop moved forward while the French were left to mop up the remaining Germans. It is estimated that at least 60 prisoners were taken and approximately 25 killed and wounded, during the days activities.

Troop C continued to move along secondary roads about one mile east of the main axis of the task force advance. The 1st Platoon reported all bridges out north to Peronne, along the Somme Canal. Troop A had crossed the river at Peronne.

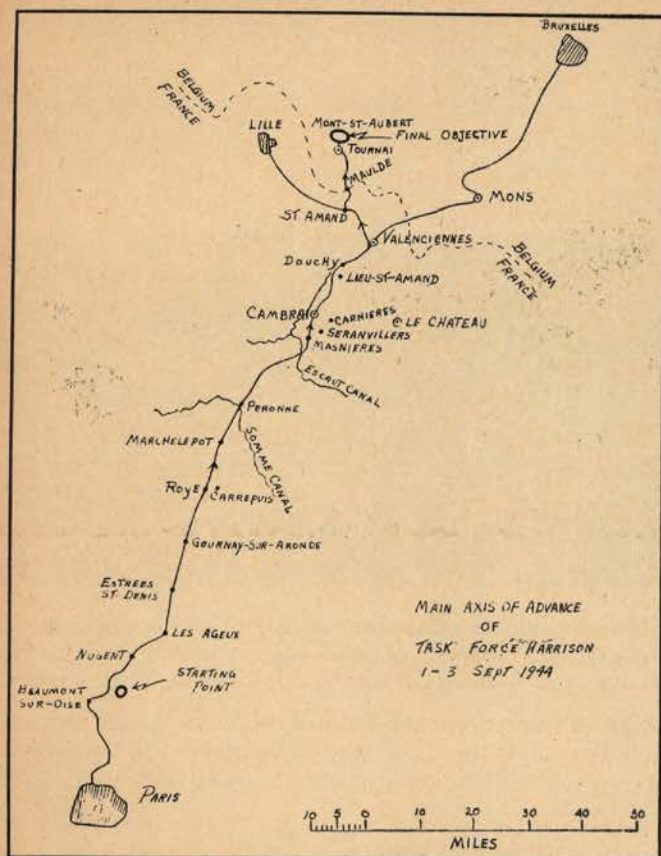
In the meantime, the 82d Reconnaissance Battalion,

which had jumped off earlier than the 125th Squadron, had reached the Somme River to its front and found all the bridges in its zone blown. While the 2d Armored Division rapidly established a bridgehead and built a bridge, its reconnaissance elements spread out. One of the elements of the 82d, moving to the east, reached the bridge at Peronne, attacked a sizable bridge guard, and prevented them from blowing the bridge. With no waste of time, the 82d patrol continued on reconnaissance to the northwest.

About 30 minutes later, Troop A of the 125th reached and cleared the bridge at Peronne. It was then decided that Troop C return to the main axis and cross at Peronne. The troop moved into Peronne at dark and since some vehicles needed gas the troop bivouacked in the town square. During the night enough gas to keep the assault guns rolling was borrowed from a few casual vehicles and the troop prepared to move out at daylight.

The advance on the main axis had been faster than that of Troop C and Task Force Harrison was following Troop A with no interval. During the night Troop C received orders to use the main axis until the head of the column was reached, then to move back out on the right flank.

At daylight September 2 Troop C left Peronne and overtook Troop A at Masnieres, where a fire fight was slowing the advance. The 1st Platoon under Lieutenant Leslie Springs, was again sent to the right flank. The rest of the troop cooked fresh eggs given by the French on the way. During the breakfast, artillery began falling in and near the main column which was two and three vehicles abreast. Impossible to move the ve-



Map 1. Main axis of advance of Task Force Harrison.

hicles, the men took cover. Fortunately, the troop suffered no casualties or damage.

The 1st Platoon reported reaching Seranvillers with no opposition. The rest of Troop C then moved out to the flank, with the 2d Platoon under Lieutenant Harry Harmon in the lead. On reaching Seranvillers the troop moved toward Carnieres with the intention of paralleling the Cambrai-Valenciennes road.

At the road junction one mile southeast of Carnieres the head of the column was at the main road Cambrai-Le Cateau when a truck towing a 5-barreled Nebelwerfer approached from the west. Practically everyone watched it stop, watched the Germans unhook the gun, turn the car around and start back. Then every gun in column, including 37's on the armored cars, opened fire. A patrol was sent to find out the results. It returned with the Nebelwerfer and one wounded German who had jumped out of the car. The car escaped. The fact that the German stated that all the passengers except the driver were wounded did not make anyone feel better about the display of bad marksmanship.

From that meeting till the town of Lieu-St-Amand was reached, the pattern of fighting was much the same as that of the previous day. Whether the Germans planned the small rear guard actions or were forced into them is not known. It was known, however, that their intention was to leave France. The evidence of this was along the road and in all the towns. Every town had marks along the walls and store windows left by ma-

chine gun bullets. Either for amusement or through fear of the civilians and to keep them off the streets, the Germans had sprayed the towns with fire as they retreated through.

At this time, all troop vehicles were nearly out of gas and several armored cars had flat tires. When squadron headquarters was notified of this the troop was ordered back to the main axis and given a rendezvous point to meet the gas truck. Returning to the main axis at a point $\frac{3}{4}$ mile north of Lieu-St-Amand, the troop was amazed to find vehicles moving northeast at about 50 miles per hour. Anywhere to the right or left of the main road it was necessary to fight through practically all towns.

About one mile northeast of Douchy the troop gassed up and repairs were made on all tires that required them. At this time the troop learned that the objective had been changed to the area north of Tournai, Belgium and that it was to use main axis and proceed with least possible delay to that point.

With that order Troop C's reconnaissance was ended for the day. Knowing the objective, the troop (less 1st Platoon, with which it had lost communication) followed the traffic and tried to keep from being run off the road. At Maulde on the French-Belgian border (the last town on the maps) Lieutenant Colonel Kleitz appeared from the side of the road and handed up maps marked with the new assembly areas near Tournai. Reaching its assembly area at dark, Troop C (less 1st Platoon) received orders from the squadron commander to outpost the main road junction in Tournai and send patrols to the west in an effort to contact the 2d Armored Division, which was believed to be about two miles to the southwest of Tournai.

During the night the outposts received a considerable amount of 20mm and artillery fire. Several enemy patrols or groups of stragglers walked into the outposts and were captured. Booty included two 20mm's complete with horses and ammunition. There were enemy casualties and two troop casualties. The 2d Armored Division was not contacted.

Early the next morning Lieutenant Colonel Kleitz received orders to seize the high ground known as Mont-St-Aubert, about three miles north of Tournai, which dominated the 30th Division concentration area. Troop A, with assault guns attached, was given the mission of taking this ground by approaching it from the southwest. Troop C was to approach the objective from the southeast, prepared to support Troop A on call.

Troop A reached the objective without opposition, and Troop C followed to go into bivouac of the objective.

Later, the next day, the 1st Platoon which had finally come within range of the troop "506" radio, was directed to the bivouac area. It had reached the original objective and, not knowing of the change, had waited there until notified by friendly units of the squadron location.

The first day the troop traveled 83 miles, the second day 66 miles, and the third day 9 miles. It had only two battle casualties and no vehicle casualties, while it had inflicted an estimated 125 enemy casualties, destroyed one Nebelwerfer, one tank (Mark III), three staff cars, and captured two 20mm guns complete.

One of the features of this rapid advance was the solution of the squadron's supply problem. The established policy was to carry as little as possible on the outside of the vehicles in order to reduce the chances of vehicles burning if hit by artillery or tracer small arms. Consequently, when the orders were received for this mission the troop had no gas reserve and less than three days rations. To counter this disadvantage, the squadron commander ordered a 6 x 6 gas truck and a 6 x 6 water truck to travel with the forward CP. When the troops needed gas, it was only necessary to contact squadron forward echelon to get it. After reaching the new assembly area, Captain John H. Brackbill, squadron S-4, went back to a point 30 miles southwest of Paris for gas and the rest of the service crew, and within 8 hours after the arrival of the forward elements at the new area, supplies of all kinds were available.

Most principles of tactics were overlooked in the mass rout and retreat of the Germans. The troops often traveled in one group, as if making a road march in the states. The one thought in everyone's mind was to get there before the Germans reorganized. In that respect, as in all others, the mission of the 125th Squadron was completed as directed.

Troop A

*by Captain Dale D. Stithem,
Commanding*

AS Task Force Harrison moved out, it was flanked on the right by the 28th Infantry Division, and on the left by the 113th Cavalry Group with the 113th Cavalry Reconnaissance Squadron preceding the 79th Infantry Division. To the left of the 79th was the 2d Armored Division.

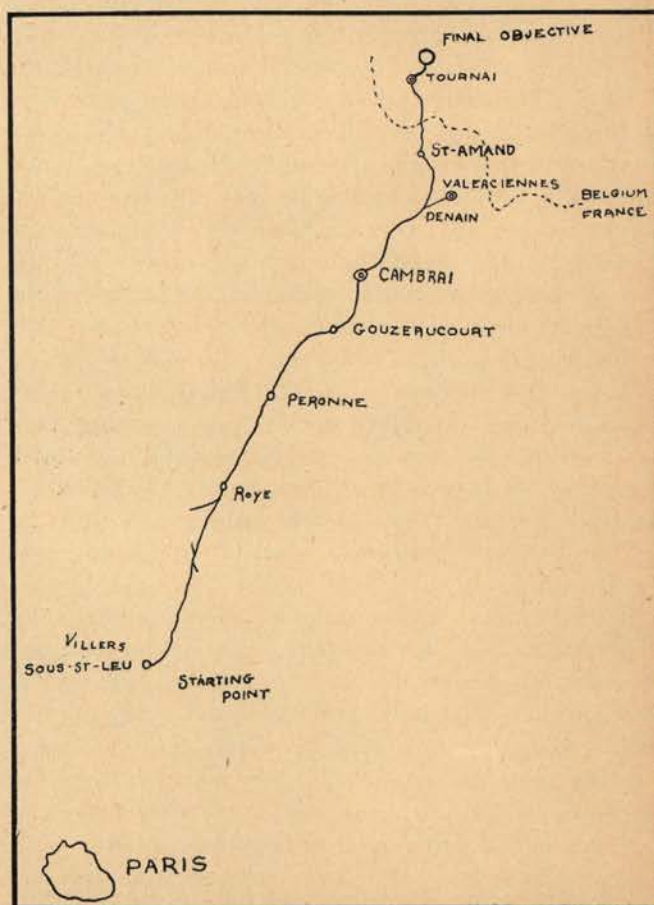
The pursuit was definitely under way and little time was available for orientation. The axis given Troop A went north and northeast through Roye, Petronne, Cambrai, and St. Aumand, and across the French-Belgian border into Tournai, Belgium. Orders were to bypass all opposition of great strength and, continuing en route, report conditions of roads, bridges, by-passes taken, and the location of enemy positions by-passed or overrun.

The advance proceeded with light opposition. During the first 60 miles a number of road blocks, manned only by machine guns and riflemen, were encountered and knocked out. By 2130 hours, September 1, the

troop, having reached a point approximately 8 miles south of Cambrai, received orders to stop along the side of the road and wait for the gas truck. There was still enough gas in each vehicle for at least 30 miles, but having the opportunity to refuel, the troop took normal security precautions and halted.

The gas truck, however, did not catch up and at 2300 hours orders were received from Lieutenant Colonel Kleitz to move out and continue on mission. Gas had not arrived for anybody in the task force but it was believed that it would soon catch up. The 3d Platoon, under Lieutenant Robert O. Bradley, led out, followed by the 2d Platoon under Lieutenant Jeremiah J. O'Donnell, then Troop Headquarters, and finally the 1st Platoon, under Lieutenant Henry C. Lyman, as mobile reserve.

After moving ahead approximately $\frac{3}{4}$ mile, Sergeant William E. Proctor, Jr., 3d Platoon, riding in the point peep, caught up with the tail of a German column of horse-drawn carts carrying supplies north along the same route. Sergeant Proctor reported the situation to Lieutenant Bradley who quickly spread his three machine gun peeps (each equipped with an SCR 510 radio and a .30 caliber machine gun) across the road and shoulders and placed an M8 armored car on each side of the center peep. (M8 armored cars mount a 37mm antitank gun with a .30 caliber machine gun on a ring-mount above the turret.) By radio Lieutenant



Map 2. Route of Troop A from Paris to Belgian border.

Bradley ordered all 5 vehicles to move forward, firing all weapons as they advanced. This action soon eliminated the enemy column; all carts and horses were destroyed.

The column then proceeded to the Escout River just south of Masnieres, France. About 200 yards up the road the leading section of the 3d Platoon, under Sergeant Proctor, got pinned down before it could cross the bridge over the Canal de St. Quentin. The approach to this bridge was partially blocked by a burning German half-track whose 20mm ammunition was exploding in all directions, and on several occasions small artillery shells or similar explosives blew up.

As the 3d Platoon reconnoitered for a by-pass 4 medium tanks from the 743d Tank Battalion moved forward and quickly overran the troublesome antitank guns on the north side of the canal. One tank hit an enemy mine near the bridge and lost a track—the only loss of any type so far on the march.

At this point Lieutenant Lyman's 1st Platoon was ordered to reconnoiter the bridge across the canal and prepare to take the lead, leaving the 3d Platoon, which had led the column up to this point, to revert to mobile reserve. After taking a peep across the bridge and returning without being fired upon, Lieutenant Lyman reported by radio that he was moving his platoon across the canal. The remainder of the troop was then alerted to move out. This was at approximately 0400, September 2—just an hour after Sergeant Proctor's section of the 3d Platoon had first run into trouble.

Troop A proceeded across the bridge, through the town of Masnieres, and approached the southern edge of Rumilly, about one mile to the north of Masnieres. Once again the leading elements met a hail of 20mm antitank fire which knocked out the two leading M8 armored cars. This occurred when the 20mm fire concentrated on the point where the front wheels join the axle. Brigadier General Harrison, in command of the task forces, was near the front of the column at this time and was wounded by 20mm fire.

The enemy appeared to be withdrawing his antitank weapons shortly after each encounter and setting them up again either on the road leading into the next town, or just on the far side of town. Troop A was pulled off the road along the railroad tracks just north of Rumilly, and the medium tanks were again brought up to overrun the guns.

In a few minutes Major General Hobbs, commander of the 30th Infantry Division, arrived and assumed command of the task force. After a swift check of the situation, he ordered the tanks to attack from the hill and, if no opposition was encountered, to move on into the town of Cambrai just 4 miles ahead. Using fire and movement, two companies of tanks lined up on the crest of the hill and delivered fire while another tank company moved up and into Cambrai from the left flank. This attack came off at 1000.

Meanwhile, Lieutenant O'Donnell's 2d Platoon re-

connoitered to the right in search of a by-pass around the town of Cambrai in case the enemy had a strong enough force in the town to prevent the tanks from breaking through.

Sergeant Proctor had been sent ahead to contact the tanks, get the situation, and see if it was possible for the troop to resume the lead, returned about 1100 and reported that the tanks had overrun the enemy guns and that the town was clear of enemy.

Resuming the lead, Troop A moved through Cambrai shortly before noon and proceeded toward Iwuy 5 miles to the northeast. The 3d Platoon was again in the lead, followed by the 1st Platoon and Troop Headquarters, with the 2d Platoon, which was radioed to rejoin the troop on the main route, acting as mobile reserve. No enemy were encountered, but on the outskirts of Iwuy, orders were received to hold up the advance until further notice, while the infantry of the task force cleaned out the enemy in Cambrai.

The 3d Platoon was ordered into Iwuy with instructions to block all roads leading out of town to the north, northeast and northwest. Lieutenant Lyman was instructed to establish a road block south of the bridge across the canal on the south edge of town. Troop Headquarters and the reserve platoon were held along the highway between Lieutenant Lyman's road block and a group of buildings about a mile to the rear.

Lieutenant O'Donnell, who had just returned with the 2d Platoon, reported that while looking for a by-pass, his platoon had destroyed an enemy truck and trailer loaded with men and machine guns, killed two Germans, and brought back 6 prisoners. Lieutenant O'Donnell established a road block in the vicinity of the troop CP covering the right and left.

Shortly after 1200 Lieutenant Bradley, from his position in Iwuy, radioed that at least 6 enemy armored cars were moving up toward Iwuy along a sunken road from the southeast. Lieutenant Lyman intercepted this message about the same time that his gunners also spotted the vehicles. These 6 vehicles were knocked out by 37mm fire from the M8 armored cars of the 1st Platoon at their road block near the canal bridge. At the same time another enemy vehicle, which appeared farther down the road to the southeast out of range of the 1st Platoon's guns, was disposed of by 37mm fire from an armored car in Troop Headquarters at a range of about 800 yards. The troop had no losses during this action.

The entire course of the march, which covered nearly 120 miles in slightly over 40 hours, ended on the outskirts of Tournai at 2000 September 2, 1944. One point is outstanding. Along the entire route the enemy did not once attempt to defend or delay in a town. All road blocks and other defensive positions encountered were either on the approaches to towns or on the far side of the towns. (It was noted that this general position of road blocks continued to the Siegfried Line.)

ASSAULT GUNS

As Attachments and in Battery

*by Captain S. A. Lindsay**

AS ATTACHMENTS

ON the morning of September 16 the 125th Cavalry Reconnaissance Squadron (Mecz) was detached from the 113th Cavalry Group, and again attached to the 30th Infantry Division. It was to protect the division right flank and at the same time maintain contact with the 1st Infantry Division on its right.

One platoon of assault guns from Troop E was to be attached to each reconnaissance troop. Meanwhile, the reserve assault gun platoon and one platoon of light tanks attached to the squadron were to precede the advance of squadron headquarters. As the squadron zone was quite narrow, the commander felt that if either of the reconnaissance troops ran into much trouble, this reserve force could be dispatched to their aid in an expeditious manner.

On September 17, it became evident that Troop A could use more support, so the reserve platoon of assault guns was sent to them, and only the light tanks

*Commanding Troop E, 125th Cavalry Reconnaissance Squadron (Mecz).

Signal Corps Photo

Assault guns support a reconnaissance unit on patrol near Blair, France, in the Lorient sector. Unit is not identified.

were retained at squadron headquarters for security. By that time the entire troop was committed but each platoon was used in a different manner.

The 1st Platoon of assault guns, under 1st Lieutenant John F. Morrissey, was to support the advance of the 2d Platoon, Troop A, which had as its objective the seizing and holding of the village of Orsbach, Germany. The two platoons pushed off and immediately after putting foot on "holy German soil," ran into small-arms fire.

The reconnaissance platoon, under Lieutenant J. J. O'Donnell, quickly dispersed the enemy force but came under German artillery fire. Lieutenant O'Donnell then withdrew his platoon to a covered position and discussed the situation with the assault gun commander. It was decided that the reconnaissance platoon would renew its advance, while the assault guns would place counter fire on the enemy gun, correctly estimated to be

a self-propelled 75mm. As soon as the reconnaissance platoon started its forward movement it again came under fire of the enemy 75mm. The assault guns immediately opened up from a well defiladed position and, with a good idea of the enemy position derived from azimuth readings, fired 8 rounds each. Fire from the enemy ceased, and the entry into the town from that point forward was uneventful.

On reaching the village, the troops saw 9 Germans entering a house, so the assault guns were placed in a direct firing position, which changed the "Heinies" idea of putting up a fight. Before a round could be fired the enemy vacated the position and, altogether, over 20 Germans surrendered. The obvious presence of the assault guns perhaps helped them to make up their minds.

After this action the 1st Platoon assault guns were assigned two outposts on the west side of Orsbach, which they maintained until relieved by the 1st Platoon, Troop A and its assault gun attachment. The 1st Platoon assault guns then moved to Bocholtz and set up a defensive position opposite the Siegfried Line. Only one fire mission was fired by the platoon from this position and the results were successful.

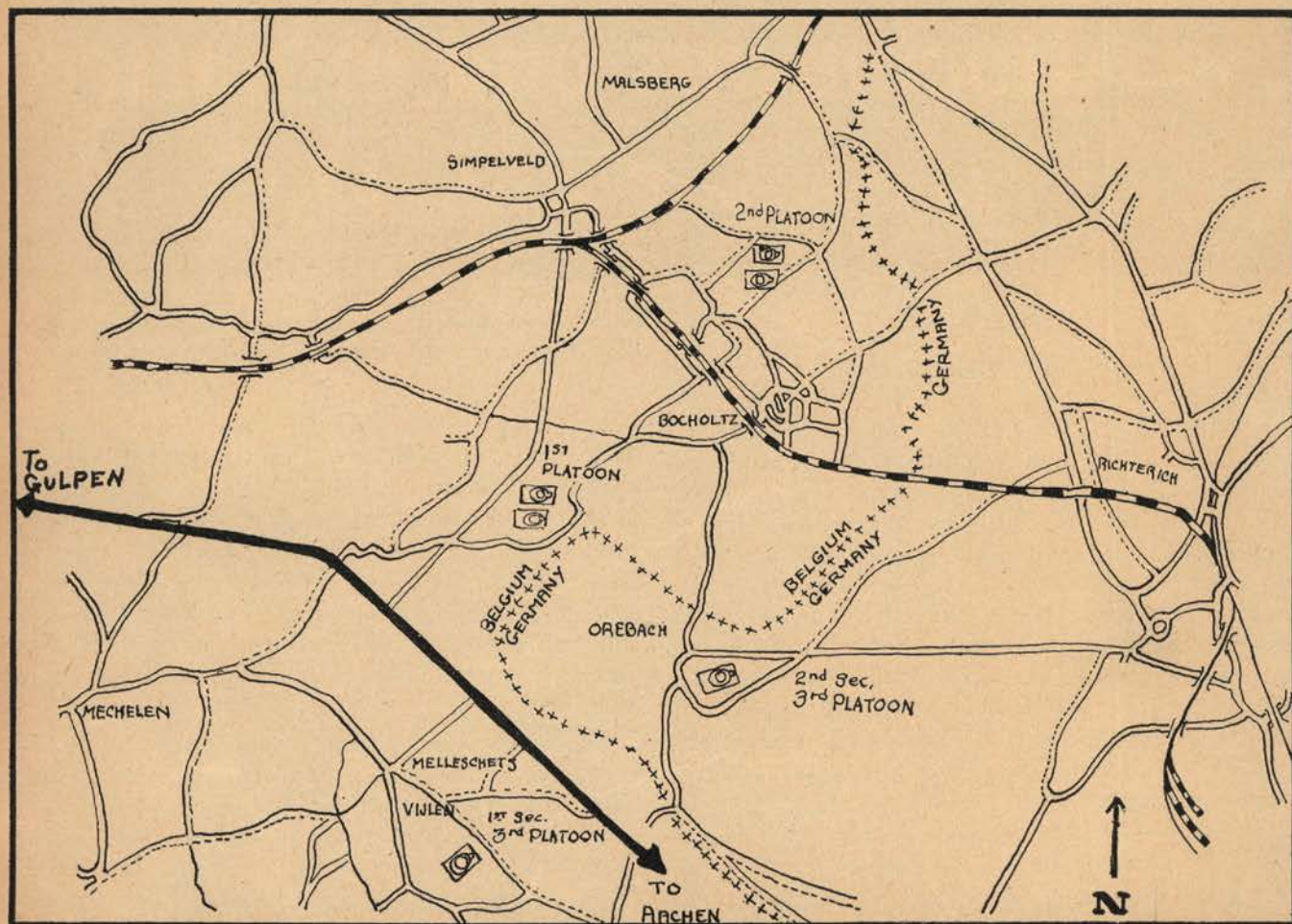
The 3d Platoon assault guns, under Lieutenant M. E. Nichol, was also attached to Troop A. After firing

approximately 200 rounds from the high ground at Vijlen, Holland, on Orsbach in support of 2d Platoon, Troop A, the assault guns were split and Sergeant G. L. Lynch with the second section was then attached to the 1st Platoon, Troop A, with the mission of taking over Orsbach from the 2d Platoon. Shortly after the change was made, enemy small-arms fire was received from the village church. Sergeant Lynch then maneuvered his assault gun into position and fired two rounds point blank into the church. Results were two enemy dead and two prisoners. This section was then used strictly as a road block because the 1st Platoon assault guns were in a position to deliver supporting fire from Bocholtz.

The first section of the 3d Platoon remained in position on the high ground at Vijlen and from its advantageous point was able to cover all movements of the reconnaissance platoon to which it was attached.

The 2d Platoon, attached to Troop C, initially was to establish road blocks as security for the troop CP, provide indirect fire support for the forward platoons, and be ready to move on a moments notice to either platoon for direct support.

On September 18, Captain Reuben F. Trant, Jr., Troop C commander, ordered the assault guns under Lieutenant Kenneth Scott, to take a firing position



Sketch 1.

along the high ground directly in the rear of the towns Horbach and Bochoz. The position selected not only offered support of the two platoons on the line but allowed the guns to cover a blind spot between them. (See Sketch 1.)

A number of missions were fired by the platoon and the Germans replied with counterbattery fire, but Lieutenant Scott had picked his position well and no casualties resulted. The platoon was credited with destroying one enemy armored car and many enemy soldiers.

Radio contact was maintained between the two reconnaissance platoons of Troop C and the assault gun platoon. Fire adjusted on targets by this method from forward observers with the reconnaissance platoons, obtained good results.

THE TROOP IN BATTERY

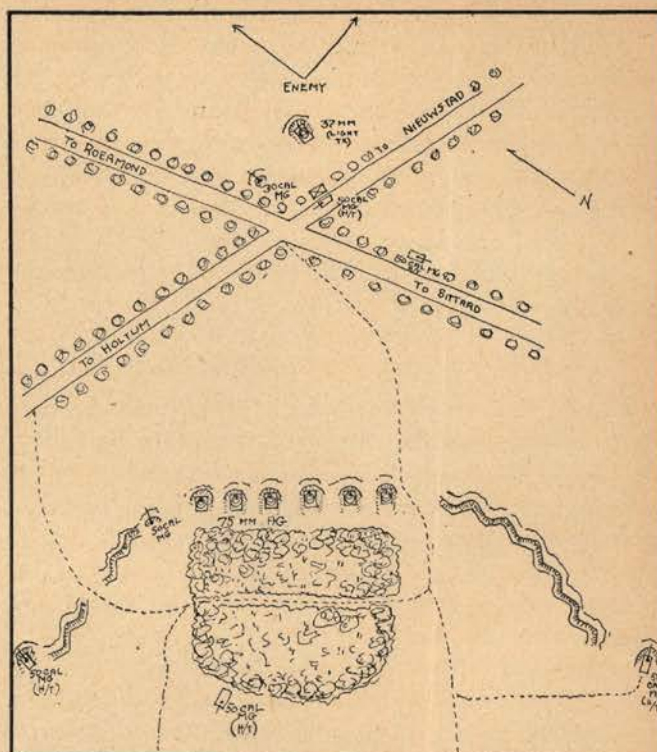
OCTOBER 1—NOVEMBER 3, 1944

The 125th Squadron was detached from the 30th Infantry Division on September 30, and, again under the 113th Cavalry Group was to hold a defensive line from Millen, Germany to Roosteren, Holland. On the squadron's right was the 744th Light Tank Battalion and to the battalion's right the 113th Cavalry Reconnaissance Squadron—all on the line and all under the 113th Cavalry Group. The plan was to hold the line with two reconnaissance troops and their attached assault guns, but after the first day Lieutenant Colonel Kleitz decided to use the guns as a unit. This plan was enthusiastically received because, except for one brief fire mission during its first action, the assault gun troop had not been used as a unit since it landed in France. There was much interest in what it could do as a battery.

The Troop E platoons were informed of the change and told to assemble in the troop area. While this move was taking place 1st Sergeant C. T. Kalaher and I made a personal reconnaissance to select a position that would permit the guns to cover the entire front held by the reconnaissance troops. The following 5 points had to be considered:

1. The position must be as close to the center of the sector as possible.
2. Forward observation points were required to allow as much observation of enemy-held ground as possible.
3. Concealment for the firing position was necessary as guns were to be placed well forward.
4. Routes of communication, accessible for ammunition and all supplies, had to be found. Two or more routes to and from the area were desired.
5. Alternate positions needed to be selected and prepared for immediate use.

The desired position was soon found about $\frac{1}{2}$ mile west of the town of Neuiwstad, Holland. The troop was then contacted and ordered to move to the location by platoons, with a 20-minute interval between platoons



Sketch 2.

in order to hold movement to a minimum while reaching the position. As the guns were brought up they were placed in front of a small patch of woods with only 20-yard intervals to allow all guns the protection of concealment which the trees afforded as a background. (see Sketch 2.) Later the guns were dug in by the use of a bulldozer. This increased the value of their positions since their type of military target could not be determined even from very short ranges. Two alternate positions were selected and gun pits also dug not far from the main position.

DEFENSE OF AREA

Since the extensive squadron front had only two reconnaissance troops and one light tank company to cover it, stringent measures had to be taken for the local defense of the assault gun area. Trenches for dismounted personnel were dug to provide for all-around defense. Three half-tracks mounting .50 caliber machine guns were placed to protect the flanks and rear. An outpost, consisting of a light tank and two half-tracks, was put in position 300 yards out in front of the troop. Its purpose was twofold: to complete the defense scheme of the troop, and to cover a blind spot in the squadron sector.

COMMUNICATIONS

Because of previous missions in which the radio had not always been reliable, telephone communications were set up from the troop fire direction center to the forward observation, outpost, and to the guns. Two separate wires were run to the FO so that if one was

knocked out the other could be used. A 510 radio was also maintained at the FO to be used if both wires were knocked out. This plan proved its worth during the 34-day stay in this position and only once was it necessary to switch to radio communications with the troop FO.

October 11, Lieutenant G. R. Murphy, (then Sergeant), of Troop C, observed enemy digging in around a bridge and requested fire on the area. Results were very good, and enemy activity in the area was not resumed. This incident indicated the observer's proficiency in directing fire, for after three rounds the order, "Fire for effect," was heard.

COORDINATION WITH SUPPORTING ARTILLERY

During most of this period the 283d Field Artillery Battalion was in direct support of the 125th Squadron. Because of the necessary rationing of ammunition the assault guns coordinated their efforts with the battalion and assumed much of the artillery's night harassing fire. Another means of conserving ammunition was effected by close coordination between the assault gun observer and the artillery observer, who occupied the same OP with fire on the same base point. Once the assault guns were registered, the data was passed to the artillery battalion's fire direction center. The artillery battalion also surveyed in the assault guns with the obvious advantage that the artillery observers were able to fire the assault guns through their fire direction center, which they frequently did with excellent results. Through the joint use of the artillery's fire direction center for firing both artillery and assault guns, more effective fires were delivered. In addition, a close coordination developed among the FO's with a resultant general saving of ammunition.

COMBAT TIPS

During the squadron's lengthy stay in this area, the enemy at no time located the assault gun position. This is believed due to the following reasons:

1. The guns close proximity to the enemy lines (many missions fired at 1,200 yards with reduced charges) seemed to mislead the enemy as to exact location.
2. Careful use and continual checking of camouflage.
3. Immediate destruction of all likely enemy OP's, such as the church steeple in Havert, Germany, which was held by enemy forces.

In similar missions since, the same tactics have produced the same excellent results.

In preparing cavalry units for combat, more emphasis should be placed on closer coordination between reconnaissance platoons or smaller elements and the assault guns. Each reconnaissance section should have at least one man experienced in adjusting indirect assault gun-fire. Squadron adjustment should be standardized by "sensing" or by calling corrections, whichever is preferred by the CO of the assault gun troop. Time is saved and confusion is eliminated by this practice.

A Raid by 3d Platoon, 104th Reconnaissance Troop (Mecz.)

*by Captain Arthur S. Laundon**

ON January 16, 104th Reconnaissance Troop was given a mission on the southern boundary of the division zone. The troop was allowed one week to prepare for the raid and was to be permitted to make the raid any time during that period. The raid was to be of platoon size conducted by the 3d Platoon under 2d Lieutenant Charles J. O'Gara. There were 4 steps involved in the raid: (1) Prior reconnaissance. (2) The plan. (3) Preparation. (4) Execution.

PRIOR RECONNAISSANCE

On January 17, Captain Laundon, commander of the 104th Reconnaissance Troop, and Lieutenant O'Gara went to the OP at Birgel to select the most suitable crossing.

From observation, the southern edge of Lendersdorf-Krauthausen appeared most favorable for a crossing. Lieutenant O'Gara then moved his platoon to the vicinity of Birgel and selected a good OP which covered the area of operations in the southern end of the town. On the night of January 19, his platoon was moved into town where continuous observation of the area was available.

During this period all available information on the terrain and enemy in that vicinity was gathered and checked. Twice Lieutenant O'Gara, accompanying reconnaissance patrols of an infantry battalion, reconnoitered the area where the patrol intended to operate. On one occasion he observed small-arms fire in the vicinity of the object and on another occasion there was reported machine-gun fire in the same area. On the day of January 22 considerable activity was observed in the trenches near and around the objective. The activity continued throughout the day and into the night. It was then that the area in question was definitely decided upon as the objective of the raid.

During this period of reconnaissance every member of the patrol was completely oriented and given ample opportunity to observe the objective and the routes over the terrain through the river to the objective. The ground also was studied minutely in conjunction with vertical and oblique aerial photographs.

THE PLAN

The patrol was to be broken up into three groups of 6 men each. One group was to be the base of fire

*Commander, 104th Cavalry Reconnaissance Troop.

and the other two groups, the maneuvering party. The base of fire was to move from the IP (initial point) (see sketch) to a railroad embankment near the river from which fire could be brought on any target across the river.

Corporal Capone, leader of the base of fire, carried a 536 radio. The two maneuvering parties were to continue across the river in a continuous line of skirmishers which was formed as they left the railroad track on the west bank of the Roer. They were to continue as rapidly as possible across the river, up the east bank of the river and into the trenches covering approximately a 50-yard front. At the completion of the mission or at the end of a 30-minute period the patrol was to return upon a voice command from Lieutenant O'Gara; while returning the patrol would use the north route.

One man was to be left in the OP with the artillery forward observer. This man would be in communication with the 536 radio carried by the base of fire as well as with the battalion CP by sound power telephone. The field officer, Lieutenant Strasser, was also in communication with the battalion CP by radio and by telephone. In addition, there was to be an open wire from the battalion CP to the fire direction center of the artillery battalion; also, a sound power telephone communication to the heavy weapons company operating the heavy machine gun and to the 81mm mortars. The 60mm mortar squad would operate from this same line.

Fire Plan:

"X" F.A. Battalion, 105mm howitzers.

Group A: H-3 minutes to H Battalion, 2 rounds per minute per gun.

Group B: H to lift on call. Two batteries, 2 rounds per minute per gun.

Group D: H to lift on call. One battery, 2 rounds per minute per gun.

"Y" F.A. Battalion, 1 battery, 155mm howitzers.

Group C: H to lift on call. One battery 2 rounds per minute per gun.

81mm mortars: H-3 minutes to lift on call or when 100 rounds were expended.

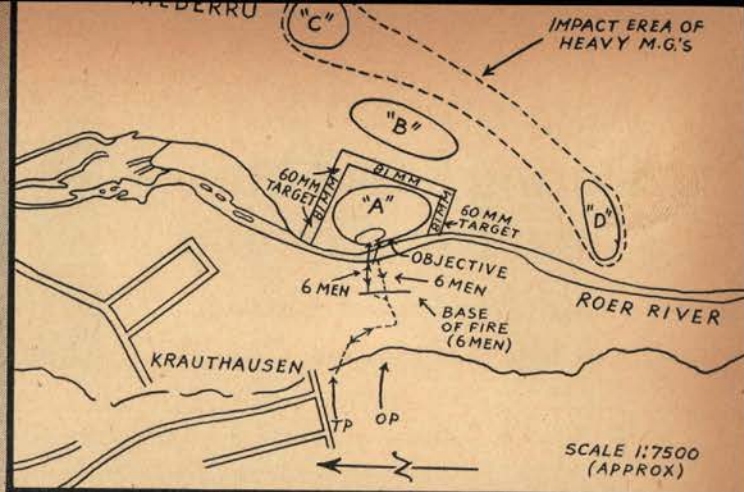
60mm mortars: H-3 minutes to lift on call.

Heavy machine gun: H-3 minutes to lift on call.

PREPARATION

Each man of the patrol was given minute instructions regarding his duties, his route, and his individual and cooperative part in the plan. From January 20-24 every man made a continuous study, both from the OP and from the aerial photos, of the ground over which he was to travel. On the afternoon of the 23d, Lieutenant O'Gara personally adjusted the artillery and mortar fire so that he would know exactly where it was to fall. The FO was present with Lieutenant O'Gara so that he too would know where the artillery was to fall and if necessary make adjustments during the raid.

Except for Tommy guns and the amount of ammunition and grenades to be carried, the choice of equip-



ment was left to individuals. Nine Tommy guns and three carbines were to be carried by the maneuvering force, while the base of fire would carry M1 rifles.

Up to the last minute all plans were checked and rechecked; all communications were checked as late as 14 minutes before H hour. Sixteen men wore snow suits and two men wore regular uniforms. All wore steel helmets, but no web equipment was carried. The Tommy gunners carried 90 rounds; carbine gunners, 75 rounds; and riflemen, 88 rounds of ammunition.

EXECUTION

H hour was set for 2000 January 24. All watches were synchronized and fire plans went off as scheduled. Given the "all clear" signal Lieutenant O'Gara started from the IP; the base-of-fire party moved to position as planned; and immediately after the two maneuver groups moved along the selected routes to the east bank of the Roer River. Except for one friendly trip flare, set off by a member of the base-of-fire party, no unexpected obstacles were encountered. All men of the maneuvering party reached the trench system on the opposite bank at the same time. Staff Sergeant Hahn and T/5 Gilchrist found an enemy machine gun and its crew of 3 men lying in the trench with the machine gun unmanned. After being kicked, two of the enemy raised their hands and surrendered. The 3d man started to commit a hostile act and was disposed of. Meanwhile, Lieutenant O'Gara and Sergeant Simmons found another enemy lying in the trench and pulled him out. When the command was given to return to the IP, all members of the patrol returned safely and were reported back by 2016. About 2040 the enemy reacted with light harassing mortar fire. The patrol received no hostile fire during the entire period.

CONCLUSION

Success of the patrol was due to thorough prior reconnaissance, complete planning, excellent leadership, and bold aggressive action by every member of the patrol. Because of the moonlight every man was able to see to move quickly and surely. From observation it was noticed that the camouflage suits had little advantage over the regular uniform, as all men were silhouetted against the white background of snow.

Ammunition Supply During Rapid Movement in Combat

by Lieutenant Colonel
Herbert F. Krucker, Cavalry*

Commene

A RECENT article in THE CAVALRY JOURNAL described the fighting march or "blitz across France" by the 4th Armored Division.

It is felt that a description of the system of ammunition resupply within the division in an operation of this length and distance might be of interest.

Prior to departure from the camps in England for the marshalling area, the entire basic load of ammunition was drawn. This was the combat load covering the total amount of ammunition that the division could carry and was broken down to that carried by the individual and that carried on each and every vehicle within the division. The basic load was full and complete and had been worked out to allow the maximum that could be carried. The ammunition was issued to each individual, and the vehicular load to each driver upon departure for the marshalling area.

The principal of resupply was very simple in statement, to wit: Keep a full basic load at all times. This was not hard in Normandy when the line was relatively stable and the class V dump was close by, but it was obvious that when a breakthrough occurred or any extended move forward was made the problem of resupply would put a terrific burden on the battalion ammunition sections.

To eliminate this problem an attached quartermaster truck company was assigned to the division ammunition officer. The truck company was loaded with a representative load based on experience, and a division

ammunition dump was established. This dump or resupply point was placed well forward and kept mobile at all times. Elements of the Division would send their trucks the short trip to this dump and secure refill without delay. Empty trucks were dispatched at once to the Army dump for immediate resupply, so the load was kept constant.

During rapid forward movement army class V dumps were often as far as 40 to 80 miles in rear of the division. The relief afforded to the battalion ammunition train can be seen at once. One instance is recalled where the ammunition trucks returned to a dump 80 miles in the rear only to find the type of ammunition required was still back at the next dump and the trucks went on back another 60 miles—a round trip of 280 miles.

Occasionally, a task force or combat team would be assigned a special or isolated mission which would take it some distance away from the remainder of the division. At such times, trucks attached directly to the task force furnished it with a reserve of all types of ammunition needed. The trucks would be returned when empty or when the task was completed.

Through this system ammunition was made available at all times without undue burden on the battalion ammunition sections; further, it was possible to assist in the ammunition supply of all attached units including 155mm artillery battalions which were often with the division.



An assault gun (75mm Howitzer, M-8) shells enemy positions in Geislaarten, Germany, February 8, 1945. This gun belongs to Troop E, 106th Cavalry Reconnaissance Squadron, which crossed France with General Patton's Third Army. Note quantity of empty shell cases at side-front.

Signal Corps Photo

Notes from Combat

The system was particularly helpful to the attached anti-aircraft battalion. Its batteries were divided among various elements of the division scattered over a wide area, and without a division dump, ammunition supply to this unit would have been particularly troublesome.

The amount of ammunition available at the resupply point was greatly increased by overloading the trucks and trailers used. One hundred percent overloading was normal, but the boys usually stacked on a few "extras," and while some might not agree with this principle of overloading, it got the job done. It might be related that during the entire battle of France, no ill effects from overloading trucks were noted by the writer.

Operation of the resupply point was in no way complicated. The battalion ammunition officer with the battalion trucks stopped at the DAO and requested all ammunition needed to bring the basic load up to normal or "full." Notations were made and issue slips or ammunition orders issued and the drivers directed to the trucks containing that type. In a very short time the trucks were reloaded and on their way to the front, and any empty trucks in the ammunition section were dispatched to the rear to secure needed types.

Extended advances made by an armored division could not be supported without the attachment of quartermaster truck companies to the present type armored division.

Forward Observation Training

--Notes from 106th Cavalry

The importance of artillery in present day warfare cannot be underestimated. A bulk of the casualties are caused by artillery.

Since reconnaissance units are well forward of the main body of troops, with the best available OP's, they often find targets for artillery that many times cannot be reached by the organic direct fire weapons of the cavalry. Lessons learned in combat prove that a closer liaison between cavalry and artillery, similar to that of the infantry-artillery team, is needed.

Frequently a field artillery battalion or group is attached to a cavalry group for direct support. Although in this arrangement, FO's are included, there are not enough FO's available to cover the wide sectors assigned to the cavalry. In addition, local actions encountered by isolated platoons cannot be covered by the field artillery forward observers.

Communications by use of the organic cavalry radios is adequate. The assault guns can furnish accurate, effective indirect fire. The "weak link" in the chain, is often the forward observer. Cavalry reconnaissance troops, therefore, can well afford to spend time in *teaching forward observation by artillery methods*.

Men must be trained to adjust the fire onto the target, trained to know *how* to do the most damage to the enemy with a minimum expenditure of ammunition, trained to know *what* targets require which type of fire, and *when* surprise fire is most effective.

In a situation where the cavalry sections are spread out, it is not always possible for the platoon officer to call the artillery fire. Consequently, enlisted men should have the same amount of training as officers; every man in a reconnaissance platoon should be able to call for and adjust quick, accurate artillery fire on targets of opportunity. To be practical, this training should include a knowledge of the principles of forward observation as laid down in FM 6-135, and a thorough practical experience with the use of the Troop E assault guns.

Specific instances of the need of this training were often encountered by the 106th Cavalry during operations in Normandy, northern France, and Germany. August, 1944:

"On the fast-moving drive after the breakout of Normandy, cavalry troops advancing ahead of the main body of General Patton's Third Army met small delaying enemy forces on all routes to Paris. Normally, these consisted of an 88mm antitank gun augmented by a 20mm Flak gun and a force of possibly 50-100 infantry for close-in security. These routes had to be cleared for the advance. The enemy antitank gun was normally positioned with at least a 2,000-yard range. The cavalry assault guns, leap-frogging forward in pairs in support of a reconnaissance troop, proved invaluable as indirect fire artillery. High ground, high buildings, and occasionally second-story windows were used for observation posts, while dismounted men moved forward to reduce the delaying force."

November, 1944:

"In the Foret de Parroy, when the cavalry group dismounted and fought as infantry, the assault guns again proved their worth as artillery. Observation was normally limited to not more than 200 yards. Observation patrols equipped with SCR 510s moved in close to the enemy positions and called artillery fire—an invaluable aid in the slow, grim job of grinding down a well dug-in enemy."

December, 1944:

"In one instance near Drulingen, France, a reconnaissance platoon leader and section sergeant at an advance cavalry observation post performed forward observation for corps artillery. Their proficiency in calling quick effective artillery fire was instrumental in the destruction of an enemy tank-infantry column threatening the corps flank."

January, 1945:

"When the Seventh Army was fighting near the Saar River, cavalry sections on outpost duty bore the brunt of the forward observation for two field artillery battalions plus a 4.2 chemical mortar battalion, attached to the cavalry group. In many instances casualties were inflicted on enemy long-range targets which could not have been reached by direct fire."

Smoke, dust, and dirt rise over enemy town of Wehrden as American artillery barrage sends fury of steel and fire into Nazi positions. Thirty rounds of 155mm shells were poured on target in given period of time. Note shellhole in foreground building from earlier shelling. This picture was made with Troop B, 106th Cavalry Reconnaissance Squadron, 106th Cavalry Group, December 29, 1944.

Signal Corps Photo



The Enlisted Man In Operations Section

by Technical
Sergeant J. C. Radanovich*

WHEN we began operations in France in the early part of August, I fully expected grave problems and new situations to beset us. Truthfully, in that zero hour before the first enemy engagement, I had seemingly forgotten everything that I knew and wondered whether I had ever known anything.

However, with that first mission and the first reports of enemy encounter coming in over the ether, my confidence began its slow but steady return, and old situations and solutions, proven on maneuvers and in the book, took their proper place in the scheme of things.

To reiterate only what countless others have said before: *Maneuvers are the culmination of the training of the present-day soldier, and of the utmost necessity to a well balanced and rounded-out program. Maneuvers can well be classed as the entrance examinations to the college of actual war.*

The enlisted personnel of any operations section, be it battalion or squadron, regiment or division, must be trained with rigid adherence to eventual battle participation. In fact, the best average of common intelligence and knowledge (rated not so much for schooling as for plenty of common horse sense) is essential to a well balanced, smoothly functioning operations section. I speak purely from the standpoint of the enlisted man.

The entire section should be so balanced as to be able to operate on a mental level with the staff officers in the unit. In other words, the ideal operations section should be able to grasp situations quickly and, in that moment of decision, be able to correlate actions along that same chain of events in such a manner as to necessitate a minimum of time to direct labor into the proper channels.

Now we're set up for business. At this point maneuvers are far behind, and we are engaged in actual conflict with the enemy. Maneuvers, however, play an important rôle in the molding of the operations section. Suffice it to say that a unit is almost bound unto itself to go into combat with the same operations section as was used on maneuvers. The men should know each other well, know each others faults and weaknesses, the strong points and the idiosyncrasies of the staff officers.

Neither personnel nor procedure in the operations section should be changed *after* maneuvers and prior to battle, *unless* the substitutes have already proven their ability on maneuvers. If a change must be made the

*3d Cavalry Reconnaissance Squadron (Mecz.).

new personnel should be given a chance to get acquainted, to learn about the organization, to know the staff officers. It will pay dividends later.

Normally, the operations section must, of necessity, be considered a separate entity—not to be tampered with by the troop commander, or the 1st sergeant. It is strictly the unit CO's and the S-3's "baby."

The operations personnel must have loyalty to the S-3 and the commanding officer. This is doubly important because of the secret, potential dynamite packed into the small files and on the maps in the section. Secondly, from the very first day of operations, be it in combat or the pseudo-war of maneuvers, the attachment is almost as close together as a family. The men work and live and must be together continually. They share the same vehicle, the same blackout tent, the same dug-out. Sometimes they work on the same map or overlay at the same time—even share the same C or K rations.

Ability to handle routine functions in the rare absence of the S-3, the Ex O, and the CO is desired. It is an unusual occurrence when all three of these officers are away from the CP, but the occasion can arise—and does—and a thorough acquaintanceship with the policies and desires of these three staff officers is an added advantage. Ability to write a clear and straightforward message, and a working knowledge of the message center is necessary.

A fundamental knowledge of map reading and sketch-making is imperative. The present methods of teaching map reading to the enlisted man leaves much to be desired. In usual instances the average soldier garners nothing more than the ability to read coördinates, pick out streams and hills on a map, and read the scale. The average soldier should be able to tell at a glance, for example, the exact height of a hill on his map, picture it in his mind, see the angle of slope and readily be able to put the hill on paper without "sweating." It is hoped that a thorough map reading course will be devised and included in future training.

As long as the operations section does not usually see the area of battle while it is in progress, a better-than-rudimentary map reading ability is necessary.

To be a capable operations sergeant or assistant in the S-3 section a knowledge of maps and map reading are not the only prerequisites. Fundamentally, the enlisted man in the operations section should be able to read a map, know the symbols, and know how to make a neat overlay. He must be able to keep a journal of events, of incoming and outgoing messages. He must be able to write a clear, concise message with ease and speed, and should be able to write a distinct, correct periodic report; typing ability is an asset. He must be able to keep his wits, maintain his sense of humor, and have an endless supply of patience.

The normal business of the CP in a cavalry reconnaissance squadron results in long, tiresome hours for the S-3 and his aides. But the smart squadron S-3 will

incorporate the S-2 and S-3 sections into one "operations" section. The S-2 then becomes an assistant S-3, the S-2 sergeant becomes a second operations sergeant, and the operations clerk will also be developed into an embryo operations sergeant.

The S-3 will then have at his disposal three operations sergeants and a clerk draftsman. In no time at all the combination will result in a smooth, efficient, fluid operating section where each enlisted man can do the work of the others. Tours of duty can be staggered, too, for the simple, but important matter of rest.

This is how this particular section operates: Numbering the three sergeants 1, 2 and 3, the schedule begins from scratch. Number 1 comes on duty at 0800 and works straight through to 1800. Then Number 2 comes in and works until 2400. He is relieved by Number 1 then, who works until 0800 the following morning. At 0800 Number 3 comes on until he is relieved by Number 1 at 1800. Number 1 is relieved at 2400 by Number 3 who works until relieved by Number 2 at 0800. This circle continues without strain on anyone of the group, and the men in the organization are sold on the plan.

At mealtimes, the draftsman eats early and is always present in the CP while the operations sergeant is eating. Under this system it is a practice never to have the draftsman work during the night, if it can be avoided. His tour of active duty is from breakfast to supper each day.

Summary: In actual combat the operations section must have in its possession the proper map or maps, grease pencils, overlay paper, lead pencils, a map scale, a map measurer, a protractor, reading glass, message books, journal forms, sufficient paper and carbon paper for reports, a typewriter, plus any few assorted oddments which are specially favored. Enlisted personnel should know the officers with whom they are working and fall in step with them. It must be remembered that liaison is maintained by the lower unit to the higher. Lastly, men must *keep their wits and their sense of humor*.

As was true in the case of many units during the summer campaign through France, most of the "operating" of this section was done from inside the ring-mount of its half-track. Stops were made only at night, and the furious pace of incoming or outgoing messages, and changing positions on the map, went on endlessly in the blackout tent throughout the night.

On occasion, the operations section will have to fight its way through an enemy-held town or sector. Until mid-September, when this unit went into a static position on the line in assigned sectors, its work was done on the run, but without missing a single journal entry, without missing a single daily periodic report, with no loss of personnel in the section during brushes with the enemy or from artillery barrages. Through every type of enemy action engaged in by the unit, in all kinds of

weather (which in France was mostly rain in September, October and November) the section, under the setup outlined here, was as efficient and smoothly run as though it were factory-made and labeled "Operations Section, Grade AAA."

* * *

Cavalry Communications in Combat

*by Sergeant Robert F. McCarthy**

AS a whole the communications training received in States, and equipment authorized for this branch have been very efficient. However, 7 continuous months of front line combat operations have demonstrated in practical experience many things inadvertently omitted during the training period. These criticisms, intended only to be constructive, are presented for the benefit of other units.

RADIO OPERATORS

The foremost barriers that operators had to contend with in the drive across France and into Germany were terrific interference and enemy jamming. Yet, in the communications schools in the United States, only a comparatively short period was devoted to taking code through heavy interference and simulated battle noises. Much more training should be given radio operators under these undesirable conditions. It is absolutely necessary that operators be able to read their own stations weak signal in the background and to copy swiftly and accurately the first time.

Quite justifiably, stress has been placed on the tuning of AM sets by the operators. However, they should be equally capable of manually tuning FM sets. Too much emphasis cannot be placed on this phase of an operators' training.

To summarize:

1. More stress must be given to the training of radio operators under simulated battle conditions.
2. Each operator must be taught to tune his FM set manually, as well as his AM.

MESSAGE CENTER

This unit has found it advantageous to have, as one of its message center clerks, a former radio operator who understands the Morse Code. It is easy for the receiving operator to mistake an S for an H, a W for a J, a C for a Y, etc., and the clerk's knowledge will enable him to interpret these errors when the decoded message fails to make sense. This oftentimes eliminates the necessity of a repeat on the message. A clerk who understands the Morse Code is invaluable.

Many times, the message center personnel is called upon to operate the telephone switchboard which has been installed in the message center. At least a week's switchboard training should be given to message center personnel before embarking overseas.

To summarize:

1. A clerk who understands the Morse Code is invaluable in expediting the handling of messages.
2. Message Center personnel should know how to operate a switchboard.

MESSENGERS

The ability to read maps is a prime requisite of a mounted messenger. In combat the individual troops are invariably separated, and it is imperative that a messenger be able to read a map correctly in order to maintain contact with these units.

Before leaving the States the communication officer should know which messengers can drive at night and which cannot. It has been definitely established in this squadron that some men cannot drive at night no matter how many vitamin pills or how much carrot juice they consume. More attention should be paid to this phase of driver examination.

Mounted messengers frequently run into difficulty, and their vehicles should be equipped with a 510 radio so as to maintain communications with their units.

To summarize:

1. Mounted messengers should receive more training in map reading.
2. Training now given in blackout driving is not sufficient; it must be increased.
3. Each messenger vehicle should have a 510 radio.

TABLES OF ORGANIZATION AND MAINTENANCE

All of these measures would be meaningless without the proper maintenance of communications equipment and unfortunately the T/O of a cavalry squadron does not fulfill the demands placed upon the communications section. In spite of the huge number of authorized radios in a cavalry squadron and the prodigious job of maintenance on these sets, a cavalry squadron is not authorized a specially equipped maintenance vehicle. Were it not for the fact that radio technicians in this squadron constructed a portable shop of their own in a 2½-ton truck, the communication system would never have operated so efficiently. With this arrangement it has been possible for the unit to repair a majority of its own sets in the self-constructed shop-truck, and few occasions have arisen when it was necessary to send damaged sets to a signal depot for repair. Thus valuable hours have been saved, and communications have been disrupted for a minimum length of time only.

The radio maintenance vehicle is kept at all times in the forward echelon of squadron headquarters. This

*Radio Operator, 3d Cavalry Reconnaissance Squadron.

makes it easily available to all troops which must use its facilities.

All authorized radios are constantly in use and not one is classed as a spare. One extra radio of every type used within the squadron should be authorized and carried in reserve. Then when a set came in for repair, the reserve radio could be issued in its place, communications immediately reestablished and the inoperative set repaired without loss of efficiency.

All too frequently delays have been suffered in the repair of equipment because the necessary spare parts have not been issued. This has resulted in trips to the signal depot far in the rear. If sufficient repair parts were issued to a cavalry squadron, squadron technicians could do fourth echelon maintenance and valuable time would thus be saved.

It was found necessary to install 528 series radios in the bantams of the squadron CO and troop commanders. To accomplish this the vehicles' electrical system had to be changed from 6 to 12 volts. There would be a distinct advantage in having a 12-volt system originally in all bantams designated for unit commanders' use.

Quite frequently, a cavalry squadron has an artillery unit attached. Because of this, the squadron should be issued a 608 series radio for contact with the artillery. The 608 radio, which this squadron fortunately procured, has been a valuable addition in this respect.

The 536 walkie-talkie radio is invaluable for patrol work, although it still is not authorized to a cavalry squadron. At least 12 of this series should be allotted.

During the lightning-like drive across France, radio was the sole means of communication. Now that this unit is in Germany (incidentally, the 3d Cavalry was the first unit of the Third Army to cross into Germany) positions are comparatively stable, and telephones are used as a dual means of communications.

The wire equipment now used by this unit represents an international collection. There are three French, two Polish, one German and one American BD 72 switchboards. Telephones are of the same variety as the boards and, since wire is not authorized to a cavalry squadron, it is obtained by any means possible. Because of this captured equipment the communication system is considered unique; nevertheless, it has produced almost constant and perfect communications.

Each cavalry squadron should be issued one BD 72 switchboard for squadron headquarters, plus one BD 71 for each of the troop headquarters. Naturally, a sufficient number of phones and an ample supply of wire should be included. Consistent with this, designated men should be trained to operate efficiently the various switchboards, and others trained as wire crews to repair broken lines. Wire maintenance requires special equipment, and experience has shown that one PL 31 should be issued per troop to handle a mile of wire on a DR 5, and an RL 27 hand axle to facilitate the laying of ½ mile of wire on a DR 4.

A German portable electrical power unit has been used extensively to furnish a lighting system. It has also enabled the unit to use several civilian type radios, which increase the morale of the men immeasurably. It is recommended that a cavalry squadron be issued a 110 watt 60 cycle AC power plant, as it is one of the most valuable of assets.

To summarize:

1. *A specially fitted radio maintenance truck, preferably on M-7 small-arms truck, should be an authorized item of a cavalry squadron.*
2. *Radio maintenance vehicle should be kept in the forward echelon.*
3. *One reserve radio of each type used in the squadron should be issued and carried in the maintenance vehicle.*
4. *Sufficient spare parts should be issued to allow damaged sets to be repaired on the spot by the squadron technicians.*
5. *If practical, each unit commander's bantam should be equipped with a 12-volt system and have a 528 radio installed.*
6. *One 608 radio is necessary for communication with attached artillery units.*
7. *At least 12 walkie-talkie sets (536) could be used for patrol work.*
8. *One BD 72 switchboard, plus necessary phones and wire, would be desirable for squadron headquarters.*
9. *Designated men should be trained to operate switchboards and to act as wire crews.*
10. *One RL 31, as well as one RL 27, should be authorized for each troop for wire work.*
11. *A 110 volt 60 cycle AC power plant would be a valuable asset.*

What Have You Learned In Combat?

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From Normandy to Germany

With the 3d Armored Division



Signal Corps Photo

BOCAGE COUNTRY FIGHTING

THE 3d Armored Division's initial action was in the hedge-bound Norman countryside before St. Lô—country not ideal for armored operations. Although apparently the last place in the world for tanks, the 3d was called upon to help reduce a salient east of the Vire River protecting Villiers Fossard.

To Brigadier General Doyle O. Hickey's Combat Command A was given the assignment of clearing the pocket held largely by the German Fusilier Battalion, 353d Infantry Division. To accomplish this mission, CC Hickey was given the 32d Armored Regiment, the 36th Armored Infantry Regiment, the 54th Armored Field Artillery Battalion, supporting engineers, medics and maintenance elements.

Three task forces were formed—X under Colonel (now Brigadier General) Truman E. Boudinot, Y commanded by Colonel Graeme G. Parks, and Z commanded by Lieutenant Colonel Walter Abney. In this and subsequent actions, two task forces mounted the attack, and a third (in this case that of Lieutenant

Tanks of the 3d Armored Division fire at German positions in Belgium. Note mountain in background; also snow.

Colonel Abney) remained principally in reserve. Later, when the division began to shake down to a more perfectly coordinated fighting machine, multiple spearheads of task forces were used in the division's assault.

The attack from Normandy jumped off at 0900 on June 29, and by 1130, Task Force Boudinot had reached LaFarge-Bois de Bretel, where it was ordered to remain. Enemy resistance was stiff; the terrain favored the German bazooka teams. Task Force Parks, reaching a stream north of Villiers Fossard and the right flank of the force, was held up by difficult terrain and frantic enemy resistance.

On the following day both task forces pressed on, stabilized the line, and turned it over to the 29th Infantry Division. The Villiers Fossard bulge was dented, but the 3d Armored Division had suffered relatively heavy casualties.

Bocage country fighting was bitter; each hedge had to be breached before armor could pass. Because it was impossible to requisition enough versatile tank-dozer, division engineers designed their own. The Maintenance Battalion constructed an arrangement which

could be fitted on light or medium tanks. Battle experience and ingenuity welded the division into a crack fighting unit.

CC Hickey was ordered to an area north of the Forêt de Cerisy, prepared to counter any penetration on the V Corps front. It was never committed, and on July 7 it was ordered to move across the Vire River at Airel to occupy a bridgehead secured by the 30th Infantry Division, then to advance southward toward St. Giles. That night troops of CC B (Brigadier General John J. Bohn) raced across the Airel bridge under a hell of German artillery fire. Division MP's, disregarding the vicious barrage, clung to their posts directing traffic over the hastily reconstructed bridge.

ACROSS THE VIRE

Fanning out across the Vire, CC Bohn was attached to the 30th Infantry Division, while CC Hickey on the corps right flank, was to attack in the direction of Les Lendes and Le Perry. At midnight of the 8th this combat command was attached to the 9th Infantry Division—a combination that happily was to continue throughout much of the campaign in the west.

On July 15, Colonel Truman E. Boudinot assumed command of CC B, which was to take a hill called Haute Vents. Colonel Dorrance Roysdon, commander of the 33d Armored Regiment, delegated the mission to Lieutenant Colonel Rosewell H. King. Because of heavy losses in previous action, Lieutenant Colonel King was able to muster only two light and 6 medium tanks. With his radio shot out and his infantrymen unable to maintain the rapid advance, Colonel King nevertheless proceeded to Hill 91, or Haute Vents, and the next morning returned to his lines for infantry support. Under heavy enemy shelling CC Boudinot held out for three days until finally contacted by advance elements of the 30th Infantry Division. Colonel Roysdon and his small band held Haute Vents and defeated the abortive attempt of the German 130th Panzer Lehr Division's powerful drive toward Isigny in its effort to cut off Allied forces on the new beachhead. The German division, in spite of its reputedly magnificent equipment, took a terrible beating in the Haute Vents, Pont Hebert, and Belle Lande sectors.

THE BREAKTHROUGH

The great armored breakthrough from Normandy into France was the first true showing of American ground power in battle. In the morning hours of July 26, wave after wave of Fortresses and Liberators made the initial assault. There were probably more planes in the air at one time than ever before in the history of air-ground operations. They came endlessly over the horizon, dropped their bombs, and winged away. It seemed impossible for any living thing to survive that raging torrent of explosives. No one could guess the extent of the proposed breakthrough, but orders were

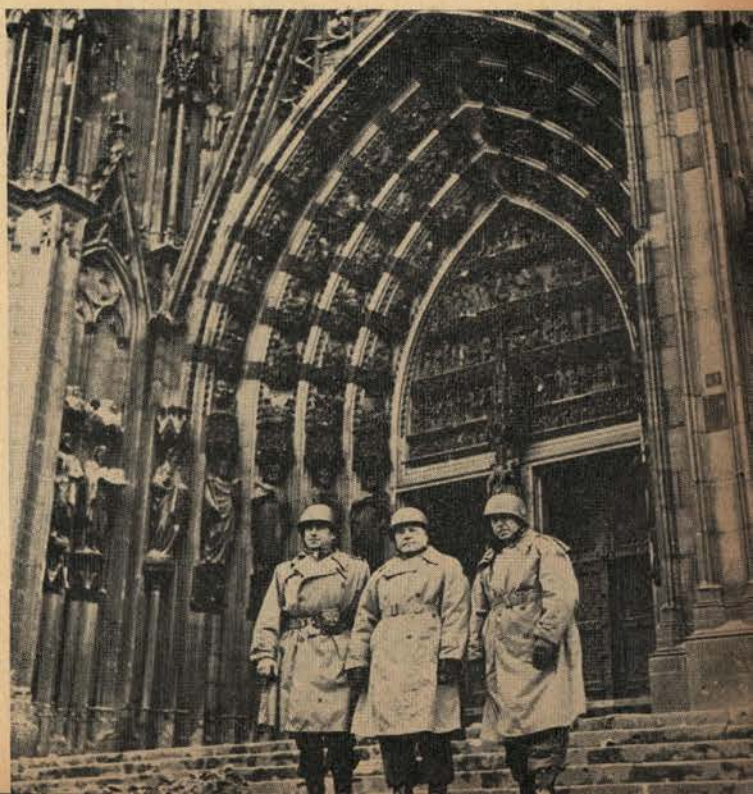
given, and teams moved out—multiple columns of armor leading.

In the initial stages of the breakthrough west of St. Lô, CC Boudinot spearheaded the attack of the 1st Infantry Division at Marigny, then made a right turn and drove for the high ground around Montuchon, northeast of Coutances and behind enemy lines. After taking its initial objective, it clattered to within sight of Coutances, but at that time an order was received to turn back and aid the 1st Division to reduce a strong point.

When the combat command had turned west of Marigny, B Battery of the 391st Armored Field Artillery Battalion was firing support. When the 4th Cavalry Squadron ran into serious trouble with the enemy a few hundred yards away, command of the battery was turned over to a single noncom, and all available personnel was used as infantry against the Germans. Five of the battery's six guns were used for support while the sixth was fired point-blank at the hemmed-in Germans.

Activity encountered by units normally in rear areas is described in the annals of the 486th Antiaircraft Battalion, an attached unit: "From 0030 to 0105 hours the area around the division CP was heavily attacked by enemy aircraft. Flares were dropped directly over the CP and bombs fell throughout the area. No damage or casualties. During this night the battery commander, Captain Phillip Shaw, with 4 or 5 enlisted men destroyed an enemy tank, several half-tracks, volkswagons, and numerous ammunition and gasoline trucks, killed two enemy soldiers and captured 9. One of the enemy,

Viewing their conquest from the rubble littered steps of Cologne Cathedral, Germany, are Major General Maurice Rose, commander, 3d Armored Division, and Brigadier Generals Doyle O. Hickey and Truman E. Boudinot, who led their Combat Commands across France. March 15.



attacked by an American soldier wielding a hatchet, shouted 'Heil Hitler' and shot himself to death."

In the meantime, CC Hickey had been given the mission of taking Cerisy la Salle, Montpinchon, and the high ground to the east and southeast of Coutances.

Because the enemy had expected such an attack, CC Hickey encountered more opposition than had Boudinot but, with the help of other armored columns to the east and west, forced German armor beyond Roncey.

At this point the 2d Armored Division cut the escape gap at St. Denis le Gast while the air forces pummelled the road-bound Nazi vehicles.

From an operational standpoint, it was a combat command "show." This was illustrated by the action of CC Hickey, which, on July 29, was ordered to turn south and seize a crossing of the Seine River at Gavray. Lieutenant Colonel L. L. Doan led his troops across the stream on foot under fire to secure a bridgehead. So fast was the advance that at Brecey, the speeding combat command caught German troops lolling under the trees, drinking wine!

CC Boudinot, attached to the 4th Infantry Division, attacked on August 1 to take the high ground east of Villedieu les Poeles. It received strong opposition and was ordered to cross the See River and move south and east to hold a crossroad at Le Mesnil Adelee. The objective was reached on August 4 after encounters with the 116th Panzer Division, the 363d Infantry Division and other forces.

GERMAN COUNTERATTACK AT AVRANCHES

On August 6, weary of combat and in need of rest, maintenance and rehabilitation, CC Boudinot was ordered to a rest area. On the 7th, however, the combat command was attached to the 30th Division to repel the German breakthrough attempt at Avranches. Heavy fighting took place around Le Mesnil Adelee and Le Mesnil Tove. The command was shelled, bombed and attacked by infantry and tanks for 5 consecutive days.

Official report for August 9 described this fury: "At 1145 Task Force 1 (Colonel Roysdon) was bracketed. Expected enemy fire began falling around noon. Lieutenant Colonel King's command half-track exploded. Attempt was made to move Colonel Roysdon's CP. A shell struck the half-track, wounded an officer and cut through the sides of the vehicle so that it looked like a sieve. There was a tree burst; then a round landed by the front sprocket. Colonel Roysdon and his staff were underneath the tank. No one was injured. Heavy shelling continued until 1600."

Meanwhile, CC Hickey had cut even deeper into German positions and had received its full share of the attack toward Avranches. On August 1 Lieutenant Colonel L. L. Doan's task force was ordered to advance and to seize the high ground in the vicinity of Belle Fontaine, northwest of Mortain. Task Force Z, com-

manded by Lieutenant Colonel John Daniels of the 1st Infantry Division was to advance via Reffuevielle to seize the high ground near Romagny, to the southwest. The command was given the 3d Battalion, 18th Infantry for further support.

During the night of August 2, the advance was held up by a road block, but at dawn Juvigny le Tertre was taken after a severe fight.

Further advance was made on August 5 when Task Force X under Colonel Doan set out for Le Teilleul. A smaller force, sent to hold Barenton, did not rejoin the command until August 12-13.

On August 6, Task Force Doan set out for Ambriers le Grand on the Mayenne River and arrived there at 0830 hours. Considerable fighting was necessary but the bridge was seized quickly, and the 1st Infantry Division pushed across to establish a bridgehead on the east side of the Varenne River. The following day, Colonel Walter Richardson's task force moved to positions around St. Mars sur Colmont. Except for an outposting operation at Gorron, this maneuver practically completed CC Hickey activities west of the Mayenne.

The 3d Armored Division rested and licked its wounds. Major General Maurice Rose (then Brigadier General) had assumed command, and now he reviewed the elements which were to go with him into further battle.

Since D plus 18, when the division had landed in Normandy on Omaha Beach, the men of the 3d had become seasoned soldiers, weathered and squint-eyed. They had been introduced to war. They had plunged into action green but confident. They had tasted the bitterness of death, and fear, and near defeat. They had gone to war with the good-natured confidence of American sportsmen, and had learned to play for keeps—to hate the enemy. These men had arrived in the arena of war, hard and ready, and by that token they had survived.

The division was no longer a collection of separate elements: the "Spearhead" was a team! Proof was soon forthcoming.

THE FALAISE-ARGENTAN POCKET

The British Army, driving south from Caen, and the U. S. First, smashing east, had trapped a sizeable part of Field Marshal von Kluge's Seventh Army in the Falaise-Argentan pocket. The 3d Armored was ordered to close the escape gap.

On August 13, CC Hickey, moving out in two columns, led the division attack. The axis of advance was Mayennes—Pré en Pail—Carrouges—Ranès—Fromental. With Task Force Doan to the south, and Task Force Richardson to the north, the combat command moved through Couptrain and Javron, cleared these towns of the 728th German Infantry Regiment, and halted its first day's drive with more than 50 miles of ground covered! In comparison with this day's action

the German blitzkrieg of 1941 looked like a midget auto race in slow motion.

Heavy fighting broke out beyond Pré en Pail. In the late afternoon of August 14, Carrouges was a picture of war at its grim height. German vehicles by the score testified to the effectiveness of the Spearhead. Along the Carrouges-Ranes road, armor of both sides had suffered. Panthers and Shermans alike were left on that bitter boulevard, wrecked and burning. French houses burned sullenly, and aircraft dropped flares above the column.

That night, Task Force Richardson reached the outskirts of Ranes. There was a minimum of shell fire. On the left flank, Task Force Doan, coiling at Joue du Bois, engaged dismounted German troops throughout the night and in the morning moved up to seize Ranes. The balance of CC Hickey with a battalion from the 60th Infantry Regiment, engaged in mopping-up activities. Counterattacks by the German 1st and 9th SS Panzer Divisions were repulsed with severe losses to the enemy.

The 3d Armored Division moved forward and took Fromental on August 17, lost it the same day, then in a third burst of fury smashed back again. That day, an estimated 1,200 enemy vehicles passed across the front of the division—receiving deadly artillery fire and direct attack from the air. The Battle of the Argentan-Falaise gap was nearly over, but it had not yet entirely spent its fury. Many military observers agreed that this action was the true "Battle for France," for after Field

Marshal von Kluge's elite elements were crushed to bits here, the Wehrmacht never again attempted to slug it out with Allied forces in France.

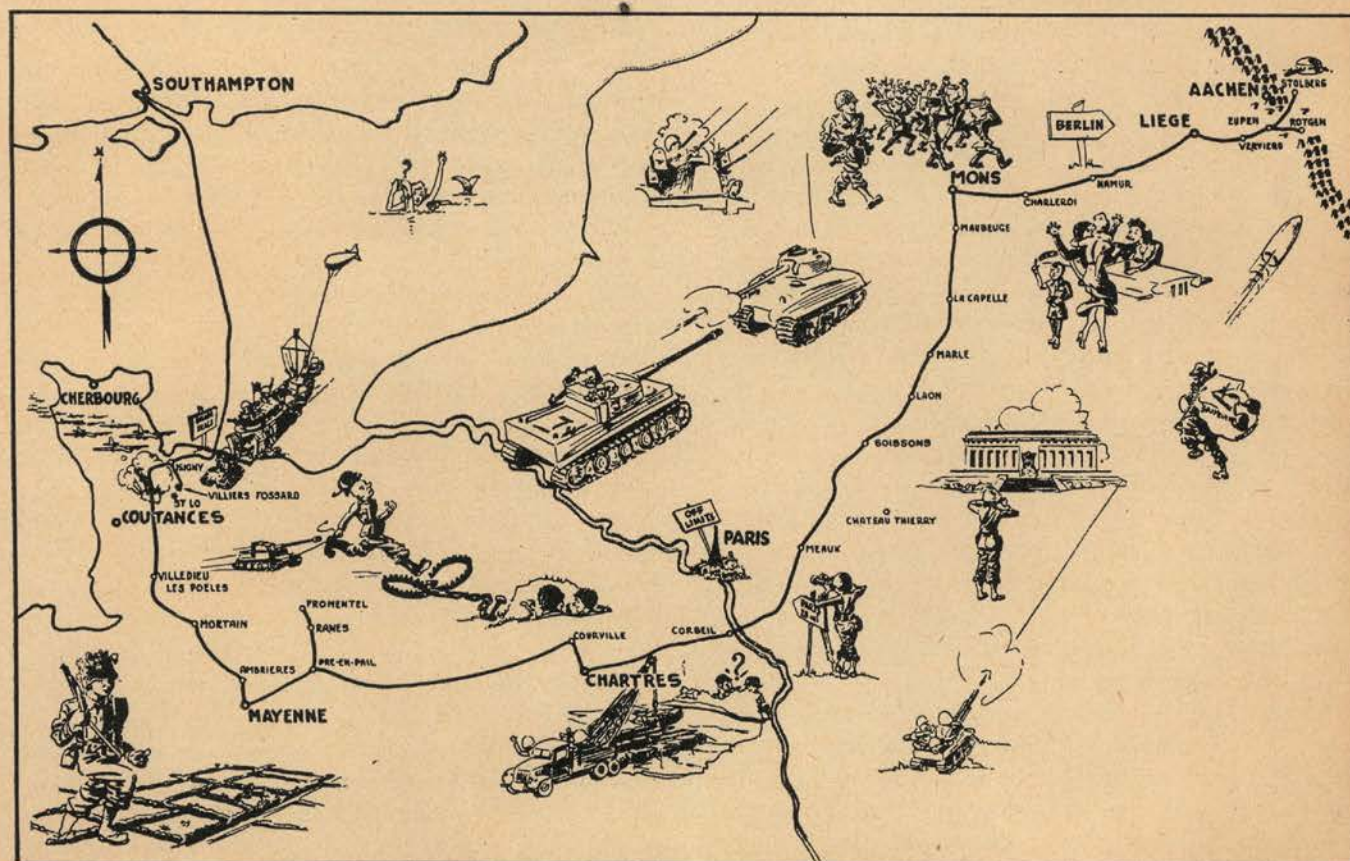
Individual performances were flawless. Tank commanders drew straws—the winner leading the attack. Fighting was often at 70 to 100 yards. One TD neutralized two Panther tanks at the negligible range of 25 yards. Two shots pierced the thick frontal armor of the vaunted Mark Vs. The TD commander himself was killed when he dismounted from his vehicle to aid the enemy wounded. Tank Destroyers of the 703d TD Battalion proved extremely valuable on road block positions where they helped smash German armored counterattacks.

On the afternoon of August 18, the Spearhead Division, represented by tanker Sergeant Donald Ekdahl of the 33d Armored Regiment met advance elements of British armor on the road near Putanges. The trap at last was closed, and for the 3d Armored Division the heaviest fighting was over.

After the Battle of the Argentan-Falaise Gap the division moved overland to the vicinity of Courville and Chateaufort, between Dreux and Chartres, and on August 24 rolled again—this time to Corbeil and Melun. Preparations were made for the Seine crossing. From this point on the pursuit became a mad dash.

ACROSS THE SEINE

The march through northern France was a nightmare without benefit of sleep. The entire pursuit of dis-



organized remnants of a Nazi army was a test to determine which had more stamina—men or machines. Spearhead men, trained to care for their machines first, served the iron monsters with the deference due to pagan gods. In the headlong dash, supply trains accomplished marvels of movement. Often these "rear echelon" troops were forced to fight a path through enemy held territory to deliver their important cargoes of gas, ammo and rations. At one time, the trucks were hauling gas 200 miles overland.

By the time the Argentan-Falaise gap was closed the 143d Armored Signal Company alone had strung 1,200 miles of wire. In the sweep across France an average of 1,000 radio and personal dispatches per day were handled. The mileage of the signal men was 8 and 10 times the total distance covered by the division in attack.

Throughout the entire operation north of the Seine, the division was inspired by the thought that it was the spearhead of the U. S. First Army, and the phrase: "Call me Spearhead" became popular.

Crossing of the Seine was begun on the evening of August 25 by leading elements of CC Boudinot and was completed before darkness of the following day. In addition to a bridge built earlier, a 540-foot steel treadway, put up by the 23d Armored Engineer Battalion south of Corbeil, was ready for use by daybreak of the 26th.

After crossing the Seine, CC Hickey led the advance, with Boudinot on the left. Moving to Chausse en Brie, in two columns, the command drove through the 48th German Infantry Division, and closely pursuing the retreating enemy and overrunning several rearguards, on the following day passed through Coulommiers and crossed the Marne.

BEYOND THE MARNE

By midafternoon of the 28th, CC Boudinot had advanced across the Marne and, in an enveloping movement from the west, captured Meaux, farthest point of the German advance in World War I. After routing the German 9th Panzer Division, 48th Infantry Division, and security battalions, the combat command plunged on toward Soissons. So rapid was the advance that in many cases the enemy front line became only the width of the road. German units, closing in behind each advancing column, were doomed to destruction. Result, however, was that every element of the division, including even the trains, became a combat unit. Soissons, taken later that night, suffered an attack by 20 ME 109s.

Meanwhile, CC Hickey went on to take objectives beyond the Aisne River.

During this time all had not been peaceful at the division CP. On August 26, after crossing the Seine, it reached Quincy, but not before withdrawing Germans were encountered. The following day the CP caught up with a German supply column at Brie Compté

Robert, took part in a fight, and moved to Mangy le Hongre. At dawn the CP awoke to the familiar rattle of German machine-gun fire. An enemy convoy attempting to drive through the area was destroyed.

The shooting-up of three trains in the vicinity of Braisne and Soissons on August 28 was a division highlight. By coincidence both combat commands participated. B Battery of the 486th Antiaircraft Battalion, attached to the 67th Field Artillery Battalion, fired on the engine of one 42-car train at Braisne and stopped it after putting a 37mm shell through the engine boiler and raking the cars with .50 caliber machine-gun fire. At about 2000 hours, elements of the 32d Armored Regiment of CC Hickey stopped another train at Braisne and engaged Mark VI Tiger tanks loaded on flat cars. Meanwhile, Task Force 1 (Lovely) of CC Boudinot took part in a third episode and destroyed a freight just outside of Soissons.

Villiers Cottrets, which CC Boudinot had passed, was reoccupied by the Germans on August 29. This move by the enemy impeded the division advance and resulted in the heaviest action on the corps front that day. By nightfall, however, the CP was located outside Soissons. A German ammunition dump estimated at 4,000 truckloads, was taken at Villiers Cottrets.

That same day the crossings of the Aisne River were secured, and both combat commands advanced to take high ground to the northeast of the river. Chief enemy resistance on the 20th was reported in the vicinity of Montcornet and Rozoy, with the 4th Cavalry Group, active in reconnoitering these areas.

NEW DIRECTION: NORTH TO MONS

Given the mission of taking Sedan and Charleville on August 31, the combat commands moved out, Hickey on the right, Boudinot on the left, division reserves in the center. At 1315 hours word came from the commanding general of the VII Corps—The direction of the advance had been completely changed from due east to north!

"You could hear the brakes squeal when we radio'd the order to halt!" one staff officer said. Some of the elements already had driven 30 miles east before the new command was received; two of the 6 columns already had engaged the enemy. The entire change in plan was accomplished by voice and radio without the writing of a word other than entries into journals.

Mons was the new objective. CC Boudinot was to advance to Vervins; Hickey to Seraincourt and Rozy sur Serre. The next day a 6-pronged drive was launched toward Mons with combat commands on a broad front, from left to right, Boudinot, Hickey, and a separate command to the right, which centered around the 36th Armored Infantry Regiment.

CC Hickey pushed on to Avesnes, while Boudinot pounded through Vervins, passed LaCapelle, and by nightfall was due west of Avesnes. Several river crossings were made during the day, and air support was

called to bomb a number of enemy columns. Elements of the 36th Infantry's combat command had been delayed, but late in the day reached Hirson.

In the early hours of September 2, the first flying bombs passed over the heads of division troops. They were not the last.

That afternoon the first elements of the 3d Armored Division crossed the Belgian border. At Maubeuge, when the task force commander had been asked via radio whether the enemy was there, he had replied that there were so many joyous civilians on the streets that there wasn't room for Germans!

The second great battle for Mons was not anticipated by either the Wehrmacht or the American First Army, and yet it probably decided the outcome of future battles more profoundly than had any other action in which this division had engaged. The estimated 40,000 German troops, cut off at Mons by this division and further mauled and rounded up by the ensuing 1st Infantry Division, were attempting to retreat to the Siegfried Line. Their organization shattered, and without communication, the vanguard of this huge force ran into road blocks of the 3d Armored Division on September 3. The debacle that followed was complete.

The 3d Armored Division captured nearly 8,000 troops at Mons, killed many more. The 1st Infantry Division, supporting the armor, captured 17,000 more. One platoon of Company A, 703d TD Battalion, destroyed 20 enemy armored vehicles in 6 hours on a single road block!

Three German general officers were captured by the division in this battle—Lieutenant General Rudiger von Heyking, of the 6th Luftwaffe Field Division, who said that he had been “completely surprised” because he had been advised that there was a “15 mile escape gap” south of Mons; Major General Hubertus von Aulock, ex-commander of a *kampfgruppe* which was supposed to defend Paris; and General Karl Wahle, once garrison commander of the city of Hamburg.

Prisoners constituted a vexing problem. Major Charles Kapes, Provost Marshal, set up a prisoner of war enclosure in an old sugar factory close to the fighting area. With prisoners pouring in by the hundreds, and nearly 4,000 already confined, Major Kapes and a force of 16 division MPs and 27 infantrymen from the 1st Division waged a pitched battle against attacking German soldiers. They not only turned back the attack but captured 300 more of the befuddled supermen!

ON TO GERMANY!

By noon of September 4 the situation around Mons had become somewhat stabilized, and the division pushed on to Namur: CC Boudinot on the right, Hickey on the left.

Task Force Mills (Major Herbert Mills) of CC Boudinot reached Namur that day. CC Hickey bivouacked that night east of Charleroi, and CC Boudinot, which had allotted 45 minutes for passage through the

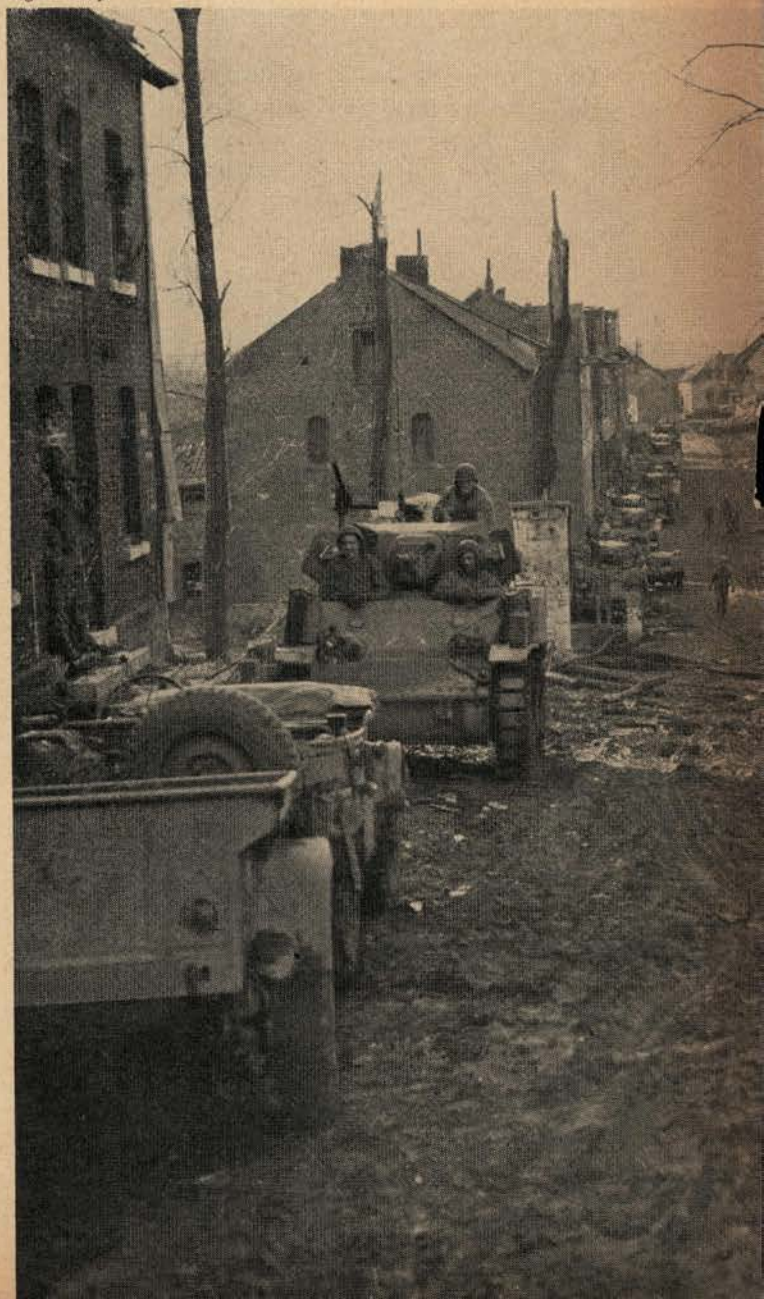
city, took two hours and 45 minutes. Advance was delayed by the tumultuous welcome of the citizens.

The next night, with all elements of the division in the vicinity of Namur, engineers pushed two bridges across the Sambre and Meuse rivers. The first bridge measured 120 feet long; the second, constructed in 7 hours and 20 minutes, was built under the cover of darkness. CC Boudinot's Task Force King was detached to aid the 9th Division at Dinant.

Terrain east of Mons was a far cry from the wide plains of northern France. In Belgium narrow valleys with swift running streams split precipitous wooded hills. Densely populated and highly industrial, the valleys were capable—if properly manned—of easy defense.

Liege was the new objective. By nightfall, Huy, with the Meuse bridges intact, was in our hands; CC Hickey was within quick calling distance at Antheit, and Boudinot's leading elements were already beyond the

Tanks of 3d Armored Division pause in Huchin, Germany, November 25. Units of the 3d were first in Germany. Signal Corps Photo



town. Meanwhile, Task Force Hoban encountered stiff resistance from by-passed troops.

While the Germans were preparing hasty defenses along the river route, CC Boudinot, on the south side of the river, turned to the right and the high ground, and by nightfall Lieutenant Colonel Lovelady's task force was on its objective, the southeast side of Liege. So surprised was the enemy by the flanking move that their guns were pointed the wrong way.

The night of September 7 General Konrad Heinrich, commander of the German 89th Infantry Division, was killed as he attempted to drive through a roadblock near Liege in a sporty convertible cabriolet. He was the 4th German general for whom the division had accounted.

On the 8th Lieutenant Colonel Higon's force with supporting infantry cleared Liege of the enemy, while the engineers constructed 510 feet of treadway bridge across the river in darkness. Meanwhile, CC Hickey mopped up on the north side of the river. That same day General Bock von Wulfingen, a 5th German general, was captured.

Setting out at 1100 hours on the 9th, with Verviers as the objective, CC Boudinot met organized opposition for the first time in days. Meanwhile, CC Hickey crossed to the east of the Meuse and advanced to the high ground north of Dison—also against opposition. Allied air attacked German columns stretching from Louveigne to Limbourg, and by that night leading elements of the 33d Armored Regiment were in Pepinster.

The following day CC Hickey reached Limbourg, where it was temporarily stopped. Boudinot ran into many felled trees beyond Theux but continued his advance and took Verviers. At Theux a German military warehouse, filled with foodstuffs and tobacco, provided 3d Armored Division men with cigars. That day the division CP moved to Verviers.

Eupen, falling to CC Boudinot on the 11th, was occupied by the infantry. CC Hickey knifed through Lohirville and Welkenraedt against constant pressure to an objective northwest of Eupen. The 83d Armored Reconnaissance Battalion screened the division's movement and air cover was provided.

As the division neared Germany V-for-Victory signs, flowers and "vive L'Amerique" declarations disappeared. Eupen was a sullen, paradoxical town. A few Belgian flags hung from the windows; the white banner of surrender trailed in others. This was border country, a place of conflicting emotions, bitter hatred—and suspense. Last stop in Belgium. The somber-eyed German civilians of Eupen glanced furtively at the triumphant armor of America and wondered whether the vaunted West Wall could possibly halt the avalanche.

Immediately, General Rose ordered reconnaissance to patrol the routes toward the Siegfried Line, reconnoiter for crossing points, and determine the strength of the enemy.

Recon elements of CC Boudinot set out at 0800 on

September 12. Several routes were surveyed, and one finally chosen. The advance was barred by road blocks of imbedded steel rails and gates of heavy cables strung across the road. The obstacles were covered by fire from heavy pillboxes on the flanks. Excellent coordination between tanks, infantry, engineers and artillery, quickly reduced these strong points. While artillery and tanks maintained heavy fire, engineers attached to the task force moved forward to remove the blocks. Tanks rumbled through the gap and at 1451 hours leading elements of Colonel Lovelady's task force were on German soil. It was the first invasion of Germany in force since Napoleon. Resistance in Roetgen was light. The 83d Reconnaissance Battalion occupied the town, and outposted it immediately.

INSIDE HITLER'S REICH

Meanwhile, CC Hickey also had plunged into Germany proper, and on the night of September 12-13 assembled in the concealment of the Aachen-Eynatten Wald. After patrols reconnoitered the dragon's teeth of the line during the night, the attack jumped off at 1000 hours under the direct supervision of Colonel Doan. Infantry lunged forward through the dragon's teeth, followed by engineers and tanks. Their combined efforts breached the first line and led to a heavy exchange of fire. A number of 3d Armored Division tanks were knocked out and, for a time, the attack faltered, but soon the task force rallied and stabilized its gains. September 14 was spent in mopping up the area and in reconnoitering the second line of defenses.

On September 15 the second line of the Siegfried was breached and the town of Busbach cleared. Opposition was extremely heavy. Artillery and mortar fire became intense, but the command moved forward. Fresh enemy troops were encountered for the first time. Fortunately the rapid advance, plus the destruction of the large German force at Mons, combined to prevent the enemy from properly manning the West Wall.

CC Boudinot also had attacked the outer defenses of the line on September 13 with similar success. Division engineers, invaluable in the breaching of the line said that the Siegfried defenses were not a particularly intricate engineering problem. "With proper covering fire," said Colonel L. G. Foster, "we could crack the Siegfried any Thursday afternoon, and have time to knock off for tea."

The 3d Armored Division had wound up one of the most amazing armored force operations in the history of warfare. Eighteen days from the Seine to the Siegfried! And now, in a final, powerful burst of effort the division had smashed completely through that storied West Wall into the confines of greater Germany. With the 1st, the 4th, and the 9th Infantry Divisions, these men who had first grappled with the enemy only two months before, had now become part of the "First Team of the First Army."

Medics load a casualty on stretcher-carrying jeep, Tettingen, Germany, Jan. 15, 1945.



Medical Evacuation

With a Reconnaissance Squadron

TRAINING

THE nature of work performed by a medical detachment of a reconnaissance unit in actual combat presents problems of evacuation and medical care under fluid conditions that are not covered by any standard procedure or field manual.

The tactical situation of a reconnaissance unit, in which troops work great distances apart, necessitates an individual training program for the medical detachment; so to facilitate prompt medical aid for individual casualties, a special training program was set up for the Medical Detachment, 125th Cavalry Squadron. Among other things the program called for one half-track ambulance and two aid men to accompany each troop on its mission. This plan enabled the ambulance to retrace its route when returning to the aid station (which would either be with or close to squadron headquarters) instead of being dispatched from there to go forward and locate a troop and its casualties. Another advantage derived from this practice was the reduction in the time lag between infliction of the wound and receipt of medical aid.

The plan to have an ambulance accompany each troop necessitated intense training in map reading,

evacuation under the various tactical situations, and the development of individual initiative and self-reliance in all medical matters. To do this, the enlisted men were not only trained in the care and treatment of the wounded but were instructed in the diagnosis and treatment of various common illnesses which occur whether in garrison or in the field. In addition to lectures, training consisted in having medical aid men, under the supervision and correction of the medical officers, diagnose and treat patients.

Great stress was laid on the tactical employment of a reconnaissance unit. It was felt that if the aid men understood the tactics involved, they would be able to make a more competent decision on the care and evacuation of patients. Besides training by lectures, demonstrations, and dispensary applications, actual field problems were worked out so that even on a routine march by the squadron to a firing area, the medical detachment practiced this chain of evacuation.

Every reconnaissance soldier should be well equipped to give himself or his comrade first aid. In order to achieve this, the training program was extended to include demonstrations and county fair exhibits for all members of the squadron.

Mobility of the aid station was deemed very important. An attempt was made to arrange equipment in

*Commanding, Medical Detachment, 125th Cavalry Reconnaissance Squadron (Mecz).

by Captain Lawrence Loewinthan, M. C.

the half-track ambulances and the one-ton trailer in such a manner as to make it unnecessary to remove anything from the vehicles. One could work directly in and from them. Both the one-ton trailer and the aid station half-track ambulance could go into action in 30 seconds, and the ambulance could even be used as an examining and treatment room on the move.

PROCEDURE

When the 125th Squadron arrived at the assembly area, one mile south of Vouilly, July 1, 1944, it was assigned a defensive mission along the Vire Canal. Immediately the medical detachment put into operation its preconceived plan and sent one ambulance with each reconnaissance troop. This mission lasted only two days, and there were no casualties.

On July 7, the squadron was attached to the 30th Infantry Division and went into action across the Vire Canal in the vicinity of St. Jean de Daye and Goucherie. This was an assault mission, on which the squadron encountered well established antitank weapons and well dug-in infantry positions, protected by high hedgerows. Although casualties were high, the evacuation system worked very satisfactorily. The armor protection of the half-track ambulances saved the aid men on numerous occasions when small-arms fire hit the ambulances. (One ambulance had its flag shot away and its water can on the side destroyed.) The ambulances found the aid station quickly and easily. Patients were received, treated, and forwarded in fast time and good condition.

The squadron's next assignment was a holding mission in St. Lô, with foot reconnaissance of the high ground to the east. On July 21 the aid station, a half-mile south of Couvains, received a concentrated artillery barrage; 8 men were killed outright and 32 wounded. With the medical detachment thus suddenly over-taxed, it was necessary for every aid man to work individually and as rapidly as possible in an effort to treat and evacuate the casualties before any more artillery fell, and their training in individual resourcefulness paid dividends. Within 30 minutes every patient had been treated and evacuated, and all dead collected and turned over to the GRO and the chaplains. Had it not been for the stress placed on the training in individual initiative the results achieved could never have been attained. The aid station site had been picked between two very high hedgerows, which were parallel to each other and about 12 feet apart. One hedgerow was over 6 feet high and the other 5 feet. It is believed that this location, plus deep, well covered foxholes, prevented injuries to the medical detachment, although artillery fell all around.

On August 14 the squadron was ordered to reconnoiter ahead of the 30th Infantry Division in the vicinity of Domfront and assault Hill 228 and the region of Dompierre. Because the medical detachment lacked sufficient personnel to allow one aid man per platoon,

as does the infantry, and because the T/O calls for no litter bearers, the medical situation on this occasion was made extremely difficult.

On August 19 the squadron was given the mission of preceding the 30th Infantry Division and 2d Armored Division on a wide sweep from Dompierre to Senonches. This was a typical cavalry reconnaissance mission, with extreme mobility and fluidity. As a result of the grit and dust there developed a tremendous number of cases of conjunctivitis which at each halt were treated in the specially constructed one-ton trailer without holding up the column or the tactical situation. Altogether, almost 300 cases were treated.

On August 22 the squadron was ordered to attack due north through Breteuil, Verneuil, and Conches. On the left flank of the 2d Armored Division, the reconnaissance troops were cleaning up enemy units that had managed to pull out through the Falaise Gap. It was on this mission that one of the medical detachment's half-track ambulances hit a land mine but, although the front end of the vehicle was destroyed, neither the driver nor the assistant driver was injured.

Beginning September 1 the squadron drove north through Peronne, Mouricourt, Valences, and into Belgium just south of Tournai.* Because of the speed of the advance there was never time to set up an aid station; patients were examined and treated in one of the half-track ambulances, redesignated into a mobile aid station. This method worked very well. Despite the fact that the second echelon of evacuation was at times 95 miles behind, the three collecting company ambulances kept the flow of casualties running smoothly. The system of having half-track ambulances out with the troops once again proved successful in finding the casualties quickly and returning them to the mobile aid station without delay.

During the 4 days that it took the squadron to advance from the Seine into Belgium, the aid men ate, slept, treated patients, and evacuated them on the road and on the move. During this time three factors kept the medical situation from breaking down. They were:

1. The mobile half-track ambulance, which had been converted into a mobile aid station.
2. The one-ton trailer that became a mobile dispensary by raising the sides.
3. The collecting company ambulances attached to the aid station for second echelon, which kept flowing back and forth under tremendous hardships of distances and ever-changing situations.

September 30 the squadron once again went into a defensive position, this time on the left flank of the XIX Corps. For the first time since the squadron was committed to action, the medical detachment moved its aid station indoors—in a factory north of Sittard. Winter was setting in, and with it, many cases of upper respiratory diseases. The squadron unit had been in

*See "From Paris to Belgium With the 125th" Page 12.

constant action for a tremendously long period of time, and the reaction began to appear in the form of nervous disorders and combat fatigues. The replacement situation was quite difficult, especially for trained cavalrymen, so a 10-bed infirmary was set up in the factory for slightly sick and wounded cases which were treated on the spot and returned to duty.

While attached to the 84th Division on November 26 the squadron was given a dismounted holding mission at Prummern and Beeck, Germany. The medical men went dismounted and once again the lack of sufficient personnel and litter bearers caused the treatment and evacuation of the wounded to be extremely difficult. This mission further proved that a half-track ambulance with its two aid men works well for all types of *cavalry missions*, but if the aid men are dismounted, the personnel is insufficient. Platoon aid men plus litter bearers should be attached for this type of operation.

IMPROVISATIONS

The detachment found no reason to improvise its technique or procedure, but it did often need to improvise equipment.

1. The three half-track ambulances assigned to the reconnaissance troops were reconstructed in the following manner:

The top inserts for carrying litters were moved as far as possible to the sides to make room for an aid man to move between the litters when necessary. This arrangement facilitated the loading of the ambulance, which, with the original setup, had been extremely difficult. A step was found necessary for the loading of the ambulances. The last improvised item was a sick call box, where small quantities of the various medicines used on sick call were carried. Throughout the campaign this proved of tremendous value, as troops were often scattered over a radius of 30 miles, and the usual small sick call cases, such as colds, athlete's foot, gastritis, constipation, and mild diarrhea, were handled in the field by enlisted personnel.

2. The fourth half-track ambulance was changed into an improvised aid station. On one side the litter attachments were moved as far to the side as possible (as in ambulances). On the other side a work table and storage cabinets for medical supplies were built. With this arrangement the material could be taken off the shelves, placed on the work table within easy reach of the surgeon working on the patient lying directly opposite. An improvised lighting system consisted of two ¼-ton headlights (working off the half-track battery) which were freely moveable in all directions and could be brought to concentrate on any portion of the litter. A step was also necessary on this ambulance. To allow the surgeon to stand up, the roof of the half-track was raised to a height of almost 6 feet.

3. The one-ton trailer was completely redesigned so that by raising the sides, it would become a mobile dispensary. The sides were removed and hinged at the

top to permit them to be raised in a manner similar to a "hot dog" stand. A second floor was built high enough above the first for the No's. 1, 2, 4, and GC chests to be pushed between them from the rear. The upper portion of the trailer was divided in half by a partition running from front to back, and on each side of the partition was a shelf. When the side of the trailer was raised, there in full view were all medical supplies available. The two halves of the trailer were identical, so that it was possible for two separate teams to work, one on each side, at the same time. On both sides were litter inserts from which the litters stretched to one of the chests with its litter support.

To set up the aid station, therefore, only the following steps were necessary.

1. The sides of the trailer were raised.
2. The chests were pulled out and set in position away from the trailer.
3. The litter rest was placed on the chests. The time to set up all 4 chests, allowing for 4 separate treatment stations, was less than 5 minutes. Litter racks were built on the ¼-ton trailer.

EVACUATION

The system of evacuation of a reconnaissance outfit must be simple and yet very flexible, as the tactical situation may change without any notice. The system for this detachment was based on the following assumptions:

1. The platoon would always know where the troop headquarters was located; therefore, they would send the patient back to the troop headquarters, where an ambulance and medical aid was always available.
2. The troop would always know where squadron was; therefore, the half-track ambulance would bring the patient back to the squadron headquarters, where the aid station was located.
3. The collecting company ambulance, which traveled with the squadron aid station, could always go back and find a collecting company.

This system, used during all types of missions in France, Belgium and Germany, was uniformly successful throughout, even during the push north through France, when the squadron was receiving orders while on the move. At no time did the evacuation system fail to work smoothly and efficiently.

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Editorial Comment

Spearheads

Out of this war U. S. armor has emerged as a powerful arm of opportunity. Using cavalry tactics, armor has exploited the breakthroughs made in German lines, plunged forward to disrupt rear echelons, prevent the enemy from reorganizing, cut off his supplies and communications, and spearheaded phenomenal drives into enemy-held territory.

The first decisive breakthrough in which American armor played a significant rôle occurred during the final days in Tunisia. On May 3, 1943, elements of the 1st Armored Division, commanded by Major General Ernest N. Harmon, broke into Mateur, then quickly fanned out toward Tunis and Bizerte to cut up and surround remnants of the once powerful German Afrika Korps.

In the 38-day Sicilian Campaign in 1943 the 2d Armored Division, commanded by Major General Hugh J. Gaffey, spearheaded the 72-mile dash from Agrigento to Palermo in which Major General Geoffrey Keyes' II Corps of the Seventh Army (then commanded by Lt. General George S. Patton) reached the Tyrrhenian Sea on July 22, neutralized thousands of German and Italian troops, and prevented any organized resistance on the western third of the island.

In Italy on June 3, 1944, elements of the 1st Armored Division, still commanded by General Harmon, broke out of the Anzio beachhead and spearheaded the advance of the VI Corps, under Lt. General Lucien K. Truscott, through Rome. With Task Force Howze in the lead, the 1st Armored Division then pursued the enemy north until the division was drawn from the line at Volterra on July 10.

As American troops broke out of the Normandy Peninsula in July 1944, the 3d Armored Division (Major General Maurice Rose, commanding) and the 4th Armored Division (Major General John S. Wood, commanding) spearheaded the phenomenal drives of the First and Third Armies across France to the Siegfried Line.

Now, in March, 1945, as new breaks are being made in German defenses—through the Siegfried Line and across the Rhine—armored spearheads are again out front, pursuing, harassing and surrounding a surprised and stunned enemy. To the veteran 3d and 4th Armored Divisions have been added new armored spearheads—notably, in recent actions, the 6th, 9th, and 11th, commanded respectively by Major General Robert W. Grow, Major General John W. Leonard, and Brigadier General Charles S. Kilburn. The 9th recently led the First Army across the Rhine River into the heart of Germany. The 11th, with the Third

Army, spearheaded the drive north along the west bank of the Rhine to join units of the First Army south of Remagen and cut off some 50,000 Germans in the Eifel region. On March 20, the 6th Armored Division, with the Seventh Army, linked up with units of the Third in the Saar region and sealed off another 80,000 Germans doomed to inevitable death or capture.

It is interesting to note that cavalry-trained officers are predominant in these spectacular actions. Of the generals listed above, those who came up through the cavalry are Generals Patton, Truscott, Keyes, Harmon, Rose, Grow, and Kilburn.

✓ ✓ ✓

What Victory Means to Me

The following essay, written by Private Isadore Rubin, won first prize (\$500 war bond) in a contest conducted in the Mediterranean Theater of Operations. It is reprinted here because of its outstanding merit.

At the moment, it's difficult to think of victory as meaning anything but an end to fear, to loneliness and death, and a chance to go back to pick up the strands of interrupted lives.

Henceforth, each simple pleasure, each right we always took so lightly will take on rich meaning. We know what it cost to keep them, and we know too that we've really earned a share in them.

But victory means much more.

With victory, we stand on the threshold of limitless inventions and comforts. We possess the resources to extend our horizons in every field of endeavor and every aspect of human relations.

However, ancient and stubborn enemies are still to be conquered. Enemies which must be overcome not by armies, but by minds and hearts and talents set wholly free. Such enemies are poverty, insecurity, prejudice, disunity.

These too shall be conquered. For we have begun to think more deeply and more dynamically. And if we can sweep aside untold obstacles to smash the most ruthlessly efficient machine of destruction ever devised, surely we possess the vision and the practical genius to organize for peace, security, and a world designed for living.

Till now, many have ruled because of accident of birth or power of wealth. But throughout the world, the unfit, the weaklings and the traitors are falling by the wayside. New leaders are rising from the people those who never sold their heritage of courage, faith, and simple human dignity.

With victory, we shall have destroyed those who

would have enslaved the world. Our sacrifices have been great, but we have won the opportunity to emerge from the animal kingdom and enter the kingdom of man.

I look forward to living in such a world.

Across the Rhine in 1918

9 March 1945

Editor, The CAVALRY JOURNAL:

The recent press accounts of the brilliant advances of the First and Third United States Armies to and across the Rhine have recalled vividly to my mind my own experiences in the last war as commanding officer of the first troop unit to reach and cross the Rhine River. That unit was Troop I, 2d Cavalry. I thought perhaps a brief recital of our experiences at that time would prove interesting to your readers of today. Troop I, 2d Cavalry, was a horse unit, of course, and not mechanized and motorized as the advanced units of today are.

It was shortly after dusk on the evening of 6 December 1918, probably about seven o'clock, in the town of Insull, Germany, that I received orders to move on to the Rhine River.

Troop I had been acting as advance cavalry for the U. S. III Corps during the march through Belgium,

Luxembourg, and into Germany. We had just finished supper when a motorcycle orderly found my billet and directed me to go to the nearest telephone, which was in a small town some three miles to the west, and call the G-3 of the III Corps, Colonel Adna R. Chaffee.

When I called Colonel Chaffee, he directed me to complete the remaining scheduled two-day march to the Rhine River on the following day. This we did, arriving about 2 P.M. at the town of Remagen, the very spot where General Hodges' troops are reported to have crossed the Rhine River on 7 March.

We had been informed that we would remain on the west bank of the Rhine River for about five days before crossing. A reconnaissance was accordingly made of Remagen and the surrounding area to select a suitable billet for the troop. A five hundred acre estate known as "Haus Calmuth," which served as a hunting preserve and country estate for a man who lived in Cologne, was selected. I have no doubt but what this beautiful, modern house and grounds are being utilized today as a headquarters for some of our larger units.

After five days at Haus Calmuth, the troop crossed the Rhine on the Ludendorff Bridge, which apparently is still undamaged, and reconnoitered the perimeter of what was to become the American bridgehead at Coblenz. We spent the night at a small town, Altwied, and the following day completed our reconnaissance, arriving at Neuwied, which was to become III Corps

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Headquarters. The experiences of Troop I are set forth in more detail in an article published in *The CAVALRY JOURNAL* in March 1923.

I thrill at accounts of the exploits of the cavalry units of today. I am sure the glamor of the cavalry and the *esprit de corps* that has always characterized it have not changed.

Sincerely yours,

S. H. SHERRILL,
Brigadier General, U. S. Army.

Men In Battle

How much of a battle can a soldier witness? If a man is swimming for his life, how much of the ocean does he see? Half a dozen perilous yards in front of him, a few menacing feet to the right and the left of him, perhaps; while as for what lies behind him, he knows nothing and has no time to guess. He is straining every muscle and nerve in order to keep alive. If anger, or fear, or the excitement of combat have not crowded out all other emotions, he may occasionally feel a certain astonishment at not being dead. Mr. Mann has always believed that the peculiar dull silence of old, scarred warriors is not the silence of sick horror but the silence of vague emptiness—the half-shamefaced silence of men who cannot think of anything to say. A soldier can only speak of what he alone has done, and this may be told in a few seconds, because there is not very much for one man to do. When the moment comes, the fierce moment of bloody contact, every man is alone in his own red mist with his own desperate enemy. The beautifully coordinated army breaks up for a little while into the atoms of which it is composed—into tiny, lonely life-histories.—GERALD KERSH, in *Faces in a Dusty Picture*. (Whittlesey House.)

Motor Maintenance

From the South Pacific comes this statement of a high-ranking officer who knows what he's talking about: "With twenty-four-hour operation, a normal shortage of trucks, overworked drivers, night-driving, poor roads, and the usual lack of responsibility for the protection of government property which bedevils forward areas, motor maintenance—especially first echelon—must receive the constant attention of all commanders if the deadline is to be kept below an excessive proportion of vehicles assigned. The prescribed periodic checks, monthly and semiannually, must be halved, at least. Motor maintenance is most important and requires constant and unremitting attention."

It's a lot easier to prevent a fire than it is to replace a building after it has burned to the ground. Preventive maintenance is like fire prevention—it protects equipment from needless destruction.

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Keep Bearings Wrapped*

Bearings are still among "the chosen few" at the top of the list of critical items used by the Army. Therefore, constant attention to maintenance practices in the use and handling of bearings is one of the important duties of Army personnel whose responsibilities involve operation and maintenance of mechanical equipment on which they are used. And no less important than their proper use in service is their handling before installation.

A common failing in this phase of operation is the tendency to take bearings out of the wrappers before they are ready for installation, or to fail to wrap them when they are being stored.

An unwrapped bearing is like a soldier without a foxhole. It hasn't a chance against its mortal enemies—sand, grit, rust, and breakage—for it takes only a couple of grains of sand to score a bearing and turn it into a piece of scrap. A bearing stored in a bin without wrapping is subject to a constant shower of particles of sand and grit sifting down from items thrown in on top of it. A bearing placed on the running board of a vehicle or on a dirty workbench can pick up enough grit in one instant to ruin it in short order. Moisture from the hands will cause rusting as surely as if the bearing were dipped in a pail of water.

There are, of course, numerous other danger points in handling bearings which are equally vital. They must always be cleaned and lubricated properly, and in this regard it is essential that dry-cleaning solvents and lubricants be *clean*. Lubricant containers, therefore, should be kept covered as much as possible, to prevent dust and grit from settling and blowing into them. Hands, benches, rags, tools—everything that touches the bearing—must be kept *clean*.

Lubrication orders and instructions in technical manuals must be followed to the letter, so that bearings are installed and lubricated properly.

Bearings are scarce—they *must* be protected. And the wrapping is one of the most important forms of protection. A bearing that is unwrapped for any reason should be wrapped again before storing. A bearing should never be issued unwrapped. Anyone who receives an unwrapped bearing should wrap it before storing. Bearings must be kept wrapped *at all times*—right up until the time they are installed.

*Maintenance Division, Headquarters, Army Service Forces.

General Hawkins' Notes

Horse-Armor for U. S. Army?

THE United States is the leading mechanical nation in the world. Its amazing mechanical developments, especially in transportation, have led our people to think in terms of mechanics about all military movements. Everyone knows how to drive a motor vehicle, and almost everyone knows something of its care and maintenance. Paralleling this trend, on the battlefield, armored forces have taken over the rôle of cavalry and are regarded in most circles as competent for that rôle.

Although at the beginning of this war infantry, like cavalry, was disparaged in the eyes of many as obsolete, it has now regained its rightful recognition as the basic arm. Despite the wonderful successes of Russian cavalry, the American public remains oblivious to cavalry operations and displays no interest in whether American cavalry could have done as well or whether the lack of cavalry in the U. S. Army is a self-imposed disadvantage that may have handicapped operations in some theaters of the war.

Cavalry is mentioned often in dispatches from the various fronts. But these dispatches refer to mechanized cavalry reconnaissance units, which have served with such distinction in the European Theater, or to the 1st Cavalry Division which, without its horses, is serving in the Pacific Theater. This division is partly armored and partly motorized and, operating as a special type of light infantry, is taking on both infantry and cavalry rôles. As such, it has become famous. All of these units have retained their cavalry celerity of movement and many of the principles of cavalry action. This discourse, however, is concerned solely with the value of horse cavalry, the combination of horse and mechanized cavalry, and employment of horse cavalry with armored forces.

The only positive examples of the value of horse cavalry in this war are found in the successful exploits of the Russian Army. Would not horse cavalry have been just as valuable to the U. S. Army? One can only surmise what might have been done if cavalry had been available, but certainly an opportunity to surmise correctly is afforded by a study of the different campaigns, combined with a knowledge of the capabilities of modern cavalry—with its horses, its trucks, its armored vehicles, its pack horses bearing supporting weapons such as machine guns, bazookas, 80mm mortars, and its great cross-country mobility.

From all sources of information gained from newspaper accounts, reports, communiques, letters and personal conversations with officers returned from various battlegrounds, it appears that there have been plenty

of opportunities for the useful employment of cavalry. It is not only that opportunities have occurred. Crucial needs have occurred. The absence of cavalry has caused loss of men, loss of time, and actual frustration of effort.

In previous Notes published in *The Cavalry Journal*, attention has been called to the fact that mechanized cavalry reconnaissance units—as important and successful as they have been—could have been even more useful at less cost in men if they had been supported by or combined with squadrons of horse cavalry. It has also been stated that cavalry, combined with armored forces, would be far more effective for almost all cavalry rôles—offensive or defensive—than armored forces alone.

The importance of delaying actions has been illustrated particularly in the recent struggle in the "Belgian bulge," where for a time it seemed impossible to check or delay the swiftly moving German columns. Troops attempting to fight delaying actions were speedily enveloped, isolated and surrounded. Time was not gained to bring up other troops to resist the onslaught until the Germans had penetrated so far into our lines as to create a dangerous and an alarming situation.

A cavalry corps in each army, or several cavalry corps in general reserve, heavily armed with bazookas and 80mm mortars, as well as their other arms, could have fought delaying action without being completely engulfed and put out of action as were so many units of our army which were completely sacrificed. There are no troops so well suited for delaying and harassing actions as cavalry. Fighting in combination with our armored troops, these cavalry units would have been invaluable. With the time thus gained, our army commanders would have been able to bring forces to bear that would have limited the depth of the German success very materially.

When it became possible to organize our counter-attack, these cavalry corps would have enabled our armies to inflict far greater losses upon the Germans. As it was, our troops, both armored and motorized, were too much bound to the roads. Of course, there were cross-country movements. But they were too slow. The repulsed German troops were able to escape in almost every instance.

Troops on roads can move fast when there is scarcely any opposition, as was the case in France after the breakthrough in Normandy. But when serious opposition is offered, only cross-country maneuver can speed up our advance and threaten the destruction of im-

portant forces of the enemy. In most countries there is much terrain where neither tanks nor motorized troops can move rapidly.

When moving by roads from long distances in the rear, motorized infantry and armored forces can move much faster and farther in a day than cavalry could. But when cavalry is kept fairly close to the forward lines so as to be available when needed, it can move as fast and as far as armored troops under the same circumstances. It then becomes available for cross-country movements.

In the first part of the Italian Campaign, cavalry could have been extremely useful, and later in the pursuit of the Germans from the Anzio beachhead to the Arno River, the need for cavalry was almost tragic. The following details concerning this operation are particularly significant:

"The attacks in May seriously damaged the German forces. They lost heavily in men and equipment. They gave every indication of confusion and disruption. They gave up all pretense of security; sent all radio messages in clear text. Our troops encountered mixed units, pieced together hurriedly to fill gaps. Considerable advances were made against no opposition because German troops were mishandled. Many civilians described the picture of the retreat through Rome—men looking very tired and dirty, on overloaded trucks, on donkeys, Italian carts, straggling afoot. We took heavy anti-aircraft batteries intact. Every vehicle that broke down even in a minor way was set afire and abandoned; the roads in some places were choked with them. We captured small groups with written instructions, 'Get back to Florence in any manner possible!' All of these details add up to a picture of a beaten army on the verge of disaster—*But disaster never overcame it.*"

My informant goes on to say that a corps of two horse cavalry divisions could, in his opinion, have enabled us to destroy utterly the German Fourteenth Army. Our army could have marched to the Brenner Pass with little opposition. He says that even smaller cavalry units could have doubled the Fifth Army's take of prisoners. This could have been done, of course, only if the high command had held the cavalry for strictly cavalry operations and resisted the temptation to send the cavalry, dismounted, into the mountains during the previous winter to relieve the weary doughboys.

From the beachhead to the Arno, a distance of about 350 miles, the country is low but hilly (except on the very coast where it is mountainous). All of the country is well watered. The varied country affords cover and at the same time good observation points. Fields are separated by hedges or low stone walls—no fences or other obstacles to impede horse cavalry maneuver.

Our 1st Armored Division led the advance through this country. It had plenty of strength in tanks, infantry and artillery, paratroops, tank destroyers, etc. When the Germans stopped to give battle in force, all of

these troops were used. But there were no troops who could maneuver across the terrain with speed—not even the tanks.

Most of the time there were endless miles of our troops on the roads with only one platoon in front doing the fighting. There was no cross-country mobility. Even country that appeared from a distance as good tank country was so cut up with ditches and canals, or ravines in the low hills, that tanks could not maneuver far off the roads.

The problem for the enemy rear guards was made easy because all they had to do was to defend direct advances along the roads. They would post a few guns in good positions to fire down the roads, and the head of the pursuing tank column had to take it without support from the troops or guns immediately in rear. This was hard on the morale of the small unit in front. To outflank these positions, the tired infantry had to move across-country with great fatigue and little speed.

Our artillery, well back in the column, had to pound these enemy positions well before any advance could be resumed. Long, powerful columns were delayed for hours. A sense of frustration and impotency often overtook the leading column commanders. Usually, the enemy delaying forces had no supporting troops behind them. A single squadron of horse cavalry could have maneuvered to get behind these small German forces and force them either to move back quickly or be captured by combined forces in their front and rear. In many cases, even a single squadron of cavalry would have doubled the speed of the long leading columns on the road. The enemy delaying force was invariably composed of a few tanks, anti-tank guns, and half-track mounted infantry. Cavalry, well equipped with bazookas, would have gobbled them all up unless they moved back so quickly that they could effect little delay on our road columns.

Thus, with cavalry squadrons at the head of all advancing armored troops on the roads, and with a few cavalry divisions maneuvering independently between our advancing road columns, the results would have been stupendous. The German Fourteenth Army would have been totally destroyed, not because our cavalry alone could have destroyed it, but because our cavalry would have enabled our pursuing tanks and other troops to have advanced at double or perhaps more than double, the speed they actually attained under the circumstances.

This is only one of the examples that might be used to illustrate how cavalry would enhance the value of armored troops and mechanized cavalry squadrons. In fact, as often stated before, the combination of tanks or armored forces and cavalry could accomplish successes that are as yet unheard of in our army. Months of campaigning, thousands of lives, much equipment, frequently could be saved just by having our army fully completed instead of lacking in the one essential element it still needs—the cavalry.



Men of the 1st Cavalry Division move past a dead Jap in the Estera De Gallina sector of the Paco section of Manila, February, 1945. Their surprise entry of the city from the southeast on February 3 made possible the release of more than 3,000 internees from Santo Tomas Camp.

Signal Corps Photos

Cavalrymen Re-enter Manila

Manila, Feb. 3 (INS).—Gaunt, unshaven troopers of the 8th Cavalry swept into Manila at 6:50 p.m. . . .

This military coup, the most daring and dramatic in the Pacific war, was made by less than 800 cavalrymen who, after three days of ceaseless advance, sped into this surprised city without any advance knowledge of the Japanese strength here.

Flying mechanized columns, which advanced more than a hundred miles in three days, outdistanced all rivals to gain high honors of being the first to enter Manila.

It was fitting that this honor should go to a unit of Major General Verne Mudge's 1st Cavalry Division, led by 28-year-old Lieutenant Colonel Haskett Conner. His squadron has spearheaded the cavalry attack since the push began three days ago.

On that day the cavalrymen were 50 miles behind the most advanced outposts, and they had to travel



Major General Verne D. Mudge, Commander, 1st Cavalry Division, holds an informal but urgent conference on a road just behind the front in the Paco section of Manila.

through unoccupied territory of the eastern Luzon plain.

Luzon, Feb. 5 (AP).—American troops reached the heart of Manila on February 4.

Yanks of the hard-hitting dismounted 1st Cavalry Division, in a wide encircling move by dark, entered the city Saturday night against harassing sniper fire and quickly captured Malacanang Palace and the large Santo Tomas concentration camp, where . . . 3,000 Santo Tomas internees were liberated. They were mostly American women and children interned there since May 1, 1942.

The northern half of Manila, Pearl of the Orient, was in American hands as elements of the 1st Cavalry Division and 37th Infantry Division (the latter entering from the north) pressed for the knockout.

Ist Cavalry División

In the Admiralty Islands—Part III

THREE days after the first landings on Manus Island (March 15, 1944) the 8th Cavalry moved into Lorengau township and sent patrols out on the roads to Rossum and Salesia Plantation.

ROAD TO ROSSUM

Moving toward Rossum, Troop "A," 8th Cavalry, ran into stiff fire from several bunkers just outside the regimental outpost line. Quickly bringing forward their heavy weapons, they rapidly made a shamble of each of the bunkers and killed all defenders. A perimeter was established for the night about 500 yards beyond the old outpost line.

Continuing the advance toward Rossum the next day the 7th Cavalry met about 150 more Japs and dropped back to permit artillery to register on the enemy position. As artillery and RAAF (Royal Australian Air Force) P-40's rained high explosives, reinforcements were sent down No. 2 Road to establish a new position from which to attack.

On the 22d the 7th Cavalry established a perimeter on the northern edge of the town preparatory to an attack in force. The advance south from Lorengau had been confined mainly to a track, flanked on both sides by precipitous banks, descending into deep, swampy jungle ravines, and it was necessary to build a road for the supply route in order to advance combat elements. The attack, launched by the 1st Squadron, accompanied by two medium tanks, each with its now inseparable bulldozer clearing the way, moved forward on the heels of artillery and mortar fire from supporting units in the rear.

During the day, 21 bunkers were destroyed on the road to Rossum in addition to many more which had been barely visible on the enemy's well selected defensive position on the hills to the south.

PAPITALAI MISSION

Meanwhile, back on Los Negros, forces of the 12th and 5th Cavalry had joined south of Papitalai Mission and practically doubled the size of their perimeter.

Patrols still working the area beyond the lines on Los Negros reported that the Japs' ammunition was getting very low and that there was a severe shortage of medical supplies; also, the enemy's hope for air support reinforcements appeared to be waning.

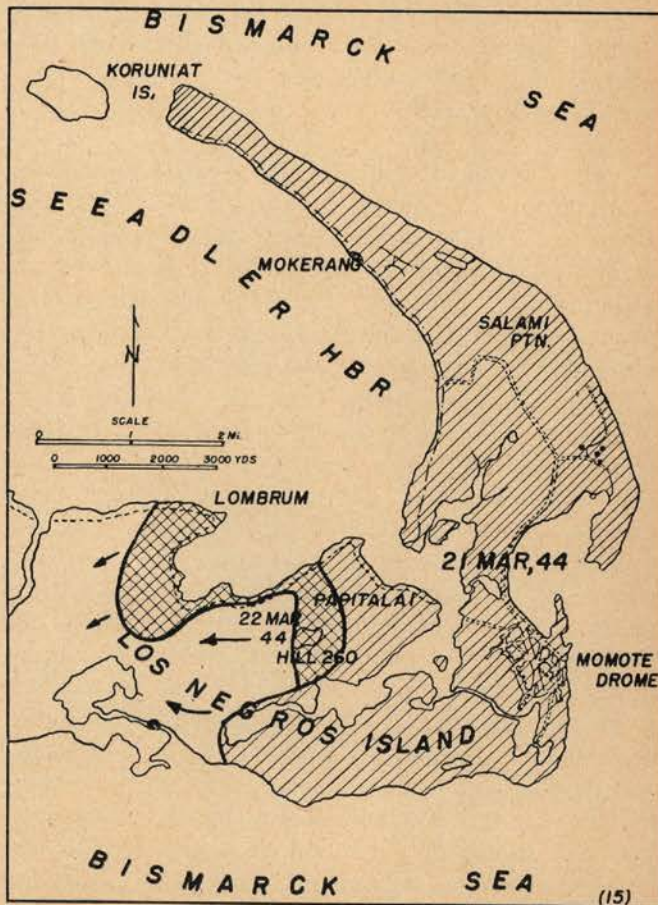
On the 22d, combined elements of the 5th and 12th Cavalry (two squadrons) launched an organized attack against the elevated enemy positions west of Papitalai Mission. (See Map 1.)

Although the enemy made full use of his mortars, machine guns and rifles, the assault progressed rapidly. The terrain, consisting of razor-back ridges and deep ravines, thickly matted with an almost impenetrable growth of matted vines, proved a more difficult obstacle than the enemy. The success of this attack left all known enemy forces on Los Negros bottled up; the remaining Japanese had no course but certain annihilation or self-destruction. Their continued pestiferous but ineffectual counterattacks gained nothing but an ever-increasing roll of Sons of Heaven killed in action.

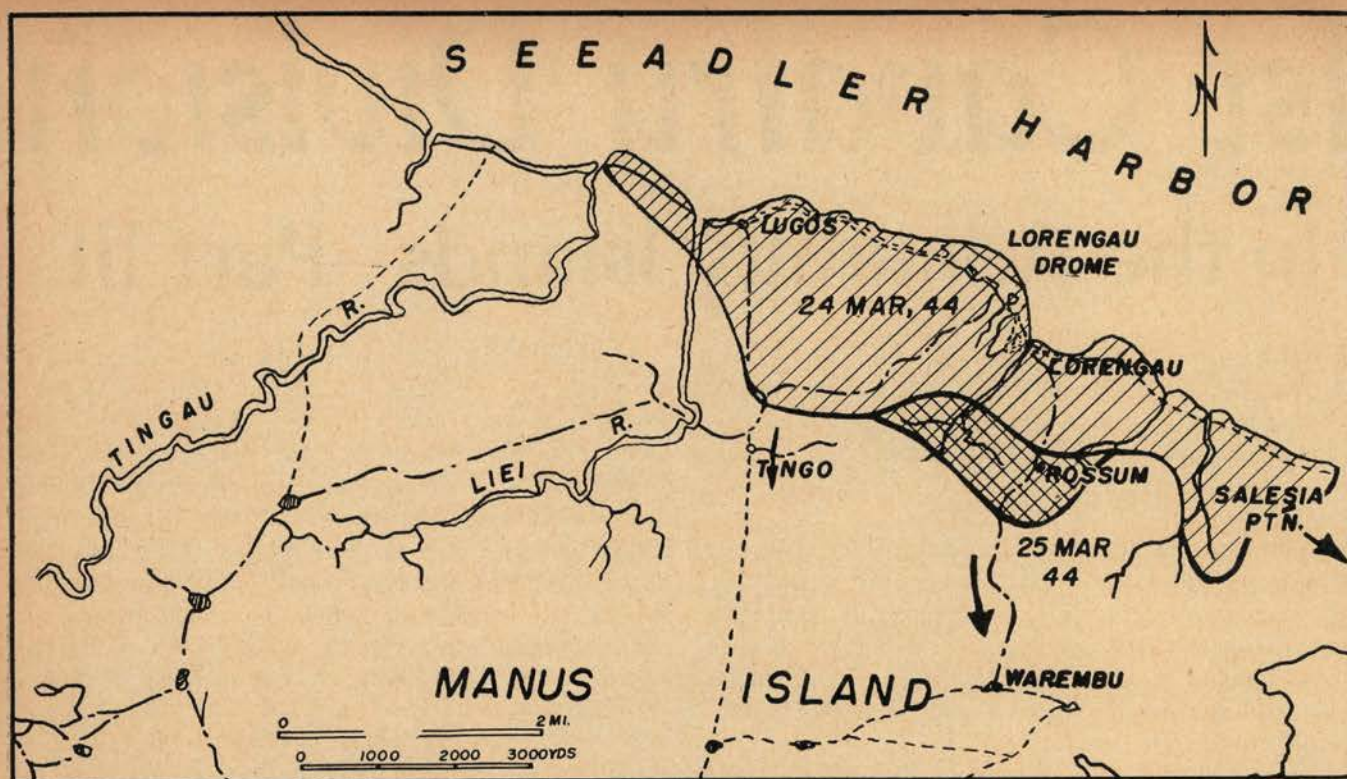
ATTACK ON ROSSUM

Over on Manus Island the Lorengau garrison made no counterattacks, except of the suicidal variety when a squad would attack one of our platoons. For the most part, the enemy deployed his forces in depth on well-selected positions, replete with weapons, squad and individual emplacements, all mutually supporting.

The enemy did not retreat. He appeared determined



Map 1



Map 2

to hold his position no matter what the cost. But for the vigor and resourcefulness with which our troops pressed the attack, the entire battle would have rapidly degenerated into a slow, costly siege operation.

While maintaining its position on the outer edge of Rossum, the 7th Cavalry continued destroying pill-boxes, killing snipers and in general clearing out remnants of enemy defenses all along its perimeter. (See Map 2.)

By the 24th the 1st Squadron of the 7th resumed its assault against the heavily defended township and, after some of the fiercest and most difficult fighting in the Manus campaign, managed to get 200 yards south of the village. The thickly mined track delayed the advance of supporting medium tanks and consequently slowed down the progress of the ground troops.

As late afternoon approached, the 7th Cavalry fell back again to permit an air strike by P-40's on enemy positions, but the jungle with its tangled mat of rain forest rendered difficult the pinpointing of enemy positions for an air strike. Several methods were tried. All of them were successful to some extent. But for each scheme our troops devised, the Japs would quickly introduce a countermeasure. For example, when the enemy position was marked by an artillery or mortar smoke shell, the Japs would quickly fire one or two smoke shells into the cavalry lines. When the front line of the troops was marked by smoke, the Japs immediately marked their own front line of the troops. However, the Jap was not successful in his use of counter-ruses and stratagems. The troops of the 1st Cavalry Division were more resourceful, more clever, more ingenious than the Japs. They would devise useful,

workable means far more rapidly than the Jap could counter.

In all air support missions, the air liaison parties proved a valuable and indispensable part of the team. Their position was normally on or in front of the front line of the troops. They willingly and cheerfully took every risk of combat in order to insure properly directed air support. These groups stand out among the many unsung heroes of any battle.

The final assault against Japanese positions around Rossum was made the next day by the 1st Squadron of the 8th Cavalry, the veterans of the attack on Lorengau airdrome.

At 0800 the first flight of P-40's supporting the attack appeared over the target and dropped bombs and fired thousands of rounds of ammunition. As the last element completed its attack, field artillery battalions sprayed the Jap lines with shells. Then as the artillery fire lifted, the 8th Cavalry moved southward. The approach through the jungle growth was slow, continuously impeded by a series of densely laid land mines. As the attack jumped off, it was met by a hail of automatic weapons fire and knee mortars from the bunkers left in the way, but the attackers swept forward as though driven by some dervish, and by 1700 all enemy resistance had been obliterated.

All organized resistance on Manus Island was broken by this engagement. The work of the mortars received praise from all witnesses. The mortar crew established themselves well ahead of the combat elements in the attack and brought the fire of mortars within 30 yards of their position. On the final preparation, mortars were adjusted to the end that the entire barrage was

delivered on the crest of the hill to the front in an area not more than 100 yards by 50. The effect of this devastating fire was chiefly responsible for the low casualties suffered by the attacking force.

Coincidental with the 1st Squadron attack on Rossum, the 2d Squadron of the 8th Cavalry 300 yards west of Poiho Inlet inflicted approximately 30 casualties on an enemy platoon located in that area. A patrol from Troop "F" fought a meeting engagement with an enemy force of comparable size along the track leading south from its bivouac area, and killed 15 Japs before joining its troop in its perimeter. The enemy followed the withdrawal of the platoon until they approached the troop perimeter, then halted on the outskirts of the position under cover of the jungle. There they began their "Banzai" chant prior to assaulting the troop, but a well directed mortar barrage broke up the attack amid a chorus of shrieks and blood-curdling yells. Twelve dead Japs were buried and the odor of the neighborhood for days afterward indicated that many had escaped detection.

PATROLS

For the next several days widespread, vigorous, meticulous patrolling characterized the action on the part of all forces of the 1st Cavalry Division.

From bases on Ndrova and Amo Islands south of Manus, patrols and detachments were sent out to seek enemy locations and prevent the escape of the remnants of the Jap forces from the eastern sector of Manus, the largest island in the Admiralty group.

Patrols of the 12th and 5th Cavalry swept the western side of Los Negros Island as far as Loniue Passage, the dividing line between the 2d Brigade on Manus Island and the 1st Brigade on Los Negros.

Previous information indicated the presence of Japa-

nese on Tong Island, northeast of Seeadler Harbor, so a 6-man patrol with native police boys was sent to search the island and locate inhabitants who might be of assistance in determining Jap positions. An entire squad of Japs was captured.

Small combat patrols continued to sweep the jungle by day and return to their bivouac by night, but by March 29 the almost complete absence of any Japanese strength in the Admiralties caused organized operations on the part of American forces to cease.

Much to the chagrin of the constantly alert antiaircraft and shore batteries, absolutely no naval or air reaction occurred and only slight harassing fire from an occasional sniper broke the stillness of the tropical nights.

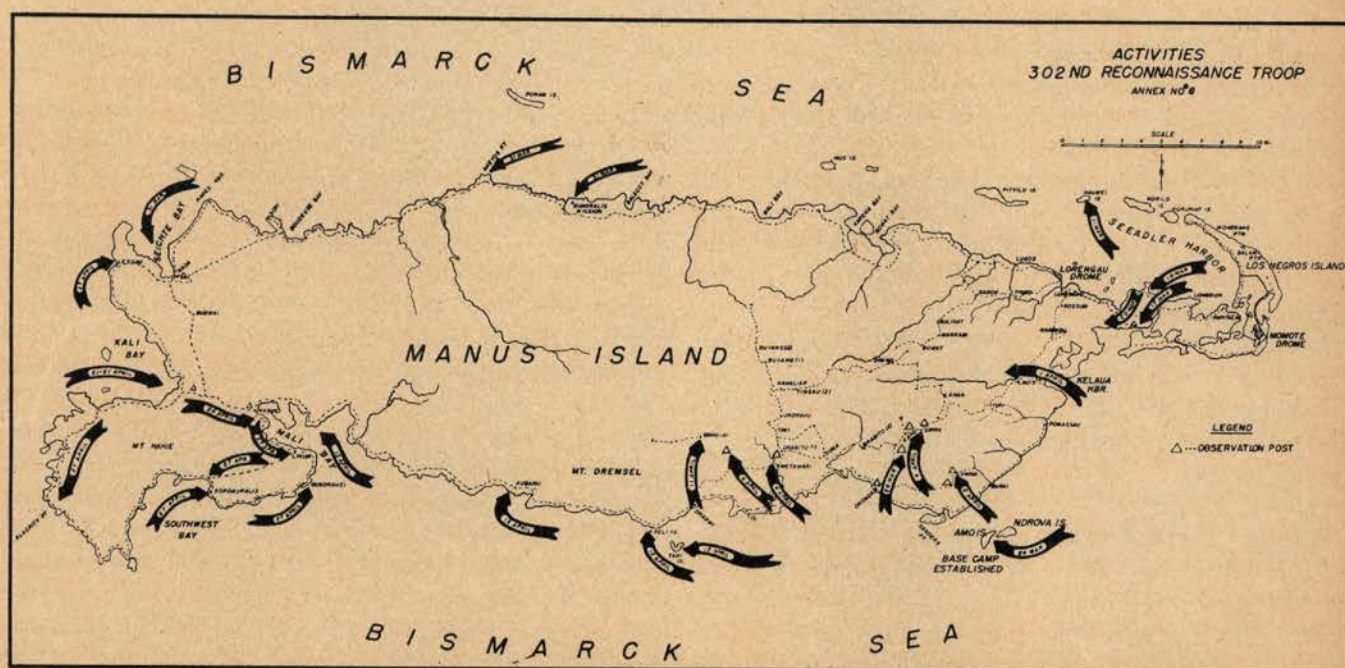
A Jap wandering west from Papitalai offered a good example of the enemy's spirit at that stage. One of the few stragglers left alive on Los Negros was vainly struggling to get to Lorengau, not knowing the fate of his comrades there. He had thrown away his weapon, and wore only a few grenades and tattered clothing.

PITYILU ISLAND

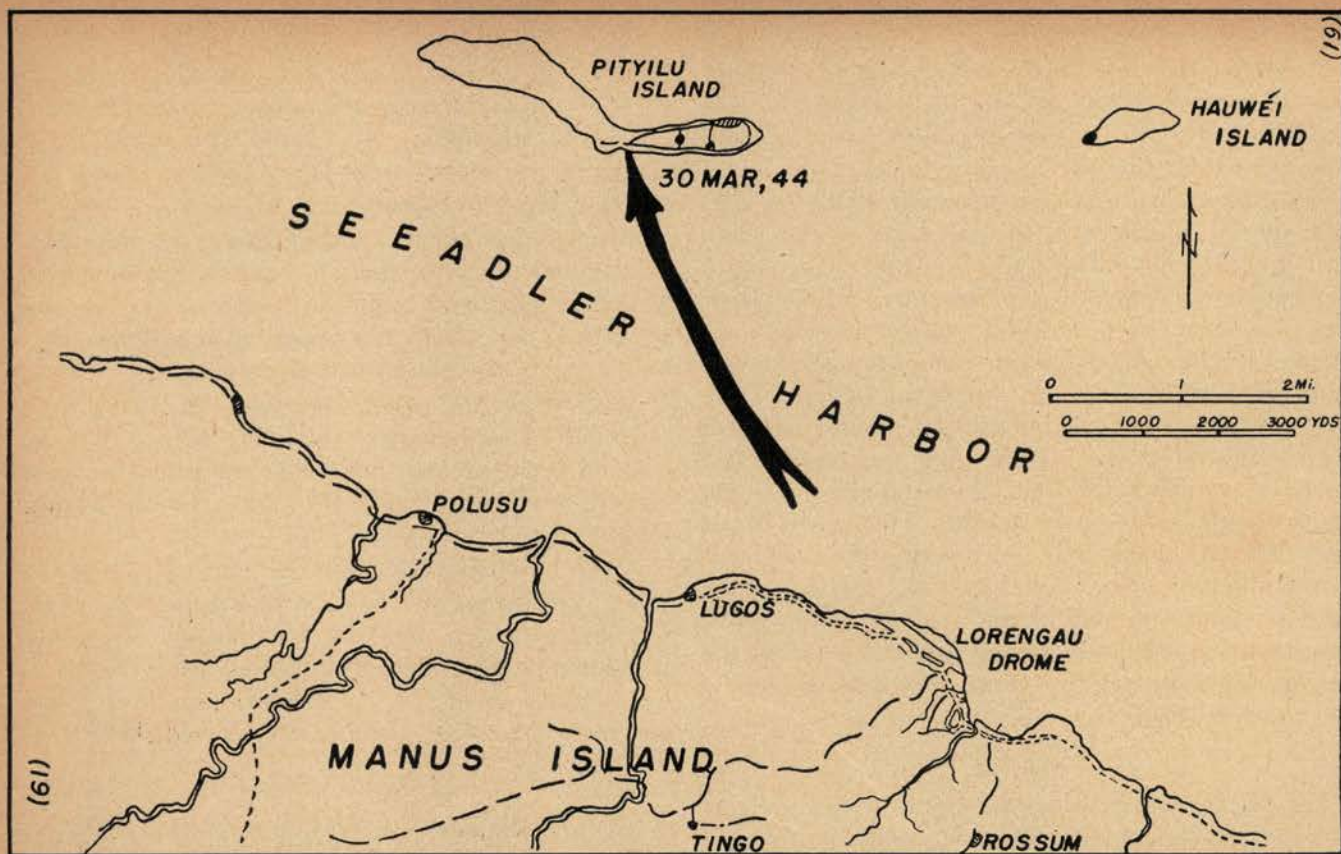
While operations were still in progress on Los Negros and Manus Islands, P-40's had struck at Pityilu Island, the fourth in a chain running west from the northern tip of Los Negros.

On March 24 enemy positions on Pityilu, spotted by artillery liaison planes, had been bombarded by destroyers. Several houses, three barges, two outpost emplacements and a gasoline dump, which burned for two hours, were demolished during the raid.

Pityilu Island was the last of the Los Negros archipelago known to have organized resistance. So at dawn on March 30, the curtain was raised on the 1st Cav-



Map 3



Map 4

alry Division's sixth amphibious landing in the Admiralties Campaign.

Following heavy shelling by warships, P-40's and Spitfires which blasted the landing beach for 20 minutes, the field artillery, firing over water from Lorengau, commenced its powerful bombardment.

The landing on the island's southern coast was made by elements of the 7th Cavalry Regiment. After beaching without opposition, the 7th Cavalry sent patrols west through the wide coconut plantation and moved its main force east through a dense forest.

No contact was made by the patrol to the west, but the main force to the east contacted Japs in the middle of the forenoon and immediately attacked their position. Although the forward movement of the troops was spearheaded by two tanks, the opposition was so determined that the troops withdrew about 100 yards at noon in order to allow an artillery concentration to be placed on the enemy positions.

Immediately after the artillery barrage, the advance was renewed and by nightfall 46 Japanese had been killed and the greater portion of the island occupied. The following day occupation was completed.

OUTLYING ISLANDS

A casual observer watching operations from the tip of Moperang Peninsula on April 1 would have thought that the Americans were taking the first of April too literally. In the early morning the "first amphibious operation of its kind" commenced when units of the 12th Cavalry embarked in 18 native canoes, 4 Japanese

collapsible boats (captured at Lombrun Point by this same force), and 16 engineer half boats, set out from Los Negros for a landing on Koruniat Island, 500 yards across a shallow reef-strewn passage.

As the first wave prepared to move out from Los Negros the "skipper" of the "fleet"—a squat, muscular native boy standing up in his outrigger canoe—gave the dismounted cavalrymen a touch of nostalgia with his signals. When all 18 canoes were lined up ready to go, this sturdy, coal-black negro raised his arm and lowering it slowly to his side, called at the top of his voice, "Forward . . . hoooooooooooo!" in true cavalry style.

The coordinated support of land, sea, and air units, which was typical of every landing in the Admiralties, was carried out as usual prior to the landing. The troops landed unopposed and by noon had secured the entire island. Immediately after noon, the embarkation in small boats was repeated, this time from the western end of Koruniat. Paddling across the shallow coral reef, our forces landed unopposed on Ndrilo Island and had the last of the Los Negros chain occupied by nightfall.

This process of securing outlying islands in the Admiralties continued. At 1200 the next day the 2d Squadron of the 12th Cavalry landed on Rambutyo Island, southeast of Los Negros. Preparatory to the landing two squadrons of P-40's bombed and strafed the beach, and three small craft laid down a rocket barrage. The troops had difficulty in landing because of reefs surrounding the coast. The landing craft could not be beached and the troops, plunging in chest-

high water, made their way to the shore through 200 feet of medium surf and over jagged, treacherous coral bottom. By early afternoon the squadron and all its supplies had been put ashore in spite of the back-breaking labor of carrying supplies through the surf.

AIR AND NAVY

Of these days in the Admiralties, this military record gives only bare, stark, unlikelike facts. A gifted pen would be required to portray honestly, vividly the actions and reactions of men in battle.

When life is reduced to a common denominator by just the whirl of a hostile bullet, man is singularly unimpressed, unmoved by words or promises. He demands something more—something solid, something concrete; a knowledge that the power and might of a great nation are behind his every move. Realism, a discernible manifestation of power, is made by the supporting services—the Air and the Navy. That was 50 per cent of the reason that in every operation during the Admiralty Campaign both of these services were used to the maximum; the other 50 per cent, of course, was the great destructive power of these most valuable weapons.

The bald statement, "The naval forces supported the action," appearing in the chronology, is indeed a masterpiece of understatement. When asked regarding the effect of naval gunfire support, the commanding general of one brigade made the laconic reply, "The Navy didn't support us. They *saved* our necks." All commanders firmly believe that especially during the initial phases, the balance of war was tipped in our favor by the superb support rendered by the naval forces. There was no risk that the Navy would not take.

During the initial landing on Los Negros, a hostile 20mm gun commanding the entrance to the harbor was placing particularly devastating fire on the landing craft passing through the narrows. The gun, so well concealed and camouflaged, could not be located accurately. Admiral Fechteler, in command of the naval task force, quickly gave orders to two destroyers, "Blow that gun out. Take your ships into the shore. I will be responsible for them." The ships went in and the gun went out.

Several days later, the bulk of the naval force was moved to the south. From these positions they laid a heavy barrage on the enemy. So cleverly was this barrage placed and so devastating its effect, that the Japs were forced out of their position right into the waiting hands of automatic fire of the dismounted cavalrymen. And the reports state, "The naval forces supported the action."

Until the commanding general informed higher headquarters that naval support was no longer necessary, destroyers and cruisers were employed constantly. Many of these ships took part in more than one mission daily, some as many as 4.

In addition to destroyers and cruisers, the gunfire of large supply ships, small supply ships, tenders and LST's were used in emergencies. Squadrons of motor torpedo patrol boats—the famed "PT" boats—shepherding the landing craft like a mother duck her ducklings, made swift flashing stabs right into enemy shore positions, reduced to zero enemy barge traffic, and performed many missions of mercy. They removed wounded, and rushed urgently needed supplies, ammunition, and food to heavily engaged patrols working far from their base. And the reports state, "The Navy supported the action."

The Army Air Force gave all the means at its disposal to the support of the campaign. The difficulties and obstacles placed in their path fazed them not at all. The objective area was out of range of their fighter escorts. The weather in the objective often made it impossible to get any aircraft within sight. But they did the impossible. They adapted a few fighters as long range fighter escort. Keeping these fighters in the air continuously, the Air Force convoyed shipping and intercepted enemy aircraft bent on the destruction of small ground forces. On one occasion they intercepted 18 enemy bombers with fighter escort, shot down 11 of them and prevented even a single enemy plane from getting to its target. Of all requests made upon them, only one was cancelled or refused and that because at the last minute a higher headquarters had ordered all

"You would have enjoyed the sight of one of our troops returning from patrol today. I had last seen this troop three weeks ago, after it had been out for two days. On that occasion the jungle was thick, it was raining in buckets, and the mud was knee deep. The troopers were carrying 4 days' rations and their ammunition. They had nothing but a poncho, wool-knit sweater, and toilet articles with them in the way of comforts—but, their morale was high, and there wasn't a sour face nor a grumble in the entire outfit.

"Yesterday they came off the south end of Manus Island at the end of their three weeks' patrol.

"The first glimpse I got of the troop, it was coming down the Lukuli River in native canoes. Never in the world was there a more picturesque sight. Of all the rough, tough, muddy, ragged troops you ever saw, they were it. Yet you have never seen a more cheerful, enthusiastic, happy bunch of men anywhere. Nor was there a set of whiskers among them; nor a rusty weapon. They were as happy as though they were headed for Coney Island. Every one of them had a grin on his face. Anyone seeing them could not fail to notice that each man had achieved one of the most valuable of military qualities—pride in himself and his troop."

*—Commanding General,
2d Cavalry Brigade.*

aircraft concentrated on a particularly lucrative target of opportunity.

By the end of the campaign, the principle of coördination propounded by all great commanders was brought forcibly to the foreground. As the division commander remarked, "Now we can say that we are truly a team. We have solved the complexities of integration to a nicety. Without either or both the Air and the Navy we would be as much use here as a mute would be to the Brooklyn Dodgers. Down deep, each man knows the value of the support we received. My hat's off to these two services who give you not what you ask but everything they have."

MOPPING UP ON MANUS

Remnants of the enemy left on Manus Island were pursued relentlessly. The collapse of organized enemy resistance left somewhere between 1,000 and 2,000 Japs on the island. Of this number an estimated 200 were fit for combat. Few retained their weapons, many were wounded, all were starving, and none exhibited an offensive spirit. These stragglers formed, however, a menace to the native population, whose food they stole, and a potential source of harassment to contemplated naval installations. It was imperative that they be assisted to their imperial destiny—to die in combat for their Emperor.

The chase was assigned to the 2d Cavalry Brigade. Vigorous combat patrols from its garrison at Lorengau combed the jungles in the area of Lorengau, and despite the lack of a major contact exacted a terrific toll from isolated groups operating off trails and at night. Systematic extermination became a task predicated first of all on locating the enemy and then rooting him out.

This task was assigned the 302d Reconnaissance Troop, ideally located for the job. Its base was on the flank and front of the enemy's retreat; and so situated, it was able to insert observation posts and patrols all across the Japs' line of flight. Small patrols of the "sneak and peek" variety were used to instill in the Jap a false sense of security. The remnants of the enemy started to reassemble under our direct observation. The resulting reconnaissance and combat patrolling exhibited the finest type of team play between the cavalry and the reconnaissance troop. The reconnaissance troop was the eye, the cavalry was the saber. Coördination between eye and sword was swift and deadly.

Small patrols and observation posts made preliminary contact with the enemy and maintained the contact despite active reconnaissance screens established by the enemy. Even after the patrol's presence became known to the enemy, it was able by the staunch assistance of its native guides to remain in the area and collect information, and then withdraw through the maze of unknown swamps characteristic of the area.

The information from these patrols was relayed immediately to the cavalry and instantaneously put to use. In all this area of central Manus the jungle vegetation

is extremely heavy, with observation often limited to a distance of 5 to 10 yards. Time after time the patrols took advantage of this situation to creep in close to the enemy and catch him unaware. Attempts of the enemy to regroup were constantly thwarted.

This coördinated action soon cleared the zone initially assigned the troop for reconnaissance and additional zones were designated. Meanwhile, it became apparent that the groups of enemy trapped and killed in the original zone of operations had been the van of the enemy's withdrawal and that no substantial number of the enemy had penetrated the perimeter of the original zone assigned the reconnaissance troop. The absence of good roads and paucity of developed trails, the broken nature of the terrain and the dense foliage provided innumerable hideouts in the interior. Existing maps at best were incomplete.

Early in May patrols were again sent into the zone first assigned the reconnaissance troop to confirm native reports that the enemy's remnants had indeed begun to group again in this sector. An ambush was immediately established, and contacts made with small enemy groups quickly discouraged any reorganization by the enemy in the area. Natives actively participated in the chase and ambushed many a weary Jap. During this period stalking Japs on the run became a sporting proposition. Patrols of the cavalry brigade seemed to relish the game they were playing. On one occasion a native reported to a cavalry patrol that three unarmed Japs were in a native hut to their front. Rather than take unfair advantage of the defenseless enemy, three members of the patrol dropped their arms, moved into the hut with drawn knives, and in hand-to-hand combat killed the three enemy. This second phase of closely coördinated reconnaissance and combat patrolling had again smashed every attempt of the enemy to reassemble his forces.

After the Admiralties Campaign had "officially" ended, there remained several hundred enemy stragglers to be disposed of. Information indicated that the enemy was again planning to assemble and had in fact started to drift to the area selected. Probably no units have ever had more realistic and extensive training in scouting and patrolling against the enemy in jungle terrain than was afforded the newly arrived replacements of the 2d Cavalry Brigade on Manus Island.

During this period of mopping-up operations particular attention was given to stealth, observation, terrain appreciation, reporting of information, and the development of physical fitness by a series of extended patrols with a minimum of equipment.

Opportunities for training under realistic circumstances were exploited, and when the replacements were withdrawn to their garrisons, they were no longer green, inexperienced troops but troops hardened in the field, trained by veterans, and confident of their ability to stand up to the enemy in any circumstances on any field to which the division might next be called.

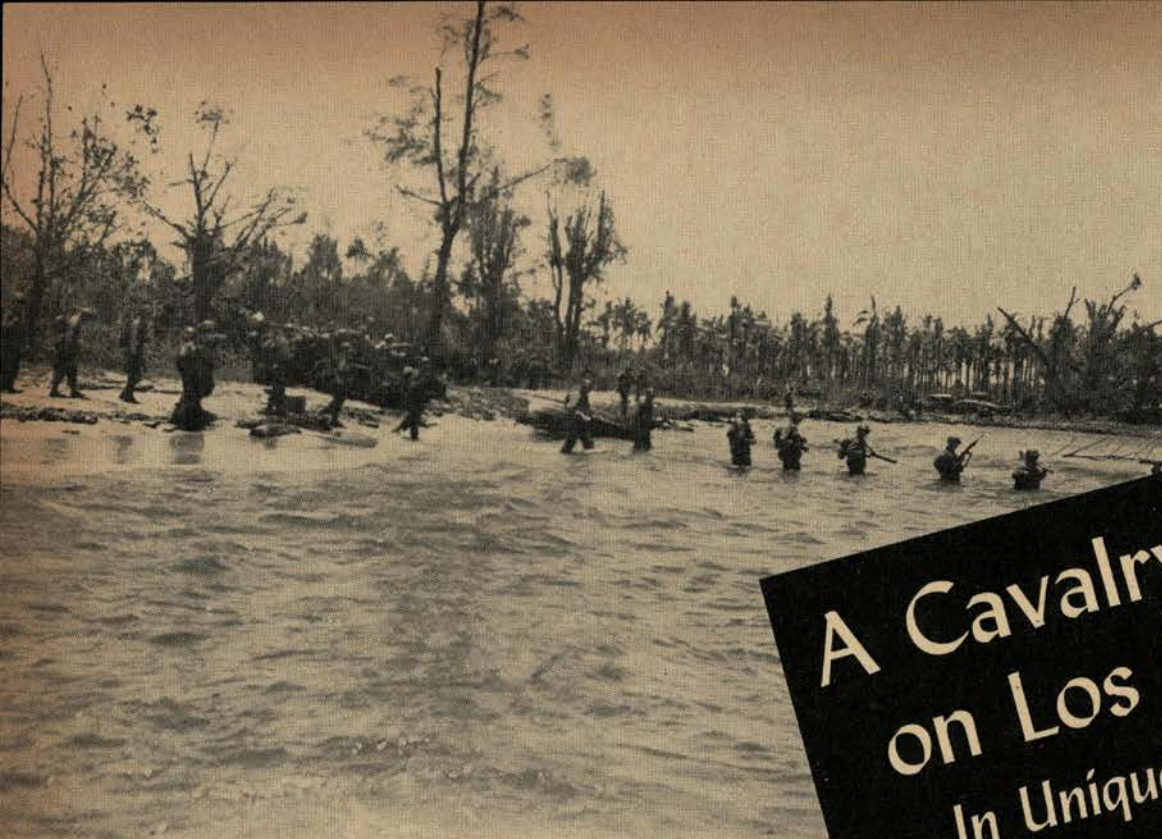


"THE NAVY DIDN'T SUPPORT US. THEY SAVED OUR NECKS," said one cavalry brigade commander in the Admiralties. Above, men of the 1st Cavalry Division watch naval aircraft overhead as they speed toward the beaches of Leyte Island in the Philippines. Below, troops watch Navy planes and ships' guns blast "path" for Leyte landings.

Official U. S. Coast Guard Photos



Members of the 8th Cavalry waded into the water off Manus Island in operation similar to that described here.



A Cavalry Troop on Los Negros In Unique Operation

by Colonel Marion Carson

DURING landings on Los Negros a troop of cavalry successfully reduced an enemy position of three bunkers by making envelopment through shallow water along the shore.

GENERAL SITUATION

Between the south shore of Los Negros Island and Lemondrol Creek 500 yards to the north, the Japs were fighting a delaying action by use of small groups in bunkers, with snipers operating between the bunker positions.

A squadron of cavalry, engaged in clearing the enemy from this area was disposed as follows:

One troop in support of the advance west was approximately 200 yards in rear of the leading elements. Another troop was clearing the enemy from the high ground just west of the swamp. A third troop was advancing west along the south coast with its left flank on the shore line. The squadron's weapons troop had a dual mission. It was to support the advance to the west and at the same time be prepared, upon call, to assist the troop to the north.

As the third troop advanced west along the south shore, the leading scouts suddenly received fire from a position to their front (see sketch). The advance was halted and a reconnaissance promptly made.

TERRAIN AND FORTIFICATIONS

The reconnaissance revealed the following information:

1. To the front there was a swamp 30-60 yards inland from the shore and roughly paralleling the coast.

2. The dense vegetation along the coast was such as to permit the approach of individuals especially adept at traversing dense growth, but it was doubtful if a

platoon, or even a squad, could get through it without detection.

3. A protective reef off-shore made the water along the beach quite smooth, and the beach sloped off gradually to shoulder depth about 10 yards out.

4. Three enemy bunkers were located in the area—the southernmost, about 15 yards inland from the shore. To provide passage for Jap forces, considerable underbrush had been cleared away from the area starting about 5 yards inland and running to within a few yards of the swamp.

5. The bunkers, which were old and well concealed by growing vegetation, were covered with one thickness of coconut logs and from one to 3½ feet of dirt. With slits on the east and west sides only, they would make a frontal attack a costly operation.

6. It would be impossible to negotiate quietly the swamp to the north of the bunkers, and to send an enveloping force by way of the ridge to the north would require more time than remained before dark.

ENVELOPMENT

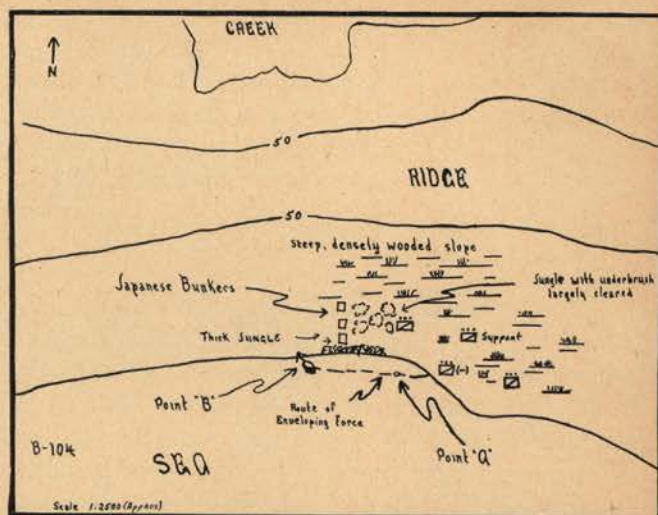
The troop commander decided to use one platoon in a holding attack in front of the bunkers, send one platoon of two full-strength squads through the water along the beach to a position in rear of the bunkers, and use the third rifle platoon in support of the right flank. Initially, the 60mm mortars and the LMG platoon would assist the holding attack. The mortar units, which were to be prepared to support the en-

veloping force, carried a sound-powered telephone with wire paid out from shore at the point where the platoon entered the water. An observer from the squadron weapons troop also accompanied the force.

The enveloping force waded out into the water until only their heads and shoulders were exposed. Whenever practicable, weapons and ammunition were held above the water, but all were immersed at some time during the operation.

In the water, with their helmets and weapons, the members of the platoon presented very small unprotected targets. As they advanced they received small-arms fire from at least the southernmost bunker while passing the point marked "A" (see sketch). Unless the enemy withdrew from the protection of their bunkers, however—and this they did not do—their field of fire was limited to a very small area. Through the fire-swept zone, the soldiers kept their heads under water. Individuals reported that they could see some of the bullets hit the water, slow down and drop to the bottom.

When the platoon reached the point marked "B," the Japs started withdrawing from the bunkers and moved west along the coast within view of the mortar observers. The observers called immediately for mortar fire in front of the retreating enemy. When it fell several of the enemy were seen to stop and start back toward the enveloping force. The observers then shortened the range and placed a salvo in the midst of the group. Some survivors again started west. Then the range was increased, and again the salvo fell among the panic-stricken defenders. The area was later searched and a dozen of the enemy was found dead.



Situation

The troop suffered no casualties during the operation.

CONCLUSION

This operation demonstrated the necessity for initiative in taking advantage of favorable factors and overcoming those less conducive to success in jungle maneuvers. The dense vegetation along the shore permitted excellent reconnaissance to be made, and largely screened the movement of the enveloping force through the water. Surprise would no doubt have been lost in attempting a land envelopment to the north and would have had to be delayed until the next day. The plan which was adopted was the only one which had a reasonable chance of prompt success with a minimum number of casualties.

Troop G, 8th Cavalry, 100 yards from Jap positions near Lorengau village. March 18.



ON a hot April day in 1942 a Japanese messenger made contact with the guerrilla forces deep in the steamy jungle of Timor. His purpose was to deliver the following letter to Lt. Colonel N. L. W. van Straten, Commander of the Dutch, Indonesian and Australian guerrilla fighters on the wild East Indian island.

"Japanese Army
Atemboea: April 12th, 1942

"Dear Leut-Kolonel, Kapiten and officers of
Dutch Army:

"Now as you all know, the war of Nederland East Indies finished. Leut-Kolonel Detiger and his men were willing to receive the treatment of Japanese Army. You must be short of food now, you have to sleep in the fields or among the mountains. All of Dutch men except you and the Indonesia in N.E.I. think, for the Dutch and Australian soldiers to sur-

render is rather better than to hide among the mountains. Do you think it is able for you to resist longer till the hopeless help comes? Are you waiting for it?

"The soldiers' lives are not only of officers own but must be also of their families who are very, very anxious for them. If you and your men surrender, all can see the family again when the time comes. But if not, sorry we must fight and destroy, it's our armys work advanced here, nothing else.

"You are heavy burdened. You must contemplate all the conditions of the present N.E.I. and decide how to do, what to do. Now you have the position to decide the destiny of all your men.

"Hoping to get you good answer soon,

Yours sincerely,

JUNZI KINOSHITA,
Head of Japanese Army,
Atemboea.

CARDED

GUERRILLAS OF T

by Selden Menejee*

Leut-Kolonel is the Head
of Dutch Army

Phoren

Portugese Timor

Japanese Army

Atemboea, April 12th
1942

Dear Leut-Kolonel, Kapiten and officers of Dutch Army,

Now as you all know, the war of Nederland East Indies finished. Leut-Kolonel Detiger and his men were willing to receive the treatment of Japanese Army. You must be short of food now, you have to sleep in the fields or among the mountains. All of Dutch men except you and the Indonesia in N.E.I. think, for the Dutch and Australian soldiers to surrender is rather better than to hide among the mountains. Do you think it is able for you to resist longer till the hopeless help comes? Are you waiting for it?

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Hoping to get you good answer soon,

Yours sincerely,

Junzi Kinoshita

Head of Japanese Army

Atemboea

LT. COLONEL VAN STRATEN studied the curious missive, then showed it to the members of his staff. They talked awhile, laughed grimly, then answered General Kinoshita by blowing up a convoy of Japanese military vehicles with land mines.

The guerrillas' position was quite hopeless, and they knew it. The Japanese had come early to Timor—had landed there 30,000 strong in February, 1942. This was part of the Jap move to encircle and cut off the main Allied forces in the Indies—a move that succeeded by making it impossible to fly into Java the fighter plane reinforcements assembled in Australia.

One by one the Japs seized the main air bases around strategic Java—Amboina (which fell after three weeks of fighting), Timor, Bali, and Southern Sumatra. The Netherlands Indies Air Force had been expended recklessly in the defense of Singapore and Macassar Strait, and only a few old flying fortresses without fighter cover were left to defend Java. When, in the Battle of the Java Sea, the heroic but outnumbered Dutch and American vessels were crippled or sunk by the much larger Japanese forces, the way to the heart of the Indies was clear, and Java fell to the Japs on March 8, 1942.

But as Americans and Filipinos continued resistance in the Philippines, so on every major island in the Indies remnants of the Dutch and Indonesian forces continued the fight. On Timor the resistance lasted almost a year. Before the Japanese came, several hundred Indies soldiers had landed on the Dutch half of the island (the southern and western end), and sev-

*Director, Washington Office, Netherlands Information Bureau.

Men of the Royal Netherlands Indies Army in Dutch New Guinea prepare to enjoy a wild pig. After the huge Japanese force landed in the Indies in February, 1942, remnants of the Dutch and Indonesian forces took to the hills. As a result of wounds, malaria, lack of medical care and inadequate food half of the guerrillas died during the first year.



Official Netherlands Photo

THE INDIES

eral hundred Australian Commandos had taken over the defenses of Portuguese Timor, to the northeast.

When the huge Japanese force landed, these two groups took to the hills. The Japanese gradually drove them back farther and farther into the interior, in two narrowing circles, until the Dutch and Australian forces finally came together and set up stationary bases. From their hidden lairs they frequently swooped down on Japanese patrols by day and harassed local garrisons by night. Twice they were completely scattered by heavy Japanese attack, but both times they came together and resumed the fight.

As a result of wounds, malaria, lack of medical care, and inadequate food, half of the guerrillas died in the year of fighting. The wonder is that they survived as well as they did. The Australians were specially trained jungle fighters. About 60 per cent of the Netherlands Indies men were trained soldiers; of the remainder many had been recruited into the N.E.I. militia for "limited service" only.

The Japanese employed every possible device to trap the jungle fighters or weaken their morale. They appeared in Dutch uniforms pillaged from an Army store in Kupang (the capital of Dutch Timor), or decked out in the most fantastic native disguises, but without success. The little band fought all the harder. With the aid of the loyal Timorese natives, whom the Japanese had antagonized by cruel treatment, the guerrillas held out.

The Japanese had one advantage over the guerrillas, however. They had modern equipment, and they used it. In one of the fiercest battles ever fought on Dutch Timor, the Japs had to bring up tanks and armored

cars in order to win. As one Dutch lieutenant said later, "We had no tanks—no chance."

For 69 days after the Japanese invasion of Timor the guerrillas were completely out of touch with the outside world, and were given up for lost. Then the Australians managed to rig up an emergency radio transmitter out of part of an old radio set they had discovered in the jungle, scraps of wire, and kerosene tins. They had no power, so they went out at night and stole the generators from two Japanese trucks. They fashioned a hand crank to operate the generators, and were able to store up enough current to operate the transmitter for 2½ minutes every 12 hours. The weird contraption was named "Winnie the War Winner" by the Australians, who brought it home with them later on.

Thus it was that a weak signal was eventually heard in Australia, 400 miles away. But the guerrillas had no receiving set with which to check whether or not they were being heard, so they stole a portable receiver from the Japanese. After contact had been established, the guerrilla radio engineer sent this thrilling message in Morse code: "Force intact. Still fighting. Badly need boots, money, quinine, tommy gun ammunition."

After a few days the guerrilla radio man got a reply, asking that the force identify itself. After all, how was Australia to know that the radio message was not just a Japanese ruse? The impatient men on Timor forthwith supplied plenty of proof of their identity, principally in the form of middle names, street addresses, and names of sweethearts in Australia—things the Japanese could not possibly have known. An Australian destroyer then set out to rescue the party, but was lost. It was stranded on a rock on the unlighted coast of Timor during a very tricky night operation. The Japanese were thus put on their guard.

Then began a battle of wits, with both sides playing for time. A few guerrilla replacements were brought in by small boats, which were always heavily bombed by the Japanese on their return trip to Australia, part of



Australian Information Bureau

With the arrival of Allied troops in Hollandia. A group of two hundred Indonesians was brought through the jungles of Japanese occupied territory to the safety of liberated territory by Dutch New Guinea police. Photo shows some members of the Dutch New Guinea police force. Long swords, shown here, are their favorite weapon.

which had to be made by daylight. Supplies, including drugs, clothing, and shoes, were also smuggled in from Australia. The shoes were found unsatisfactory for jungle wear. The broad-footed Indonesians especially had trouble; they had to wear size nines in place of the wider size fives and sixes to which they were accustomed. Even so, the city-style shoes lasted less than a month in the jungle.

There were two medical officers with the force, but they had lost all their equipment. When new supplies from Australia were dropped by parachutes, Japanese observers located the assembly spot and sent bombers to destroy the thousands of dollars' worth of much needed equipment, while Dutch and Australian officers looked on helplessly from the surrounding hills. Despite this disappointment and the ravages of malaria and dysentery, however, the guerrillas somehow managed to keep going. One Indonesian sergeant carried a machine gun bullet for three months, until he reached an Australian hospital, and survived to disprove all predictions of his early demise.

Finally, after one boatload with about 25 replacements for the beleaguered guerrillas was sunk and all hands lost, it was decided that the troop must be evacuated. The Dutch destroyer *Tjerk Hiddes* set off under cover of an umbrella of Australian Kittyhawks and Beaufighters. She arrived off Timor on a rainy night. The shore was not visible but soundings indicated that land was near. According to previous arrangements made by radio, the Dutch captain started looking for a wood fire on the beach. When no fire was seen, the ship briefly flashed a blinker toward shore and discovered that it was less than 500 feet away!

After a short wait, the guerrillas began to come aboard, and before the night was over the destroyer's rubber boats had taken 200 Dutch and 100 Australian soldiers (of which 51 were sick or wounded) and 30 Portuguese women and children off the island. The

evacuees said that all attempts to build beach fires had failed, and anyhow, Japanese patrols were only 4 miles away. Fortunately, the Japs had not seen the blinker.

The *Tjerk Hiddes* left provisions for those still on the island, and later two more trips were made to rescue remnants of the guerrilla band, Portuguese civilians and friendly native Timorese whose lives were in danger from the Japanese. Needless to say, the guerrillas were feted royally in Australia, and after a period of recuperation, they set about giving training in jungle fighting to new Dutch forces formed to help liberate the Indies. The former guerrilla chieftain, now Major General van Straten, was awarded the Military Order of William from Queen Wilhelmina—a decoration roughly equivalent to the U. S. Congressional Medal of Honor—for his defense of a strategic airport on the north coast of Timor against heavy odds when the Japanese first came, and for his subsequent leadership of the jungle fighters. He is today Chief of Staff to the Commander in Chief of the Netherlands Indies Army. At this writing he is in liberated Holland, recruiting men with previous military training for the fight against Japan. The new recruits will be sent to Australia for a physical build-up, jungle training and acclimatization. Already units of the new Dutch fighting forces have served well in New Guinea as military scouts and guides with the Netherlands Indies Civil Administration, under General MacArthur's command.

As the liberation campaign has proceeded, contact has been made with other bands of guerrillas. In New Guinea last September Allied forces rescued 25 men and a girl who had fought a bitter guerrilla campaign against the Japanese on the Vogelkop Peninsula for 2½ years. They were the survivors of a band of 53 who fled from Manokwari when the Japanese landed there in April, 1942. In the original party were 51 Dutchmen and Indonesians, most of them members of the Nether-

Indonesian soldiers of the Free Netherlands East Indies train in Australia. Many native Indonesians have made valuable guides for Allied scouting parties and patrols.



Australian Information Bureau

Patrols of officers and men of the Royal Netherlands Indies Army explore the untrodden jungle interior of Dutch New Guinea and prepare for attacks on the Japanese. It is rough going in New Guinea's jungles; the "roads" are not well paved.



Official Netherlands Photo

lands Indies Army, and the wife and the 16-year-old niece of one of the Indonesian officers.

This group had fled southward into the mountains, then west to the Amber Baken coastal area 60 miles west of Manokwari, where they found friendly natives. Here they were joined by three Americans and several Filipinos who had escaped from Mindanao, 600 miles away, in a sailing canoe. The little troop, though ravaged by illness, waged an aggressive guerrilla campaign throughout 1943. They killed about 40 Japanese and blew up installations on a number of Japanese bases. The biggest raids were on the big Japanese base at Sorong, in March 1943, and on the ship *Daiti Maru*, which was anchored off Manokwari at the time.

Disaster overtook the party last May when an unfriendly native guided the Japanese to the camp. The guerrilla leader, the elder of the two women, the two surviving Americans, and others were killed. Thereafter the remnants of the force eluded the Japanese by forced marches and by hiding in the jungle. When American forces arrived at Sansapor last August the leader of this guerrilla band, Sergeant Kollilink, sent a message to the masking, not for rescue, but for supplies. "Two of my soldiers have malaria," he wrote, "and we have no quinine or aspirin. We also need tobacco." He offered his men as guides, and suggested that with the aid of 100 well-armed Americans they could "mop up" a great number of Japs. But instead, the party was evacuated to a Dutch hospital in liberated New Guinea.

It is known that guerrilla activity has persisted to this day on other islands of the Indies. Although detailed information must wait upon liberation, the Japanese radio itself has made some revealing statements. In November 1943 it told how defenses were being erected against the guerrillas in southern Borneo. In February, 1944, it claimed that 1800 Dutch and Indonesian guerrillas had been arrested in the mountains of Sumatra—an admission of large-scale fighting. Three months later, on May 5, a broadcast from Padang, Sumatra, said that the Achinese people, on the northern tip of Sumatra, were being trained to resist the attacks of Dutch guer-

rilas. The native speaker told how the Japanese had play-acted the part of guerrillas, but the Achinese with their swords and bamboo spears attacked them so fiercely that "the practice had to be called off."

Dutch air, sea and ground forces are all being groomed today for active participation in the war against Japan. The Netherlands Indies Army Air Force, operating out of bases in northwestern Australia, has pounded Japanese bases in the occupied Indies almost unceasingly for the past two years. Dutch, Negro and Javanese troops from Surinam (Dutch Guiana) have recently arrived in Australia, where they will soon be joined by Dutch officers trained in U. S. Army and Marine camps, and men from liberated Holland, to receive final training from the veterans of guerrilla warfare in the Indies.

Last but not least, Indonesians in the liberated areas are flocking in to join the fight against the Japanese. Angered by starvation and brutality, even the kindly, peace-loving Javanese want to fight their oppressors wherever they have been liberated. Already Papuan natives in New Guinea have served well in capturing stranded Japanese soldiers and killing enemy stragglers who tried to loot native villages in New Guinea. As the Indies campaign proceeds, more and more help will be received from the Indonesians.

Because of the accident of geographical position, it so happens that the most warlike peoples will be liberated first, to join the fight in areas still occupied. If Mountbatten lands in western Sumatra he will find fighting allies there; and in the east, the forces under General MacArthur are likely to come first to the Ambonese and Manadonese—the very groups who were the backbone of the Indonesian armed forces before the war.

Thus Allied forces in the southeastern Asiatic theater will probably gain increasing speed as they roll the Japanese back toward Java, key to the resources of the Indies. Judging from the experience in New Guinea, however, the final cleanup will be long and painful; but Dutch and Indonesian armed forces will be in a position to bear more and more of the weight of this campaign as liberation of Holland and the Indies proceeds.

CARDED

Jap Doctrine of Armor

by
Captain Arthur L. Paddock, Jr., Infantry

A rear view of the Jap model 97 (1937) medium tank. This tank is armed with a low-powered 57mm gun. Newer M97's mount the high velocity M2 (1941) 47mm AT gun.



ALLIED troops engaged with Nipponese forces in the Southwest Pacific Theater have infrequently met with Japanese armored forces. It is believed, however, that, as a whole, Hirohito's tankers use their armor to improve the position and effect of Japanese infantry, at the expense of independent tactical rôles.

The Nips are using at the present time a light armored vehicle weighing from three to four tons, a light tank scaling 10-12 tons, and a medium tank of from 15-18 tons. These are organized into companies and battalions and often into regiments. The regiment is triangular, three battalions of three companies each, with four platoons to the company. Each company has three medium platoons and one light platoon. The company, battalion, and regimental headquarters have three tanks each, one medium and two light. The totals for the regiment are 53 light tanks and 94 mediums. In some infantry divisions, the Japs may also have a single tank company.

Tank-infantry coöperation among Japanese troops, while comparatively uncommon, reflects careful study and seemingly sound doctrine. Tanks with an infantry division of the Nip army are normally used as accompanying tanks attached to infantry units which make the principal attack. They are brought secretly to assembly positions about three miles from the line of departure, where final reconnaissance and attack preparations are completed.

The tank commander confers with infantry and artillery commanders relative to: tank jump-off positions, tank objectives and hour of attack, routes to jump-off positions and subsequent zones of advance, type and size of artillery support and its coördination with the tank attack, plans for meeting enemy armored counter-attack, and signal communications among tankers, artillerymen and infantrymen. On the night before the attack, while the tanks are moving to the jump-off position, the noise of artillery fire and *aircraft flying at low altitudes* conceal the noise of the tanks.

Attack formations aim at obtaining the effect of mass by disposing tanks in several waves across the infantry front. Tanks move forward followed closely at little or no distance by infantry. Artillery supports by fire. It neutralizes enemy antitank guns by fire and smoke.

Use of Jap tanks in China has been just a bit different from what the Jap strategists initially expected, principally because of the peculiar local conditions there. Walled villages are the rule; to attack them, the Jap tank-infantry team sends tanks out ahead to clean up the town's outer defenses, and while infantry closes in to assault range the tanks stand to within machine-gun range and attack exposed defenders on the ramparts. When infantry has entered the town, tanks pass through infantry and again lead the assault. This technique can be used only when there is an absence of antitank weapons.

So far as is known, Jap tanks have never been used on an independent tactical mission. They have been the main force in a frontal holding attack while the remainder of the division envelops a flank, and they have blocked the escape of fugitives through the rear gates of walled towns. It is clear the Nips use their tanks primarily for their armor protection, not for their mobility.

In some cases, notably against the Chinese, Jap tanks have been particularly successful. Witness the attack on Sychowfu in 1938, when Jap tanks executed a wide encircling move and cut rail lines 40 miles from the city.

When Japanese armor is employed in an attack on a walled town, the attacking force is divided into four columns. One column smashes against the front wall, and two columns attack the adjacent sides. The rear wall is purposely left free of attack. Artillery blows holes in the two near corners and infantry enters through these breaches, joins, and, moving through the town, drives the enemy out by the rear. The fourth column, frequently composed of tanks, waits until the enemy is well into the open, sweeps from the flank or waits in ambush and cuts him down with fiendish glee.

Japanese tank platoons have been known to fire smoke missions to cover the deployment of infantry. When the meeting engagement takes place and the enemy has been forced to retreat, tanks push forward, frequently outdistancing the infantry which they had been supporting, to destroy the withdrawing or retreating enemy.

The many cases, however, when Japanese armor has not been successful tip the Nip scales. The Jap has two favorite maneuvers. The first, and least favored, is an envelopment over "impassable" terrain by which he hopes to force a withdrawal because one or both flanks are threatened. The second is what has been called a "filetting" attack. The Jap maneuvers much as one attacks a fish—removing the backbone and the rest falls to pieces. In this, he rushes down an arterial supply route with tanks, closely followed by infantry, on the assumption that by holding the supply route alone he will force the enemy withdrawal. If he gains this end without a fight, he is at a definite advantage. But if he has to fight for it, he has no advantage. He lays himself open to artillery fire, since the dense mass of tanks and infantry in depth with no room for maneuver favors the defender. If the defender is up to it, he may launch a single or double envelopment to destroy the Jap.

Examples of such an attack and how to foil it are numerous. Consider the operations in Kuala Dipang, Malaya, in 1942, against the famous 93d Highlanders; the battle at Slim, Malaya, same year; and the scrap at Matanikau River, Guadalcanal.

The 93d Highlanders lay in the jungles while the Jap tanks drove straight down the road. Then joined

with units of a Punjab regiment, the Highlanders successfully attacked the Jap infantry which followed and inflicted losses of seven or eight to one.

At Slim, the Japs were equally unsuccessful, although their tanks pounded straight down the road to a depth of 20 miles.

On Guadalcanal, the arterial highway is the coastal road which was flanked by the sea to the north and the jungle to the south. Twelve Jap tanks, closely followed by an infantry regiment on foot, started down this road. Near Point Cruz, where American troops held important positions, the road goes out across a sand bar a few yards off shore. Only one tank, of the nine that started across this stretch, ever got beyond the sand bar. A single emplaced 37mm gun, later reinforced by three 75mm self-propelled guns mounted in half-tracks, completely destroyed eight tanks as they stopped in close column behind the second tank, which was the first to be hit. The first tank, which got beyond the sand bar, passed the 37mm gun, but it was blown into the sea by one of the 75's which chased it down the beach.

In an attack across a front of about 3,500 yards the Japs may employ three battalions against hostile positions. The tanks are organized on a triangular basis: three platoons per company, three companies per battalion, a total of 45 tanks (probably light) to a battalion.

This organization greatly increases the size of the small Jap unit, generally following German and American principles. Although the Japs are believed to have more than one armored division, it is thought that they will confine their tank operations to support of infantry.

In days to come we may see more of Japanese armor. It is well to know how they are likely to operate, and also that Japanese armor, being greatly inferior to our own, can be stopped by 37, 75, 76 and 105mm shells.

This Jap Model 95 (1935) tank was knocked out of commission by American Sherman tanks during heavy fighting.





Soviet cavalry moves cross-country, over rivers and swamps, through woods and appears suddenly in the enemy's rear or flank. Men are armed with tommy guns, automatic rifles and pistols. Cavalry has led many rapid advances. Sovfoto

Part IV – Tactics and Technique

Cavalry Doctrine—Prescribed by U. S.; Applied by Russia

IT is difficult today to separate the Cossacks from other Red cavalry elements in many respects, but particularly in regard to employment.

Throughout history the Cossacks have influenced Russian cavalry trends. Since 1920, however, the shoe has been on the other foot. The Soviet Government has taken the Cossacks into the Red Army, but unlike the past, the Cossacks are treated just the same as all other Red Army elements. Thus, the organization, equipment and doctrines of employment of the Cossacks are in general those of all the rest of the Red cavalry.

An analysis of the known Russian cavalry battles in this war demonstrates the soundness of prescribed U. S. doctrines for the employment of cavalry. For example:

"It's (cavalry's) mobility permits it to extend the scope of operation of less mobile ground troops and secure freedom of action for them." FM 2-15 (Employment of Cavalry), Chapt. 1, par. 5a.

At Taganrog in 1943, the Ingulets River in 1944, and the capture of Focsan in 1944 we have excellent examples of the application of this axiom. Would

space permit, many others could be cited. (See Fig. 1.)

One of the soundest and most authoritative articles on Red Army cavalry was written by Colonel General Gorodovikov in the July-August 1943 CAVALRY JOURNAL. General Gorodovikov's article was based on an intimate knowledge of the employment and combat experience of Red cavalry. Much has been written on Russian cavalry successes, but too few authors have been able to include data on its mistakes. General Gorodovikov presents both sides, and from what he mentions, Russian combat experience confirms the soundness of U. S. cavalry doctrines. Compare these quotations from his article with one from U. S. Field Manual 2-15:

"Sometimes (separate cavalry) divisions were given to army corps or to army commanders to carry out assignments of secondary importance. . . . This method of using cavalry seldom if ever brought positive results. Scattered cavalry quickly lost its hitting and staying power."

" . . . and thus its (Gen. Kriuchenkin's corps at

ARMY COSSACKS

by Major Robert B. Rigg, Cavalry

Eletz) mission in the first stage of the operation was successfully filled. At the next stage the cavalry became engaged in . . . area where numerous inhabited points were solidly fortified and held by substantial hostile forces. The corps became involved in a series of indecisive actions and was tied down to the same area for several days."—General Gorodovikov.

"Its (cavalry's) main strength must not be dissipated through indiscriminate detachments nor sacrificed through prolonged performance of missions which belong more properly to other arms." FM 2-15, Chapt. 1, par. 5a.

If the American officer finds the study of FM 2-15 a little dull, let him turn to the more authoritative accounts of Red cavalry battles and compare the lessons learned in them with prescribed principles of employment of cavalry. In Russian battles he will find more than enough evidence to document, with modern combat experience, the pages of FM 2-15. (See Figure 2.)

AGGRESSIVE ACTION

"Cavalry seeks decisive results through rapidity of maneuver and powerful surprise attacks upon weak points of hostile dispositions. It must be imbued with

the spirit of the offensive." FM 2-15, Chapt. 2, par. 6a.

In the briefest terms, the Cossack combat technique is no more than the application of the above. They place great emphasis on offensive tactics, and they train for aggressive action. This is particularly noticeable in the squadron and regiment, where these tactical subjects are considered most important: knowledge and use of terrain; reconnaissance; small battle technique; damaging and destroying railways, roads, bridges, and artillery pieces; damaging and repairing telegraph and telephone lines; communications, duties of mounted messengers and messenger relay system; attacking enemy columns; night raiding; surprise attacks and ambushes; and the *lava* tactics.

Cossacks are simply good cavalymen who fight with offensive and opportunistic spirit. Their aggressiveness and tenacity, guided by able leadership, produces successful cavalry.

RECONNAISSANCE

Cossack cavalry is not employed as a reconnaissance force, as is the case with present U. S. cavalry. Their reconnaissance is strictly for themselves, although they often perform the scouting when they are organized in the tank-cavalry combat team.

Cossack audacity is usually an asset for missions they

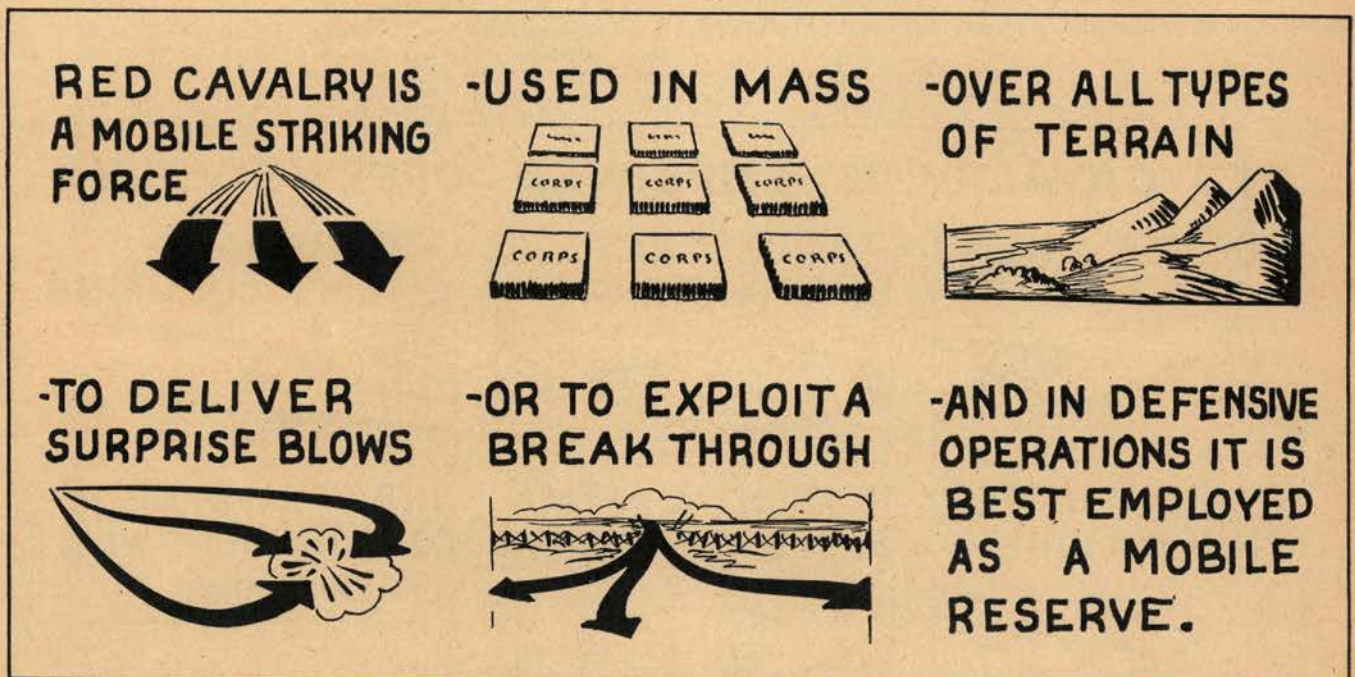


Figure 1. Another battle function of cavalry is the seizing and establishing of bridgeheads. The battle of Baranowicze (July 1944) is a good example of such an action. General Pliev's Kuban Cossack corps fought its way for 60 miles in a period of less than two days to outflank the enemy and establish an important bridgehead over the Nyeman River.

"In defense, the heavy machine guns, together with submachine guns and antitank weapons, are the basis of cavalry dismounted action."

—Red Army Combat Regulations for Cavalry, Chapt. I, par. 10.

receive, but sometimes they let their overenthusiasm and daring carry them away. General Gorodovikov also cited this, and it has been a recognized Cossack weakness. Cossacks, seeking to gain surprise, have sometimes attacked too hurriedly, only to be later surprised themselves. In most cases such failures are the result of a lack of reconnaissance, and for that reason the Red Army is continually emphasizing its importance.

COSSACK LAVA

As already described by Mr. Nicholas Corotneff in his article, "The Tank-Cavalry Team,"¹ "Lava does not represent a formation but a tactical action of cavalry." The author can add little to Mr. Corotneff's already complete treatment of the subject, but the essence of Cossack Lava tactics are embodied in the following paragraph from an old Cossack field manual:

"Lava consists of different maneuvers against the enemy for the purpose of, harassing him from the front, flanks and rear, either forcing the enemy to conduct a series of separate battles, luring him into making tactical mistakes, or drawing him out so as to subject his troops to attack by other units."

By the *lava* the Cossacks endeavor to seize the initiative immediately and place the enemy in a disadvantage-

ous position. *Lava* as practiced by the Cossacks has the immediate effect of confusing the battle issue to the enemy. Cossack units have often used their full strength against the hostile force; then withdrawing part of this force so as to "draw out" the enemy, have shifted their strength to the enemy's flanks and weaker points. In this fashion the Cossacks dominate the action, for they lead the enemy into maneuvering to suit them. The climax is usually an attack by the Cossacks (or non-cavalry units as well) on the weaker elements or flanks of the hostile unit.

RAIDING

Although the Russians adopted the word "raid" from the Americans, they have given it a broader meaning than the U. S. official definition, which is "sudden attack usually by a small force having no intention of holding the territory invaded." The author has been told by Red cavalry general officers that they apply the term "raid" to: operations of all types in enemy rear areas² and long outflanking cavalry maneuvers which end up in the hostile rear or extreme flanks. They go on to state that Russian cavalry raids are very often for the purpose of *holding* the territory invaded. For example, in seizing an enemy strong point or town, cavalry will often outflank the frontal defenses and strike to the rear; this calls for infantry and other arms bearing the frontal assault. Cavalry's role in such an operation, if it strikes in rear of the strong point, is called raiding by the Russians. Most tank-cavalry team maneuvers are also termed raiding. From a military standpoint Cossack raids can be divided into two general categories, as follows:

²The Russian front should not be erroneously regarded as a single line. More than often it is a series of scattered units and strong points organized between terrain features; this makes for maneuverability by both sides.

¹January-February, 1944, CAVALRY JOURNAL.

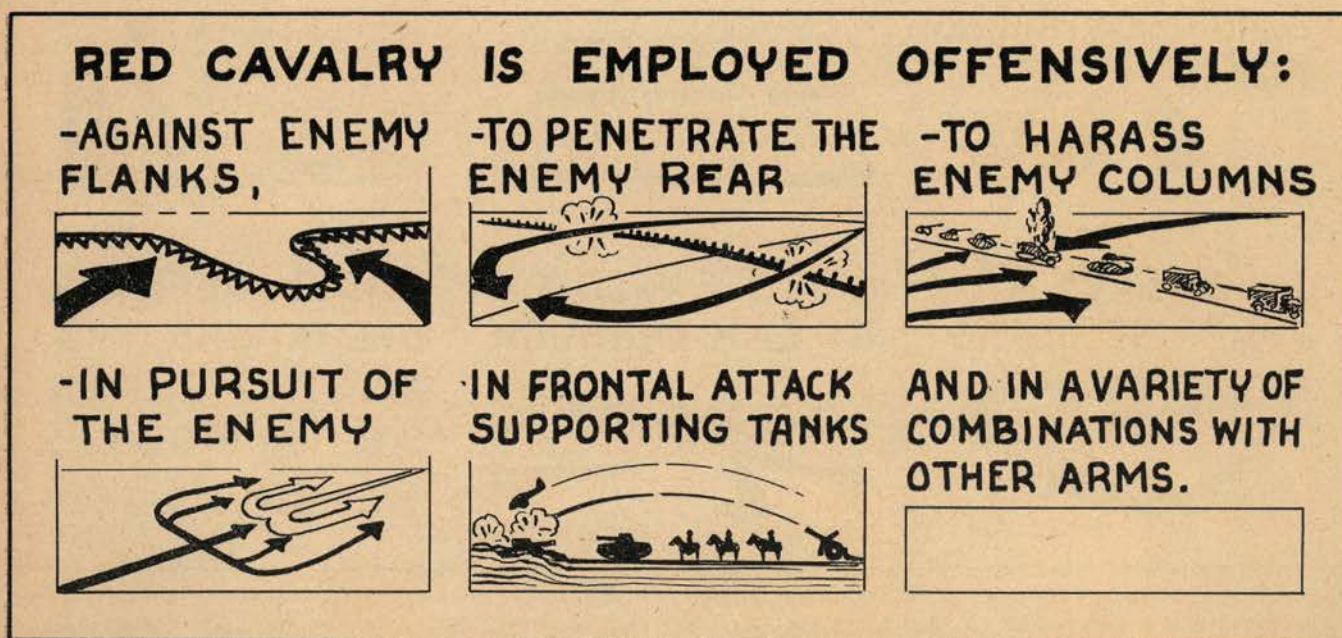


Figure 2. Red Cavalry is regarded primarily as an offensive arm. It is a highly mobile force, equipped with modern arms.

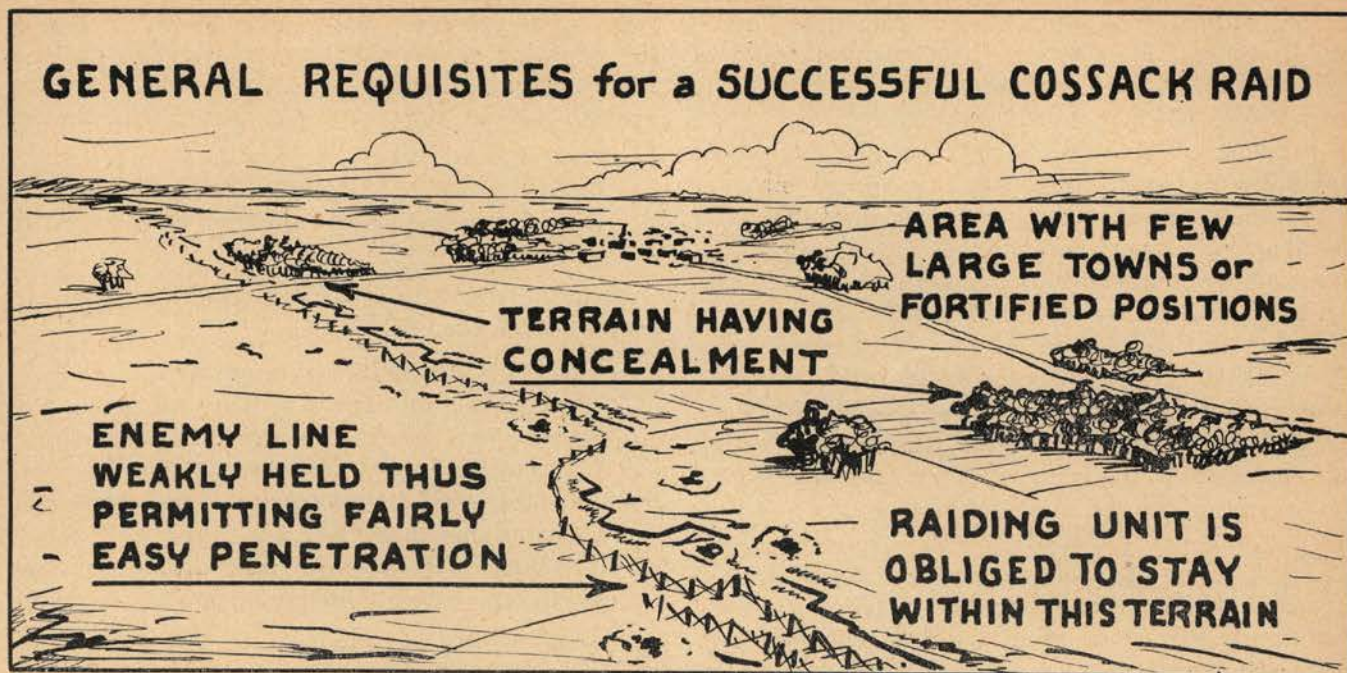


Figure 3. The raiding plan must include a preliminary air reconnaissance and map study to determine these requisites.

SIZE	OBJECTIVES	SCOPE
1. Regiment ³ or less	Local enemy CPs; artillery or AT batteries; small relatively undefended garrisons in enemy rear, and the capturing of prisoners.	Local, generally limited to about 15 miles in depth and lasting 1 to 3 days. Many are night raids only.
2. Corps ⁴	Retreating enemy columns; large CPs; supply or signal installations; lines of communication; garrisons or enemy strong points in rear of MLR, plus targets of opportunity.	Usually limited to 30 miles in depth with duration of from 3 to 14 days. ⁵

At best, raids by smaller units only supplement local actions, and one of their main values is their temporary effect on enemy morale. In all their raiding the Cossacks count heavily on creating panic and confusion behind the lines and they maneuver with this in mind. It is very easy to overestimate the value of small raids. The logistics of supply restrict all raiding, for even the smallest raiding units must carry their own forage, ammunition, etc.

The chart (see Fig. 3) lists the requisites for a successful raid. The ideal area is one where there are few

roads, although an area with an extensive road net can be very suitable for Cossack raiding under conditions of mud or snow which handicap enemy armored units. In enemy rear areas lacking in heavy or well-organized defenses, very often the Cossack raiding procedure is to go right into an attack from the approach march. There is an element of risk to this, but the Cossacks feel that the advantage of surprise by very sudden and unexpected attack far outweighs the advantage gained by a thorough, local reconnaissance which would probably alert the enemy. It does happen, therefore, that Cossack units, particularly the smaller ones, will attack limited objectives without much preliminary scouting if their previous information has indicated that the area is not too well defended or organized. This only applies to actions in *rear* areas.

Red cavalry raiding, as performed today, is no longer an insignificant practice, and even within the space of this war Soviet raids have increased in size and scope. Compare the very famous and successful raid made by General Dovator's Cossack Corps in 1941 with that of Lt. General Pliev's Cossack Corps in 1943 wherein his unit killed, wounded or captured 5,000 German soldiers, destroyed 18 tanks, 36 pieces of artillery and 511 motor vehicles in addition to taking 18 artillery pieces, 1,000 vehicles and miscellaneous other equipment. This raid was carried out on the Dniester Steppe and was very widely publicized in the U.S.S.R.

One unit of Lt. General Sokolov's VI Guard Cossack Cavalry Corps was on a 135 day raid and fought behind the enemy lines most of that time. Elements of this corps, containing both Kuban and Ural Cossacks, have participated in a great many other raids, an outstanding one of which was in the Rovna-Dubno region in June, 1944.

³Such raiding units rarely include tank support.

⁴Either W/ or W/O mechanized units attached, depending on the season, terrain and objectives.

⁵Raids lasting longer must rely on established lines of supply and thereby begin to go beyond the realm of true raiding.

As a normal thing raiding is and should be limited in depth, but one Cossack unit fought a battle at Valiuka (1943) when they were 150 miles behind the enemy's (MLR) main line of resistance.

In January, 1944, small Soviet cavalry raiding parties infiltrated well into German rear areas and assembled at a prearranged point. After organizing they attacked a local enemy garrison, and later cut the highways leading south and southwest from Mosyr and Kalinkovichi.

An example of a very successful tank-cavalry raid occurred near Perekop and Aksinia Nova. Red Army units operating from Meritopol did much to divert enemy efforts behind the lines and Soviet cavalry action. There greatly assisted the Russians in clearing the enemy out of the whole of North Crimea.

MOUNTED ATTACKS

The Cossacks regard themselves more as cavalry than as mounted infantry, and they think in terms of *cavalry* tactics. This state of mind has led them to apply mounted attacks wherever possible.⁶ The relative frequency (for this age) of Cossack mounted attacks has in part been due to the fact that their commanders are quick in recognizing situations and opportunities which lend themselves to attack mounted.

The tenor of the present day Russian cavalry approach to modern battle is well illustrated by their regulations covered in Chapter I, *The General Basis of Military Operations*.

"Owing to the strength of modern fire power, cavalry is often obliged to go into action in dismounted formations. In cavalry tactics the dismounted formations must contain and disorganize the enemy's resistance, and prepare the way for his defeat by mounted attack.

"If the enemy is unprepared to offer organized resistance, or if his fire system is disorganized, the cavalry must endeavor to surprise him by attacking in mounted formations. The fundamental rôle of cavalry in combat is to combine mounted and dismounted action—quickly changing from dismounted formation to mounted, and vice versa."

—from Chapter I, *Red Army Cavalry Combat Regulations for Regiment and Squadron*.

Today there are no suicidal charges against machine-gun nests or organized enemy positions. When mounted attacks are conducted, they are made against very limited objectives known to be weak or not well organized, and these are usually attacked from flanks or rear.

Russian experience proves that today these attacks can only be accomplished successfully where the general situation greatly favors the attacker. For example, a retreating enemy column is considered a fairly good

target. The Cossacks have found that one or more of the following circumstances *must* exist to permit an attack mounted:

- 1 Very poor or weak enemy defenses or an unorganized fire system.
- 2 Enemy ignorance of the presence of cavalry.
- 3 Terrain favoring cavalry approach so as to provide surprise.

Possessing one or more of these requisites the cavalry must insure its success by:

- 1 Thorough reconnaissance of enemy.
- 2 A preparatory mortar and artillery barrage.
- 3 Fire support by dismounted cavalry elements.
- 4 Correct timing and swift delivery of attack.
- 5 A quick consolidation by mounted and dismounted elements after the attack.
- 6 Thorough preparation for alternative action (dismounted) if enemy opposition proves too strong.

Not all Russian mounted attacks have proved successful, and in many cases Soviet horsemen have had to dismount in the face of enemy fire and battle their way forward on foot. Russian sources admit that in such circumstances poor reconnaissance is usually to blame.

COSSACKS VS. GERMAN DELAYING TACTICS

In 1943 when the Germans were withdrawing in the face of Russian pressure they were using every fortification, inhabited point and terrain feature to delay the Red troops. During this period the enemy on one front considered it more important to keep his forces intact than to retain any section of terrain. The defense of a particular position, therefore, lasted until the German forces were threatened with being surrounded. In playing for time the Germans held a position until it began to be untenable, and then they quickly withdrew to other points. When the Cossacks were put in the vanguard of the Russian offensive, they noticed that the Germans were quite accustomed to the speed with which Red infantry could threaten their flanks and drive them out. There was a distinct pattern to the timing of enemy actions, but against cavalry this proved a fatal weakness.

Cossack regimental commanders would engage the enemy frontally with about one-half of the regimental strength. Dismounted, this force would concentrate on finding and attacking weakpoints or small flanks in the enemy's defenses. The remaining cavalry squadrons would prepare for mounted attack. Once the dismounted elements attacked a point with any success at all the mounted Cossacks were ordered to join the assault. Situations varied, but as a general rule the Cossacks succeeded in severing the enemy's defense, and when they did, the mounted elements hurriedly surrounded the main strong points of the enemy. The usual result was that the Germans were outflanked or surrounded *before* they expected such a threat to occur. The cavalry reached and attacked new flanks much

⁶As discussed here, mounted attacks do not include those made with tanks.

faster than the Germans had experienced from Red infantry. If the enemy was not completely surrounded, but tried to withdraw on seeing the Cossack threat, the cavalry attacked mounted upon seeing them withdraw. For a while the cavalry achieved a series of minor successes by these mounted attacks.

By virtue of their individual agility and skill, Cossack units can mount or dismount with surprising speed. In all the Red cavalry, speed is demanded in going from horse to dismounted formation, and vice versa. Horse holders retain no little importance, and they are taught to move their animals with dispatch. Officers are taught to keep their led horses constantly in mind and to provide prearranged signals for bringing them forward immediately if the situation changes. Thus mobility is retained.

THE COSSACKS IN WINTER FIGHTING

Like other components of the Red Army, the Cossacks have displayed consistent ability to wage war in wintertime. In the three years of war the Cossacks have fought in all the Red Army's winter operations.

Contrary to the ideas expressed by some American newspapers, the winter snows in Russia do not necessarily increase the maneuverability of Soviet cavalry units. Like all other arms, the cavalry is inhibited to a certain degree by the snows—but under some circumstances, the cavalry is hindered to a lesser degree. Actually, cavalry has a greater advantage over mechanized troops during the muddy spring than it has in winter.

Deep snows have actually taken some Cossack units off their horses and forced them to operate on skis. Red Army officers admit that many times during the Russian winter the cavalry is limited to roads only. Mounted patrols are not necessarily the best for reconnaissance, and there is evidence that small ski patrols take their place quite consistently. This is especially true in the open country where the horseman is more conspicuous in wintertime. In some localities extreme winter conditions have put the cavalry on a par with the infantry as respects mobility. It is true, however, that such conditions do not prevail all along the front, nor all of the time, but the Cossacks and other cavalry have often been severely restricted by winter elements.

On the other hand, areas covered with deep snow provide protective flanks which can often benefit cavalry regimental maneuvering. Snow and ice serve to open up certain swamps and rivers which are serious barriers in summer.

Where the snows are not too deep, Soviet cavalry offensives are conducted, mounted or dismounted, with the support of tanks. In areas where the snow is very deep, the cavalry operates without tank support and very often with the assistance of ski troops.

Where possible the Russian cavalry tries to conduct its offensive operations in terrain not too heavily covered with snow, so that other troops (armor and infantry) can support the cavalry. During the 1943-44 winter the Soviet German Front traversed many swamps and woods—terrain of great help to the Russian cavalry.

Employment of Regimental and Divisional Artillery

by Major Robert B. Rigg, Cavalry

LIKE the horsemen they accompany, the Cossack artillerymen are aggressive and bold. They are accustomed to going into action quickly. Very often these gun crews must unlimber their guns from the march and fire from open places.

Regimental artillery is employed more or less at the discretion of the regimental commander. He may keep it together, although in most instances he will attach it by platoon or gun to the squadrons (U.S. "troops") in which case the weapons will be under the control of the squadron commander. Regimental artillery is effective against enemy mechanization up to 1,600 yards.

Divisional artillery is employed under centralized or decentralized control depending on the combat requirements. This artillery is centralized for offensive action, or occasionally for the defense of a narrow front. Under decentralized control the divisional artillery is attached to regiments by battalions or batteries. In this manner they supplement the guns within the lower units.

Counterbattery fire is normally the work of divisional artillery when there is no necessity of engaging the smaller ground targets. The primary mission of divisional artillery is the neutralization of enemy AT guns, personnel, MG positions, and similar ground targets. This artillery also lays barrages on defiles, road junctions, etc. Divisional guns provide rolling barrages for the support of attacking cavalry and tanks. Red cavalry combat regulations give 220 yards as the closest that cavalry should come to an artillery target under fire, but tanks are permitted to follow a rolling barrage a little closer.

Sometimes cavalry's artillery must clear away obstacles so as to permit cavalry penetrations and freedom of maneuver. Of some interest in this respect is an official Red cavalry table designed to guide cavalry commanders in requesting artillery assistance. Only one item from the table is listed here, but this example typifies it:

MISSION: Given good artillery observation, clear a 20 to 25 foot path through enemy wire entanglements (up to a depth of 65 feet).

ARTILLERY: This can be accomplished up to a range of about 1.8 miles, and it is regarded as a two-hour job for one gun. The 122mm weapon would normally require about 85 shells; the 76mm, 200 shells.

The present Russian field manuals for cavalry place much emphasis on the use of artillery with cavalry, whereas the U. S. FM 2-15 hardly mentions the subject. In general, this is due to the difference between the U. S. and Russian cavalry tables of organization.

Zhukov's Successes

"In a rare press interview on January 25, 1942, Zhukov outlined a few reasons for the German shambles at Moscow. 'They were used to easy victories,' he said. 'For them war was merely maneuvers. They have neither cavalry nor skiers; their tanks cannot pass over the snow.'"—Life, February 12.

Moscow, Feb. 28. By Wireless to the New York Times, by Leigh White—Spring has come to Eastern Pomerania, the army paper Red Star says. The sun has melted most of the snow and rivers have overflowed their banks, converting much of the countryside into marshes. Armor has therefore proved of limited usefulness, and the Cossack cavalry has again been used to encircle and harass an enemy who forgot that horses still have their place in an age of mechanized warfare.

London, March 1. Russian Wednesday midnight supplementary communique broadcast from Moscow—Troops of the Second White Russian Front continued to develop their offensive. Soviet infantrymen, tankmen and cavalymen inflicted heavy blows on the enemy and, with the support of the artillery and air force, routed him from resistance points. Advance units of a guards cavalry detachment reached the approaches of Neustettin. The detachment attacked the Germans who had intrenched on the southwest edge of the town and attracted to themselves the main basic forces of the enemy garrison. During this time, others of our units carried out an outflanking move and broke into town from the north. Pressed from two sides, the enemy garrison was routed and the town of Neustettin—an important stronghold of German defense, a junction of 5 railways and several highways—was captured.

London, March 9. United Press. A dispatch to the official Soviet newspaper, Pravda, said Soviet members in 'round-the-clock attacks were joining with massed artillery in pulverizing the river crossings in the Stettin area, jammed with broken-up German columns trying to escape through Stettin. "The Estuary of the Oder and Stettin Lagoon are clogged with sunken enemy ferry boats, carrying trainloads of tanks, motor vehicles and men," the dispatch said. Cossack cavalry, sweeping the east bank of the estuary rounded up 8,000 Germans who had not been able to find passage. They also collected 2,000 carloads of equipment and scores of locomotives. Zhukov and Rokossovsky between them now had conquered nine-tenths of German Pomerania and were rapidly liquidating the rest of that province which is east of the Oder.

Tactics of R

SOVIET cavalry, reinforced by tanks and motorized units, played a considerable rôle in many Red Army victories. This close coöperation of all mobile arms of the service—tanks, motorized infantry and cavalry—based on surprise and determined action on a bold and daring maneuver, constituted one of the distinctive features of the victorious Soviet summer offensive.

The tanks form a steel shield for the cavalry and the motorized formations; in turn, the advance of the tanks is secured by the firepower and the continuous movement of the cavalry squadrons and the motorized units. Their closely coördinated actions are effectively supported by powerful blows dealt by offensive air power.

The cavalry-mechanized teams develop swiftly and deepen the breakthrough made in the enemy defense line by the infantry-artillery team. They drive deep wedges into the enemy defense zone, split it up and penetrate into the operational depth. They destroy the enemy reserves coming up to the threatened sector, seize important centers and straddle the enemy's communication lines, cut off his lines of retreat and, in coöperation with the forces advancing frontally, cut off and annihilate the main grouping of the enemy.

Combined actions of mobile arms must be skilfully organized and should be conducted by the senior field commanders with a firm understanding of the situation at all times. Aimed at the vital spots of the enemy's defense the action consists of a succession of bold flanking and turning movements. If the cavalymen and the tankers move rapidly and without looking back (i.e., disregarding their rear) the operation is bound to succeed.

During the drive against Minsk, the Kuban Guard Cossacks of Lt. General Plieff, in a swift and dashing operation with tanks and mechanized formations, seized the important enemy communication center of Stolbtzy-Nesvizh. After cutting the German communication lines, Plieff's squadrons forced the rivers Ptich and Sluch, and in a deep flanking movement decisively smashed the main enemy grouping. Together with infantry divisions advancing frontally, they occupied Minsk.

In the next stage of the operation, still in close coördination with tanks and infantry, the Cossacks swept across the German lines of retreat, occupied Baranovitchi and Slonim, and thus opened the road to Brest-Warsaw. This brilliant action of cavalry is by no means an isolated example. There were many similar ones during the 1944 Soviet summer offensive.

Soviet experience in this war conclusively shows that in combined operations of mobile arms the most dangerous factor—and one that can blight the whole operation—is that of routine thinking. A thorough and bal-

ed Army's Mobile Team

anced appreciation of the situation must be the basis of a creative and imaginative effort directed toward finding new ways and means of fighting. Constant striving for surprise and unflagging determination are the prerequisites for victory.

The first and basic factor of successful coördination of cavalry and tanks is the principle of using them in massed formations and throwing them into the flank and rear of the main enemy grouping. The second guiding principle is the necessity for ceaseless and closely knit interaction and mutual support at all times and in all situations. The third principle is an unrelenting support of the advancing tanks and cavalry by all available firepower and massed blows from the air.

It goes without saying that a well organized rear service is of prime importance. No matter how far the mobile units are advanced, their supplies must reach them without interruption. This must be the main concern of the higher commanders and their staffs. Tanks and motorized units assigned to the cavalry in offensive operations, as a rule, are used (1) along the axis of the main blow, (2) on sectors threatened by an enemy counterattack, (3) on the flanks, and (4) out in front of the main cavalry group. When focal points of the enemy's defense system are seized, the motorized formations consolidate the gains and hold the important areas until infantry masses are brought up. Meanwhile, the tank-cavalry team develops and further exploits the success by annihilating the retreating enemy and smashing any reinforcements on their way to the front line. The mobile team strives to achieve the complete debacle of the enemy's main grouping.

Experiences of World War II show that to inflict a decisive defeat on the enemy it is necessary to maneuver on a wide scale, and execute the mission with boldness, skill and utmost coördination between tank and cavalry formations.

During the summer of 1944 the horse guards of General Oslikovsky, in a sweeping flanking maneuver closely supported by tanks, forced the Beresina River straight from the march and seized the town of Borisov. Without letting the enemy rest, the Guards struck immediately at the important German communication center of Molodechno, and then at Lida. After capturing both towns, Oslikovsky's cavalrymen continued their relentless pursuit of the retreating enemy, inflicting heavy casualties, and then, in coöperation with tanks and infantry, took Grodno.

It is necessary to pursue the enemy with all arms of the offensive team—cavalry, tanks and motorized infantry. During such a pursuit the main object is to give the enemy no chance to recover, regroup and reorganize his shattered defense system. His battle orders must be broken up into fragments by swift, daring blows, his main centers of resistance turned and out-flanked, and the whole depth of his defense zone penetrated. The best results are achieved by parallel pursuit along several routes, with mobile groups swinging across the enemy's rear lines and encircling his main groupings.

It must be borne in mind that "the offensive impetus does not bear interruption," therefore, the pursuit must be continuous and relentless—the endurance of men and horses being taxed to the limit. The dash and elan of the pursuit, however, should not dislocate a firm and flexible direction of the operation. It is necessary to appraise realistically the maximum strain to which the cavalry can be subjected without impairing its fighting strength.

Close attention must be paid to the complex matter of coördination between the mobile arms and aviation. Airpower must provide a stout protection to the cavalry-tank-motorized infantry team at all stages of the operation. If the enemy attempts to strike a blow from the air, the fulfillment of the task entrusted to the mobile team should not be interrupted. While parrying the attack by use of every man and weapon available, the combat team must continue to move forward with even more determination in order to deepen the wedges driven into the enemy's disposition. This is the best way to paralyze the offensive moves of the enemy's air force, which then faces the risk of hitting its own troops.

Such offensive tactics, inherent to every one of the Red Army's offensives, require boldness and initiative on the part of every cavalry commander.

The great maneuvering capacity of mobile groups and the quick tempo of the offensive operations require that cavalry and tank commanders have a great deal of flexibility. They must be able to judge a situation quickly and, while making bold decisions, still see that the controlling apparatus functions properly in all stages of the combat. There is no place for routine. Every operation presents its own peculiarities, which must be evaluated correctly. A commander who is inclined to a passive attitude, procrastination, or a tendency to wait for directives from above instead of reacting instantly to every change in the situation is doomed to failure.

Tactical Employment Of a Provisional Mounted Squadron

*by Captain A. T. Netterblad**

DURING the difficult mountain warfare in Sicily and Italy, the 3d Infantry Division, at that time commanded by Lt. General (then Major General) Lucien K. Truscott, created a mounted horse unit, designated as the Provisional Mounted Squadron. This improvised unit, evolved from the exigencies of war, consisted of two highly valuable sections—a horse troop for cross-country reconnaissance, and a pack troop for transporting supplies to hazardous mountain positions.

PERSONNEL

In the creation of the mounted squadron the original cadre included men from all division units. Every effort was made to utilize all personnel—other than key men of the various organizations—who had previous experience with horse or pack units. Although most of these men lacked extensive experience with animals, they were not entirely green. During the 59 days of combat in Italy, however, the organization suffered some casualties, and only a few of the replacements received from the pools were trained mounted or pack personnel.

Before the unit was withdrawn, Fifth Army initiated a program of training personnel for mounted units in their replacement depots, but the number of qualified men available was not great enough to meet the demands of the several divisions which by that time had animal units of some type and size.

There was a definite need for such specialists as horseshoers, packmasters, saddlers, and officers with horse cavalry or pack-train experience.

PROCUREMENT AND SUPPLY

Initially, the supply of animals and equipment was made available from previously liberated territory. Later, animals were either requisitioned from civilians or obtained by purchase. The division detailed one of its quartermaster officers to handle and supply the necessary replacement animals and, through purchase, to obtain necessary special supplies and equipment not available through normal supply agencies. Such items included saddles, harness, packs, spurs, leather riding

gloves, horseshoes, horseshoe nails, forges, curry combs, horse brushes and many other special items. Grain was a problem until shipments arrived from adjacent countries. Long forage was secured locally.

TACTICAL EMPLOYMENT

Typical missions assigned the mounted reconnaissance troops were as follows:

Reconnaissance to the flanks and to the rear of enemy positions. Immediately upon landing in Italy in September, 1943, the horse troop was sent into action on the right flank of the 3d Division. The only road in the sector ran through the mountains directly under the observation of the enemy. This road was to be the axis of movement for the division.

The horse troop passed through the leading infantry regiment and, moving cross-country, was able to locate some of the enemy forces. This information enabled the division commander to so plan the movement of his infantry troops that the first objective attacked was taken.

From its new location the mounted troop, continuing its operation to the flank and about 5 miles to the right front determined that the enemy had not withdrawn in that direction, as had been thought possible, and again the division commander had the necessary information to assist him in the most strategic employment of his infantry. This action took place in very rugged mountains passable only to foot soldiers and animals.

During this reconnaissance route information gained by the troop indicated certain trails (not shown on the maps) which could be used by the infantry in reaching their objectives, and furnished commanders with information of the terrain ahead in which they would have to operate.

Reconnaissance and Counterreconnaissance Screen. On one occasion in October, when a wedge had been driven into the enemy position, our left flank was exposed to the enemy opposing British forces on our left. The horse troop, working in conjunction with the mechanized reconnaissance troop, covered this exposed flank. The mechanized troop covered the road net and pushed reconnaissance toward the enemy positions. Meanwhile, the horse troop, moving cross-country through heavy brush and streams impassable to ve-

*Commander 3d Reconnaissance Troop (Mecz) in Sicily and Italy from May through December 1943.

hicles, discovered the enemy flank and destroyed an enemy foot patrol and an outpost of 4 men.

Shortly after this encounter the enemy, not knowing our dispositions and apparently afraid of an attack from that flank, pulled his outposts back about two miles. With the knowledge of the enemy location, the infantry was able to outflank the position and helped the neighboring British forces reach their objective from the south.

Flank Contact with Neighboring Units in the Mountains. Early in November a division on our right was attempting to turn the flank of the enemy opposing our forces. A Ranger battalion was employed between the two divisions to secure a certain commanding hill mass. The division commander, desiring physical contact for his right flank with the Ranger battalion, sent the horse troop into the mountains to establish this contact and to reconnoiter the area in front of our right flank battalion. Contact was made and the exact position of the Rangers reported by radio.

The troop continued its reconnaissance and at dark was directed to halt for the night and to return in the morning. At daylight the troop found itself in the middle of an enemy position with Germans on three sides. This was reported to the division, and, acting aggressively, the troop attacked the Germans, surprised them, and succeeded in driving them from their position. During this encounter the troop killed about 30 of the enemy and captured about 20 more, while it suffered a loss of only one man and one animal!

SUMMARY

1. *The Horse Troop.* All missions of the provisional horse troop were of a reconnaissance nature. It was used in terrain where the division's mechanized reconnaissance troop could not take their vehicles. The horse troop, executing these missions with speed and daring, was invaluable to the division commander. The troop's success was due largely to its ability to move cross-country in mountains—either day or night—with a minimum of noise and cover ground accessible only to animals or foot troops.

2. *Pack Battery.* The pack battery was constantly used by infantry troops in the mountains and was successful in bringing artillery fire on enemy positions from the flanks. This unit offered immediate direct artillery support to infantry troops in cross-country attacks where normal artillery fire was not always possible.

3. *Pack Train.* The primary purpose of the pack train was to deliver supplies of ammunition, water and food, to those troops in forward positions where vehicles were forced to stop because of the terrain or the tactical situation. The pack train was used every day during combat. Experiments had been conducted and plans made to utilize the mules for evacuation of wounded personnel and to pack hot meals in containers up to the combat troops.

4. *Communication.* The wire-laying platoon was used to keep the combat telephone lines laid to the front-line infantry units. Normally a part of this platoon would be attached to the infantry regiments under the supervision of the regimental communications officer. Special packs for carrying reels of wire allowed lines to be laid as the troops moved forward, and by using mules several additional miles of wire could be carried with the combat elements. One infantry battalion moved cross-country about 7 miles to reach an objective. Wire carried by mules furnished telephone communication in this unit. The heavy field wire which was laid stood up well in spite of heavy shelling, and communications were maintained.

5. *Portée.* The continuous operations in mountains compelled the use of animals. Whenever open terrain was encountered, the mechanized reconnaissance and supply units were utilized, and the animals were moved forward in trucks, so that continuous operation was assured.

A mounted unit moves through a wrecked town in southern Italy. Horses and men were often portéed to the front.



MIXED CAVALRY R

The Spanish conflict, '37-39, became a laboratory for modern warfare—Russia, Germany, Italy tried out new weapons, developed new tactics. Since then, many Spanish officers have had access to German military schools. Here one describes a horse-mechanized regiment and its place in the present and future.

by De Sotto

THE German army, which constantly amazes us with its large armored and motorized units, has not discarded its units of corps cavalry, in spite of the fact that its theaters of operations, generally speaking, have been plains, well suited to the use of large armored units. It is from such cavalry units that the Germans pick the reconnaissance groups for their divisions. These reconnaissance groups were certainly much used during the past (1942-43) Russian winter—that implacable enemy of the internal combustion motor.

In our country (Spain), where the temperatures will never be low enough to interfere with armored or motorized equipment, the topography of the terrain, on the other hand, will present large inaccessible areas, and other areas only slightly more favorable, in which the most suitable and rapid means of transportation will not be the machine, but the horse.

Whatever the nature of the zone of operations, however, the need for reconnaissance for the security of officers and men and for the exploitation of victory will always be the same.

Rapid and easily maneuverable units made up partly of squadrons of horse cavalry and capable of giving corps commanders information with a sufficient margin of time and space, are an absolute necessity.

CORPS RECONNAISSANCE

Let us see whether or not the present corps regiment is in possession of the equipment and elements giving the proper balance between missions and the zones where they must be carried out.

It cannot be conceived that a cavalry commander, when on a reconnaissance mission or when providing security for troops marching confidently behind him, would limit himself merely to announcing to the command: "Here they are! The enemy's forces are strong (or weak)," etc. If he is to fulfill his mission, the commander must provide security for himself and the army corps in all directions (security in force in the most dangerous directions) besides engaging the enemy in

either offensive or defensive action over a really considerable area. It is certain that he will make use of his great maneuvering ability, which we cannot anticipate as being superior to that of the enemy.

Naturally, this will not be over the entire zone that he is to explore, but only over a small part of it, or at some definite point. Also, he is always exposed to deception or attack by enemy detachments attempting to slip past his patrols. What these detachments are trying to do is to make progress difficult for the divisions moving up to the front, for they are the ones that are a source of danger to the enemy command.

Generally, large enemy detachments will not slip by unnoticed, but will be found and repulsed about the time that they are signalling back to their own command that contact is about to be established. From this moment on, difficulties increase for the mixed cavalry regiment that is obliged to maintain itself over the broad fronts mentioned in all the regulations. These fronts are not continuous, but depend on where the enemy is attacking and maneuvering at a given moment; for the enemy will be just as much in a hurry to learn, and will need to learn just as much as we, what is on the other side of that curtain of fire. While they are still talking of the approach march in the main body of the corps, a whole day will have been spent talking of combat—combat on a small scale, yet normal for the small forces involved in such detachments.

It is because of these factors, and many others still unforeseen that in all regulations and tactical studies, the need of reinforcements in the regiment of mixed cavalry is emphasized. This need is certain, although it is equally inconceivable that these regiments should be enlarged to the point where the means at the disposal of the regiment becomes incapable of handling the augmented forces.

COMPOSITION

Now, it is believed that such reinforcements normally should be made up of troops which, with a high degree of maneuverability, have the ultimate mission of supporting the regiment of mixed cavalry, and another normal mission benefiting the infantry division advancing into the front lines. This means that the present regiments of mixed cavalry should be apportioned

★(Translated at the Command and General Staff School from a Spanish article by De Sotto in *Ejercito*, January, 1943.)

REGIMENTS*

ample reconnaissance zones which will leave gaps in the terrain to be filled by the above mentioned reinforcements, whose strength should not be less than a group of three squadrons (with antitank and antiaircraft guns) per infantry division.

If such a plan were accepted, it is believed further that it would be necessary to consider substituting, in place of the mounted group, used by mixed cavalry regiments at the present time and limiting the latter so much in their movements, another group of squadrons, also mechanized, which would constitute the true combat group.

Besides a nucleus of motorcycle troops, the mixed cavalry regiment should also possess other powerful offensive elements which might very well be units of motor vehicles mounting guns.

Under these circumstances, it is conceivable that the corps cavalry service could be organized as follows: One group of fast, mechanized squadrons with powerful means for the transmission of messages to be used for seeking information at convenient distances (15 to 20 miles) by penetrating into the enemy's areas and main highways, and for seizing possession of points of strategic or tactical importance indicated by the command. That is, their service would be performed for the benefit of the corps command. There should also be a powerful, rapid, highly maneuverable group, also mechanized, which should constitute the second group of squadrons of the army corps and should be used as a powerful supporter of parties sent out by the first group.

MISSIONS WITH THE DIVISION

From the broad field of the army corps command, attention is diverted to the division. Here are found groups of mounted squadrons employing horses and a certain proportion of motorcycle troops which should not exceed a third of the total force in the zones of action of these large units. Missions are identical with those of the mixed cavalry regiments but in this case, they fulfill them as detachments of the divisions, which they secure and which are always ready to reinforce the regiment of mixed cavalry within the normal zone of activity of these large units.

With this solution of the problem, the regiment of mixed cavalry does not need to have a mixed composition (motor and horse) for the transportation of its squadrons and for their use in combat as is the case at the present time. Nevertheless, the thing aimed at with such a mixed system—the maneuverability of the mixed cavalry regiment in any sort of terrain, and which truly is variable enough in our country—is really attained. This is due to the fact that in groups of horse-mechanized cavalry, the interchange of missions may

be amplified greatly by the use of the horse cavalry provided for the security of the divisions when the need arises.

This does not mean that the service of the valiant mechanized units is not needed. Regardless of how difficult the terrain may be to armored and motorized elements, there are always some roads whose military value is in inverse ratio to the frequency to which they are encountered. Such roads can be given over to mechanized troops for reconnaissance and the guarding of vital points, while their brothers on horseback advance more slowly yet at all times, furnish protection for the army corps against surprise and other untoward events.

Last of all, among the offensive missions of the mixed cavalry regiments there is the task of providing security. With the small forces, as reflected in the staffs, and even with a great reduction in the personnel charged with the custody of stock and equipment, no matter how little the front to be covered is extended, the regimental commander will have his reserves so reduced that he is likely to find it impossible to fulfill such a mission properly.

IN DEFENSE

Although the cavalry was never a defensive arm, its troops must always be ready to make their best effort in a defensive mission, which is less glorious but at times just as valuable. It is for this reason that the regiments of mixed cavalry must be so organized as to do their part, not only in performing their normal missions—coöperating in counterattacks, reestablishing the situation, promptly closing the breach produced in the defensive position, and carrying on delaying action—but other less frequent tasks, such as occupying one of the zones of the defensive system. In its organization, however—and this is believed perfectly adequate—the idea of offense has existed more than the idea of defense, and it is to this end that the present mixed cavalry regiment is geared.

The mixed cavalry regiment cannot be looked upon as merely a function of the number of its vehicles and horses, in which respect its effectiveness is similar to that of a line battalion when occupying a center of resistance—a mission which to a certain degree is foreign to and outside the field of the tactical characteristics of cavalry and whose employment as such will be recommended only in unusual circumstances.

FINAL CONSIDERATIONS

Army corps cavalry should exist in greater force, with a certain degree of separation worked out and established between horse and mechanized units in accordance with the normal missions for which they are to be used. In an effort toward *specialization*, without attempting to create regiments to be used for every purpose, it is possible to be led unavoidably to organize units that carry out their special tasks in a mediocre manner. Certain means that from the theoretical point of view appear entirely proper, may prove to be only beautiful aspirations during the actual campaign.

Cavalry is an arm costly to organize and maintain. Under certain circumstances, which must be avoided as much as possible, it wears out rapidly. Although vulnerable to aviation as some claim, in this respect, it is much like other arms less discussed.

It is an error to believe that these troops alone are fit for violent and decisive action, capable of such victories as to make us forget the financial sacrifices entailed by their organization and maintenance. It is true that such action is the pride of such organizations and their most outstanding characteristic. But during a campaign that offers little or no opportunity for them to operate, the horse cavalry and motorcycle troops do not rest on their past laurels while others labor. The protection of advancing or retreating troops, the security of the lines of communication with the rear guard, filling a breach in a sector, participating in counterattacks—including infiltration into the ranks of the infantry so as to increase or reestablish the continuity of the defense—were never missions foreign to cavalry, which has not hesitated to carry them out with the same enthusiasm and spirit of abnegation that has been shown by cavalry troops of all time.

When persons of relative authority are heard to say that the age of horse cavalry is past and that the formula of victory is to be found in total mechanization and motorization, one is reminded of those faulty theories (as subsequent events proved) that were maintained at the time of the war of 1914-1918. Then the belligerents were prompted to dismount their squadrons and transform what at that time was excellent cavalry into mediocre infantry with no hope of the reverse change at any given moment—which moment with certainty appeared.

It is a source of surprise how little attention some pay to the many events of the recent battles on the Eastern Front where, certainly, the horse has not become discredited. The rigors of the Russian winter, as well as the recent operations of the Rumanian cavalry in the zone of the armies of General von Bock, have both served to demonstrate to the German command the qualities and aptitudes of cavalry to such an extent that the increase in the number of horses in the German army is a manifest fact.

The persons who certainly are in danger of being mistaken are those who seek victory by means of radical solutions without stopping to think of the resources necessary to take care of the needs of a campaign at all moments—tradition and a martial spirit and, lastly, the probable theaters of operation which have so much to do with the decisions of the command.

It is well that our (Spanish) army possesses powerful armored units that are fast and motorized. But these units are maintained in a proper proportion without forgetting that other arms have a place in the battle—a place that must not remain vacant if the army is to possess the flexibility and maneuverability necessary and indispensable in present *blitzkrieg* warfare.

U. S Experiment in the Horse-Mechanized Regiment—1941

The Horse and Mechanized Regiment in effect is a task force. Its animal and mechanized strength in reconnaissance troops, its roving capabilities and fire power, its communication, pioneer and antitank sections with its self-maintained service section—all fit it for all purposes of reconnaissance, security and limited combat.

The capabilities of this type regiment were admirably demonstrated by the action of the U. S. 4th Cavalry (H & M) in the GHQ. Maneuvers of 1941.

In order to meet the threat of the armored force, which was endeavoring to encircle Shreveport from the north, the 4th Cavalry, less the detachments on the west flank, was assembled at Logansport, entrucked, and moved to Greenwood, 25 miles distant and a few miles west of Shreveport. There it held off the reconnaissance of the armored force until the arrival of the 6th Infantry Division. Then, with Army approval, it entrucked and moved to the vicinity of Marshall, from which point it was to gain contact with the enemy, fill the gap between the 2d Cavalry Division and the 6th Infantry Division, and cover lines of supply.

Later the same afternoon, when enemy forces crossed the river in the Logansport area and outflanked the 2d Cavalry Division, it became necessary to commit division reserves and shift most of the 3d Brigade to forestall the 1st Cavalry Division and prevent the 2d Infantry Division from gaining a foothold. As the pressure increased it became evident that the 2d Cavalry Division would be forced still farther back.

At 4:05 P.M. the 4th Cavalry (less one SC troop) was ordered to assemble near the division command post at DeBerry as a new reserve. At the time of the order the 4th Cavalry was about 25 miles away. One scout car troop was left at Marshall to patrol that vicinity. Within 45 minutes the leading troop of the Horse Squadron arrived, and by 5:15 the entire 1st Squadron had arrived, detrucked and was ready for action. By 5:30 the remainder of the regiment which had been out on patrol had assembled and reached the CP. This furnished an adequate reserve to meet both the penetration and the flanking maneuver of the "Blues" and to reestablish lines as directed by Second Army.

During a 48 hour period, the 4th Cavalry engaged in all the actions mentioned, traveled approximately 120 miles, and was fresh and ready for action when the maneuver was called off. The 4th Cavalry, as a horse and mechanized regiment, proved to be a most capable task force for reconnaissance and security and for combat when given appropriate missions.

—Extracts from letter of Commanding General,
2d Cavalry Division, October 4, 1941.

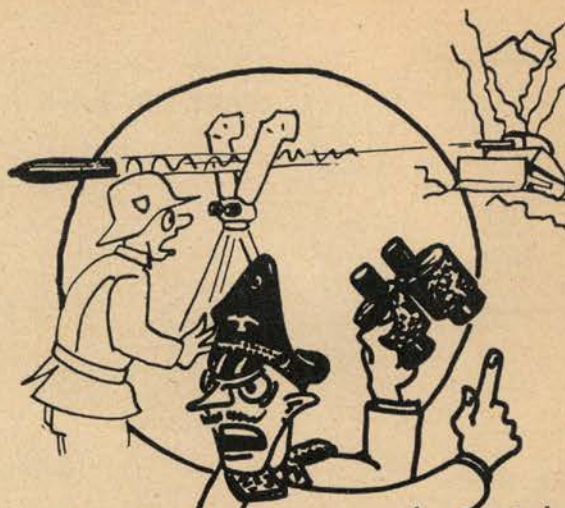
TANK-DOZER TIPS

COMPILED BY
The 16th Armored Engineer Battalion
First Armored Division

PHOTOGRAPHED BY 60TH ENGR TOP CO, U.S. ARMY, SEPT. 1944



1



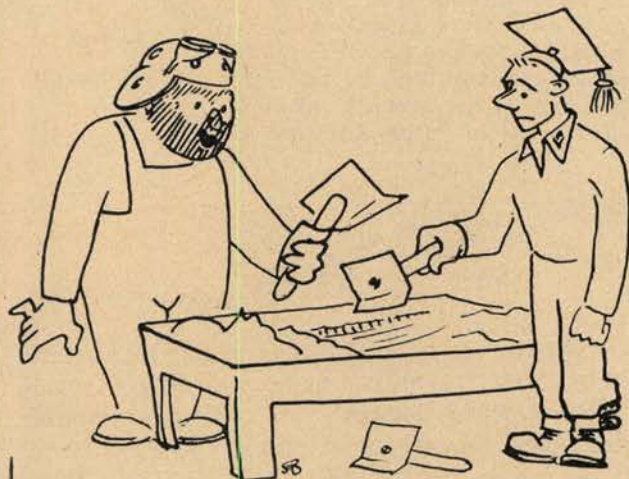
Himmel! Look vere it vent!

The Tank Dozer has completely changed the meaning of the words "TANK-COUNTRY." Used properly it is one of the most important offensive weapons.

2

A Dozer-driver has 2 things to learn :

Tank-driving
and earth-moving.

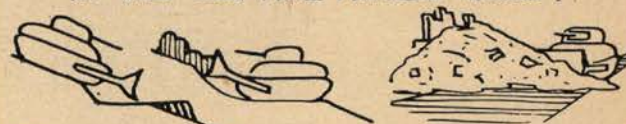


You can learn the fine tricks of dirt pushing with a model dozer-blade. It will save you time.

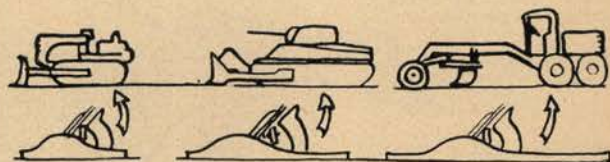
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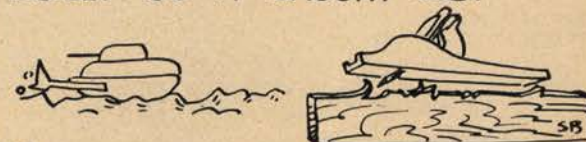
IF ONE TRACK IS HIGHER THAN THE OTHER, YOU WILL ONLY MAKE MATTERS WORSE!



SO MAKE OR FIND A LEVEL SPOT TO START YOUR CUT.



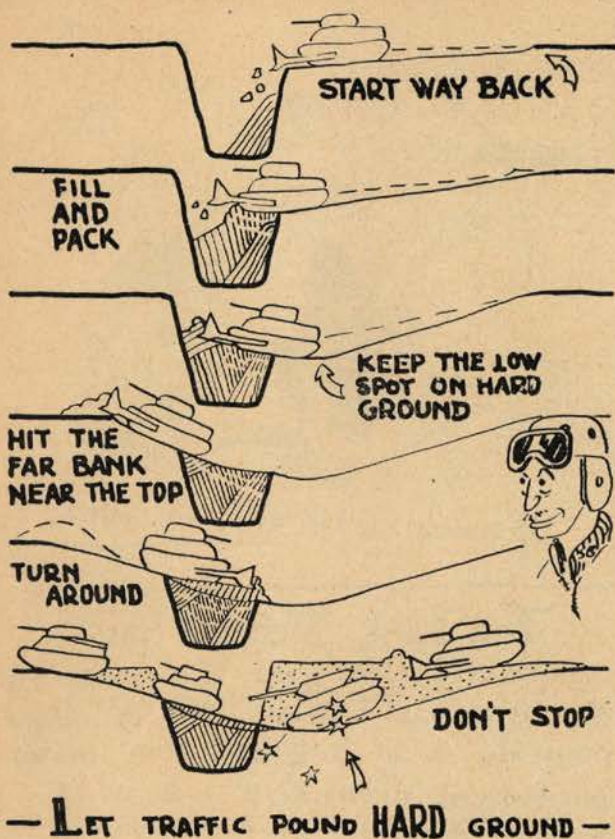
BECAUSE OF ITS LENGTH A TANK-DOZER LIKE A LONG CARPENTER'S PLANE CAN REALLY DO A SMOOTH JOB.



IF YOU KNOW HOW TO USE YOUR BLADE!

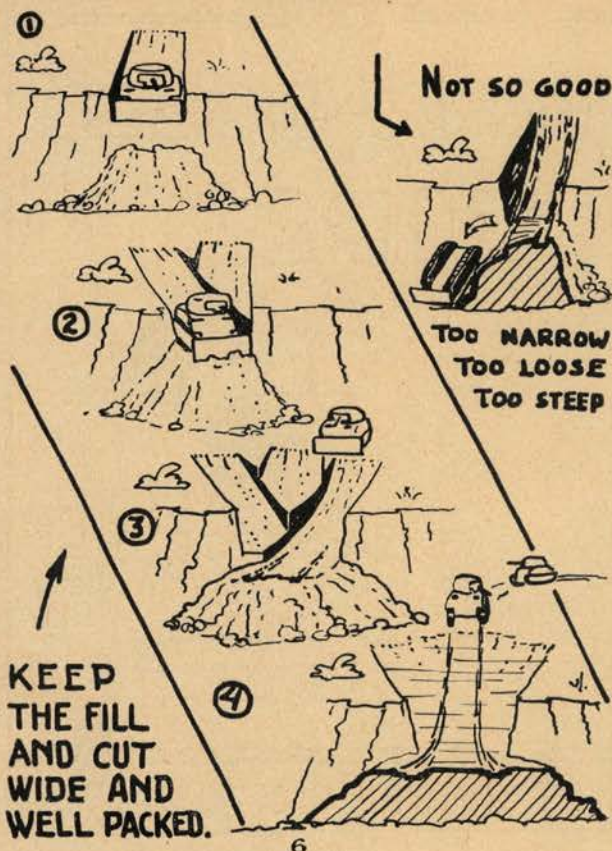
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TO FILL A GULLY:



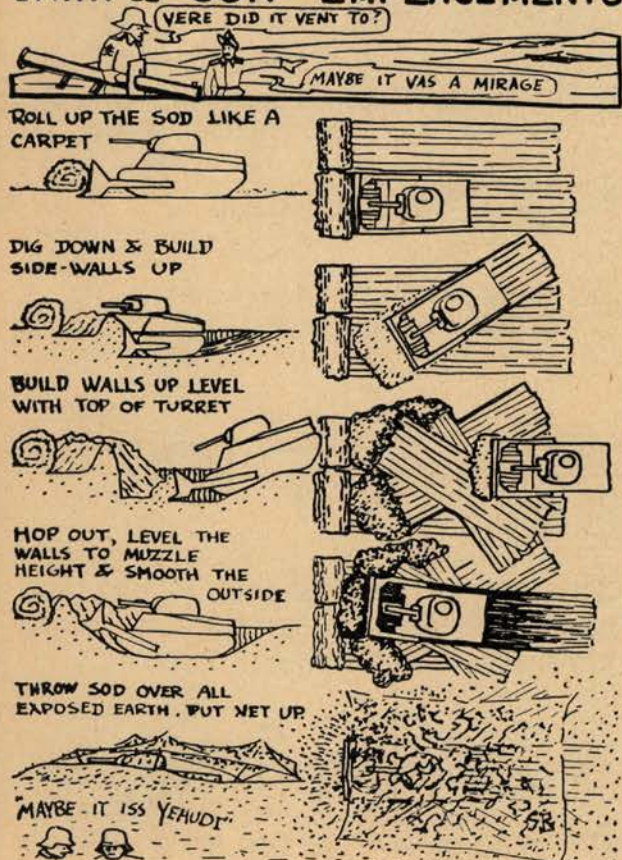
5

TO MAKE A FILL:



6

TANK & GUN EMPLACEMENTS



7

A good tank dozer man must be both a tanker and an engineer.

He must be able to pull mines, to swing a detector, to use explosives, to cut timbers etcetera.

His job is getting a column of tanks and their supply trucks past the obstacles. When its quiet enough, all but the driver should hop out and make themselves useful.

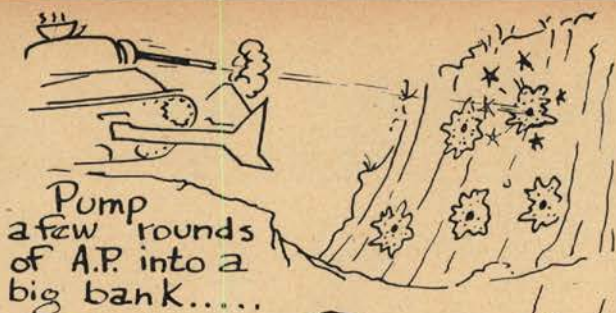


While Joe is dozing, the others can blow down the far bank, mark the bypass, sweep for mines, hunt for souvenirs, and thus speed up the job so every one can go home.



So, learn some of the tricks of the engineers trade!

8



Pump
a few rounds
of A.P. into a
big bank.....

Stick a
bangalore in
each hole...

Blow them...



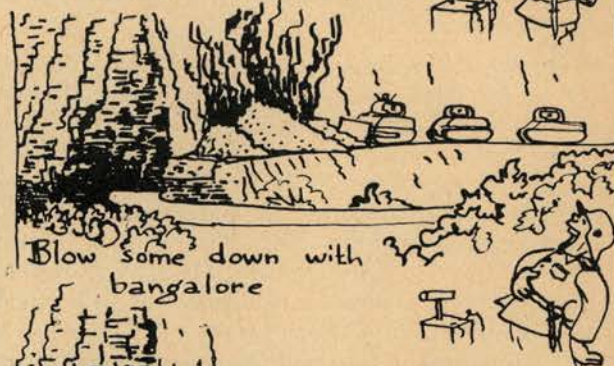
And you will
have less dozing
to do.

You can also use teller mines
or U.S. prepared knapsack
charges

9



If you have no dirt
to use for a fill...



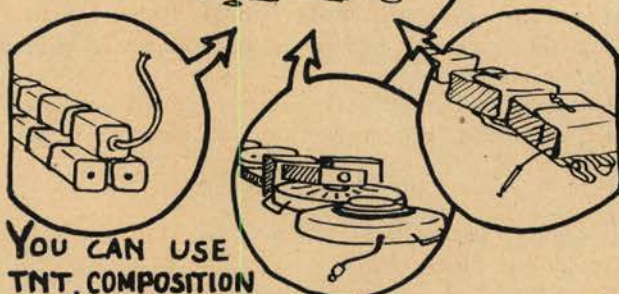
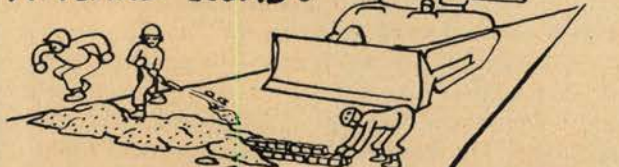
Blow some down with
bangalore



And make the fill
in the normal manner.

10

TO CUT ROCK OR A HARD ROAD:



YOU CAN USE
TNT, COMPOSITION
"C", BANGALORES, KNAPSACK CHARGES,
OR ANY OTHER AVAILABLE EXPLOSIVES.
COVER WITH SOIL TO INCREASE EFFECT.

ANOTHER TIP : WORK IN PAIRS
WHENEVER YOU
CAN DO SO.



11

There are unique instances
where tank-dozers will save the
day. An improvised one saved a beach
head by putting out many ammo
fires nightly for several months during
shelling and dive bombing attacks



12

Book Reviews

AXIS RULE IN OCCUPIED EUROPE. By Raphael Lemkin, Carnegie Endowment for International Peace. Columbia University Press. \$7.50.

The preface of this book might well stand on its own merits as an excellent essay on German technique of occupation. Mr. Lemkin explains the conception of his books as follows:

"The present book grew out of a desire to give an analysis, based upon objective information and evidence, of the rule imposed upon the occupied countries of Europe by the Axis Powers—Germany, Italy, Hungary, Bulgaria, and Rumania. This régime is totalitarian in its method and spirit. Every phase of life, even the most intimate, is covered by a network of laws and regulations which create the instrumentalities of a most complete administrative control and coercion. Therefore these laws of occupation are an extremely valuable source of information regarding such government and its practices. For the outside world they provide undeniable and objective evidence regarding the treatment of the subjugated peoples of Europe by the Axis Powers. The author feels that such evidence is especially necessary for the Anglo-Saxon reader, who, with his innate respect for human rights and human personality, may be inclined to believe that the Axis régime could not possibly be as cruel and ruthless as it has been hitherto described."

By the efforts to legalize their violations of international law the Germans have left in the various conquered countries a network of the statutes enacted, to serve as indisputable evidence of Axis cupidity and brutality.

Mr. Lemkin gives an outline of the processes used in each country to subjugate the people, and quotes the laws passed. In order to facilitate a parallel between Axis edicts and code violations, he closes the book with a reprint of that portion of the Hague Agreement covering the laws and customs of war on land. Subdivisions and section headings are arranged in a logical manner to assist the selective reader.

A need for this book has been manifest for some time and it will be welcomed not only by men dealing with military government—to whom it should prove essential—but by all workers, military or social, who must have an understanding of the conditions of occupied countries before working in them.

IN THE MARGINS OF CHAOS. By Francesca M. Wilson. Macmillan. \$3.00.

Since 1919 Miss Wilson has been doing relief work, usually with the Society of Friends, all over Europe and in Russia and Africa. She was with wounded Serbs in Corsica and Bizerta, from whence she went to Serbia, and on to Russia in the famine of 1922. The Spanish Civil War made a fresh call upon her, and in 1939 she went to Rumania and Hungary to help Polish refugees. Possessed

of a deep feeling for human beings, and an insatiable intellectual curiosity, doubtless abetted by the clarity of vision typical of the Quaker spirit, the author has written a rich and vivid record of the peoples she has encountered.

Of particular interest is her account of Russia in the early days of the revolution. She contrasts the aims and policies of the leaders with the established life of her own English society, and contradicts much of the then current propaganda set forth by anti-revolutionary forces.

The relief workers of this war will be interested particularly in the *Appendix* containing many suggestions for organization and reconstruction gleaned from personal experience.

WHEN THE FRENCH WERE HERE. By Stephen Bonsal. Doubleday, Doran. \$3.00.

The frontispiece states that this is "A narrative of the sojourn of the French Forces in America, and their contribution to the Yorktown Campaign, drawn from unpublished reports and letters of participants in the National Archives of France and the Manuscript Division of the Library of Congress."

This story of the little publicized Revolutionary Campaign of the French Auxiliaries from Narragansett Bay to the Virginia Capes is the result of a "peace pact" between the author and Premier Clemenceau. While visiting this country in 1922 the Tiger of France observed that the line of march of our French Allies in the Revolutionary War was unmarked. He and his friend, Colonel Bonsal, signed a pact to the effect that at the first opportune moment they would follow in the footsteps of the indispensable French "auxiliaries." The Premier died before he could fulfill the pact, but this delightful book upholds Colonel Bonsal's part in the agreement and fills a sadly neglected page in our history books.

To those familiar with Gloucester and Yorktown it will enrich the already glamorous history of tidewater Virginia.

WHAT TO DO WITH JAPAN. By Wilfrid Fleisher. Doubleday, Doran. \$2.00.

Mr. Fleisher was managing editor of *Japan Advertiser* until its forced abandonment in 1940. His book is not so valuable for its actual suggestions of "What To Do With Japan" as for its intelligible explanation of the social, economic and political tenets of the Japanese.

Many readers will disagree with Mr. Fleisher's suggestions for handling a conquered Japan. It is believed that few men who have fought in the Pacific will be in accord with the idea of retaining an Emperor in the hope that he will prove a foil for good as he has for evil. The boogie of Communism, waved again in these pages, has, like the "Wolf" boy in Aesop, lost its fearsomeness from overuse.

REPORT FROM RED CHINA. By Harrison Forman.
Henry Holt. \$3.00.

In his review of *Report From Red China* in the *New York Times Book Review* Mr. Edgar Snow, author of *People on Our Side* says:

"Harrison Forman's *Report From Red China*, with its fresh, vivid and comprehensive account of the battle for life and freedom under China's partisans, is an extraordinarily timely book, and of considerable historic as well as contemporary value. . . .

"Forman reports enthusiastically on the ways in which the Communists have organized the people, promoted literacy, established local self-government, aroused patriotism and the martial spirit by widespread use of drama groups and recognition and glorification of 'labor heroes'; how they have reformed loafers, eliminated prostitution, emancipated women and mobilized the population to achieve economic self-sufficiency, without outside help. He quotes partisan leaders as declaring that China alone, if her population and resources had been properly organized for resistance, could have driven the invader from most of his key positions. . . .

"The author has been an accredited foreign correspondent in China throughout most of the nation's eight-year ordeal. Writing against a long background of experience in Kuomintang China, his comparison of partisan leadership as he saw it working to mobilize the 80 to 90 million peasants liberated from Japanese control makes richly instructive reading which no intelligent American can afford to ignore."

This is the first information in book form to come out of the great interior of China for some years. This fact, added to the increasing activity in the Burma Theater, makes this a book of particular timeliness.

✓ ✓ ✓

GREEN ARMOR. By Osmar White. W. W. Norton.
\$3.00.

Mr. White, a new Zealander, was familiar with the islands of the Pacific before the war. Accredited as a correspondent at the outbreak of war, he was detailed to New Guinea. Invalided from there, he was later accredited to the U. S. Pacific Fleet, and then to the U. S. Army for the New Georgia invasion, where he was badly wounded. He is now a reporter on the Western Front in Europe.

In *Green Armor* the author endeavors to emphasize the importance and difficulties of the jungle in Pacific warfare. It would appear from these pages that a lack of knowledge of the insidious animosity of nature and the peculiarities of jungle fighting was our greatest weakness in the early days of the war. A heavy price was paid to learn that carefully adapted training and special tactics were essential to wage a successful campaign in these islands. How well these lessons were learned has been amply proven.

This book does not in anyway duplicate material already published by other correspondents who have written on action in the Pacific Theater.

William The Silent Prince of Orange

By C. V. WEDGWOOD, author of
The Thirty Years War

The life of "The wisest, gentlest, bravest
man who ever led a nation."

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A RISING WIND

By WALTER WHITE

"A wind is rising and the rivers flow throughout the world of free men everywhere, and they will not be kept in bondage." . . .

THOMAS WOLFE.

Walter White, executive secretary of the National Association for the Advancement of Colored People, reports on the Negro's status in World War II.

\$2.00

REPORT FROM RED CHINA

By Harrison Forman

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For all members of the Armed Forces.

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EARL C. O'ROKE

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NODS AND BECKS,

by Franklin P. Adams 2.00

ANYTHING CAN HAPPEN,

by G. Papashvily 2.00

HEADS UP—HEELS DOWN. By C. W. Anderson.
Macmillan. \$2.50.

Mr. Anderson states in his "Author's Note"—"If your riding and handling of horses begins and ends at the mounting block you may become a rider, but never a horseman." It is in an effort to educate more horsemen that the author has written this excellent book. His style is delightfully cryptic in spots, with considerably more reader-interest than the average instructor's manual.

Artist as well as author, Mr. Anderson has illustrated his points with fine drawings that add to the clarity of the reading matter and the pleasing format of the book. It is indeed a welcome addition to the limited supply of really good books on horsemanship.

✓ ✓ ✓

EQUITATION. By Virginia Draper Robinson. Hobson
Book Press. \$2.50.

Doubtless, as her publishers state, Miss Robinson is an excellent and knowledgeable horsewoman. Perhaps she is capable of imparting her knowledge to her students, but she has over-reached her abilities in attempting to enter the literary field. In fact, *Equitation* is so badly written as to verge on the illiterate and the material offered in no way compares with *School for Riding*, by Kournakoff or *Horses*, by Self—both in publication for some time. Even the paper and printing of this book are of an exceptionally poor quality.

✓ ✓ ✓

DOWN THE STRETCH. The Story of Colonel Matt J. Winn as Told to Frank G. Menke. Smith & Durrell. \$3.50.

Down the Stretch is the history of a horse race and a man. Colonel Matt Winn purchased Churchill Downs when it was about to be closed in 1902, and succeeded in making the Kentucky Derby the most famous race in America.

For the horseman interested in racers this book holds much. Several charts condensing the history of the Derby from 1875 to 1944, list the date, winner, length won by, jockey, weight second, third, subscribers, starters, net to winner, time and track, sire, breeder, owner, trainer, favorite, and odds on the winner.

The book is profusely illustrated and filled with salient comments on the different entries. Some of these comments, particularly Colonel Winn's choice of the "best" horse, may start arguments wherever horsemen gather.

✓ ✓ ✓

McNAIR, EDUCATOR OF AN ARMY. By Chief War-
rant Officer E. J. Kahn, Jr., Infantry Journal. \$2.00.

This book was received too late for formal review. Most of the material contained therein was published originally in the *New Yorker*. It contains a brief record of the life of Lieutenant General Lesley James McNair.

THE COMING AIR AGE. By Reginald M. Cleveland and Leslie E. Neville. Whittlesey House. \$2.75.

To those interested in the postwar rôle of aviation, this blueprint of the future will prove of immense interest. The chapters cover a variety of problems to be met and solved in the Air Age—commercial flying equipment, aircraft and economics of private flying, future airports, air-traffic control and Air Age education. It is probable that the changes in our thought and parlance as a result of our acceptance of air in daily life will be exhibited most keenly in the rewriting of textbooks for school use.

The pages dealing with reconversion of factories after the war have a slight whining note with undue emphasis on the patriotism exhibited by those who pay large excess profits taxes. This, however, represents a comparatively small portion of the book, and in no way detracts from the interesting comments on the future possibilities of the Air Age.

✓ ✓ ✓

GENERALS IN THE WHITE HOUSE. By Dorothy B. Goebel and Julius Goebel, Jr. Doubleday, Doran. \$2.75.

The Goebels have presented a readable and logical outline of the men who have gone to the White House from the army. It is certainly an excellent time for the attention of the nation to be called to past records—the only yardstick by which the public can gauge the effect of an army man who tries to cap his military career with a political high hat. The deductions to be drawn are not encouraging but they need reiteration at this time, when dominant military personalities might conceivably be carried into administrative power on the strength of their military accomplishments and the public's general acclaim.

✓ ✓ ✓

VETERAN'S RIGHTS AND BENEFITS. By Colonel Eraña and Lieutenant Colonel Symons. Military Service. \$1.00.

PSYCHOLOGY FOR THE RETURNING SERVICE MAN. By a Committee of The National Research Council. Infantry Journal, Penguin. \$25.

When men are mustered out of the army as veterans of World War II, they have certain rights. These have been earned, and are in no sense of the word largess.

In *Veteran's Rights and Benefits* Colonels Eraña and Symons have carefully translated the obtuse legal phraseology of the laws dealing with the service man's benefits into simple, understandable language. Much of the information will be of immediate assistance, some will be of future value, and still more will be of aid to the veteran's family.

Psychology for the Returning Service Man has been compiled by a variety of collaborators in an effort to meet the psychological needs of the returning veteran. It is a comprehensive coverage of most of the problems that the service man will face on his reversion to civilian status. The excellent material contained in this book would probably have had more appeal had it been couched in less personal language. The constant reiteration of the personal pronoun "you" tends to weaken the psychological appeal of a book.

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THE CAVALRY JOURNAL has had calls for the following out-of-print books—for which we will pay the listed prices, plus postage:

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HACKS by *Lt. Col. Harry Chamberlin*. \$3.00

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MILITARY STRENGTH OF THE

POWERS, by *Werner* 1.00

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ART OF RIDING, by *McTaggart* 2.50

ART OF MODERN WARFARE,

by *Foertsch* 2.00

If you have any of these books, and no longer need them, send them to—

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1719 K Street, N.W.

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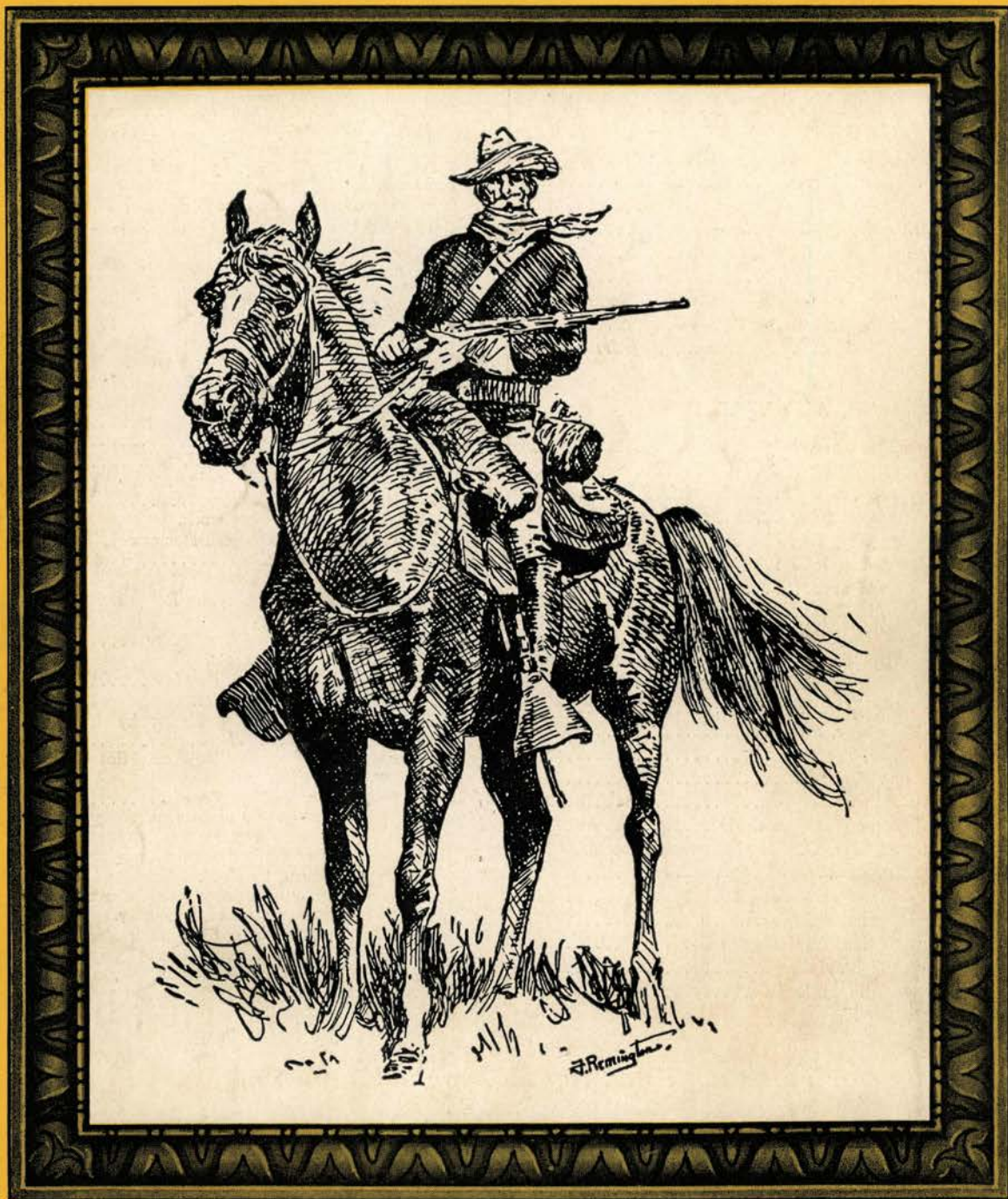
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British Official Photo

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What reason
the Western
by any inade

Men of the RAF
evacuate their flooded
tent on an advanced
airfield in Holland
sometime in late 1944.

*by Major John North**

FOR the British and Canadian Armies fighting in northwest Europe throughout last winter, the basic operational problem concerned not men, tanks, and guns—or even river crossings—but water. German opposition was of far less consequence than the behavior of what the flood control specialists at 21st Army Group headquarters called the “Nijmegen gauge.” The movement and the height of water over the whole vast area of operations west and northwest of Cologne was directly related to that gauge.

THE RHINE FRONT

During the winter, these British and Canadian armies, alongside the U. S. First and Ninth Armies immediately south of this area, confronted Germany's West Wall in its most critical sector. The upper Rhine gave no access to any strategic objective. The Saar valley was expected to be hardly less remote from the vitals of Germany. The northern Ardennes, while vulnerable to penetration from the west, did not form a good jumping-off ground for operations to the east. Thus, although the Rhine frontier, between Basle and Arnhem, covers nearly 500 miles, the most direct strategical approach to Germany was to be found within that 100-mile stretch lying between Aachen and Arnhem.

In turn, this 100-mile stretch may be sub-divided into two areas. The northern area between the Waal and lower Rhine (that is, between Nijmegen and Arnhem) offered a direct access to the north German plain. Any crossing at Arnhem would not only have taken an invading army across the Rhine but would have outflanked the Siegfried defense zone at its northern extremity and offered an opportunity to fan out

north of the Ruhr. The second area is the Aachen area, gateway to the Cologne plain. Any advance across this plain would bring the Allied armies to the left bank of the Rhine, and the Ruhr industrial towns behind it would at once come into the firing line (as happened when the U. S. First Army broke through from Aachen to Cologne in early March). Thus, of these two gateways to Germany, Aachen was the more promising area of operations. This significance was not lost to the enemy, who closed them both, not by force of arms, but by flooding or by the threat of flooding.

When, in February of this year, after the close of the Ardennes battle, Allied operations were resumed on the Western Front, British and Canadian troops opened the attack on the only piece of land front they possessed—the Reichswald Forest area southeast of Nijmegen, situated in the 14-mile stretch of country lying between the Maas and the Rhine. The rest was water. Such “land” operations as were conducted outside it among the broken dykes were water-borne.

The whole area, indeed, is no more than the underground delta of the Rhine. Although the ground has a clay surface, it rests on a porous bed which is likely to be saturated at all seasons of the year with water from the Rhine itself. East of the forest runs the northern extension of the Siegfried defense zone. Thus a successful attack south between the two rivers (Maas and Rhine) might afford an opportunity of outflanking it. Let us, therefore, examine this problem of water on the Western Front as it looked to the specialist at the time these operations were inaugurated.

GATEWAYS TO THE RHINE

How did flooding effectively block these two possible gateways to Germany? The blocking of the first of these gateways (Arnhem-Nijmegen) presented no problem at all to the German command in Holland.

*British Staff Officer.

an Bastion—of Water

s were behind the winter months of waiting on the northern sector of Front? The answers were there all the time. The delay was caused not quacy in Allied strength or war direction, but by water—just water.

Last November the dykes of the lower Rhine were blown, and the area between Arnhem and Nijmegen—some 10 miles across and already known as “the island”—turned itself into a lake almost overnight. Even in September, when British tanks attempted to cover these same 10 miles in an endeavor to aid the British airborne troops on the far side of the Arnhem bridge, they were unable to get off the high causeway road because of the boggy nature of the ground on either side of it. Moreover, the abnormally high river levels of November and December permitted the Germans to make a further water barrier along the course of the IJssel, joining the Rhine to the Zuider Zee. This presented a still further and not less awkward problem to any army which might make the attempt to make the Arnhem crossing.

Thus, when the Germans flooded this countryside they were aware that, under these abnormal conditions, the ground would take even longer than usual to dry out. Moreover, they realized that such roads as existed would be impassable as a result of their prolonged submersion. The only danger the enemy incurred was the possibility of an ice-crossing by the British and Canadian troops in that sector. This, however, was a danger they could afford to discount, since an ice-crossing, feasible on one day, might easily be a death trap the next. Temperatures in that area can vary between 16° and 1° below freezing within the space of 24 hours.

So much for the Arnhem gateway.

Let us now examine the second gateway—that in the Aachen area. Here the obvious barrier to the strategic objective of the Ruhr industrial area was the Rhine River. For many months, the world awaited the opening of what was expected to be the Battle of the Rhine. But the Rhine was not the only water-barrier to the Ruhr. There was also another river, tributary of the Maas, which it joins at Roermond—the Roer. During last winter, formations of three Allied armies fought their way, not to the Rhine, but to that stretch of the Roer River that lies between Dueren and Roermond; and on reaching it they had to pause. This river—defensive outpost to the Cologne plain—presented, indeed, a unique problem in the way of river crossings.

BATTLE FOR THE DAMS

Before it could be crossed safely, the dams at its head, 10 miles south of Dueren, had to be captured. Five dams controlled the flow of 160,000,000 cubic meters of water. The two largest supplied water-power for the huge hydroelectric plant at Heimbach, which provided current for large areas of the Rhineland.

Because of incessant rainfalls during November, the River Maas flooded its banks near Maeseyk. Here a British M.P. directs traffic from his sentry box surrounded by water. Floods hampered operations, delayed Allied offensive.



British Official Photo



Approximate Allied positions February 23, as the long static winter front began to move eastward. Except for the German breakthrough into the Ardennes in December, the front had changed but slightly since November, 1944.

As early as November of last year the U. S. First Army began an advance ostensibly toward the Rhine, but in actual fact, to the Roer, edging toward these dams by way of Stolberg and Eschweiler. Troops of the British Second Army and of the U. S. Ninth Army fought their way to Geilenkirchen and Roermond, while U. S. First Army troops began a battle for the Hurtgen Forest in an effort to reach the dams on foot. As a result, formations belonging to two American armies and one British army reached the Roer—and there had to halt. There, on the direct road to Cologne and the Ruhr industrial area, the Roer River proved to be a trickier proposition than the Rhine itself.

The battle of the dams was expected to last for nearly three months and it did. Not until the second week in February was the last German soldier cleared from the left bank of the Roer River, and the largest of the dams, the Schwammenauel, reached. This dam, 1,080 feet long and 980 feet above the river bed, formed a lake covering 590 acres; its banks had successfully resisted heavy bomber attack throughout the winter. The first patrols to reach it found the floodgates open and the controls blown up. Beyond it, on the right bank of the river, lay the reservoir area, which was filled by the dams. Sluices in the conduits between these reservoirs had also been demolished. Within a little more than 24 hours the width of the river at Dueren had increased from 125 to 400 yards.

The German command had a choice of two methods of making use of this huge volume of water as a weapon of war. By doing a thorough demolition job they were in a position to release what has been described as a calamitous flood, cascading into the narrow ravine-confined Roer down to Dueren. The narrower the channel, it may be noted, the greater is the effect of flooding. Between Dueren and Roermond it would then spread out and inundate miles of low-lying ground. From Roermond, where the river joins the Maas, the floods could be expected to reach as far north as Nijmegen "island," and extend from there to 6 miles wide. It was in this fashion that the blowing of the dams would create a complete water-barrier along the front covering the approaches to the Cologne plain.

Any such large-scale inundations must inevitably have destroyed the German towns and industries that lay in its path, and it was to be expected that the military command would not lightly release these millions of gallons of water. But an alternative method was open to them, and one which would not seriously inconvenience their own people, while effectively preventing any attempt by the Allied forces to cross the river when they reached it. At, say, 6-hour intervals, they could have released a miniature tidal wave which would have swept away, in the space of seconds, every ponton bridge that lay in its path. Better still, from their point of view, they could have allowed a not-too-considerable force of Allied troops to cross the river with comparative impunity, and then proceeded to destroy the bridges by which they had crossed; and to have con-

tinued with these tactics for as long as they controlled the headwater of the river.

The work of bridging, it should be remembered, however speedy the operation may be in itself, requires also considerable work on the approaches. Any roads built for this purpose would have been destroyed under the impacts of these tidal waves. Again, under icing conditions, great quantities of floating ice would have expedited the destruction of the bridges themselves.

WATER

From these observations it should be apparent why water proved a very good friend to Germany during the winter months. In actual fact, the blowing of the dams synchronized with abnormally high flood level of the Maas, which helped to form additional flooding as far north as Gennep, where the battlefront crossed the Maas. It should be equally apparent why an "advance to the Rhine" was not undertaken as a straightforward military operation until a crossing of this water bastion to the Cologne plain could be embarked on without the certainty of disaster.

In their canal systems, it may be further noted, the Germans have been able to exploit the use of water to some purpose at a time when air attack—particularly on locomotives—rendered rail transportation uncertain. A single 2,000-ton barge carries a load equivalent to that of four trains; and Germany took the precaution

"... Hampered by many waterways which criss-crossed the terrain, the 21st Army Group ponderously but surely battered northward in a series of cutoff movements. The Canadian First Army entered and swiftly seized control of Arnhem, site of the ill-fated airborne landing last fall. Farther north the Canadians gradually edged toward the IJsselmeer near Apeldoorn while other spearheads bypassed Groningen and reached the North Sea—cutting the last escape route from Holland for an estimated 100,000 Nazis."—Newsweek, April 23, 1945.

of providing herself with vast quantities of the "huge brutes."

Finally, from the point of view of bridging engineers, it is a further indication of German foresight that the latest cross-sections of the Rhine to appear in print are dated 1873! However, no information on this particular topic very easily have been up to date since the river bed has changed even during the course of the present war. The Rhine, indeed, afforded a considerable contribution to its own defense. The sand and gravel from its river bed, already clean and graded by nature, supplied the "aggregate" for the concrete fortifications of the Siegfried defense zone at a minimum cost in terms of labor and transportation.

Sherman tanks, supporting the Canadian and British drive toward the Rhine in February, move over a flooded road in the Reichswald Forest area. On February 19 the troops captured the fortress town of Goeh, about one mile from Calcar, important road hub in the heart of the Siegfried Line. Floods have continued to make the going difficult.

British Official Photo



V-3 Launching Sites ★

by Douglas Williams

AT Mimoyecques, near Calais, amid desolate chalk hills 6 miles from the channel coast in an area of thickly pitted, yawning bombholes, I visited the site of Germany's third secret weapon, V-3.

With this the enemy had planned to fire a continuous barrage of rocket shells from giant cannon into London. Fortunately, the work was detected in the early stages of September 1943. So successful were the incessant RAF raids made on it that construction was seriously delayed until finally it had to be abandoned in the summer of 1944, after the Normandy landings.

Had the enemy been able to complete the vast work unimpeded, the installation would have come into operation at the end of last year with devastating effect. The site was designed to accommodate 50 gun tubes, each 400 feet long, sunk to a depth of 350 feet below the ground, and protected by a solid 18-foot thick concrete apron.

It is estimated that the monster weapons would have

★Courtesy, London Daily Telegraph.

The German secret weapon, V-2, predecessor of V-3, is reported to be 46 feet long and about 6 feet in diameter at its base. It tapers to about 4 feet at the tip and weighs 15 tons. The propellant materials are liquid air and hydrogen peroxide which, by the reaction of one on the other, produce a highly explosive mixture of oxygen and hydrogen. It travels faster than sound 30 to 60 miles above the earth. Pictured below is a jet unit. RAF airmen at right are lifting a peroxide tank. This picture was issued November, 1944 while V-2 missiles were falling on Southern England. V-3 launching sites have been found since.

British Official Photo



had a combined rate of fire of at least 10 rounds per minute, with the shells landing on London, 95 miles away across the channel. The guns were apparently to have been arranged in twin batteries of 25 and designed to fire on a fixed line at a high rate of fire with medium caliber shells, weighing 120 pounds and carrying an explosive charge of 40 pounds. Being of a smooth bore, i.e., without rifling, they would have had the life of many thousands of rounds. Fired from a fixed bearing on a set elevation, they were presumably intended to maintain a more or less continuous barrage on London day and night.

Apparently it was hoped that with civilian defense services already occupied with V-bombs and ordinary rockets, the V-3 would create such havoc as to compel the evacuation of London with all the administrative complications and damage to British morale that such a step would have involved.

Each section of the guns could fire at least 5 rounds per minute. Once the site had been finished the thickness of the concrete cover and the depth at which the pieces were embedded would have made it invulnerable to air attack, no matter how heavy the bombs employed. The guns would have been fired at a high velocity, probably exceeding 5,000 feet per second and at a high elevation. From the direction at which the 5 outlets emerge on the crest of the hill, there is no doubt that London was the only target in mind.

Thousands of workmen—all slave press gangs of the Todt Organization—labored day and night for nearly a year. Despite heavy bombing, the stage of completion to which the work had been advanced pays tribute to the enemy's determination at all costs to finish what was obviously a job of the highest order of priority.

No trace has been found of either guns or ammunition. I am informed that some were actually delivered on the site, but were apparently removed by the Germans when they left, either because they desired to conceal the secret of the new weapons, or possibly hoped to use them later on another site.

The guns, set in deep, inclined shafts at an angle of about 55 degrees, rose from a crescent-shaped chalk hill west of the main Boulogne-Calais road. A standard gauge railway, completed, but never used, leads to the site. At the side of the hill it disappears into a vault-like tunnel of solid concrete of impressive proportions, some 700 yards long, 30 feet high and 25 feet broad. An unloading platform, giving access to the chambers and galleries opening off the tunnel into the hillside, runs its entire length.

Below this main tunnel at lower levels are two other

smaller tunnels. The entire workings are buried underground, some penetrating to 350 feet. Super-imposed over all, covering an area of several acres, is a slab of concrete up to 18 feet thick and in places pierced with a number of square exits.

At the entrance to the tunnel is another large concrete building, housing a large electric generator to produce the 4,000 kilowatts of power which the enemy would need to operate this colossal engine of destruction.

Among the huge dump of steel girders and unassembled spare parts abandoned in the hurry of departure there was found technical machinery indicating the intention to construct a complicated lift system, presumably to handle ammunition from the lower levels.

Today Mimoyecques site is an abandoned wilderness, devastated and churned up by heavy bombs which have left craters 30 to 50 feet deep. Here and there emerge broken slabs of concrete and portions of huge timber tossed into the air. Less than a year ago, however, the area was a teeming ant-hill of action as the German engineers pitilessly drove conscript labor to complete the last refinement in secret weapons which they hoped would finally bring England to her knees.

Mimoyecques was only one of 7 of the so-called heavy sites which the Germans had started to build along the channel coast. These were interspersed at strategic localities in a carefully designed plan to maintain long-range aggressive action against England with various types of secret weapons. With the heavy multiplicity of these sites, the Germans evidently hoped that if one was temporarily knocked out, another would continue in its place. Other installations were situated at Wizernes, Watten, Lottinghem, Siracourt, Sottevaast, Martinvaast and in the Cherbourg Peninsula. All were primarily aimed at the south coast of England.

Wizernes, in the Calais area, was some form of rocket battery; Watten was chiefly a chemical or an ordnance factory; Lottinghem and Siracourt were flying bomb sites designed to attack London and southern England. None had been completed, thanks to Allied air interference. But little imagination is needed to picture the tremendous havoc that the 7 installations of such tremendous potentialities for destruction could have wrought in thickly populated areas, had the enemy been permitted to operate them.

Wizernes site, about 118 miles from London, was originally spotted by the Royal Air Force late in the summer of 1943. Shortly afterwards air photographs showed a large dome beginning to take shape. Work on this site was finally abandoned July 1944, about the time that the Germans left Mimoyecques. The purpose of the Wizernes installation has not yet been clearly established though it is obvious that the site was designed to fire some large form of projectile to England. Experts, who visited the site, do not outrule the possibility that it might have been intended to house some other type of secret weapon even more deadly than those already encountered.

The most interesting feature of Wizernes is the oc-



British Official Photo

Raids, controlled by the RAF master bomber, delayed the launching of V-2 attacks against England for a year. This V-2 rocket experimental area at Peenemunde in northern Germany was photographed in June, 1944, by RAF reconnaissance planes. Picture shows (A) light flak positions, (B) cradles for transporting rockets, (C) two rockets.

tagonal chamber over 100 feet in diameter and built under a dome with concrete walls up to 40 feet thick. The enormous bombproof doors had been constructed over 50 feet high and 15 feet wide. It is believed that through these giant doors some form of rocket was to have been fired after various sections had been brought up from storage rooms below ground, and assembled into firing form in the octagon.

Last of V-Series Geared to Fly Mile Per Second

London, April 18—A Paris dispatch to the *Daily Express* said today that Frenchmen released from the Buchenwald concentration camp had given General Charles DeGaulle details of a German V-4 flying bomb, believed the last of the V series.

The Frenchmen were said to have described the V-4 as 64 feet long, radio controlled and geared to fly 63 miles a minute. The Germans were reported to have been working against time in huge underground factories near Erfurt to get the V-4 in production but were overrun.—Reprinted from *The Washington Daily News*.

4th C

Members of the 4th Cavalry Group pass through Bedbrug, Germany, March 2, 1945. The unit had been in continual action since D Day on Normandy beaches.



*by 2nd Lieutenant
Pierre V. Maltby**

FROM D Day in Normandy throughout the campaign across France and the months of static warfare along the Siegfried Line, the 4th Cavalry Group¹ under Colonel (now Brigadier General) Joseph M. Tully, was given approximately a dozen different types of missions, each requiring a different tactical grouping and a different manner of execution. The first of these missions, assigned the 4th Cavalry some 10 days prior to June 6, was to precede the actual landings on the mainland by several hours.

LANDING MISSIONS

The Ste. Marcouf Isles, consisting of the Ile de Terre and the Ile de Large, lay in the path of any invasion force attempting to make a landing at the point now known as Utah beach. If the enemy had armed these islands, they would be able to play havoc with invasion craft, so the islands had to be reduced before the invasion could be carried out with any degree of security.²

The job of taking these islands was given to 6 officers and 126 men of the 4th Cavalry, who immediately went into training with the Navy—training which included such items as assault boats, scaling ladders and grappling hooks. Commanded by Lt. Colonel Edward C.

*Headquarters, Twelfth Army Group.

¹Two previous articles on reconnaissance in Normandy, which appeared in the November-December and January-February issues of THE CAVALRY JOURNAL refer to the 4th Cavalry Reconnaissance Squadron of the 4th Cavalry Group (mec) as "Y" Reconnaissance Squadron.

²See "Y" Reconnaissance Squadron June 6-July 1," November-December CAVALRY JOURNAL.



Signal Corps Photos

A dismounted patrol of 4th Cavalry makes its way through woods near French-German border in late fall, 1944, prior to German breakthrough into Ardennes. Five dead Germans lie in foreground. Three are under tarpaulins.

Dunn, the group was split into two units, one to take each of the islands.

The two units departed from the United Kingdom in LSTs, and when only a few miles from their objectives at H minus 2 hours, loaded into LSVs. Within a mile of their respective targets, two men from each group went over the side in rubber assault boats, rowed to within a few hundred yards of the islands, sank their craft, and swam the rest of the way to shore. Corporal

avalry in Diverse Roles

Harry S. Olsen, and Private Thomas C. Killoran, reached the Ile de Terre, while Sergeant John W. Zander and Corporal Melvin F. Kinzie waded ashore on the Ile de Large.

The 4 cavalymen marked off sections of the islands, and then sent the beams of their flashlights out to sea to mark the selected boundaries of the shoreline for the landing craft. The entire operation was boldly executed, and it was not until the men had all landed that it was discovered that, though the islands were heavily mined and booby-trapped, they were devoid of enemy personnel. Later the same day, however, both places were heavily shelled from the mainland, but the group held out until it was finally relieved by an antiaircraft unit on June 8.

Meanwhile, at H plus 150 minutes, Lieutenant Gerald Penley landed with the 3d Platoon, Troop B, of the 4th Cavalry Reconnaissance Squadron (mecz) on the Normandy coast to carry out a reconnaissance mission for the seaborne units of the 82d Airborne Division.³ He was to lay a route for the airborne men from the beach to Ste. Mere Eglise, where he was to join with that part of the division which had already landed by parachute.

The platoon accomplished its mission with a loss of only 4 killed, while it killed an undetermined number of the enemy and captured 50. On June 8 Lieutenant Penley returned to the beach to lead the last section of the airborne elements to Ste. Mere Eglise, and on his way back ran into a column of enemy vehicles. He ordered the platoon to run its vehicles down the road firing every available gun; and at the cost of one man slightly wounded, the lieutenant and his platoon accounted for 200 enemy dead and 150 captured. He then completed his mission by returning to the beach, and leading the balance of the airborne division to its destination.

The remainder of Troop B landed on June 10. The 2d Platoon ran into such heavy enemy fire shortly after landing, that the entire unit was either killed, wounded, or captured. The 1st Platoon fought like wild men for Bautpe, its objective, and finally succeeded in taking it after having killed many of the defenders and capturing 120 of them.

The mission assigned the 4th Cavalry Group had been accomplished—a mission which had involved operations by the navy, the airborne, and the infantry as well as the cavalry.

HOLDING ALONG THE SIEGFRIED

During the ensuing months various other missions were to be executed by this cavalry unit. Perhaps the best example of a very different rôle is represented by

action engaged in by the group in mid-September, when it entered Germany with the VII Corps. The corps was massing its units for an assault on Aachen, and the 4th Cavalry was given the mission of protecting the right flank of the corps, a sector of 25 miles.

At this time the group, aside from its regular units, the 4th and 24th Squadrons, had attached the 759th Tank Battalion (light), the 635th Tank Destroyer Battalion (towed), the 87th Armored Field Artillery Battalion, and two companies of engineers. The plan for the defense of the sector consisted of setting up a string of platoon strong points. Several of the Siegfried Line pillboxes were used for this purpose and the points were so located that they covered all the avenues of possible enemy approach. Mine fields were strategically laid, wire concentrations were strung at more vulnerable spots, and booby traps were set by the engineers.

The assault guns of the 4th and 24th Squadrons, the guns of the tank battalion, and the 3-inch guns of one company of the tank destroyer battalion were set up in artillery positions and coördinated with the fire direction center of the field artillery battalion. This arrangement provided the group with adequate heavy artillery fire power.

By engaging in extremely active patrolling, the cavalry units managed to convey the impression of possessing a much larger force than the group actually had. The same men were out on patrol all hours of the day and night, and they were supported by roving patrols of the tank and TD battalions which were constantly on the alert to pick up any enemy infiltrations. The grand effect was one of such power, that prisoners of war stated that their units thought they were being faced by a "reinforced panzer division."

Sergeant Sam C. McNeely, 24th Reconnaissance Squadron, 4th Cavalry Group, stands watch by his machine gun during the first snowfall near Monschau, Germany, November 10, 1944. Constant patrolling was necessary.

Signal Corps Photo



³See "In Support of Airborne Troops," January-February CAVALRY JOURNAL.

The enemy attacked often in groups of about 100 infantry concentrated on a single point, but the platoon strong points, hastily supported by the roving tanks and TDs, repulsed all attacks made.

On a typical occasion, Troop A of the 4th Squadron, led by Captain William S. Goddard, made contact with heavily defended enemy roadblocks near Rocherath. The troops attacked, drove off the enemy, and took up positions east of the roadblocks. From this position they controlled, with artillery support, an important road running laterally with the Siegfried Line—a road which the Germans needed to supply the pillboxes still in their possession.

The Germans, in an attempt to retake their lost position, attacked the troop with 100 infantry. The cavalrymen withdrew, called the fire of their supporting artillery upon the spot they had just vacated, and when it had lifted, counterattacked and wiped out all enemy troops not already killed in the barrage. The troop thus regained its position with a loss of two men wounded, one of whom returned to the line immediately.

When the group was finally relieved of its holding mission, its sector was taken over by the entire V Corps.

ATTACK DURING RAPID ADVANCE THROUGH FRANCE

There was, however, one typical cavalry action fought by the group during the dash across France. It was balm for the hearts of these cavalrymen to engage in an action involving principles which they had been taught, and which they had studied in classrooms and on maneuvers. This engagement took place at Villedieu Les Poeles during the rapid movement made by the VII Corps across France.

On August 1 the armored combat command leading the corps was halted at the town which had been made into a powerful strongpoint by the Germans. They had mounted great numbers of artillery on the high ground around the outskirts of the town, and all avenues through the town were zeroed in.

When the armor halted, Lt. Colonel John F. Rhodes', 4th Squadron, was given the mission of clearing the town. Troop A dismounted and pushed toward the town from the south. Troop B, led by Captain William F. Larned, mounted and swung to the north, closely followed by the remainder of the squadron. While Troop A held at the south, Troop B attacked, and entered the enemy strongpoint. The balance of the squadron sealed off all the avenues of egress, and the attack was pushed to the point where all the enemy who were not killed, wounded or captured, were driven out of the town to the northeast, within an hour after the leading elements of Troop B had first attacked.

The cavalry secured the town, and the VII Corps advance continued with just the shortest of halts. The town, however, was considered very important by the Germans, and heavy counterattacks were encountered by the cavalry from the enemy positions to the northeast, all of which were successfully repulsed.

Just how important this strongpoint was considered by the enemy high command may be gleaned from conversations between Field Marshal von Kluge and generals under his command.

At 0920 on the morning of the attack, von Kluge spoke to Lt. General Speidel:

"... Villedieu is the springboard for the east and the south as well as Avranches, the anchor point to Brittany. It must be held at all costs, or recaptured." (Hence the vicious counterattacks.)

At 0935, he stated to another general:

"... the greatest worry of the Field Marshal is Villedieu as a key point for enemy operations to the east and to the south."

At 1045, speaking to General Warlimont, Hitler's representative:

"The enemy is in Avranches, and may also be in Villedieu. These key positions for future operations must be held at all costs."

Villedieu was held, true enough—but by the 4th Cavalry Reconnaissance Squadron. The unit was eventually relieved of its holding positions by an infantry battalion, after which it rolled ahead once again with the Allied advance.

INFANTRY RÔLE AT CHERBOURG

This true cavalry action was in major contrast to the action fought by the group shortly after it had completed its original mission following the landings in Normandy. The plan was for the 9th Infantry Division to move up the Cherbourg Peninsula to capture the great port at the northern tip. The 4th Cavalry Group, dismounted, was to protect the left flank of the division by moving up with it and keeping the flank free from any enemy attack, from the direction of the western coast of the peninsula.

To complete this mission, it was necessary for the cavalry to capture 15 successive objectives on the route to the north, and ultimately, to cut off the Cap de la Hague Peninsula, a tiny piece of land jutting out of the northwest corner of the Cherbourg Peninsula.⁴

In contact at all times with the left flank of the 9th, the 4th Squadron, which had been assigned the mission by the group, moved up as infantrymen and captured all the objectives assigned. By the time it had taken the first three objectives, the 4th Squadron had captured more than 300 prisoners and killed an undetermined number of enemy troops. By the time the 4th Squadron had cleared its last objective, the 9th had already done its work in taking Cherbourg. Then the two units joined forces for a drive into the Cap de la Hague Peninsula, which contained several thousand of the enemy, all of whom were killed, wounded or captured.

Through this entire section, the 4th Squadron never once mounted its vehicles; it moved up alongside an infantry division; it fought as infantry and lived as in-

⁴See "Y" Reconnaissance Squadron," November-December CAV-ALRY JOURNAL.

fantry, and even the squadron 75s, designed primarily as direct fire weapons, were used as artillery just as the regular infantry uses these pieces. This type of dismounted action was the rule rather than the exception in most of the fighting, and the cavalrymen did the job as though they had been trained at Fort Benning rather than at Fort Riley. The cavalry had always trained its men in dismounted reconnaissance, even when not expected to act as anything but cavalrymen. This training, with a few changes, turned out to be excellent background when they took up the duties of infantrymen. The action near Cherbourg is probably one of the finest illustrations of this point. Never once, in the entire movement up the peninsula, did the enemy succeed in breaking through in sufficient numbers to create any annoyance to the left flank of the infantry division.

Another noteworthy example of the ability of the cavalry to fight as infantry occurred in mid-July near Tribhou. The 330th Regiment of the 83d Infantry Division was to jump off and attack to the west, while the 60th Regiment of the 9th Infantry Division was to concert its efforts in a movement south. The 24th Squadron, commanded by Lt. Colonel Fred F. Gaston, Jr., was assigned the mission of filling the gap between the two divisions as they pressed their attacks to drive the enemy across the Lozon River.

At the beginning it was very simple. One troop was sufficient to accomplish the purpose, and to keep contact with the advancing regiments on either side. As the attack progressed, however, the gap widened. A second and then a third troop was sent up on a single line to fill the gap, and eventually, everything the squadron had was in the line. It began to look as if the cavalry line might be stretched so thin before the Germans were pushed across the river that an enemy attack on almost any point would be able to break through. The squadron indeed was greatly overextended, and numerous enemy attacks were launched, but by constant, vigorous patrolling, there always seemed to be enough of the cavalry when they were needed at a certain point, and eventually the enemy was pushed across the Lozon.

DISMOUNTED ATTACK ALONG THE KALL

No account of the dismounted action participated in by the 4th Cavalry Group would be complete without citing the wild attack in the area of Simmerath near the Kall River—a tributary of the Roer. The 4th Squadron was holding a line, which extended for some 3,000 yards near the west bank of the river, while only 200 yards to the east were enemy positions on high ground, which gave the Germans excellent observation of the 4th's activities. The 9th Infantry Division was making the main effort, and the duty of the cavalry was to make a reconnaissance in force to divert the troops facing them from swinging over to attack the 9th.

The 4th had to be supplied at night and by foot for fear of enemy observation. To come out of their positions was to invite death, as the ground between the

enemy and themselves was entirely without cover. Nevertheless, Troops A and B were ordered to attack the 4 tiny villages which the enemy had converted into strongpoints facing the cavalry.

An artillery barrage was called for, and came down upon the Germans. Then as the barrage started to lift, the troops came out of their positions, and went for the enemy line at a dead run. So closely did they follow the lifting barrage, that they were in the villages before the enemy was able to fire a single round of opposing fire.

When Troop A reached its objective, it discovered that part of the enemy force had withdrawn into a field some 50 yards east of the village and set up 6 machine-gun nests. Sergeant Richard C. Johnson decided to eliminate them, and before the surprised enemy could concentrate its fire on him, he had wiped out three of the emplacements with hand grenades. He was forced to seek cover, and artillery disposed of the three remaining positions. The entire operation was over in a matter of minutes.

TACTICAL MANEUVER IN ARDENNES DEFENSE

In December the 4th Cavalry, attached to the 5th Armored Division while that unit was engaged in operations headed for the Roer River, was given the mission of taking Bogheim and Obermaubach. The 4th Squadron engaged the enemy at Bogheim, and the fighting was the most vicious it had seen in all its days in the European Theater of Operations. Before the town fell, 4 troop commanders and 3 troop executive officers had been killed.

Before the group could reorganize, and while still in contact with the enemy, it was ordered to disengage itself from contact, and to proceed to the west where von Runstedt's offensive had penetrated almost to the Meuse River near Dinant. An infantry unit came in to relieve the cavalrymen, and the relief was made under fire. The group thereupon mounted its vehicles, skimmed the northern flank of the enemy penetration until it reached the farthest tip of the salient just a short distance from the Meuse. Within a period of 24 hours after having received its orders, the group had disengaged itself from the enemy, mounted, marched 80 miles, often through enemy-held territory, and had re-engaged the enemy at Haversin, a town first liberated by that same unit in September.

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Patrolling the Siegfried

*by Lieutenant Colonel Paul L. Burke**

As told to 1st Lieutenant Lyman C. Anderson

A dug-in tank and crew overlook German positions along the Siegfried, January, 1945. This picture of 121st Reconnaissance Squadron, 106th Cavalry Group is descriptive of the static condition which confronted the 102d Cavalry during the long snow-bound winter along the Western Front. The 102d covered a 14,000-yard front with little or no depth.

Signal Corps Photo

IT was much more interesting racing across France and Belgium than taking up defensive positions on the fringes of the Siegfried Line, but action on the static winter front turned out to be more exacting and just as exciting. Night and day—particularly nights—there was the constant patrolling. It was hard, grueling work with no rest and little sleep, month after weary month, but the 102d Cavalry Group (Mecz), commanded by Colonel Cyrus A. Dolph, III, variously reinforced, knuckled down to it and did a bang-up job.

From the middle of September through the winter the 102d Cavalry, elements of which were the first U. S. troops in Paris, held the line on 5 different sectors in the vicinity of the German-Belgian and Luxembourg borders. On the last sector they covered a 14,000-yard front with little or no depth.

To hold the sectors in the rugged terrain covered by thick fir forests, it was necessary to dismount the two

squadrons. The cavalry's mission was to prevent infiltration by the enemy and to hold the ground already won.

From time to time the group was reinforced with various detachments including an infantry battalion, an armored field artillery battalion and a regular FA battalion (both 105mm howitzers) a company of combat engineers, two TD companies (one self-propelled and one towed) a medical collecting company, and a couple of wire teams.

Parenthetically, it should be stated that the wire teams were absolutely indispensable. It was the old story of communications. Without them operations would have been crippled and gravely endangered. Keeping open communications may be a decidedly unglamorous task, but it is one of the most essential of a battle or campaign.

The maximum number of units, including portions of the tank crews from the light tank companies and the squadrons, were dismounted. This enabled the establishment of a long, thin line, but without any depth. There were many gaps, which were covered in

*Executive Officer, 102d Cavalry Group.

*A story of the 102d Cavalry, "Employment of Cavalry Assault Guns," which appeared in the November-December CAVALRY JOURNAL referred to the 102d as "X" Cavalry Group.

some instances with small-arms and automatic fire, but in every case with artillery and mortars. Wire, mines and booby traps were also used extensively.

Concertinas and tactical wire were installed, both by the attached engineers and the cavalry. In the case of mines, however, it was found desirable to have the engineers install them, but because of the large frontage, it was necessary for the cavalry to assist, generally under engineer supervision. Where it was obvious that a tank or vehicle could not come through, anti-personnel mines were used. But in general, both anti-personnel and antitank mines were laid, depending upon the terrain.

PATROLS

The importance of patrols cannot be overemphasized. It is the one and only way that intelligence of the enemy can be gained. Close to the best defense was patrolling, which never ceased day or night. Although the Jerries were entrenched in their fortified positions within the Siegfried Line, they also patrolled constantly.

The 102d patrols, both reconnaissance and combat, varied in size from 4 to 5 men to a platoon. This constant patrolling kept the Germans on edge and, incidentally, caused them a lot of casualties and damage. The communications system which was developed and used, enabled the patrols to call for artillery fire to be delivered almost instantaneously in the desired area. In addition, when the weather permitted, dawn-to-dark aerial OPs in Piper Cubs attached to the FA battalions made it possible to inflict additional damage on the enemy.

Prisoner information confirmed the belief that the enemy not only had a lot of respect but a great fear of our artillery. Water points, kitchens, CPs and other enemy concentrations were used as targets. A few rounds on a Kraut chow line usually eliminated that many Krauts.

COMMUNICATIONS

The whole defensive system revolved around a communications system built up principally by telephone and wire. The organic telephone systems of the attached artillery and infantry battalions were augmented by improvised systems to fit the situation. As the cavalry has no authorized telephone equipment, higher headquarters (V Corps) made it available upon request and attached at different times two of its wire teams to the reconnaissance group.

The cavalry squadrons organized their own wire teams and installed and maintained wire communications to all front-line critical points, OPs and CPs. The switchboard at Group HQ had 24 drops, all of which were used.

Communications were established and maintained with Corps HQ, corps artillery, attached artillery and adjacent infantry divisions. Organic cavalry radio

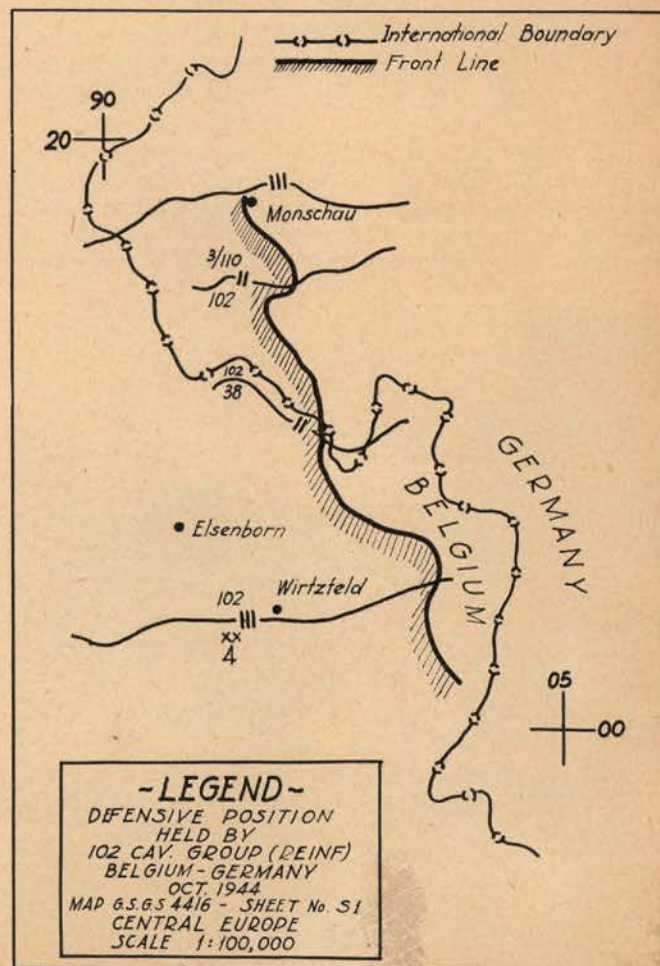
nets were kept open as supplementary means of communications in the event wire lines were shot out or sabotaged. The nets were monitored and always ready for instant use.

The artillery was controlled through a fire direction center established at the headquarters of one of the attached battalions. An artillery officer was assigned to Group HQ in the capacity of a group staff officer. The fire direction center had communication with all battalions in adjacent divisions and with the corps artillery. Whether a worth-while target was discovered, a TOT (time on target) was arranged and Jerry got plastered.

The artillery provided a comprehensive fire plan. The group could call for prearranged fires on all critical points and possible avenues of approach in the event of an enemy demonstration or attack in force. No fire lines were established beyond which the artillery could fire at any time; because of the operations of patrols, clearance had to be obtained before fire could be laid down.

PREARRANGED PLANS

The system of patrols was developed to a very high point. The group commanding officer retained approval for all patrols. Squadron commanders assigned patrol missions at least 36 hours before the patrol was



to be sent out. The mission was given to the troop commanders on a mission form. The troop commanders, after selecting patrol leaders and patrols, gave orders to the patrol leader at least 24 hours prior to time of departure. The patrol leader was required to brief his patrol 18 hours before the scheduled taking off time. His final plan, written out by him after map study and as much personal reconnaissance of the terrain as possible, was submitted for approval in turn to the troop commander, the squadron commander, and the group commander, and reached the last named at least 6 hours prior to departure time. The group commander then gave final approval or disapproval.

Upon return of the patrol, all members were interrogated at squadron headquarters, either by the squadron S-2 or a staff officer especially assigned to patrol work. Complete detailed reports of findings were prepared and submitted to Group HQ.

One of the interesting factors of all patrols was the communication system which involved SCR-300 and borrowed sound-powered telephones and visual signals, both of a prescribed but impromptu nature.

It was also learned that the patrols had a great fondness for having at least one BAR among its weapons; occasionally a 60mm mortar was carried and used. In view of the fact that the Germans were constantly patrolling, it became habitual to establish tramps and ambushes.

One instance of a 20-man German patrol, which walked into a trap and was completely annihilated, occurred in the following manner:

A squadron patrol was proceeding on its mission and the scout—alert and watchful, as he should be—saw

A unit of the 102d Reconnaissance Squadron approaches Heimbach, Germany in the late winter. As the snows melted and the Germans were driven from the Ardennes, the winter front was pushed eastward with increasing momentum. Static warfare gave way to a war of movement.



Signal Corps Photo



Signal Corps Photo

Members of the 117th Reconnaissance Squadron outpost a road north of Strasburg, February 1, 1945. Vehicles are still camouflaged for winter warfare; snow not yet melted.

Jerries coming toward him. Under a prearranged plan the patrol took up firing positions very quickly and quietly and held fire until the patrol leader signaled by firing his own weapon. The incident occurred in a very thick pine forest where visibility was limited to both sides.

It was the prearranged plan which provided the satisfactory result. To prevent being taken by surprise, a unit must anticipate every eventuality. Nothing must be left to chance or happenstance.

BATTLEWISE

The cavalry troops remained in the same positions from the middle of September through the winter; the detachments changed from time to time. As the weeks passed, autumn turned into deep winter, with its added discomfort. During this period many ideas were put into practice to provide as much comfort as possible under the circumstances. On some of the terrain, which was often marshy, it was impossible to dig deep foxholes. For protection from enemy fire, digging is the first requirement, with overhead protection a close second. Jerry continually threw over large amounts of artillery and mortar fire, and in wooded areas tree bursts were usual.

Troops became quite expert in constructing foxholes and dugouts with drainage systems, floors and roofs of logs, with sandbags, dirt and local camouflage materials to provide the maximum of security.

In the three and one-half months of such warfare, the troops grew battlewise and learned instinctively to appreciate the need for self-protection, particularly in constructing overhead cover. Because of this education in the hard school of experience, the casualties were relatively small, although the troops inflicted a large

number on the Germans. Battle experience showed that the T/A and E (table of administration and equipment) was not the last word. Like everything else in the Army it had to be put to the test. Recommendations for changes were made in detail to higher headquarters.

The major recommendations for changes included making available a greater number of men for dismounted work; increasing mortar fire power by changing from the 60mm to the 81; arming a larger number of men with the M1 rifle instead of the carbine; increasing self-propelled howitzers to 105mm from the 75; the need for wire and telephone equipment, and last but not least, authorizing additional personnel in Group Headquarters to enable the staff to handle the never-ending stream of administrative work and to function efficiently 24 hours a day.

MORALE AND HEALTH

Although the men had been in the line constantly since D plus 2 and had had little or no rest, the morale of the group remained high. Only a small percentage could be spared for 48-hour passes to the corps rest center and a still smaller percentage could be given a 6-day pass to Paris. The relatively small number of troops, coupled with the large area they were assigned to cover, precluded the granting of many such passes.

Under the rigorous conditions of living in the open fields and forests for months, improvising what shelter was possible, it was to be expected that trench foot would make some inroads, but because the possibility was anticipated, it never really made any headway. All prescribed preventive methods were used under the supervision of the squadron medical officers. Troop commanders, platoon leaders and section sergeants checked every individual man constantly and instituted preventive measures.

It was found that respiratory diseases were very small in number during the out-of-door living. Those afflictions were prevalent when the troops were billeted indoors.

Hot meals ranked high among morale factors. In most instances the men were furnished with two hot meals a day—breakfast and supper. When conditions permitted, the hot meals were sent up to the men in the line in containers; when that was impossible men infiltrated back in rotation to where the hot food containers were assembled.

The 102d Cavalry also established a rest center in the vicinity immediately back of the line. While it was not far back, at least it was not right in the line. A small number of men were brought there from time to time and permitted to sleep, read, write, shave—or not shave—in other words, to relax completely and do as they damned well please for 48 hours.

That is the story. Cavalry in a defensive rôle performs a hard and arduous task. The task was done and done well by the 102d.

14th Cavalry at Remagen Bridgehead

THE 14th Cavalry Group, comprising the 18th and 32d Squadrons, helped turn the crossing of the Rhine at Remagen into an offensive which carried to the very heart of Germany.

Commanded by Colonel Lawrence G. Smith, these veterans of the Ardennes and the drive across the Ruhr rolled over the famed Ludendorf Bridge spanning the Rhine River on the fourth day after its capture. On the eastern bank of the Rhine, they helped establish the first defenses in an intricate network of defense and traffic control to assure complete ground, water, and air security for the now historic Remagen bridgehead.

During this action in which the 18th Squadron captured over 250 Nazi prisoners of war and secured the towns of Rheinbrohl and Hammerstein armor and mechanized cavalry caught the defending Nazis totally unprepared. As Troop A, commanded by Captain Edward L. Schnee, rode into the battle mounted on the squadron's new M24 light tanks and attached tank destroyers, the Germans were caught completely unprepared. The new M24 light tanks used by Company F and led by Lieutenant Kenneth O. West could not be matched by the poor German antitank defenses, and tanks of the 1st Platoon moved with complete freedom as they advanced through Rheinbrohl and Hammerstein.

The vital defense of the Remagen bridgehead was the responsibility of a task force under Captain Lee O. Alkire, organized from Troop A of the 32d Squadron, tank destroyers, engineers, signal corps, and Royal naval personnel and supplied with many secret weapons.

Under protection of fog and darkness trained Nazi suicide teams of saboteurs had continually attempted to demolish both the Ludendorf dual-purpose bridge and the various ponton river crossings, but as searchlights disclosed the Nazi suicide teams Lieutenant Kingston L. Stemple's alert patrols and guards always captured the German saboteurs before their mission could be accomplished.

Security patrols of the 32d Squadron, which were defending the Ludendorf Bridge at the time that it crashed wearily into the Rhine River, gave eyewitness reports as proof that the bridge was not destroyed by the enemy. Sergeant Alfred W. Enlow, in command of a 30-man platoon guarding the bridge against acts of sabotage, said: "At the time the bridge started to collapse I was looking at it, and right in the midst of shaving. I never saw such a sensational sight in my life. There was no shell fire nor were there any explosions. The bridge just trembled and shook and in a mighty cloud of dust fell into the river."

Screen for Infantry

by Major William G. Rennolds, Cavalry*

AT 1630 August 13 the 113th (Red Horse) Cavalry Group,¹ commanded by Colonel William S. Bidle, then in assembly area south of Mortain with mission of protecting the south flank of XIX Corps and of establishing contact with the north flank of VII Corps, was attached to the 30th Infantry Division from which it received the following mission:

"To execute reconnaissance to the east in the Division zone without delay, maintaining contact with the VII Corps on the right and with the 2d Armored Division on the left, and screening the motorized advance of the 30th Infantry Division, scheduled to begin at 0700 on 14 August."

The division commander added verbally that, since he wished to move his division as far forward as possible before detrucking, he desired the advance to be fast and bold until contact should be made with the enemy.

Accordingly, the 113th Cavalry Group moved out before 2130, and by midnight August 13-14 had established a counterreconnaissance screen across the division front on a north-south line generally along La Varenne River, west of Domfront, with the 125th Squadron, commanded by Lt. Colonel Jeff F. Hollis, on right and the 113th Squadron on the left.

At 0700 August 14 the advance was resumed. The 113th Squadron, though faced with considerable opposition, especially on its left, made steady progress throughout the day and by dark had reached the western edge of the high ground generally northwest of Domfront. The 125th Squadron, on the other hand, met stiff opposition before the town of Domfront, where, by direct pressure and enveloping action, it assisted a task force of the 2d Armored Division in capturing the town by 2100.

Meanwhile, elements of the 30th Infantry Division had detrucked and under cover of the cavalry screen had progressed well forward in the zone, especially on the left. There, however, a serious gap had developed between two regiments—the 120th Infantry and the 119th Infantry; and at 2000 the CO of the 113th Cavalry Group was ordered to fill it. He, in turn assigned the mission to the 113th Squadron, which effectively filled the gap at the same time that it continued to advance and maintain contact with the 2d Armored Division on its left.

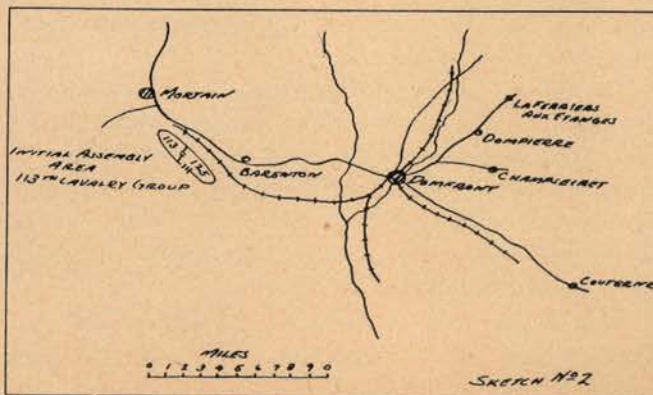
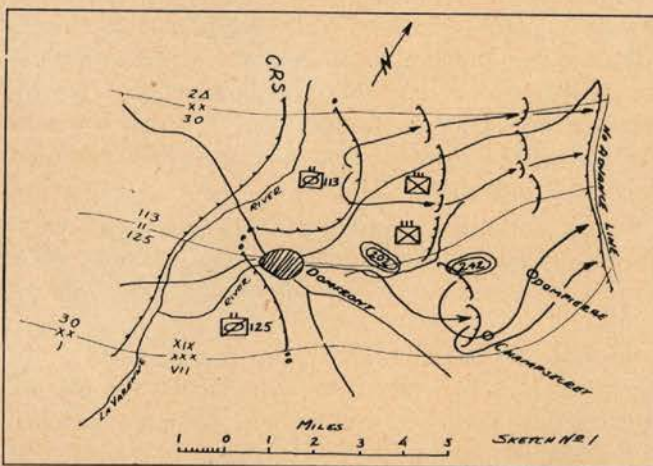
At 0600 on August 15 the 125th Squadron resumed

the advance in its zone and at 1420 captured Hill 202 (approximately 3 kilometers northeast of Domfront), after a sharp dismounted action. The 125th then encountered enemy forces strongly holding Hill 242 (2 kilometers east of Hill 202), which resisted capture until early the following morning when attacked by a battalion of 117th Infantry, reinforced by 2 platoons of light tanks from the squadron.

At the same time, the bulk of the 125th, bypassing Hill 242 to the south, captured the town of Champsecret and continued on to take Dompiere and the high ground to the east, which constituted the southern half of the division and corps objective. Finally, the squadron pushed on to take the town of La Ferriere-Aux-Etanges, from where it gained contact with elements of the 1st Infantry Division to the south.

By 1030 on August 16, therefore, the entire group had reached the "no advance line" which had been prescribed in orders; and at 1200 instructions were received to assemble on the right flank when relieved by friendly troops.

For its performance of this mission, the 113th Cavalry was commended by division and corps commanders.



*S-3, 113th Cavalry Group (Mecz).

¹An article on the 113th Reconnaissance Squadron of the 113th Cavalry Group appeared in the November-December CAVALRY JOURNAL under the title, "Z' Cavalry Reconnaissance Squadron (Mecz) July 7-10."



75mm assault guns, in position overlooking Equelsharat, fire a devastating barrage into the enemy-held village.



Combat patrol moves toward its objective. Mission is to establish a machine gun position overlooking the town.

A Patrol— 106th Cavalry in Dismounted Action

*Equelsharat, France,
December 19, 1944*

Signal Corps Photos



Colonel Vennard Wilson (right), at forward position along patrol's route, watches progress and listens to radio directing artillery fire.



Left: White phosphorus shells burst from radio-directed howitzers near enemy machine gun position. Smoke screens the patrol.

Battle Reconnaissance

The aggressive and continuous reconnaissance by the 106th Cavalry Group (Mecz) between the Marne and the Moselle Rivers—where the German 16th Infantry Division was destroyed—furnishes an excellent battle illustration of speed in decision and mobility in action by cavalry in gaining contact with a hostile force and establishing its identity, composition, disposition and flanks.

by Captain James W. Cocke, Cavalry

THE SITUATION, SEPTEMBER 10-11

The XV Corps, consisting of the 106th Cavalry Group (Mecz), the 79th Infantry Division and the French 2d Armored Division was engaged in the mission of protecting the right south flank of the Third Army.*

Late in the evening, September 10, instructions were issued by the Third Army for the XV Corps to continue its mission of covering the right, south flank from Montargis to the Moselle River. The XV Corps, then west of the Marne River, was to advance to the east from the Marne to secure the west bank of the Moselle River between Epinal and Charmes (both inclusive). The advance was to begin on the morning of September 11 at about 0800 hours.

At about 1700 hours on September 10 the 106th Cavalry, protecting the right flank of the corps along a 90-mile front from Auxerre to Liffol le Grand, received the order to cover the advance of the Corps within the corps zone—i.e., execute special mission Vittel. Upon arrival on the west bank of the Moselle River the 106th was to be prepared to move to positions indicated on the south flank of the corps and from there be ready for possible farther advance to the east and northeast.

The XV Corps was to advance (see Map 1) in two columns—the 79th Infantry Division on the left and the French 2d Armored Division on the right. At the same time, the 79th Infantry Division would also advance in two columns: Combat Team 4 (Motorized) would follow the 106th Cavalry along the northern route and the axis of the 106th Squadron, while Combat Team 5 would move by foot along the route Neufchateau—Chatenois—Mirecourt—Charmes.

Immediately upon receipt of instructions from the 106th Cavalry, the 106th Squadron began its assembly

and moved to the vicinity of Gondrecourt. At about 2200 hours that evening verbal orders were issued for the advance of 106th Group. The movement to the assembly area was completed with the 106th Squadron closing in the assembly area at about 0300 hours, September 11. Elements of the French 2d Armored Division, moving across the 106th zone to the east, became responsible for the security of the XV Corps right flank.

Meanwhile, the 121st Squadron began to break contact in its zone temporarily along the general line Liffol le Grand—St. Blien—Andelot for assembly in the vicinity Chermisey. In the midst of this operation, however, it was determined that the corps would advance through the 121st Squadron zone, September 11. Instructions were then issued by the 106th Cavalry to the 121st Squadron to regain contact with one troop in the zone Andelot—Liffol le Grand and at the same time employ another troop to outpost the road from Liffol le Grand to Neufchateau. The remainder of the squadron was to assemble in the vicinity of Chermisey as planned (see Map 2). Troop "A" was to reestablish contact in the zone just vacated. The outpost was given to Troop "B."

THE JUMP OFF

At 0700 on the morning of September 11, the advance jumped off, squadrons abreast, with the 106th Squadron on the left (N) and the 121st Squadron on the right (S). The 106th Squadron was to move on the axis (see Map 2) and the 121st Squadron along the route (also shown on map). Group axis of advance was to be in the zone of the 121st Squadron. The motorized CT4 of the 79th Division was to take the northern route behind the 106th Squadron.

The 121st Squadron, less Troop "A", began its advance to the east.

Troop "A" had been assigned the mission of holding the line Andelot—Liffol le Grand until passed through

*See paragraph, "Study for Leavenworth" in "Third Army Reconnaissance System," January-February issue.

and relieved by the French 2d Armored Division. Troop "A" was also given the additional mission of maintaining liaison with the French 2d Armored Division.

Troop "C", in the lead, followed by Troop "B", moving to the northeast, by-passed the town of Neufchâteau, then moved southeast in the direction of Dommartin sur Vraine.

The 106th Squadron on the north axis moved out with Troop "A" in the lead, followed by Troops "C", "B" and the remainder of the squadron in that order.

The 121st Squadron reached the town of Coussay, while the 106th Squadron reached Greaux at about 0800 hours.

The 79th Division moved out at 0800 hours in two columns. CT4 (motorized) was to seize the west bank of the Moselle River; CT5, the foot column, was to clear the route Neufchâteau, east to Chatenois, Mirecourt, Charmes. Combat Command "L" of the French 2d Armored Division advanced in two columns to secure the west bank of the Moselle River in the vicinity of Epinal.

CONTACT

The 106th Cavalry Group, advancing to the east, was coordinated by the group commander from his ¼-ton radio vehicle. Moving about at will, he personally directed the operation.

At 1125 hours Troop C, 121st Squadron encountered resistance in the form of a road block defended by 30 men in the vicinity of Attigneville (see Map 2). The road block was reduced and after a short engagement the enemy withdrew into the woods. Troop "C" re-

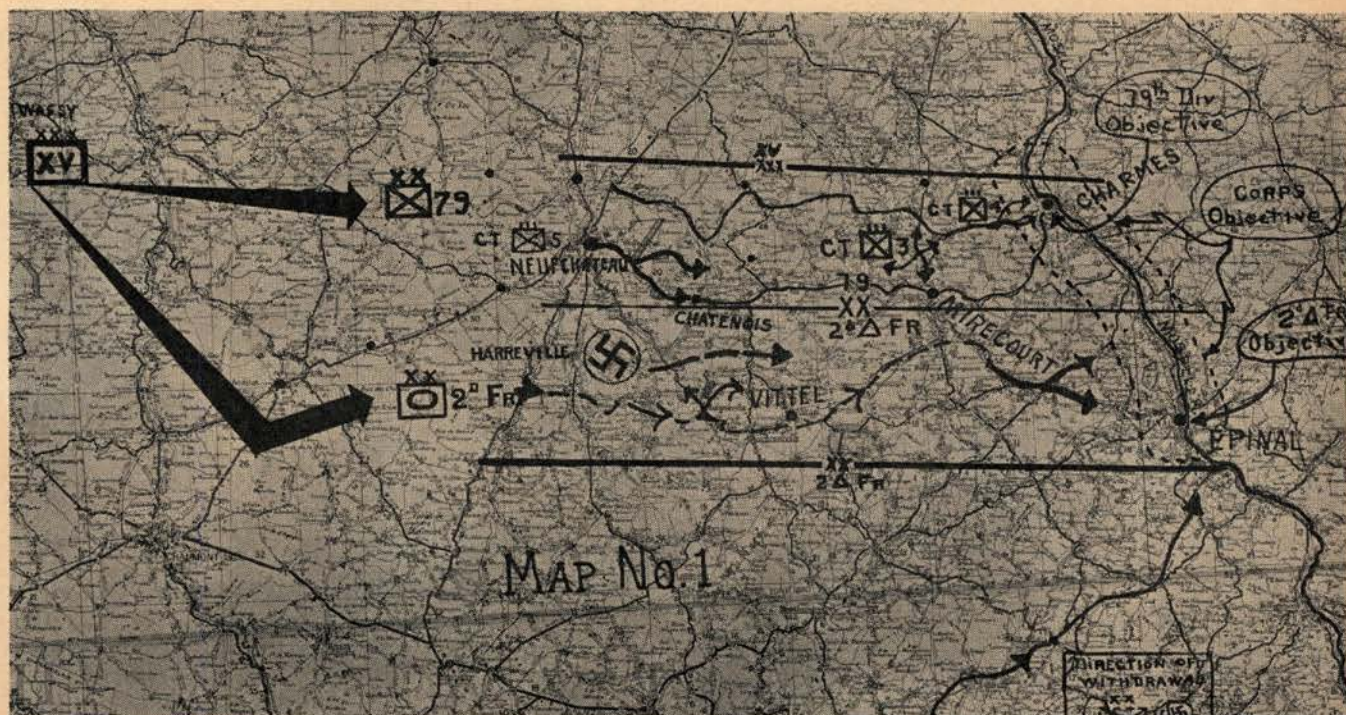
organized and moved forward until it again met with strong resistance in the vicinity of Dommartin sur Vraine.

Meanwhile, the leading elements of the 106th Squadron had reached Aroffe by 0925 hours, while the command group and the main body had reached the road junction about 2 kilometers northwest of Dommartin. The resistance just south of Dommartin had proved too strong for the squadron to push through without considerable delay, at best. Troop "C", 121st Squadron, was dropped off to contain the enemy just south of Dommartin, and at the same time Troop "B" was sent in the direction of Houecourt-Chatenois, but it, too, met strong resistance in the vicinity of Balieville. The group commander then decided to leave both troops in contact until the infantry was able to come up and take over.

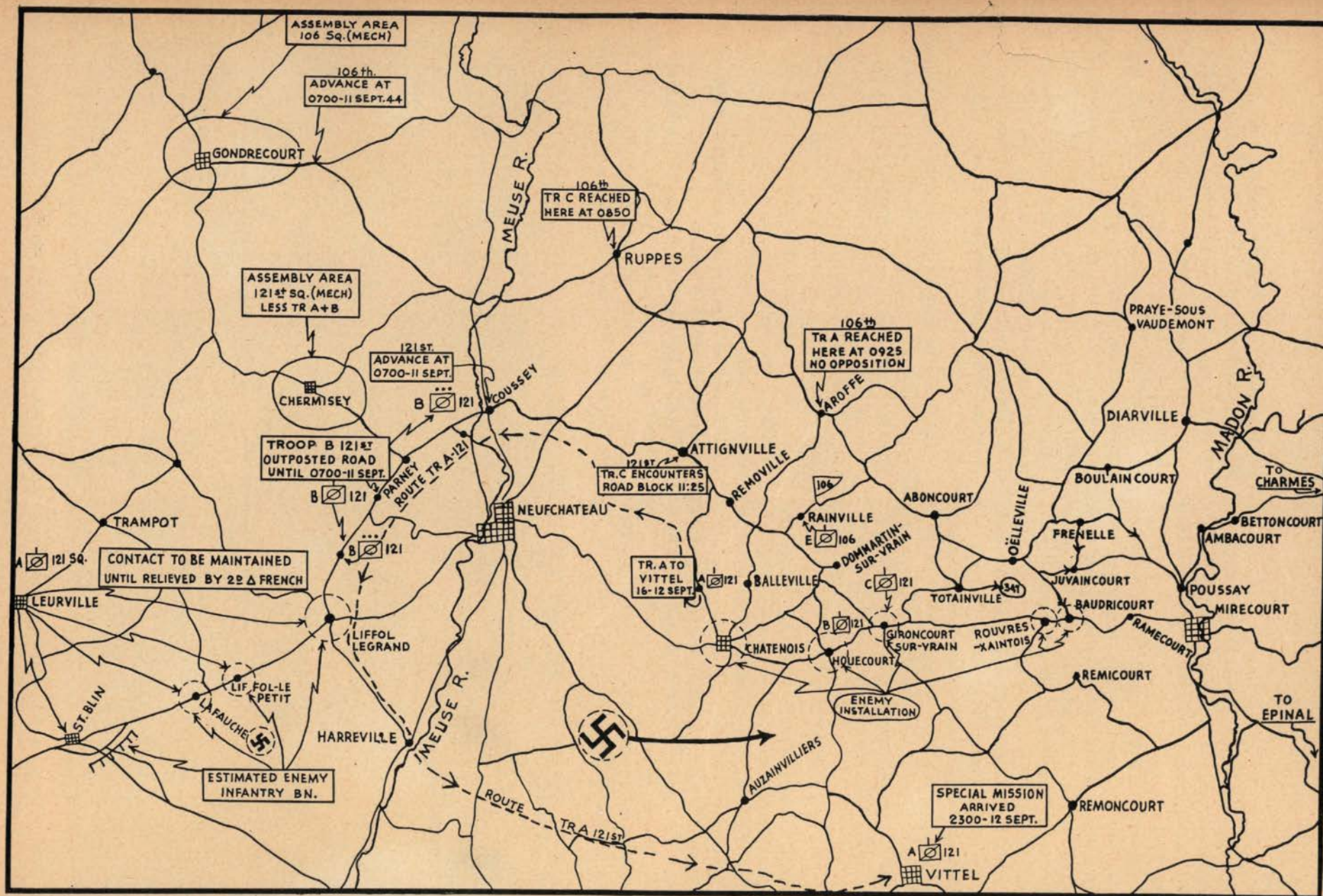
The group commander called on the 106th Squadron, then moving on a parallel west-east route, to send one platoon to pick up the command group at the road junction just south of Rainville. The platoon arrived very shortly and guided the column to the northern route, where it was picked up by the 106th column.

The 121st Squadron, less Troop "A", moved into bivouac in the vicinity of Removille. Troop "C" was now one kilometer northwest of Dommartin. Troop "E" had moved to a point one kilometer north of the same town at about 2115 hours.

The 106th Squadron, with Troop "A" in the lead, was advancing along the route through Juvaincourt, while Troop "C" was sent through Totainville to close the gap between the two squadrons and also determine



The U. S. 79th Infantry Division on the north and the French 2d Armored Division on the south cut the retreat of the German 16th Division en route from Harreville to Epinal in an epic operation that annihilated the entire enemy unit.



During the Third Army's rapid advance between the Marne and the Moselle, the 106th and 121st Squadrons of the 106th Cavalry Group performed aggressive reconnaissance for both divisions of the XV Corps. Above map indicates routes and disposition of the reconnaissance units during the five-day battle September 10-15.

whether or not the main route through Baudincourt and Ramecourt was open. Troop "A" encountered resistance in the vicinity of Juvaincourt, while Troop "C" met resistance almost simultaneously between Totainville and Rouvres en Xaintois. Troop "B" was then sent to reconnoiter a more northern route through Oellville—Frenelle la Petite—Roulaincourt—Diarville—Avrainville—Soucourt—Charmes. The squadron CP went into bivouac in the vicinity of Boulaincourt.

Troop "A", 121st Squadron, relieved by the French 2d Armored Division on the line Andelot-Liffol le Grand, proceeded to the squadron CP in the vicinity of Removille, where it was ordered to proceed to Vittel by way of Chatenois. Meeting strong resistance about 4 kilometers north of Chatenois, the troop maintained contact until the French 2d Armored Division had cleared the town of Vittel. When the French reached Vittel in their advance to the east, Troop "A" was withdrawn and sent to Vittel by a route skirting around Neufchateau. Upon arrival at Vittel, Troop "A" immediately outposted the town and remained there until released by the corps.

CT3 of the 79th Infantry Division arrived rather unexpectedly in the vicinity of Juvaincourt, after hitchhiking on corps artillery and every other available means of motor transportation, and was assigned the mission of cleaning up the area Frenelle la Petite, Poussay, Ambracourt and Mirecourt, with the attack scheduled for early morning, September 12.

Troop "B", 106th Squadron, reached Soucourt, about three kilometers north of Charmes, where its progress was impeded by the enemy who was occupying the town. When the troop encountered resistance, CT3, moving closely behind, detrucked immediately to attack Soucourt. The 1st Battalion advanced to take the heights commanding the town, while the 2d Battalion, followed by the 3d, moved into the town itself. The town fell after stubborn resistance—allowing the advance to continue in the direction of Charmes.

Communications between the 106th Cavalry and the infantry columns was maintained by having one radio vehicle from the 79th Reconnaissance Troop, accompanying each combat team. The radios, tuned to the command net of the 106th Cavalry Group, enabled each unit to know exactly what the other was doing. Group maintained liaison officers with the XV Corps, 79th Infantry Division and the French 2d Armored Division.

Late in the afternoon of September 11 it was learned that headquarters of the German 223d Infantry Regiment, 16th Division, was en route east on a line from Harreville to Epinal, while other elements of the 223d, supposedly in the vicinity of Combeaufontaine, were withdrawing to Epinal (probably through Jussey, Corre, Vauvilliers, Bain les Bains) under orders to cross to the east bank of the Moselle no matter how great the hardships or sacrifices might be (see Map 1). Although

the German 16th Division had been reported moving in this area from southern France about 10 days earlier, this was the first information of recent movements.

The capture of prisoners on September 11 verified the presence of these units.

The French 2d Armored Division, advancing to the east, had elements in Auzainvillers on the south, while on the north the enemy was dropping sporadic artillery at Dommartin.

Troop "A", en route to Vittel on the special mission assigned to the 121st Squadron, encountered stiff opposition at Chatenois and became involved in a firefight. The troop commander, realizing his situation, began working west to by-pass Chatenois. The 121st Squadron, continuing to probe the enemy line Chatenois—Basincourt, met determined resistance from small-arms and some artillery fire.

The towns of Chatenois, Houecourt and Gironcourt were found to be strongly held by enemy infantry estimated to be at company and battalion strength. Reports indicated that elements of the German 16th Infantry Division were defending the east-west route from Neufchateau to Charmes—supposedly holding open the escape routes to Germany from southern France.

THE SITUATION, SEPTEMBER 12

During the morning of September 12 the XV Corps continued on its mission toward the objective Charmes—Epinal. The 79th Infantry Division was clearing enemy resistance from the east-west routes to Charmes; CT3 was attacking east through Frenelle la Petite and thence to Bettoncourt—Charmes; CT4 was attacking Charmes; and CT5, east through Neufchateau to Chatenois and Mirecourt. The French 2d Armored Division continued the attack east through Goncourt and Vrecourt toward the objective Epinal (see Map 1).

The 106th Cavalry commander, who had now located the command post in the vicinity of Auginville, issued instructions for continued reconnaissance to the east and southeast in the direction of Epinal with a special mission of securing Vittel and the probable mission of protecting the right, south flank of the XV Corps after the French 2d Armored Division reached its objective. The probable axis of signal communication for the 106th Group was to be: Frenelle la Petite—Mirecourt—Begnecourt.

The 106th Squadron, less Troop "B", charged with the close coordination of its movement with the 313th Infantry Regiment and the 121st Squadron was to push southeast from Aboncourt and Frenelle la Petite to the objective Lorrain and Le Menil.

Troop "B" would remain assembled in the area west of Charmes, prepared to cross the river to reconnoiter in advance of the 314th Infantry in the event they crossed the Moselle River that day.

The 121st Squadron, charged with the close coordination of its movement with the French 2d Armored

Division and the 313th Infantry Regiment, would push southeast from Chatenois—Gironcourt sur Vraine to the objective Vittel and Remoncourt.

CT5, working east through Neufchateau against stiff enemy resistance, employed this general plan of attack. The regiment would attack at 1500 hours, with the 1st Battalion working through the town, the 2d Battalion moving to the south to cut the road leading from the town, and the 3d Battalion passing through the town and continuing the advance in the direction of Chatenois.

The situation in front of the 121st Squadron looked about like this at 1600 hours on September 12:

Troop "A" was unable to enter Chatenois or by-pass to the west. Patrols from the 121st squadron made strong enemy contacts which were supported by artillery and mortars on the east and west of Chatenois. Two well defended road blocks were discovered on the main road between Chatenois and Neufchateau. Troop "B" was unable to reach Houecourt or by-pass to the east or west of that town. Patrols, contacting enemy outposts about ½ kilometer north of Houecourt, were fired on by small arms, mortar and some artillery. Troop "C" was unable to reach Gironcourt sur Vraine for the same reason. The enemy line Chatenois—Gironcourt was strongly held and supported by artillery fire.

The 106th Squadron command post moved to Boulaincourt at 1520 hours on September 12. Troop B was attached to the 314th Infantry at about 1500 hours, and the remainder of the squadron was employed with Troop A in the vicinity of Aurainville with patrols operating in the vicinity of Poussay. Troop C, located in the vicinity of Juvaincourt, had patrols working south and west to contact the 121st Squadron. Troop A, moved to the east side of the Moselle River by way of Rouville, was assigned the mission of reconnaissance in advance of the bridgehead east of Charmes. Although the 315th Infantry had not cleared the town of Neufchateau by 1720 hours, corps moved its command post to the vicinity Auginville. At about 1830 hours the French 2nd Armored Division, in the vicinity of Auzainvillers and Remoncourt, was pushing advance elements east into the outskirts of Dompierre.

Troop A of the 121st Squadron, on the special mission, reached Vittel about 2300 hours. The situation quieted during the night as the 315th Infantry prepared to continue the advance to the east toward Chatenois. Early on the morning of September 13, Troop A, 121st Squadron, reported its mission accomplished and the town of Vittel secured.

DRAWING THE PINNERS

At about 0720 hours Troop A of the 106th Squadron crossed the river at Roville to the east and continued its mission east of Charmes.

Troop C, 121st Squadron was moving into position to cut the road between Rouvres en Xaintois and Dom-

basle en Xaintois. Troop B, 106th Squadron, was withdrawn at 1030 hours to permit firing in the area south of Savigny.

The enemy began to show a more determined stand by digging in on the high ground north of Baulaincourt. CT3 was reported to have taken Bettoncourt at 1530 hours and was now fighting for the town of Poussay. The enemy in front of Houecourt brought up reinforcements at noon (probably troops withdrawing from the Andelot area), while the 315th Infantry on the west was meeting resistance of a stubborn nature at the road blocks 4 kilometers west of Chatenois. The attack continued, with one element of CT5 moving to the north through Dolaincourt, the other attacking from the west.

Enemy traffic, to the east, increased under pressure from the west by CT5 and from the south by the French 2d Armored Division, which was now in Dompierre, almost completing the encirclement of the enemy along the east-west road.

The 106th Squadron reported very little change on that front during the period. Darkness found the two squadrons in about the same positions as the night before, except that Troop "A" of the 106th Squadron was on the east side of the Moselle River, and Troop "A" of the 121st Squadron was at Vittel. The night was fairly quiet other than a few attempts by the enemy to withdraw a part of his forces. An enemy battalion, consisting of 13 officers, 130 NCO's and 420 enlisted men, surrendered as a unit to the 315th Infantry on the morning of September 14.

The assault guns of Troop E interdicted the escape routes to the east from Chatenois. At about 1800 hours Mirecourt was reported in the hands of the 313th Infantry, and about the same time the French 2d Armored Division began moving one of its units to the north in the direction of Houecourt. The 315th Infantry, advancing to the east, reached La Neuville about 1930 hours.

The situation in front of the 121st Squadron at 2130 hours had the enemy occupying the towns of Houecourt—Gironcourt—Rouvres en Xaintois. The roads leading into these towns were heavily mined or blocked by obstacles defended by antitank guns and supported by artillery.

The 121st Squadron was disposed, with Troop A at Vittel, Troop B in the vicinity of St. Paul (with OP's at one kilometer and another at two kilometers north of Houecourt), and Troop C one kilometer northwest of Dommartin with units 1½ kilometers northwest in the vicinity of Morelmason.

Troop B, 121st Squadron, assigned a mission of reconnaissance in the zone Charmes, south to Nomexy (exclusive) west to Mirecourt along the east road, north and east through Ambacourt, Bethancourt and Charmes, reported at 1630 hours that the mission was completed and the area clear of the enemy.

A patrol from Troop C, 106th Squadron was sent south through Mirecourt for the purpose of contacting a patrol coming north from the French 2d Armored Division. Contact with the French was made in the vicinity of Mattincourt about 1700 hours.

An enemy withdrawal to the east was indicated by the fact that considerable traffic was observed and a number of vehicles were destroyed by Troop A of the 106th Squadron, operating on the east side of the Moselle River.

CLOSING THE TRAP

On September 15, elements of the French 2d Armored Division were disposed in the vicinity of Nomexy, Mirecourt, Dompaigne, prepared to attack Epinal on corps order.

The 315th Infantry reached La Neuville about 0930 hours, proceeded east, and about an hour later arrived at Houecourt in its move on Gironcourt.

About 1300 hours CT5, advanced east across the 121st Squadron zone and cleared the area on the squadron front.

Meanwhile, between 0600 and 0730 on September 15 German infantry, tanks and artillery had counter-attacked the French 2d Armored Division from the northwest in an attempt to break out of the trap in the vicinity of Dompaigne. The French, counterattacking southeast from the direction of Mirecourt at about 1030 hours, broke up the threat from the northwest.

Troops B and C of the 121st Squadron, continuing to clear the area of small pockets of resistance, were directed to assemble upon completion of the mission in troop areas. Troop A reported the area south of Houecourt clear of enemy resistance at about 1400 hours. Troop "C" reported the area south, north and northwest of Dommartin—Chatenois clear at 1530 hours.

The 106th Squadron was engaged in route reconnaissance with one troop on the route Mirecourt—Charmes. The remainder of the squadron was employed in the area Baudricourt and Rouvres en Xaintois with patrols as far south as Dompaigne during the morning. In the afternoon it reported the area clear of enemy resistance.

CT3 and CT5, moving east from Chatenois and west from Mirecourt, made physical contact in the early afternoon. By this time the French 2d Armored had reached Nomexy with a large portion of its command.

This combined mechanized cavalry-infantry-armored action resulted in the complete destruction of the German 16th Infantry Division in 6 days.

The 121st Squadron assembled and moved to the vicinity of Praye sous Vaudemont, and prepared for farther advance to the east, while the 106th Squadron moved to the vicinity of Roville in position to cross the Moselle River and continue the advance to the east on order.

The Nazis Go Underground

The Nazis Go Underground, by Curt Riess, was published in the autumn of 1944. As a warning of the underground movement already organized by the Nazis, it leaps into importance with the fall of Germany.

After Stalingrad it was evident to many high-ranking Nazis that they were likely to follow the blueprint for defeat.

The amazing accuracy of the following predictions made by Mr. Riess in The Nazis Go Underground in 1944 are of interest in the light of recent events.

"A great deal has been written lately about certain Nazis who have fallen out with Hitler . . . in many cases all they wanted was to create such an impression. . . . The only explanation, then, is that their dismissal has been arranged in order to give them an alibi for the future. . . .

"And what are the chances for survival of the Nazis of the first order—Hitler, Himmler, Goering, Goebbels, and the others? . . .

"Most people feel that Dr. Goebbels is a coward who will try to save his skin. I believe that Goebbels is, above all, a cynic . . . Goebbels will be a cynic to the very end. He will decide that he has seen and done and had everything—and will shoot his brains out. . . .

"Goering, on the other hand, may try to save himself. He enjoys life and, because he wants to continue to live pleasantly, he will run away. . . .

"Foreign Minister Joachim von Ribbentrop, though a full-fledged Nazi, can go on living even after the party is overthrown. . . .

"As to Martin Bormann and Generals Heissmeyer and Kaltenbrunner, it is not likely that they will be able to get out alive. . . .

"Himmler himself is said to be resigned to dying inside Germany. . . .

"People who know Hitler personally, or who know enough about him to judge what his final reactions may be, are unanimous in their belief that he will fight to the last. . . . But even if Hitler should decide differently he will have no choice. He will not survive the downfall of his regime. He must die. And if he does not commit suicide, the leaders of the Nazi underground themselves will see to it that he perishes. True, they need the Fuhrer for the future Nazi underground. But the Fuhrer they need for that future is a dead Fuhrer."—The Nazis Go Underground, by Curt Riess. Doubleday, Doran.

Von Rundstedt on German Defeat

by Louis P. Lochner

WITH U. S. Seventh Army, May 4 (AP)—Field Marshal Karl Gerd von Rundstedt, admitting complete German defeat, said today he regarded air power as the most decisive factor in the Reich's military failure.

Wearing his marshal's uniform with the Knight's Cross of the Iron Cross and other decorations, the defeated former German commander in the West received correspondents in a chateau where he is held prisoner.

Von Rundstedt said these were the other factors in Germany's defeat, in order:

1. Lack of fuel, both oil and gasoline.
2. Destruction of the railway system.
3. Germany's loss of raw material areas such as Romania.
4. Smashing of the home industrial sections such as Silesia and Saxony by air attacks.

Bowing stiffly to the correspondents, von Rundstedt seated himself on a big sofa and replied to every question put. He said in his opinion Hitler is dead, but not by suicide. He expressed belief the Fuehrer might have died in Berlin. Nervously puffing at an unlighted cigarette he then said:

1. American generals are surprisingly good, as is Marshal Montgomery of the British Army. They have learned much since the First World War.

2. The D Day invasion came as a surprise, both regarding the exact time and locality, although the locality chosen had figured among German calculations.

3. The Western Allied armies made as successful a war of movement on Germany as the Reich made on France in 1940.

4. The so-called von Rundstedt counteroffensive in the Ardennes last December was ordered by Hitler, with the field marshal the scapegoat. It was Germany's last and only chance to avert disaster. It would have succeeded if supplies and reserves could have been brought up as quickly as General Patton could move up from the south.

5. Germany fights on solely because all utterances, both in the east and west, indicate that it is a fight for existence.

6. Germany would have won in 1940 except for British certainty that the United States would help.

7. However, no serious attempts was made in 1940 to invade England since experimental jabs showed the German water transport and fleet protection were inadequate.

After answering the first question regarding Hitler, von Rundstedt commented: "Before I say anything else I must begin with a personal remark. I'm not a prisoner by choice. I was taken by force of arms from a military hospital. I should never have yielded myself voluntarily.

That would have been the most despicable thing an officer could do. I would have resisted, weapon in hand."

Regarding Hitler's death he said he had not heard the radio for days since the electric current had been cut off at his hospital, but:

"I feel satisfied, however, that the Fuehrer is dead. Either he was wounded and died as a result of these wounds and possibly even fell fighting, or he died under the impact of the pressure of events upon his soul. Never, never will I believe he put an end to his own life. That was not in accordance with his nature."

Regarding the theory that Hitler might still be alive and in hiding, von Rundstedt said:

"Impossible. That would not be according to his character as I know it. Anyway, where would he go?"

When asked why Hitler did not make a last stand in the Berchtesgaden area, the marshal said:

"The most menacing threat to the Reich always has been Bolshevism. The Fuehrer therefore went to the point of greatest danger, namely Berlin. The effect of that fact on Berliners must not be underestimated. He might have conducted Berlin's defense and the war generally by radio and telephone from Berchtesgaden but he was a brave man who never thought of his own security."

Hitler, he claimed, was a "great strategist, his intuitions were good."

One had a feeling throughout the interview that in this build-up for the Fuehrer, von Rundstedt was deeply conscious that he was facing enemy reporters before whom the Hitler legend must be preserved.

Asked just when the war was lost, von Rundstedt made a general rather than a specific answer.

"It is hard to fix the exact moment but generally it can be said we were poor in material. Accordingly, three factors defeated us in the west, where I was in command. First, the unheard of superiority of your air force which made all movement in daytime impossible. Second, the lack of motor fuel—oil and gas—so that the Panzers and even the remaining Luftwaffe were unable to move. Third, the systematic destruction of all railway communications so that it was impossible to bring one single railway train across the Rhine. This made impossible the reshuffling of troops and robbed us of all mobility.

"Our production was greatly interfered with by loss of Silesia and bombardments of Saxony as well as by loss of the oil reserves of Romania."

Someone asked:

"But why did you defend the western bank of the Rhine instead of the eastern?"

"I was not in command at that time," the marshal replied, "but from a general military viewpoint, one de-

fends every inch of one's homeland. You would not retreat to the Rocky Mountains in the event of invasion, but would defend the East."

For similar reasons, northern Italy was defended so as to keep the enemy from Germany and especially to make the Allies' air forces' flying time and distance longer, he added. There also were political considerations involved, namely to keep Mussolini in line, he said.

Coming to the December offensive in the so-called bulge, the marshal let a flicker of a smile creep over his otherwise impassive poker face when I said it was known in America as the von Rundstedt offensive.

"Somebody must always take the rap and stand the consequences," he commented. Then resuming in a serious tone, he explained "the purpose of the winter offensive was to relieve by counterattack the strong pressure of the American and British forces in the Aachen area and heading for the Ruhr. Our objective was to throw the Allied troops back again over the Meuse and seize Liege. Actually the forces under (Field Marshal Walther) von Model got within 5 kilometers (3 miles) of the Meuse.

"We succeeded in surprising you, but our reinforcements had to be brought up without the aid of railways, many even on foot. Patton could conduct his skillful counteroffensive with complete mobility."

The bulge offensive was Germany's last chance, and von Rundstedt declared he "said so in an order of the day. That I was right may be seen from the fact that when the Russian offensive began we had to shift all our mobile equipment to the east."

Although the order for the winter offensive came from the Fuehrer himself, he said, the generals on the spot in the west shared the opinion that only a surprise offensive might succeed.

"When one fights defensively with weak forces against a strong enemy who can pick a weak point, there is only one chance left—break through by surprise."

To a question why the war continues, von Rundstedt said: "It is a fight to be or not to be. According to all utterances from the east and west, we have no choice but life or death. I do not know how long resistance will continue for I have been out of touch with the situation for weeks."

The Wehrmacht, von Rundstedt said, made no serious effort to invade England after the fall of France because "for an assault on England it was necessary to select the closest point from the mainland. Now, to the north of that point was the North Sea, to the south the Atlantic. We did not have a fleet capable of standing by to protect us from those two sides. Moreover, our landing equipment (von Rundstedt used a contemptuous German term 'aepfelkaehne' meaning mere barges for hauling apples) was totally inadequate as experiments with them showed."

Discussing D Day, Germany's supreme commander for the west explained that he was not in command after July 5, 1944, and hence declined to answer why the troops were so quickly pulled back from the Atlantic.

About events before then, von Rundstedt said: "We naturally expected a landing attempt but could not tell where it would come, whether in Holland, central France or southern France. So I could not put all my reserves in one place. Yet our reserves were so dispersed and placed that I could have met the D Day landing even though it surprised us except for the fact we had no mobility, and could not bring up our reserves. Between Paris and Rouen there was not a single bridge across the Seine.

"Furthermore, your naval artillery was terrific. Also we could move only by night. We knew you wanted to get to the Rhine, hence we had reserves ready for an attempt somewhere between the Seine and the Somme even though, we did not know in advance when nor exactly where you would land."

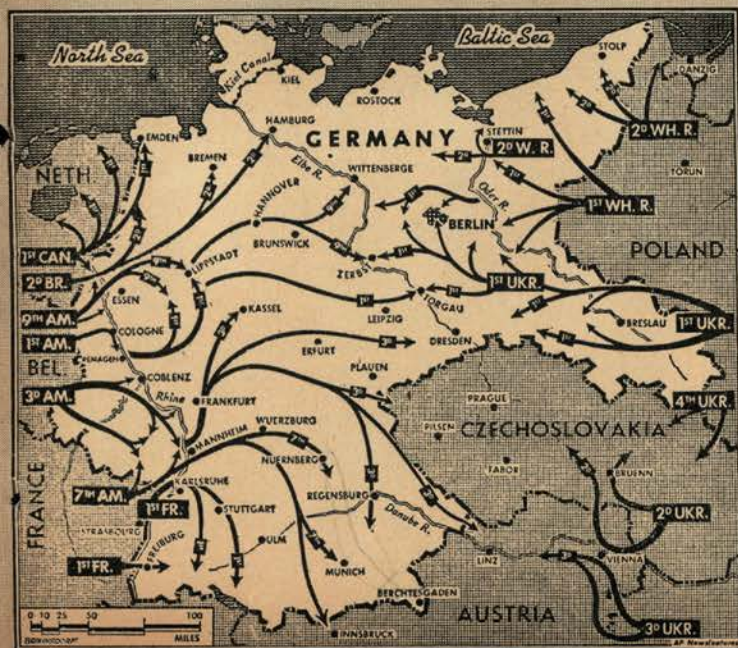
Asked what he thought of American generals, von Rundstedt unhesitatingly replied:

"During the last war I had the feeling your generals were new and untried and therefore paid for their mistakes with big losses. This time I am simply amazed at what you have learned meanwhile. It is terrific. Your mobility, your ability to detect and exploit the enemy's weaknesses is as modern as were our operations in France in 1940."

Japan's entry into the war had no effect upon the German military fate, the field marshal said, since Russia and Japan did not come to blows.

"We knew you had enough to fight a war in the Pacific and the Atlantic, but if pressure on our eastern front could have been relieved by Japan's becoming involved in a war with Russia, that would have helped," he explained.

The 69-year-old field marshal had aged greatly since I last saw him in 1941. It was understood he has serious heart trouble and had one attack soon after his capture.



Incident on the Rhine

by Captain
Carleton P. Jones, Jr.,
Cavalry

ENEMY INFILTRATION

ON the particularly dark night of March 11-12 a platoon of German soldiers, under an officer, crossed to the west bank of the Rhine in assault boats and dug in a toe-hold on the tip of a peninsula formed by a horse-shoe bend in the river. The Germans then established themselves in the vicinity of a chateau and 6 adjacent buildings and waited for reinforcements.

The enemy toe-hold thus established was in the defensive sector of the 113th Cavalry Reconnaissance squadron (Mecz), an organic unit of the 113th ("Red Horse") Cavalry Group. The squadron zone included 18 kilometers of Rhine River front a line which was, of necessity, a little thin.

From the outset the peninsula had presented something of a tactical problem. Terrain was decidedly flat, and in parts, scrubbily wooded. Enemy-held high ground, which dominated this flat bulge of land on three sides made daylight movement in this area hazardous. It had been decided, therefore, to hold the peninsula firmly at its base and to establish listening posts forward to the river to be tied-in by roving patrols.

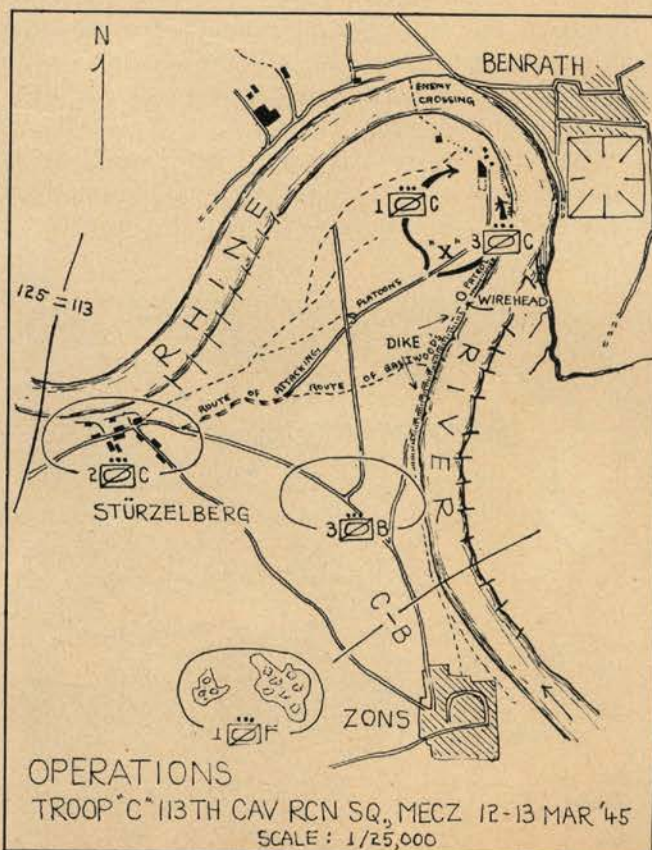
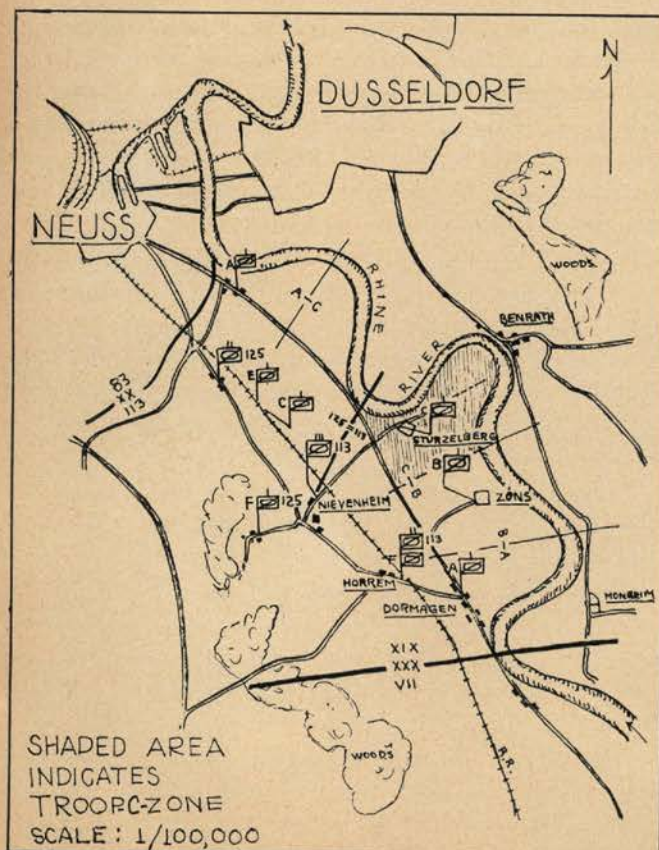
Commence

These instructions were fully carried out by Troop C in which sector the peninsula lay; but the night that the enemy chose to cross was dark with no moon, and neither listening posts nor roving patrols managed to discover the enemy crossing. The knowledge that the enemy had moved in on Troop C came the following morning from a civilian.

INFORMATION AND RECONNAISSANCE

The civilian, a Pole who had tired of his enforced labor for the Reich, had also decided to cross the Rhine, and did so shortly after the German soldiers and in the same locality. Upon reaching the west bank, to his dismay, he found himself again in the hands of his captors, and he was taken to the German officer in charge. A long conversation followed, the gist of which was never made quite clear by the interpreters; but suffice it to say, he finally managed to get away and stumble into Troop C, 1st Platoon outpost. From this outpost he was evacuated to that command post for interrogation.

Troop C commander, 1st Lieutenant Albert V. Cullen, at once initiated a 4-man patrol to investigate the



ts from Combat

civilian's information. Staff Sergeant Frederick Eastwood, one of the squadron's most able patrol leaders, was designated to lead the patrol. At 1400 hours Sergeant Eastwood moved out with his patrol and worked, dismounted, toward the tip of the peninsula along a low dike bordering on the Rhine.

After a painstaking hour of stealthful advance, the patrol reached the vicinity of the German-held chateau and took post for observation. The civilian's report was soon confirmed by the appearance of two German soldiers who emerged from one building and entered another. Four other German soldiers next were observed occupied in digging bunkers in the vicinity of the chateau. Eastwood then turned his patrol over to his second in command and instructed him to remain in observation until his return. Then Sergeant Eastwood withdrew to make his report by telephone to Troop C outpost 300 yards to the rear.

PLAN OF ATTACK

At 1500 hours, the squadron commander, Lt. Colonel Allen D. Hulse, received the message from Troop C that the enemy occupied the tip of the peninsula, as reported by the Polish civilian. Colonel Hulse immediately decided aggressive counter-measures were in order and went forward to Troop C to place himself in close touch with the situation. Upon arrival, the squadron commander attached the 3d Platoon of Troop B and the 1st Tank Platoon of Company F to Troop C. With these attachments Lieutenant Cullen formulated his plan of action.

The execution of the plan was set for dusk. The 1st and 3d Platoons of Troop C would move, dismounted, by the route indicated (see map diagram) to the point "X." Here the 3d Platoon would set up a base of fire, while the 1st Platoon would maneuver to the left to launch the assault from that flank. The light tank platoon would remain in reserve prepared to move forward to support the attack should the going become difficult. In this event, and if the need warranted, the attached platoon from Troop B would be mounted on the tanks as an additional striking force. The 3d Platoon, Troop C had been in troop reserve, and 1st Platoon Troop C would be relieved in their present defensive sector by the attached platoon from Troop B. Lieutenant Cullen designated a detachment of 8 men from troop headquarters to accompany him to set up an advance command post with the attacking platoons.

Artillery support would be furnished by the 2d Armored Division's 14th Armored Artillery Battalion,

whose forward observer previously had been attached to Troop C. Lieutenant Cullen planned to advance the attacking platoons as far as possible without artillery support, and when detected by the enemy, he would call for battalion concentration on the objective. The fire was to be lifted on call just prior to the final assault. Troop E's assault guns would perform the same fire mission.

OPERATION

At 1700 hours Lieutenant Cullen gave the order to move out. By 1900 hours the 3d Platoon's leading elements in the vicinity of the chateau had drawn fire from a German outpost. The 3d Platoon closed up and went into position as planned. Lieutenant Donald C. Reich, the 3d Platoon commander, then radioed Lieutenant Cullen that he was ready, and the latter called for artillery on the objective. The battalion concentrations slammed in. During the artillery preparation, Lieutenant Issac G. Gwin, commander of the 1st Platoon, who come forward for final instructions, was oriented on the ground as far as the darkness would allow and assigned the chateau as his objective. When the chateau was taken, Lieutenant Cullen would move the 3d Platoon forward to mop up the surrounding buildings. Gwin then moved out with his platoon.

Leading his platoon wide to the left flank, Lieutenant Gwin deployed it in line of skirmishers and radioed that he was ready. When the artillery lifted, Lieutenant Gwin received the order to jump off and moved in fast with his platoon. The timing was good, and after a brief scramble and a few preliminary grenades, Lieutenant Gwin was in possession of the chateau and 16 prisoners. The 3d Platoon then was ordered forward to mop up the adjacent buildings. Because of the excessive darkness and resulting difficulty of control, this operation was accomplished with some difficulty.

That the Germans had been taken by surprise was evident. Only scattered resistance had been encountered, and there had been no enemy artillery reaction. It was learned later that the Germans had had an artillery FO with them; but that he had been unable to contact FDC by radio. The radio was later found. It was a small portable type with a range of two to four kilometers. One German soldier had been interrupted in his bath and had not had time to dress before the attack was underway.

MOP-UP

The position was reorganized for the night, and it was decided to stop further operations until daylight. All

organized resistance had been overcome; but a dozen or more Germans were still wandering around disorganized in the darkness. Lieutenant Cullen left Lieutenant Reich in command and returned to his command post to make a full report of the operation.

In the morning, the mopping-up was completed and the prisoner count was swelled to 30. Four enemy were found dead, and one had been shot attempting to swim the Rhine. Interrogation revealed that there had been 36 in all, which left one unaccounted for. The missing Jerry, as usual, turned out to be the officer who had escaped back across the Rhine in a small boat that he had reserved for that purpose. The prisoners talked freely, but knew little of their mission except that it involved their entire battalion which had been due to reinforce them on the night of Troop C's attack. One PW claimed that he had received the mission of spreading propaganda leaflets among the Americans and produced a wad of them. Among the leaflets was found an Allied safe conduct pass.

As the mop-up neared completion, the enemy reacted strongly with artillery. Three cavalymen, slightly wounded, were the only casualties.

COMMENTS

During this action, communications between the attacking platoons and the forward command post was accomplished by SCR 511 radio. An outpost, 300 yards to the rear of the jump-off point furnished an advanced wire-head and an SCR 510 radio, which was netted in the troop command net as an alternate means of communication. The standard infantry set, the SCR 300, would have been more desirable for this type of dismounted action. The chief difficulties encountered in the SCR 511 set, aside from the temperamental qualities, was the vast amount of interference encountered in this theater, on all AM frequencies. For this reason the range of the SCR 511 radio was sometimes cut down as low as 500 yards or less. The SCR 300 employs frequency modulation and is an all-round better set for dismounted operations.

Aside from radio limitations, the cavalry reconnaissance troop, dismounted, suffers greatly from the non-flexible and inadequate nature of the present T/O and E which was primarily designed for mounted reconnaissance. Since the days of Normandy, this squadron has been assigned and has executed every conceivable type of mission, both mounted and dismounted and in combination thereof. Therefore, at an early date it was necessary to develop improvisations, and to obtain special authorization for additional equipment. In a few instances it has even been necessary literally to comb the battlefield for discarded items of infantry equipment. Major items of need have been the BAR and the M1 rifle. With this additional and substitute equipment this squadron has been able to evolve a workable solution.

For line action, Lieutenant Cullen's assault platoons

each dismount 29 men and one officer. The platoon combat team, dismounted, consists of five mutually supporting elements: The light machine gun team, employed to cover gaps and to protect an open flank; the BAR team, employed to augment the assault-fire of the platoon; the Bazooka team, utilized against enemy bunkers, machine guns, and mechanization; the rifle-grenade team, composed of three men equipped with rifle grenades and launchers; and finally, the basic element, the riflemen equipped with M1 rifles as far as possible, the remainder carrying carbines.

For special situations and in defensive missions the available manpower of the platoon is sapped by wire teams with W-130 (battle wire) and sound-power phones, and a radio team which carries and operates the bulky SCR 510 radio. In addition, the platoon sometimes packs its three organic 60mm mortars. Usually the troop mortars are fired in battery by troop headquarters personnel, or entirely dispensed with to conserve manpower for the line. These special teams were not used in this particular operation.

1 1 1

Demolition Obstacles to Reconnaissance

by

*Lieutenant Colonel Charles A. Ellis**

UPON numerous reconnaissance missions during the Sicilian, also the Naples-Foggia (Italy) campaigns the 91st Cavalry Reconnaissance Squadron was confronted with considerable "pioneer and demolitions" obstacles. These situations further occurred during the more recent Rome-Arno campaign. The enemy not only progressively increased his demolition practices but became more skilful in selection of sites, particularly creating serious road-craters on canalized roads in the upper northern regions of the Appenines Mountains. The carefully planned craters resulted in serious landslides at precipitous locations; also at carefully selected railway tunnels, bridge and culvert locations. Organic engineer battalions were severely overtaxed for these essential repairs. In numerous small villages, where the axis of advance compelled travel through the main or single thoroughfare, the street-axis' was narrow (canalized). There the enemy would demolish houses, and thus create considerable debris.

Such destruction is to be expected in withdrawal action by the enemy, but the extent and other exigencies did not always afford a complete and predetermined estimate of engineer needs for personnel and equipment. These excessive burdens upon the engineer units

*91st Cavalry Reconnaissance Squadron.

were masterfully overcome, and great credit is due to their superior skill, arduous long hours and required hand labor, as well as to the excellence of their equipment. It is appropriate that full and proper tribute be paid to our efficient engineers, exceeded nor equalled by none.

The surmountable problems confronting the engineers was of particular concern to mechanized cavalry reconnaissance units. To maintain enemy contact reconnaissance must be aggressive, and progressive advance continuous. Obviously, progress was impeded by these voluminous obstacles. Each phase of operations, including anticipated engineer requirements, was carefully planned. In spite of this, however, there was need for more engineer units and in the absence of sufficient personnel and equipment, advanced reconnaissance elements of the squadron were often delayed or held up pending arrival of equipment and men. Such delays, while temporary, from a few hours to more than a day, frequently caused loss of contact with enemy elements. Not only the reconnaissance elements but the main body of troops was affected. The impeded progress on several occasions placed reconnaissance platoons in jeopardy, especially under varying adverse terrain and on canalized roads.

In open terrain under mud or marsh conditions, the reconnaissance elements came under severe enemy artillery and mortar concentrations canalizing mechanized equipment until trails or other by-passes could be accomplished. In canalized valleys of the more rugged mountainous regions, "point" elements had to be extended in depth for advanced reconnaissance to reduce such jeopardy and casualties to the minimum. This proved successful but did not entirely eliminate the hazards caused by demolition obstacles which could not be predetermined from ground reconnaissance. Air reconnaissance ("Cub" plane) would have materially aided but not completely overcome these serious obstacles and casualty hazards. Usually such obstacles can be estimated in severity only by direct observation on the spot.

Following experiences of this nature in the Sicilian campaign, similar obstacles and pioneer problems were anticipated in the enemy's continued withdrawal action.

During the interim between the Sicilian campaign and resumption of missions in the Italian campaign, the squadron obtained some engineer equipment, including an R-4 angle-dozer, by special authority from the army commander. This, plus a compressor, motor-driven saws, Barco hammer and several hand tools, facilitated a fair amount of equipment with which to work.

The squadron then obtained authority for (approximately 15%) personnel "over-strength for expected casualties." The latter overstrength facilitated a temporary readjustment and the creation of an experimental "reconnaissance engineer platoon." By careful selection of construction, experienced personnel, and a very short but intensive training course of one week, this "experimental" platoon showed unusual progress and



Signal Corps Photo

Fifth Army assault guns cross a stream under a blown-out bridge in the Veiano area, Italy, June 8, 1944. German demolitions and road blocks seriously hampered the progress of Allied armor throughout the Italian campaign.

adaptability for constructive pioneer work. It constructed emergency "fords" for light reconnaissance vehicles, including M-8 armored cars; also, a Class 20 bridge, which was completed in less than 8 hours, sufficient to transport a light tank (M-5). This demonstrative and practicable training accomplished excellent results in a surprisingly short time. The objective was to effect lightly constructed bridges and fordable by-passes over streams, irrigation ditches and anticipated antitank ditches; also, by-passes over or around road-craters, bridges, etc. Such work is the normal light or preliminary construction performed by organic engineer platoons.

Unfortunately, during April 1944 it was necessary for the squadron to turn in all equipment in excess of the new T/O and E, and the rapidly, successfully trained experimental engineer platoon was dissolved and its equipment turned into a depot.

Such tactical exigencies are not attributed to simple local field, terrain, or seasonal conditions. Forceful and aggressive offensive tactics naturally result in greater enemy technique for increased impedimenta. Minefields and a highly developed technique in road demolitions have been ably established by the present century-old enemy (Germans). We have the equipment and ability and must learn to overcome this significant problem by utilizing both to utmost advantage.

The necessity for reconnaissance is unquestionable. To avoid loss of contact with the enemy, reconnaissance elements need every facility available.

To accomplish successful mechanized reconnaissance, such elements must maintain contact with the enemy unimpeded by delays in acquiring essential equipment to overcome natural and enemy-created (demolitions) obstacles. A cavalry reconnaissance squadron, especially the "separate" squadron, frequently changes sectors and is subject to attachment to various divisions and corps (operational control), and it cannot always depend upon such division or corps for complete engineer duty

in the foremost forward combat zone. In my opinion each separate squadron, should contain some type of reconnaissance engineer unit, as an organic element of its Headquarters and Service Troop.

1 1 1

Amtanks at Saipan

by Lieutenant Harry H. Semmes

ON AN LST — INVASION BOUND

APPROXIMATELY June 1, 1944, "X" Battalion boarded LST's at a naval base in the Central Pacific Area. Each LST was a crowded ship, carrying almost all branches of the armed forces—Army, Navy, and Marines. After the men were settled, orders were opened and read. The platoon, which was to be part of the first wave, would lead one of the assault infantry divisions onto the shores of Saipan, then would partially support the initial advance of the troops inland.

On shipboard the men were given a schedule by which to work. Two hours each day were spent going over combat orders, maps, and aerial photos; 15 minutes, in warming up the tank engines. After learning from experience in the Marshalls of the injurious effects of salt water on weapons, we coated the guns liberally and wrapped them in oil-soaked rags at the start of the trip. As a result we never had to bother with them again until they were prepared for combat.

"SWIMMING"

At 0230 D Day the men were awakened. Chow was served and a final check made to see if everyone was ready to go. At 0600 the crew of the amtanks and amtracs went below to the tank deck to warm up the engines. From past experience it had been found that for morale purposes it was better to have the engines warmed before the infantry loaded on. At 0630 the vehicles, with infantry aboard, moved off the ship toward a designated rendezvous point. It was relatively easy to find the other platoons of the company simply by locating the same colored navy signal flag flying from the platoon leaders' antenna. The naval officer guide in an LCOP met the company and led it in column to the LD (line of departure). Each flank was marked by an LCS (landing craft support). Because of the lack of maneuverability of the LVTs it was difficult for the platoons to keep their positions on the LD. Soon a flag was lowered on one of the LCSs, and the company commander shouted over the radio, "The flag is down. Move out." At once every tank commander began talking on his radio, and it became more and more difficult for platoon leaders to get orders down to the men because of the jammed condition of the air lanes.

As the company passed the LD it became increas-

ingly difficult for lieutenants to exercise control over their platoons. In the excitement men paid too little attention to the position of their vehicles with respect to the rest of the wave. At a reef about 1,500 yards from shore, the irregularity in the formation of the leading wave became openly noticeable. Some tanks were half-way across this reef of about 150 yards before other tanks had even reached it.

As soon as the bulk of the company was on the reef the Japs began firing artillery and mortars. Luckily, none of the tanks were hit then, but as they crossed the reef and continued onward, the Japs dispositioned fire to stay on the reef to catch oncoming waves and used other fire power to follow the leading waves to the beach.

BEACHHEAD

Upon hitting the beach the attackers saw nothing but a pall of smoke and dust. Observation was limited to about 15 yards, and it is a frightening thing to go into something you cannot see, so the tanks stopped momentarily. The beach, however, was receiving a lot of shell fire, and it was urgent that the tanks move inland. The platoon started ahead 10 yards at a time, halted, fired a few rounds and then moved another 10 yards. This gave the men a little confidence and slowly the tanks began to move off the beach.

There was little sign of the fleeing Jap near the beach, but several dead were found in spider trenches about 100 yards inland. The greatest obstacle was a patch of woods about 200 or 250 yards deep consisting of nothing but a mass of trees, twisted or splintered by shell, and hastily constructed tank traps. These hindrances slowed the tanks' advance materially. The LVTs bogged down amid logs lying around in every position and tanks had to be pulled out by other tanks.

Mortar and artillery fire was still quite heavy. As yet it had not damaged too many of the vehicles, but it was taking a heavy toll of Marines who were fighting on the ground beside the tanks.

Because of limited vision through the woods it was difficult to find good targets. Nevertheless, the tanks had to move ahead and they did so—firing at almost anything ahead of them.

Hitting an enemy-held beach in the leading waves might best be described by the single word, "confusion." Men are keyed up and controlling them is difficult. Added to the confusion on this particular beach was the slow movement through the woods. The control line well inland was reached much later than had been planned.

During the move inland the platoons did little fighting as a unit. Each tank commander would check periodically to see that his tank was in the proper position of the platoon, but most of his firing was done on his own volition or when the foot troops called for it. The platoon leader could not direct all of the firing of his platoon when the unit was fighting in such tight, close situations. Many unexpected targets and situa-

tions would arise in which the lieutenant trusted his tank commanders to do the right thing.

LESSONS OF A PLATOON LEADER

From my limited stay on Saipan I learned several things.

Control: The most critical stage of an island operation for amphibian tanks is on arrival at the beach. Vehicles must be controlled so well that they can push in off the beach immediately and fight effectively by supporting the infantry's advance. On moving toward the beach, platoon leaders must be able to control the formation of their vehicles at all times. One of the most important prerequisites for vehicular control is discipline. It was SOP to dress left in order to maintain a line on the water approach to the beach. If the tank commander was not disciplined sufficiently he would not give enough attention to the SOP.

Signals: Vehicular control is maintained by the platoon leader through radio and hand signals. Leaders should emphasize hand signals a great deal more. Reason one, if hand signals are used as often as possible, the radio channels are kept relatively clear. Reason two, if a tank radio goes out, the tank commander need not feel that he is completely lost and isolated from the surroundings about him. Frequent use and complete understanding of hand signals will certainly help the commander to have some communication with the rest of the platoon.

Radio: During the landing at Saipan radios were used altogether more than necessary. Men should be disciplined to keep off the radio whenever possible. Jamming of the ether makes it at times impossible to transmit orders to the platoon.

Fire Control: It was also SOP in the operation that no vehicle would open fire before hitting the beach except the first wave of amtracs and then only 500 yards out from land. Yet the company lost one tank because the vehicle's engine was shot up by some machine gunner in an amtrac behind in the water. Fire control should be so well ingrained into the men that even while excited, as they are upon landing, they will instinctively conserve their ammunition until they spot a worthwhile target. Too much ammunition is wasted at or near the beach by gunners who wildly fire at things they cannot see and they are not sure are there.

First Aid: Each crew member must be so well versed in first aid that the crew does not have to go looking for an aid man on the ground somewhere every time a man in the tank is wounded. The tank commander's job is to keep that tank in the front lines fighting all the time it is needed. The crew must be independent to a certain degree and be able to take care of themselves. They cannot afford to waste time looking for someone else to handle their wounded, for they are there to help the infantry.

Preventive Maintenance: Maintenance cannot be overstressed. From the Maintenance Platoon to the

individual tank drivers men must all be aware of the value of preventive maintenance. The men worked like beavers on the upkeep of their vehicles and as a result the LVT worked quite satisfactorily.

Physical Condition: It behooves every troop commander to have his men in the best possible physical condition before going to combat. The more physically rugged an outfit is the more it can take. The more it can take the better and longer it can fight. In addition, it is known that a wounded man in excellent physical condition has a better chance of recovering than a casualty in poorer condition.

Pacific: Tankers who are to fight in the Pacific should realize that they will not do all of their work sitting in a tank. At Saipan I spent most of the time on the ground. Furthermore, fighting in the Pacific climate quickly saps one's strength, the tanker should keep himself in as good condition as the infantryman fighting beside him.

The mission of an amphibian tank platoon leader is to fight his platoon effectively on the enemy-held beachhead. To accomplish this mission he must have control of his vehicles at all times. He must have his men well trained in fire control—so well that they instinctively fire at targets of opportunity only. His men must know first aid to such a degree that they can usually keep that tank in the front lines by caring for themselves. The vehicles must always be operative, which they will not be unless the platoon is maintenance-conscious and well drilled in echelon procedures. In addition to being well versed in the above, the men must have the physical conditioning necessary for combat.

Army reinforcements disembark from LST's and proceed across a coral reef toward the beach on Saipan, June 17, 1944. Amtrac is in foreground. Other amphibian vehicles can be seen in distance. Saipan is now used as a B-29 base.

Signal Corps Photo



General Hawkins' Notes

Warfare in Western Europe

AT this writing the surrender of nearly a million German soldiers to the Allied armies in Italy has just taken place. Those were nearly all the German soldiers left in Italy and Austria. Berlin is taken, and Hitler is reported dead. Germany has surrendered.

Allied invasion of western Europe started on June 6, 1944. In 11 months that campaign has come to a successful termination. This success is due in large measure to the great Russian army which drove the Germans out of Russia, out of Poland, out of Rumania, Bulgaria, Hungary, part of Czechoslovakia, parts of Yugoslavia and the Baltic states.

The campaign of the American and British armies in western Europe can be divided into 7 phases.

1st Phase: The bloody attack on the coast of Normandy and the establishment of beachheads.

2nd Phase: The breakthrough at St. Lô and Avranches, and the capture of Cherbourg.

3rd Phase: The rapid and almost unopposed advance through northern France, the liberation of Paris, the crossing of the Seine and the advance into and liberation of Belgium. Almost simultaneously the U. S. Seventh Army landed on the southern coast of France and advanced northward.

4th Phase: The crossing of the Meuse River and attacks against the German Siegfried Line; also the British and Canadian attacks against the Germans in Holland.

5th Phase: The great German counterattack and breakthrough in the Ardennes, which commenced December 16, 1944 and resulted in a deep penetration almost as far back as the Meuse. This penetration has become known as "The Belgium Bulge." This phase also includes the subsequent repulse of the German attacks and American counterattack which drove the Germans out of the "Bulge" and back to the Siegfried Line.

6th Phase: The Allied breakthrough the Siegfried Line west of the Rhine and its subsequent crossing.

7th Phase: The advance against retreating German armies in Germany east of the Rhine, and the surrounding and capture of the German troops which remained in the valley of the Ruhr River; also the clearing of northern Holland by the Canadian First Army.

This phase continued with weakening resistance by the enemy and rapid advances by Allied troops, which duplicated the feats of the armored troops racing through France in the summer and autumn of 1944.

It was pointed out in my Notes for THE CAVALRY JOURNAL, issue for March-April, that cavalry could have been very useful in the Belgium Bulge as well as in the advance in Italy from Salerno to the Arno

River. In previous Notes the same point has been made regarding the 3rd Phase of the operations; the same thing could be said of the 7th Phase.

It is interesting now to note the tactics used by task forces in the armored divisions during the rapid advances they made in the 5th and 7th Phases. The amazing roads that exist in France, Belgium and Germany, made it possible for armored forces to use roads in all of this advance to the exclusion of cross-country movements. Furthermore, the Germans in their retreats, seemed satisfied to occupy defensively the small towns and villages along these roads. They did not entrench themselves out in the open spaces, but merely occupied the towns and villages along the routes of Allied advance. In former wars, troops on the defensive occupied the fields, hills and woods, and any enemy advancing along roads would be taken by flank fire until they deployed out in the fields and got off the roads. But the Germans in retreat in this war clung to roads and their neighboring towns. The fact that this caused the destruction of all towns along the routes of allied advance never seemed to bother the Germans.

Thus, both the retreating Germans and the advancing American armored troops were exceedingly road-bound. When the advance guard of one of the task forces encountered resistance from a town situated on the road, several battalions of artillery were immediately put into action from positions near the road. They speedily demolished the town or village and the tanks went charging in. There were no German troops maneuvering from the flanks against American tanks and so, after charging through the town, the tanks went boiling down the road for a good many miles before encountering similar resistance at another town. No wonder they went so fast! Of course, had the German air force been on equal terms with the Allied air force, the advancing tank columns could not have used the roads so recklessly.

Whenever the Germans held a town with considerable force, Allied tanks were forced to leave the roads for short distances so as to outflank the towns or get in rear of them. This slowed down the tanks considerably. And, had the Germans been less road-bound and more given to cross-country operations they could have delayed the tank columns very seriously. Then the Allied armies would have needed cavalry for cross-country maneuvers to turn the German rear guards out of their positions. This need would have been very manifest. But the Germans, who had no cavalry themselves for defensive maneuvers between roads, and who were de-

pendent upon mechanized forces, had need to cling to roads and to disregard the destruction of their towns and villages. This played right into Allied hands. Had the Americans or British been opposed by the Russians with their numerous cavalry, it would have been an entirely different story.

On the other hand, in Italy during the advance from Salerno to the Arno River, American troops were confined so closely to the roads, because of the nature of the ground, that tanks could not deploy, even near the roads, and artillery had difficulty in opening out and establishing firing positions. So, in that case, the German road tactics worked very well—especially in the absence of any U. S. cavalry.

Mechanized cavalry, also more or less bound to roads, has been used as advance guards or covering forces for advancing columns. As such, these mechanized cavalry units have suffered very severely. They would come under fire of heavier armament in the hands of the enemy. They had too little maneuvering ability across country, too little stealth, too little ability to use cover. They were thus too much exposed, too vulnerable to fire from heavier guns in more heavily armored vehicles. They were sent too far forward beyond the support of the artillery and antitank guns. They were given missions suitable only for horse cavalry which can maneuver across country, utilize cover and stealth, avoid so much exposure, keep off of roads, attack with machine guns and bazookas, or vanish to the rear and flanks if too heavily opposed and, at the same time, keep stealthy patrols in contact with the enemy. As often said before, horse cavalry units detached on reconnaissance, are more effective and less vulnerable to heavy losses than mechanized reconnaissance units.

When it comes to seizing and holding positions temporarily or delaying action with strong forces, there is nothing like horse cavalry armed with modern weapons.

A newspaper account dated May 4, 1945, told of the amazement of American troops on the western bank of the Elbe River seeing Russian tanks and cavalry together sweeping along the east bank of the river driving Germans before them in panic. They would have been still more amazed had it been vouchsafed to them to see U. S. cavalry helping them out of many tight situations during the past campaigns in Europe.

U. S. armies in Europe are much beholden to the great Russian armies which were operating in the eastern theaters of the European war. Indirectly, therefore, U. S. and British owe much to the numerous Russian cavalry which was so indispensable in the rapid advances of the Russian army.

It is interesting to note the changes in tactics due to changes in weapons, and to observe that the value of cavalry has been increased rather than diminished by these changes. The advent of the machine gun caused changes in the formations of troops in attack. The machine gun necessitated greater intervals between men and vehicles in deployment. In order to have sufficient

strength to cope with the enemy at close quarters, deployment in depth became necessary, and a unit in attack began to present the spectacle of a series of waves following each other at supporting distances. Since machine guns were most effective in defense, the attacking force was forced to use more artillery to knock out the enemy machine guns. But machine guns are now used offensively almost as much as defensively. Armored vehicles and airplanes are equipped with them. The use of cover has become much more important.

With the development of high explosives, artillery—always important since the invention of gunpowder—has become more important. Troops cannot afford to be caught by artillery fire when massed in marching formations on roads. Night marching is, therefore, used more than formerly. Artillery, in one form or another, is the greatest enemy of tanks. Artillery is the most important weapon for use against an enemy occupying a town.

The airplane, using high explosive bombs, is also deadly against towns and villages unless the occupying troops have burrowed deeply under stone buildings. Troops, tanks and transport caught on roads by hostile air attack are generally demolished.

Infantry and tanks must still be used to engage the enemy at close quarters. And the artillery and air attack must cease in order to permit infantry and tanks to fight when this close contact has been gained.

Both the infantry and the tanks must get off of roads when attacked by airplanes or by artillery. When these arms get off roads, their speed of march is diminished.

Now, when the effect of these changes on the cavalry is considered, it is astonishing to find that this arm is less adversely affected than any of the other older arms.

Machine guns have caused cavalry to deploy widely as in the case of infantry—but cavalry equipped with machine guns is more effective than infantry. Cavalry can also carry mortars and antitank guns to deal with enemy tanks. The mobility of cavalry across country is as great as when moving on roads, and sometimes greater. Under air attack, cavalry can disperse quicker than any other arm. Cavalry is not road-bound under conditions that cause other arms to be completely so.

Hostile tanks are less dangerous to cavalry than to infantry because of the former's ability to scatter and vanish from the scene if not equipped to deal with enemy tanks. Tanks, used with cavalry, add much to its effectiveness, while airplanes combined with cavalry can increase its usefulness very materially. All in all, the advent of new weapons and mechanical devices has more advantages than disadvantages for cavalry.

With some notable exceptions, the distances travelled by armored forces in a single day during the seven phases of the European campaign—when armored forces were literally running wild—was not greater than similar units of cavalry could have accomplished.

According to Marshal Zukov, Russian Army commander, the greatest defect in the fighting power of the German army has been its lack of cavalry.

Editorial Comment



Christine Harbour

As this issue of *THE CAVALRY JOURNAL* goes to press, the present Associate Editor, Miss Christine Harbour, resigns her post to accept a position with the American Red Cross overseas. She has been with the *JOURNAL* since 1937, and for the last three years has served as Associate Editor. To her should go the credit for assembling, editing, and producing a military magazine of the high standard attained by *THE CAVALRY JOURNAL*. Her untiring efforts and wise judgment, combined with her journalistic ability, will be a distinct loss to The Cavalry Association.

The President and Executive Council and all of our readers join the members of the staff in extending our thanks for the swell job she did for the *JOURNAL*, and our appreciation for her loyalty and devotion during her "tour of duty."

It is difficult to express adequately in words how we all feel on your leaving, Christine Harbour, but we wish you, in all sincerity—Good Luck, Godspeed, and continued success, in your new venture.

Looking Ahead From 1941

The following editorial was written by Miss Harbour November 16th, 1941 for the *JOURNAL*, but due to the international situation at that time it was deemed inadvisable to publish it.

In view of the developments of the past few weeks (May 1945) we feel that its publication in this issue is very significant.

TOMORROW'S PEACE

If a mural is viewed with our eyes a mere two inches from the wall, we see only a small segment of the whole—perhaps a portion of a red coat, the point of a single sword. Not until viewed from a distance does the pattern acquire full meaning. In like manner, during the course of its unfoldment, the story of human progress is often difficult to discern. The horrors of today's war and its accompanying famine, tyranny, and destruction, arouse our natural emotional reactions—our sympathies and prejudices. Only by projecting ourselves into the future and looking back at the events of today from an isolated mental attitude can we hope to place the segment of the present into the picture of the whole.

The American Revolution. The French Revolution. The Russian Revolution. Each more terrible than its predecessor! Each bursting forth from accumulated oppression and injustice! Each an expression of man's arduous struggle toward greater freedom and a recognition of human rights.

In 1776 this nation fought for its own independence—its own freedom to govern itself by its own elected representatives.

In 1861 it fought to establish and maintain the freedom of all men within its borders—regardless of "race, creed, or previous state of servitude."

Now in 1941 it is confronted with a second great world war in which the opposing forces of tyranny and freedom are battling to the death. The issue is whether or not man is to continue his slow and laborious climb toward greater freedom. This struggle toward freedom is not America's alone; nor can America isolate herself from other sections of the world wherein the struggle has arisen. The issue today is world-wide.

This is the background against which we must project a just and permanent peace to come out of the Second World War.

In considering the problems involved, it is imperative for us to realize that first the war must be fought and won; that the hardest and bitterest years of fighting, bloodshed, privation, and readjustment lie still ahead; and that when a permanent peace is finally established

it will be based, not upon the social and economic order of the past, but rather upon broader concepts of freedom for mankind that will lay the foundations of a new age in human history.

This peace, unfortunately, is still (1941) a long way off. If the war should end in the near future, peace could be at best a temporary surcease from fighting. Any peace that would give the victory to the Axis would not only obliterate the pursuit of freedom from a big portion of the world, but would undoubtedly lead to a succession of revolutions and rebellions by conquered peoples unwilling to be permanently suppressed in virtual slavery. From the point of view of the world democracies, therefore, any desirable peace must be one wherein the Axis Powers are indisputably defeated. It is for this reason that America today is furnishing all possible aid to Britain and Russia in order that the tide of war may be turned in their favor.

It must be remembered, however, that in itself an Allied victory, either with or without American participation, unfortunately, is not likely to bring the final peace. The new order in Europe, the new order of the world, the new age into which we are entering will have no more in common with the empires, boundaries, and privileged groups that preceded the present war than with the dictatorships that sponsored it.

To be specific at this stage of the war in the details of a peace to come, to determine desirable new boundaries or predict forms of future governments, would necessitate a short range view that undoubtedly would be far from adequate when the time comes.

Of the desired peace, only broad aspects, almost nebulous in their imagery, can be conceived here in the fall of 1941. When a just and permanent peace is finally secured it must certainly be founded upon the rights of all men to the 4 basic freedoms suggested by President Roosevelt—freedom of speech, freedom of religion, freedom from want, and freedom from fear. These, in turn, must be based upon the economic needs of nations, great or small—the responsibility of the strong being to protect and develop rather than to exploit the weak.

Death and birth come only with pain, and within this present we are no doubt living through the death throes of an old social order and the birth pangs of a new. No economic readjustment between nations can be satisfactory until the social readjustment within nations has first been recognized, for it is not the common people of one nation who exploit those of another. It is the economic hierarchy within nations that have made such exploitations possible.

America's entry into the Second World War, which will probably occur by the spring of 1942, may be much that of a Declaration of Independence for Mankind. Many among our own people may not understand or approve the country's actions, but many American colonists did not understand or approve the Declaration of Independence from England in 1776. We at that

time established a new declaration of man's rights and a new pattern for national government. In 1942 we may step forth in our new maturity and, extending our declaration of man's rights, eventually lead a new order in international justice.

When the final peace comes, Europe will be at best a broken and bleeding continent, and the fairness and durability of any peace must depend largely upon America's willingness to assume and carry the heavy responsibility of world leadership. Between now and such a peace, it cannot be emphasized too strongly, our own internal problems—social, economic, and political—must be put in order, and a *bitter* war must be fought and won!

/ / /

When Americans and Russians Met in Germany

United States Twelfth Army Group Headquarters, April 27 (UP). Text of General Omar N. Bradley's order of the day:

At 1640 hours, April 25, 1945, in the 29th month of our war against the German government American troops of the Twelfth Army Group joined forces with the Soviet elements of Marshal Konev's First Ukrainian Army group.

These armies have come to you from ruins of Stalin-grad and Sevastopol—across the scorched cities of the Ukraine. In two years they have smashed 1,400 miles through German armies to drive the enemy from Russia and pursue him to the Elbe. Their achievements—and they have given immortality to a people that would not be conquered—are made more meaningful by your own deeds.

Across 3,800 miles of an ocean supply line you forced a coast the enemy had been years preparing against you. Within 4 months after landing you destroyed whole armies—to take Paris, free France and give the world a symbol of freedom.

When the enemy raised a new army and threw it into the winter battle of the Ardennes you smashed it and flung its remnants back. You have beaten and broken down his mighty Siegfried Line. You crossed the Rhine in your stride, encircled and reduced the Ruhr.

While demonstrating new lessons in mobile warfare you have annihilated whole groups of German armies in the west on their own German soil. In 10 months you have fought your way 700 miles from the beaches. These accomplishments were secured by your courage, your resourcefulness and by your comrades who died to achieve them.

You have shared in the liberation of 4 nations, given hope to others and conquered half of Germany. The people of America who armed you have had great faith in you. You have justified that faith as you will in the battles that follow.—*The Washington Post*, April 28, 1945.

Text of Surrender Articles Subscribed to by Germans

Supreme Headquarters, Allied Expeditionary Force, May 8.—(UP). Text of the military surrender:

1. We, the undersigned, acting by authority of the German high command, hereby surrender unconditionally to the Supreme Commander of the Allied Expeditionary Force and simultaneously to the Soviet high command all forces on land, sea and in the air who are at this date under German control.

2. The German high command will at once issue orders to all German military, naval and air authorities and to all forces under German control to cease active cooperation at 2301 hours, Central European Time, on May 8 and to remain in the positions occupied at that time. No ship, vessel or aircraft is to be scuttled or any damage done to their hull, machinery or equipment.

3. The German high command will at once issue to appropriate commanders and insure the carrying out of any further orders issued by the Supreme Commander of the Allied Expeditionary Force and by the Soviet high command.

4. This act of military surrender is without prejudice to and will be superseded by any general instrument of surrender imposed by or on behalf of the United Nations and applicable to Germany and the German armed forces as a whole.

5. In the event of the German high command or any of the forces under their control failing to act in accordance with this act of surrender, the Supreme Commander of the Allied Expeditionary Force and the Soviet high command will take such punitive or other action as they deem appropriate.

Signed at Reims, France, at 0241 hours, the 7th day of May, 1945.

On behalf of the German high command: Jodl.

In the presence of or on the behalf of the Supreme Commander of the Allied Expeditionary Force: W. B. Smith.

On behalf of the Soviet high command: Ivan Susloparoff.

On behalf of the French high command: F. Sevez.

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Lest We Forget—Japan

The following essay by T-5 Tom Batman was unanimously selected by the judges for first prize in the "Why We Fight" contest held at Fort Belvoir, Va. by the Engineer Corps local newspaper, *Belvoir Castle*.

The article, written before the surrender of Germany, May 7, 1945, should be a reminder of the complex problems confronting occupational troops, and to other troops that—Japan still stands.

Anyone who has a memory knows why we fight.

He who remembers Hitler's death march into Poland

knows that destruction and desecration lie in the wake of the Nazis.

He who remembers the fall of modern Greece knows that starvation and Nazis are bedfellows.

He who remembers Pearl Harbor knows that treachery, infamy and Japanese are blood-brothers.

Anyone who has eyes knows why we fight.

He who has seen Hitler's fanatic face knows we are fighting against distorted and inflamed minds.

He who has seen the stupid, uncomprehending look on Japanese faces knows that their ideals are inconsistent with ours, and can end only in death to theirs . . . or to ours.

He who has seen flames over Warsaw, London, Stalingrad and Manila understands well the enemy ideology.

Anyone who has a heart knows why we fight.

He who has read of the Lublin trials does not need an explanation of Nazi law and justice.

He who has witnessed Jewish persecution does not need to be told about the worth of the Four Freedoms.

He who has watched Stukas dive-bombing fugitive women and children does not have to be told why we fight for democracy.

Anyone who has a brain knows why we fight.

He who has seen the gaunt spectres of what were once human beings in conquered countries . . . who remembers the frenzied beer hall Putsch . . . the bonfire at Berlin . . . the dead bodies of American soldiers at Tarawa and Iwo Jima . . . the emaciated skeletons of prisoners captured by the Japanese . . . who has read about the human booby traps in Germany, the be-headed aviators of Tokyo . . . who has heard Hitler's excited, half-crazed voice over the radio . . . or has heard the unearthly scream of "Banzai" in the night—knows why we fight.

We fight because we must!

It's as simple as that. We must fight—or descend into barbarism. We must fight—or sink into living death. We must fight—or never draw breath in a free and decent world again!

✓ ✓ ✓

Addresses Please!!!

The following names have been suspended from THE CAVALRY JOURNAL mailing list for lack of a correct address.

Is your name in this list?

Do you know the address or unit of any of these men? If so, please use the inserted card to tell us! Your help will be appreciated.

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 Silance, Capt. Wm. H.
 Sitzenstock, Lt. Robert L.
 Slayton, Lt. Richard N.
 Slovacek, Lt. Elmer F.
 Smallens, Cpl. Alfred M.
 Smith, Lt. Chas. Z., Jr.
 Smith, Lt. Edward C.
 Smith, Lt. Ralph C. J.
 Sparrow, Lt. James D.
 Spaulding, Maj. John D.
 Spencer, Lt. Gayle H.
 Staker, Capt. Lowell G.
 Stapleton, Lt. Joseph I.
 Steffen, Maj. Edwin F.
 Stephens, Lt. Marquis D. L.
 Stewart, Lt. Enos R.
 Stewart, Lt. Lawrence F.
 Stewart, WO Milton J.
 Stoddard, Lt. Col. Ralph H.
 Stokes, Lt. D. C.
 Stokes, Lt. Samuel D.
 Stokes, Lt. Wm. S., Jr.
 Sullivan, Lt. Col. Mortimer F.
 Sweet, Maj. Murray F.
 Taylor, Capt. G. P.
 Taylor, Lt. Col. Harvey D.
 Thomas, Pvt. Edward W.
 Thompson, Col. F. J.
 Thompson, Capt. Lynn G.
 Thompson, Lt. Robert D.
 Torrance, Lt. Hugh F.
 Townsley, Maj. Floyd W.
 Tucker, Lt. Lee E.
 Tully, Lt. Howard B.
 van Milligen, Lt. Alfred C.
 Verderame, Lt. S. J.
 Waitt, Lt. Claude B.
 Waldron, Capt. A. S.
 Walker, Lt. Philip G.
 Wanke, Capt. Willard S.
 Waring, Lt. Charles W.
 Warner, Lt. J. W.
 Wassell, Capt. Harold
 Webb, Capt. Richard A.
 Weil, Capt. B. A.
 Weiss, Lt. Thomas H.
 Wells, Lt. Claude M.
 White, Lt. S. E.
 Whittick, Capt. John R.
 Williams, Lt. Dan
 Williams, Lt. Jack A.
 Williams, Pfc. James D., Sr.
 Williams, Lt. Willard C.
 Willoughby, Col. R. E.
 Wilson, Lt. George W.
 Wingfield, Lt. Jim K.
 Winslow, Capt. John M.
 Wirtz, Maj. Wm. O.
 Withers, Lt. Louis A.
 Witten, Lt. Wm. L.
 Woitas, Lt. Richard J.
 Wolper, Lt. Marshall I.
 Woolworth, Lt. Duane
 Wright, Lt. Owen O.
 Wright, Lt. Col. Robert O.
 Yenny, Lt. Donald R.
 Young, Lt. Charles E.
 Zeskey, Lt. Harry C.
 Zweible, Maj. D. T.

Amphibians in Leyte Op

Amtanks—by Major John T. Collier, Cavalry

THE tactics came from the cavalry and artillery; the sea-going equipment was contributed by the Navy; and the weapon came off the back of a pack mule. Very briefly, this description fits the Army's amphibian tank battalion which was derived from a proud and historic cavalry regiment, and which—like Topsy—"just grewed" into a combat force not yet in the books.

DEVELOPMENT

Officially, the unit's history began in 1943, when as a land tank battalion it received most of its personnel from the 2d Armored Regiment. That regiment, just 15 months earlier, had been built from the 2d Cavalry. Many of the officers and men who have helped the battalion write its history were present on that July day in 1942 when Colonel John Tupper Cole, addressing his men at a farewell mounted review, enjoined them "to be the best of whatever you may become. . . ." Lt. Colonel O'Neill K. Kane, who had spent most of his service in cavalry regiments, joined the battalion when it was activated. The originator of employment of the amphibian tank in cavalry and field artillery rôles, Colonel Kane still commands the battalion.

First artillery available in the early stages of a beachhead, the amphibian howitzers usually begin indirect fire support, illustrated here, within half an hour of the assault landing. Forward observation is by division artillery liaison parties. Ammunition is carried forward by amtracs.



The amphibian tank was not new to combat when the unit went overseas. Many times, in the South Pacific, the Marines had landed with the help of amtanks. The amtank (not to be confused with its cargo-carrying counterpart, the amphibian tractor or amtrac) has climbed over coral reefs and lumbered out of the water to spearhead the assault of soldiers and Marines on many Jap-held islands. A fighting vehicle, it was in a familiar rôle as a landing craft and, to a limited extent, even as a light tank. But it remained for this battalion with the cavalry background to use their strange mounts for unsupported raids deep behind enemy lines, long "marches" across open sea, and as actual field artillery firing all types of missions for the doughboys before their divisional artillery could get ashore.

In June 1944 when the battalion was in Hawaii, it received some of the new LVT MkIV A4s—amtanks equipped with M8 turrets mounting 75mm howitzers instead of the 37mm guns which armed the earlier models. A few of these vehicles had been used on Saipan, but this unit was the first battalion to receive comprehensive training with this equipment and to perfect its use with field artillery methods. Although still organized like a tank battalion, the unit received intensive training from the 7th Division's artillery in Hawaii and was prepared to give all types of fire support to the infantry as soon as the latter hit the beaches and moved forward of amtank positions. Fire direction centers had to be organized with personnel which could be spared from other jobs within the battalion, and this required taking considerable liberties with the T/O.

LEYTE LANDINGS

When the veterans of the 7th Infantry Division stormed the flaming beaches of Leyte, their assault waves were led by these amtanks, which bombarded the beaches with accurate area fire delivered from the water (the knack of which is a "trade secret" developed by the battalion). Succeeding waves of infantrymen had the battalion's artillery support when they needed it—and that support was delivered from as many guns as there are in the entire division artillery. Forward observers and liaison officers of the division artillery fired the amtank batteries with great effect, and one of the early fire missions helped break up an enemy prepara-

ration



Signal Corps Photo

Machine-gun fire from two air-cooled .30 calibers, supplements the 75mm fire as the amphibians begin the move inland in close coordination with following waves of infantry. After the amphibians reach land, a platoon becomes a battery and, in guns if not in caliber, one company of amtanks equals a battalion of artillery; a battalion is the equivalent of the entire division's organic artillery. In Leyte operation some amtanks covered a total of 275 miles in water marches.

tion for a counterattack. The artillery support was, in itself, an important innovation in amphibious warfare. But still more spectacular uses were yet to be devised under the pressure of tactical necessity and leadership ready to capitalize to the fullest extent on surprise and mobility.

Movement of mechanized equipment cross-country in this part of the Philippines is severely limited by swampy terrain and mountains; the road net is inadequate, and even the best roads would not stand up under track-laying vehicles. So when the 7th Division had moved beyond the ranges of amtank howitzers, the battalion found itself on beach defense—its only action the occasional knocking down of Jap planes with .30 and .50 caliber MG fire. But it did not take long to find a way to get the amtanks back into the war.

PROVISIONAL BATTALION

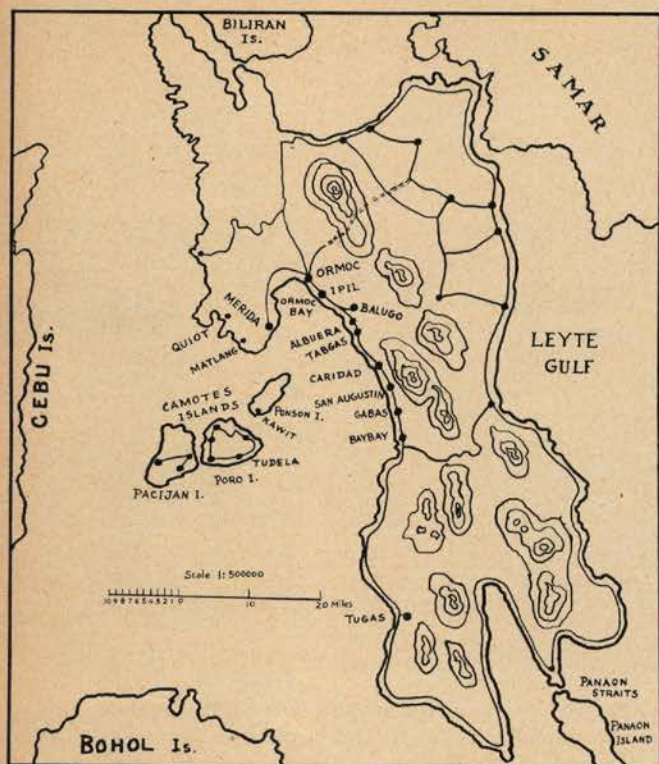
The 7th Division had crossed the mountains to the west coast, and was having a tough fight through the rugged hills and up the narrow coastal plain toward Ormoc. They could use some more artillery, but getting any kind of artillery over the difficult terrain was at best a tough proposition. Moreover, Jap warships, still operating off the west coast of Leyte, discouraged the thought of water transportation without powerful naval escort. In the face of this situation permission was given by the 7th Division commander to move an amtank force around by sea, on what was to be by far the longest march over land or water ever attempted by LVTs traveling under their own power.

Only the A4s, mounting the howitzers (together with

sufficient amphibian tractors for supply and maintenance) were taken on this mission. The miniature task force of amtanks and amtracs was carried in LSMs, under cover of darkness, as far as the southern tip of Leyte—about 50 miles. From the Panoan Straits the amtanks made a continuous water march (bivouacking ashore at nights) of 97 miles, and traveled a total of 116 miles including the tactical missions performed immediately upon reaching the objective. "Swimming" at 5 miles an hour, the amtanks traveled for three days before reaching the 7th Division's zone a dozen miles north of Baybay. The force arrived without loss of a single vehicle—in itself a remarkable feat of operation and maintenance. (In the past this equipment had been used on water movements of only several miles, and a high incidence of loss for mechanical causes was to be expected—but the battalion did not lose a single vehicle in the entire Leyte campaign.)

RAIDS

The actions up the west coast of Leyte were cut to order for the amtanks to make water envelopments that would land the fighters behind Jap lines, without friendly infantry. Cutting loose with thousands of rounds of 75mm HE and WP, they blasted supply dumps and troop concentrations on reverse slopes which could not be reached by our artillery. Unable to hold ground for long, the amtanks would do their damage and dash away—usually pulling out to sea under ineffective Jap mortar and gunfire—leaving the enemy too demoralized to pursue, even if he had any means of pursuit. The mobility and fire power of the amtanks



were exploited to the fullest extent in gaining surprise. Machine guns as well as the howitzers were used with telling effect.

The first amtank strike against the enemy rear was made on December 5 when combat elements of the battalion slipped around the enemy's lines by water for a dawn attack. At Balogo a feint was made in which the amtanks moved toward shore shelling the town with howitzers and raking Jap positions with machine-gun fire. Two hundred yards offshore the line of amtanks wheeled back into a column formation moving north, and continued the shelling of Balogo and Tabgas. The real landing was made at the mouth of the Tabgas River north of Balogo, where demoralized Japs fled from their beach positions. Deadly fire from the howitzers tore into enemy positions near the coast and on the hills inland.

On December 7 the battalion marked Pearl Harbor Day by shelling the town of Albuera from the water with half of its force, while the other half launched from LSTs to support the 77th Division in its landing and operations against Ormoc. Again the next day the amtanks maneuvering with the 7th Division struck Albuera to soften up its defenses during the infantry assault overland. This time the amtanks landed at the town and wrought great destruction on enemy supply installations by point-blank shelling.

The raids and envelopments up the west coast of Leyte are applications of cavalry tactics, executed with new techniques of water mobility and heavy fire power. The tactical results of these operations were disruption of enemy communications and diversion of his defensive effort against the 7th Division's overland attack. The

operation against Albuera was actually a "pivotal maneuver," in which the maneuvering force made its envelopment by sea.

Meanwhile, the amtanks with the 77th Division not only functioned in their new rôle as artillery, but led the drive into Ormoc to be the first American troops to enter that city. There the amtanks' assignment to beach defense paid off. On their first night the fire of their howitzers disabled and set fire to a Jap transport making a desperate attempt to land reinforcements.

On Christmas Eve a task force from the 77th Division embarked in amtracs, escorted by amtanks, for a water movement across Ormoc Bay to Palompon. This was the longest movement across open sea ever attempted by LVTs—a hop of 40 miles. At dawn on Christmas the force landed in the Jap rear to stay—and the last Jap escape port on Leyte was occupied by the 77th Division. On this operation the amtanks furnished the only artillery support (except that of mortars).

The 7th Division turned its attention to the west, and constituted a task force to liberate the Camotes Islands (a group of three small islands off the west coast of Leyte and part of the Province of Cebu). Following the pattern of the Palompon operation, this force moved by LVTs and relied upon the amtanks for its artillery support. On Poro Island the infantry-amtank team, with the amtanks firing close support, forced Jap combat engineer troops from strong cave positions. Annihilation of the enemy was accomplished when he made concurrent suicidal night attacks against an isolated amtank battery position and an infantry perimeter a half-mile away. Members of the amtank platoon (reinforced by members of the attacked amtrac platoon) killed 19 Japs within the platoon position with a loss of but two of their own men: The attacking Japs were armed with automatic weapons, grenades, and demolitions.

CONCLUSION

During the Leyte campaign some amtank platoons of this battalion moved a total of 275 miles in water marches, at a normal daily rate of 30 miles. The operations of the battalion have established the capabilities of its equipment for making long water marches, and they have confirmed the possibility of greatly expanded employment in reconnaissance, envelopments, and fire support. Such employment, however, demands long and careful training and the highest standards of maintenance, gunnery, and subordinate leadership down to amtank commanders. Because of the degree of teamwork required for success in such operations, tactical integrity of elements which have trained together is imperative.

Experience with the 7th and 77th Divisions has demonstrated that amtank units should be placed in support of infantry units like any other artillery, and not broken up into small segments for direct attachments like tanks. The amtank is actually an amphibious self-propelled artillery piece—it is not a tank.

Amtracs—by 1st Lieutenant Charles V. Shock

PREPARATION

THE warning order gave only two days for preparation. "Alert one platoon for a water movement, reinforce it with sufficient maintenance, supply and medical personnel for a detached and independent mission."

Two days! Since the successful landing on Leyte, the bulk of the amphibian tractor crews had been at dismounted outposts or on patrol. Those left had been using the tractors constantly on details unloading ships, acting as ferries at swollen streams, and hauling supplies. Opportunities for maintenance beyond the minimum essential had been very sketchy. The battalion vehiculars could have stood additional repair but the orders said, "Two days."

In those two days of frantic preparation, sweating crews and maintenance personnel worked feverishly on the 18 vehicles selected for the mission. In addition to very detailed 1st echelon maintenance, a 50-hour check was made on each vehicle—checks that replaced the spark plugs, cleaned the oil filters and coolers, cleaned all the oil screens in transmissions and engines.

Magnetos were checked and points replaced. Four rear idlers and one clutch had to be replaced.

The communications sergeant and his repair crew went to work checking all the sets for proper operation. Frequencies were realigned on designated channels. Crews were familiarized with a new SOI. Some transmitters were replaced.

Armorers worked with the crews on vehicular and personal weapons. Additional units of fire were drawn and stowed. Antiaircraft machine-gun mounts were placed on each tractor.

Battalion maintenance was begging, borrowing, and requisitioning spare parts.

Orders in more detail came down. "You will support an amphibian operation and carry enough fuel and lubs to make a 115-mile water march." In addition to a three-day supply of rations, 240 55-gallon drums of gasoline and 18 55-gallon drums of oil were delivered on the day of departure to be stowed on the LVTs.

The orders became more detailed. The detachment was to be carried part way on LSMs and would be attached to a provisional amphibian battalion, assigned the mission of moving to the west side of Leyte for continued operations against the enemy. The platoon's rôle primarily would be to haul the necessary fuel for all the amtanks and amtracs in the flotilla. Officers accompanying the platoon were Captain E. E. McAlister, in command; the author, second in command; and 1st Lieutenant R. A. Graham in charge of all maintenance crews.

EN ROUTE

Under the cover of darkness, the Navy craft, with the amtracs aboard, moved to the southern tip of Leyte

in the vicinity of the Panoan Straits, where the vehicles disembarked about a mile offshore at 0230, November 28. The Provisional Battalion assembled on the shore of the Island of Panoan at the mouth of the narrow straits between Panoan and Leyte and serviced vehicles until time to move out on its long run.

The beach was strewn with large boulders, and several tracks needed repairs before they could be moved out. On the majority of the amtracs grousers were torn loose and had to be removed and replaced. Cap screws on the tracks had to be tightened, and a complete 1st echelon check made by the crews, who made necessary adjustments and replenished the oil supply if required. (This was all accomplished during the hours of darkness under blackout conditions as the tactical situation from the standpoint of enemy activities was none too clear.)

At 0700 orders were received to move out and, after some difficulty, the vehicles began threading their way through the narrow, swift-flowing straits. In getting all vehicles under way, it was necessary for the maintenance vehicle to hook on to one tractor which had a dead battery and tow it off the beach to get it started. One tractor with an over-heated engine beached at the mouth of the straits, after having traveled only a few

An amtrac churns its way up a river in northern Leyte. These amphibian tractors hauled ammunition, gasoline, men and supplies from beachheads to critical points of defense perimeter. Maintenance was performed at all times under most difficult conditions—often during blackouts.



Signal Corps Photo

hundred yards, and a mechanic was transferred aboard to determine the cause of the engine failure.

The crew commander was instructed to continue on through the straits, and as the vehicle proceeded, the mechanic discovered that the engine failure was due to a faulty oil cooler. Having cleared the swift current of the straits, the maintenance LCM was radioed to take the disabled vehicle in tow and, under the pre-arranged plan of march—maintenance, while the vehicle was being towed the mechanic signalled the maintenance amtrac for the necessary part and replaced the faulty oil-cooler. This plan was evolved to prevent any disabled vehicles from falling too far to the rear of the main body.

With all vehicles cleared, the Provisional Battalion took up its march formation. One LCM, as the control boat, led the 20 amtanks in three columns. These were followed by the amtracs, with column of sections in line, and one LCM tailing the column to assist maintenance in helping any disabled vehicle.

By noon the formation had passed the southwestern tip of the island and beached for a half-hour maintenance period. Superior maintenance by the maintenance crews, coupled with helpful cooperation on the part of all crewmen, put the unit back in the water at the designated time, and once again it was under way. The ever-droning roar of the radial engines purring and the sound of the tracks churning the water were constant reminders that the battalion was moving onward.

That night the troops once again beached. Vehicles were maintained and refueled, meals prepared by the individual crews, and a perimeter defense established—the amtanks on the inner line, the amtracs covering the beach. The Japs still had aircraft patrolling over that sector but they evidently did not observe the bivouac, and fire was withheld to keep from disclosing the location. Maintenance crews worked all night repairing two sheared sprockets.

Daylight again! The amphibians "hit the water" in one sweep and, quickly taking up formation, continued on their mission. It became a series of 3 to 4-hour runs—beaching at noon to service vehicles, beaching again at night to service and refuel and bivouac. No air cover was provided during the trip, and there were moments of tenseness when enemy aircraft occasionally were spotted.

When at 1530 of the third day (November 30) the battalion was signalled to beach at St. Augustin, it moved in and set up a perimeter defense. The amtanks moved up to a point just south of Balogo, where they beached to service their vehicles preparatory to making unsupported "strikes on enemy-held positions with their howitzer fire."

BEACH DEFENSE

Their primary mission completed, the amtracs assumed a new rôle. Tying in with other units as a beach defense against possible Jap landings, they hauled ammo and supplies up to the amtanks, and remained ever

ready to transport troops to any point along the western coast between Baybay and Ormoc in the event of a Jap landing.

December 6, 10 amtracs were moved to Tougas, where the situation required a series of strong points and the amtracs were to be used as the nucleus of the beach defense. As soon as the amtracs beached, orders were received to send 4 to Caridad to pick up capacity loads of 75mm howitzer ammo and haul it up to the amtanks, which were making a strike on Balogo at dawn. The tracs moved out at 1700, and it was well after dark before they were loaded, so it was around midnight before they joined the tanks. These 4 amtracs, under the command of Sergeant Thompson, remained attached to the amtank unit until January 5.

On the morning of December 7 orders were received to send 5 amtracs back to Gabas (their second trip) and Sergeant Castleberry was put in command of this detachment. The distribution of strength at this time was 5 amtracs at Gabas, 5 amtracs at St. Augustin, 6 amtracs at Tougas and 4 at Balogo with the amtanks. Of necessity, the amtracs were required to haul their own rations and water at times and the tracks of the vehicles took quite a beating, as the beach along that sector was very rocky.

The morning of December 7 was an eventful one and the amtracs were privileged to a ringside seat at the show. A sizeable American convoy of naval and amphibious craft, which had effected a landing behind the Jap lines at Ormoc, were on their way out of Ormoc Bay when they were met by a Jap convoy trying to land reinforcements. All Jap ships were sunk and an estimated 30,000 troops went down to a watery grave. Sixty-two Japanese aircraft were downed that day, and the detachment of amtracs at Tougas was credited with driving off (with anti-aircraft fire) 2 Zeros which were attacking small naval craft. A few enemy bombs were dropped near the amtrac positions but fell harmlessly in the water off shore; however, one, that turned out to be a dud, landed in a rice paddy just to the rear.

On December 10 the detachment of amtracs at Tougas was ordered to Tabgas to set up a strong point in the beach defense there. A considerable number of Japs were still in the mountains about three miles to the rear, and occasionally small groups of them would wander down toward the beach to forage for food or try getting into native outriggers to evacuate to Ponson Island.

PATROLS

From time to time natives brought word of the presence of Japs (usually the number was greatly exaggerated) in "such and such" coconut grove or native shack, and each time a patrol was organized and promptly dispatched to ferret them out. One such patrol, under the command of Staff Sergeant Jeffries, netted one Jap killed and one Jap wounded with no casualties to the patrol. On another occasion a patrol of 11 men was being led to the Japs' position by a native guide

when, just 100 yards away from the Japs, it heard the M-1 fire of a hereto unknown infantry patrol.

On December 18 orders were received to move 10 amtracs to Albuerra to carry a reinforced infantry company across Ormoc Bay on a reconnaissance mission of the tip of that part of Leyte Island nearest Cebu. The 5 amtracs posted on beach defense at Gabas and the 5 troop-carrying tracs at Tabgas were selected for the mission, but on the trip northward to the assembly point at Albuerra a transmission "went out" on one of these tracs and it was replaced by one of the amtracs from the detachment at Balogo.

Assembly of all vehicles was effected by 2200 that night and at 0600 the next morning the amtracs moved out with the infantry aboard, bound for Merida on the west coast of Ormoc Bay. The first wave of amtracs landed at 1000, followed closely by the succeeding waves. No opposition was received, and the infantry was dispatched on patrol missions, while the amtracs were given the mission of securing the town of Merida and the coastal area in front of it from possible Jap infiltrations and landings from the sea.

At 0730 on the 20th the amtracs moved still farther around the tip of the island and after a 12-mile run, beached at Quiot at 1030. En route, they were signalled by two large native sail boats, pleading for medical aid. The convoy was halted and the medical captain and his aid men were transferred to the native craft, only to behold a gruesome sight. Several natives, 5 of them less than 6 years old, had been bayoneted and horribly mutilated by the Japs on Ponson Island, and had been evacuated seeking medical aid. One child was already dead, but all others were treated.

At Quiot the amtracs were again called upon to establish a beach defense and haul details carrying water and rations to the various units. On landing one vehicle was dispatched back to Matlang to pick up an infantry patrol which had come across the mountains from Merida and two other amtracs were sent with another infantry patrol farther around the Island of Bosloton, from whence they patrolled back to Quiot.

MAINTENANCE

Amphibian tractor personnel, needless to say, are very maintenance minded, and although it might seem that the amtracs were not all on detail all the time, every minute of daylight hours was spent working on maintenance. Only because of superior supervision by the maintenance crews and a lot of "grease-monkey" duties of the crewmen was it possible for the amtracs to render the much-needed service to the arms to which they were attached. The running hours on all engines were well above the 100-hour mark; a few were over 200 hours, and it was impossible to keep them in one place long enough to give the necessary 100-hour checks.

The infantry completed its reconnaissance mission at Quiot, and on December 21 the amtracs were again

moved. This time they landed at Albuerra at 1830 after a 28-mile run. Infantry troops were discharged, and the amtracs were moved back to their former positions at Tabgas and Gabas, where they resumed their normal duties of beach defense while the crews continued their ceaseless maintenance.

On January 5 all of the tractors assembled at Tabgas, and rumors (which eventually turned out to be true) started that they were to make assault landings in the Camotes group of islands sometime around the middle of January. Maintenance efforts were redoubled, and a few 100-hour checks were accomplished with an improvised chain fall constructed of coconut logs slung between coconut trees.

Finally official notification was received to assemble at Ipil on the 14th. The platoon was reinforced with three more amtracs from a detachment of the battalion operating around Palompon and an additional 15 amtracs from an amphibian tractor battalion.

The additional three amtracs from battalion were in a bad way. They had all been "cannibalized" of parts to keep other vehicles in running condition. At that time LVT parts were critical, and to wait on a requisition to be filled for replacements on worn-out parts was entirely out of the question. The outfit was faced with the alternative of cannibalizing one vehicle or dead-lining two of them.

This situation confronted the maintenance officer just 36 hours before the amtracs were to "jump off" on their mission. Transmissions were hauled from ordnance at Baybay and installed in two of the amtracs. One set of tracks was completely rebuilt, and a total of 7 bogie wheels replaced on the three tractors. All the parts that had been stripped had to be replaced. Once again, the foresightedness of the maintenance section was demonstrated in their selection of spare parts back there before the platoon had left the battalion for its first mission on the west side of Leyte. With the knowledge that the 15 vehicles from the other organization would be in good running condition when they arrived, a feeling of security appeared justified, but all does not work out as planned, and often the best laid plans of amphibian commanders go awry. A detailed last-minute check revealed that the driving sprockets on three of these 15 vehicles had sheared studs, so once again the mechanics wearily dragged out their tool kits and went to work. Steering bands were badly worn in some cases, and adjustments were necessary to insure even steering during the coming trip.

PONSON ISLAND

A reinforced infantry battalion under the command of Major Bullock, was selected for the mission of clearing the Camotes group of islands of any Japs there, and the task force, appropriately named "Sweet Potato" was organized with Lt. Colonel Walker in command.

Assembly of all 38 amtracs and 20 amtanks was completed by 1000 January 14, and necessary maintenance

finished by late evening. Infantry personnel loaded on at 2330, and at 0005 of the morning of January 15 orders were received to move out for a daylight assault-landing on the southern tip of Ponson Island at the town of Kawit on Nauangan Point. It was a dark, dreary night with no moonlight, and just after the launching it started to rain.

The formation consisted of a "screen" of 10 amtracs in the lead, 5 amtracs on either flank with the 38 amtracs in the center of the formation of 6 waves. Driving blackout all the way, with just the tail lights of the vehicle ahead for a guide, was very exhausting for the drivers, who were changed every one and a half to two hours. The force held to a perfect formation, however, and at about 0430 a half-hour maintenance halt was called. Crews checked their tracks, engines, and added oil and, after a brief moment in which to relax, the task force was once again under way.

The transmission went out on one amtrac and, upon signal from the maintenance officer, was immediately taken in tow by an LCM. Later, just as the column swung beachward, a track broke on another and a maintenance vehicle towed it into the beach in order that the infantrymen might be discharged for their mission.

After a preparatory bombardment of shell fire from engineer rocket boats and PT boats, the first wave of amtracs landed their troops at 0720 on a coral-infested beach. Enemy resistance was nil, and no casualties—personnel or vehicular—were incurred.

Having rendezvoused 1,000 yards offshore, all amtracs were signalled to beach once again and assume the mission of defending the whole southern tip of the island—some 2,000 yards of coastal area. It was not so easy, however, to go into position and resume maintenance, as a total of 32 of the 38 amtracs were called upon for various details. Immediately upon landing, the detachment sent 6 tractors to unload LCMs another 6 to carry an infantry company by water around to Lanao, and still another 6 to carry troops by water around the eastern side of the Island to Pilar. Other vehicles hauled rations and ammo from the beach inland to the supply dumps (most of which had to be hauled back and reloaded onto those same LCMs the very next evening) and some carried ammo up to the troops at the front lines.

Crews returning from their details immediately serviced their vehicles and checked with the maintenance officer on any major difficulties. Some crews were still working on their amtracs till dark. Captain McAlister was charged with the responsibility of setting up the task force bivouac area, and also with its defense and all the normal duties of an amphibian tractor platoon leader fell upon the shoulders of Staff Sergeant DiNola, the platoon sergeant. He personally commanded two of the convoys which carried troops by water around the island to various points during the three-day period on the island.

On one of these trips, the men came upon a ghastly

sight while waiting for the infantry patrols to return. Seemingly, the whole population of a small barrio had felt the vicious barbarisms of which the Japs are capable. At least 60 mutilated and charred native bodies were counted in several heaps. One family had gotten away with only lacerations and bayonet wounds inflicted and came out of hiding when they discovered Yanks patrolling the area. The infantrymen brought an 8-year-old girl and her brother with them and they were transported back to the aid station for medical attention.

During those three days the amtracs were called upon continually for normal supply-hauling details, but they remained in fine condition, despite their constant usage.

The vehicle with the bad transmission was still disabled, and the unit was really "sweating out" the delivery of a replacement. Finally, the anticipated transmission arrived by LCM from ordnance at Baybay on Leyte at 1630 January 17, and the mechanics worked all night to get the vehicle running again, so that it would be ready to move out at 0600 the following morning on another assault landing. The maintenance officer breathed a sigh of relief when he once again heard the pleasant drone of the vehicle as it was water-tested at 0300.

PORO ISLAND

With no opposition encountered on Ponson, the task force moved out at 0600 January 18 and after a 13-mile trip, made an assault-landing at Tudela on Poro Island at 0830. The preparatory bombardment was very effective, and this landing was also effected without any casualties; however, the coral was tough to get through, and three amtracs were "hung up" on the way in. Because of mechanical difficulties one amtrac of the first wave fell out of formation just before it moved beachward, but the maintenance crew got it running quickly and, by cutting diagonally across the formation, it rejoined the force just as the other amtracs hit the beach.

The same normal details were encountered on this landing as on the other and the amtracs were kept busy from morning till night for the next several days. Again tracs and personnel furnished beach defense and security outposts for the task force headquarters bivouac area. No less than 6 tractors were used at various strategic points around the town of Tudela, and 4 more were used to throw a protective ring around the supply and ammo dumps. After making a long trip in their vehicles, tractor men normally experience that old bug-a-boo, fatigue, and, with the added strain of an assault landing, need a bit of rest. At Tudela, however, after meeting all the requirements of their additional supply-hauling details, the crews pitched in to help extinguish fires, started in the village by the preparatory shelling and still glowing late in the afternoon. Since the men were bivouacked in and around the town, it was expedient for purposes of security to get these fires out before darkness set in.

The mission completed, everyone was ready to relax, and only those on watch stayed on the alert. Rest was

rudely interrupted at dusk, however, when two Jap aircraft spotted the bivouac area and flew over for a strafing and bombing attack. The bombs fell short of their targets, but their strafing inflicted a few casualties, and foxholes appeared as if by magic.

The Nips returned again at dawn, but the amtrac crews were ready for them (the amtracs were the only troops capable of putting up AA fire) and under the orders of Sergeant DiNola, the senior ranking man present at the amtrac positions, they brought such effective fire to bear upon the attacking aircraft that the Japs were driven off after one strafing run. A slender trail of smoke was observed streaming from the fuselage of one plane as it circled away behind the protection of the high cliff at the eastern end of the town, and the next day an infantry patrol reported seeing a Zero in the shallow waters about a mile down the beach.

Early on the morning of January 19 Captain McAlister was evacuated because of illness, and the author assumed command of the amtracs, while Sergeant DiNola took over the duties of platoon leader. Task force headquarters was moved out of the town of Tudela, and a new bivouac area established at a point along the beach about 1,000 yards west of the town. The amtracs were charged with setting up a defense whereby any attempted landings by the Japs could be forestalled and at the same time the rear could be defended.

Every crew was assigned guard duty, and at least one member of every crew was on constant vigil at all times. For the rest of the stay on Poro Island, the amtracs were used for unloading supplies off the naval craft and hauling supplies and ammo to the amtank artillery positions up in the forward areas.

It was still necessary for the unit to furnish 4 tracs and crews to guard the supply dumps and one crew for a 24-hour security outpost on the hill above and about 200 yards to the rear. Each morning at daybreak, an 8-man detail acted as a "covering force" to protect the engineer crews who checked the road from Tudela to Poro for land mines that might have been sneaked in during the night. For several nights three 4-man crews acted as dismounted security outposts for the battery of

amtanks in the vicinity of Poro, and on the morning of January 31 the 12-man detail on this duty caught the brunt of a 35- to 40-man Japanese "banzai" attack initiated at about 0200.

The fire fight lasted till dawn. After the wounded had been gathered in and first aid rendered, 19 dead Japs were counted piled up at the outpost positions and about a dozen few yards farther away. Two got away wounded only to be tracked down later and polished off. Of the 12 men who withstood the attack, one was killed and 5 wounded.

One Jap, who got through the line with his satchel charge, succeeded in blowing up an amtank, but he never lived to tell his Emperor about it.

On February 2 a maintenance crew was sent to the battery position to repair the disabled tank, and a 12-man security detail under Sergeant Hill was sent along to protect them while they worked. In the process of establishing a position, Corporal Cignarella discovered a Jap (it is thought he was one of the few survivors of the banzai attack) hiding in a wrecked Jap barge and killed him with his carbine.

RETURN TO BATTALION

On January 29 the 15 borrowed amtracs were evacuated to the east coast of Leyte for rehabilitation and on February 2 three others were sent to Ipil.

With the mission of the Sweet Potato Task Force accomplished (488 Japs counted dead) the entire group of remaining 20 amtracs and 4 amtanks moved out at 1000 February 4 and after a 36-mile run landed at Ipil at 1630. Very few mechanical difficulties were experienced on the way.

At Ipil the amtracs loaded to capacity with ammo the following morning boarded LSMs bound for Tarracona on the east coast of Leyte. There they disembarked at about 0130 February 6 and immediately unloaded at the ammo dump. Then after rendering one more service—a ship-to-shore unloading detail of 40 tractor loads of supplies from an LSM—the platoon returned to battalion headquarters, after having been gone for nearly 10 weeks.

This native Philippine water buffalo eyes a namesake—the amtrac, nicknamed the "buffalo"—in a field on Leyte.

Signal Corps Photo





Reconnaissance on Guam

by
Lieutenant Colonel F. Clay Bridgewater

—Story of 77th Recon Troop

The native hut near Agana, Capital of Guam, was wrecked by artillery. Terrain was ideal for snipers, difficult for reconnaissance patrols.

Marine Corps photo

THE employment of cavalry units in the jungle-clad islands and atolls of the Pacific have digressed many tactical furlongs from the horse-mechanized conceptions of the early 1940's.

When the 77th Division was alerted for the Guam operation, it had already completed special training, and plans for the employment of the 77th Reconnaissance Troop were based on experiences learned by our predecessors in the Central Pacific and in the Southwest Pacific.

It had already been foreseen that the division would probably be employed on islands where restrictions imposed by terrain would make vehicular reconnaissance impracticable. From the beginning, therefore, it was decided to streamline the troop by completely dismounting it, and thus relieve it of much of the equipment with which it was burdened. Then with minor changes in organization, the troop, ready to go ashore on any island that might come up, was prepared to handle the old basic mission of getting the information and getting it back.

EQUIPMENT

All vehicles except two 2½-ton and six ¼-ton trucks were eliminated. Along with vehicles went all the .50 caliber machine guns, a number of light machine guns, mortars, bazookas, and all the T/E radios. M-1's replaced carbines. Added to equipment were 7-man and 10-man rubber boats. Radios were mounted in the 6 jeeps, and 15 of the infantry's radios were hand-carried. Personnel were equipped with the infantry combat pack in lieu of the field bag, with sneakers, mechanic's caps, trench knives, grenade carriers, bayonets, and extra canteens.

Radios were so distributed as to permit each platoon to have one net, the troop to have two nets, and the liaison officer two.

At the same time, the troop's T/O had undergone tentative changes. The headquarters platoon was reduced, and the surplus personnel assigned equally to each reconnaissance platoon. The defense squad, armed with submachine guns, light machine guns, and M-1 rifle, was added to the headquarters for the defense of the troop CP. Reconnaissance squads carried a light machine gun and the platoon headquarters carried a 60mm mortar. Some obvious headaches accompanied these tentative changes. The mechanics realized however, that some day they would have their armored cars again, and the radio operators knew that eventually their job again would be more technical than transporting by back a set that any man could operate.

All T/E equipment not required for the operation was turned over to the rear echelon which remained behind. Everything that the troop now had could be hand-carried except their field ranges and their heavier radios. These were placed on second priority for loading, and even they could be left behind or brought up later if it became necessary.

TRAINING

Thus organized and equipped, the troop conducted extensive tactical exercises in amphibious reconnaissance and island patrols. The former training stressed swimming with equipment, handling small boats, estimating tides and currents, and studying hydrographic conditions and beach features. Small boat landings were made from destroyers at night, and rock landings were practiced until the treachery of coralhead and volcanic rock were no longer considered hazardous. Scouts swam ashore on lonely strips of beach. Inland patrolling through mountains and jungle, against positions established by our own infantry regiments, built up stamina, technique, and courage.

By hard work, these men learned that they could land from a surface ship at night in rubber boats, climb over a mountain range, patrol through a jungle, and after several days, return to their ship with the information they had been sent to get. Lessons learned at various amphibious centers and the Jungle Training Center at Hawaii helped these men master hazardous reefs and the problems of living and fighting in the jungle.

With this background, the troop felt itself ready for a dawn landing on any man's island, particularly one of Mr. Hirohito's, and on July 24, when it came ashore behind infantry elements of the division, the 77th Reconnaissance Troop was a hardened, well-trained outfit, anxious to find Japs, and to see what the rest of Guam looked like.

Throughout the entire campaign, which lasted for twenty-one days before organized Jap resistance ceased, the troop conducted continuous reconnaissance and operated division OP's.

THE SITUATION

During the beachhead phase of the operation, the division was interested in determining the enemy's strength in the south and central part of the island—not only because it was desirable to know where the Japanese troops were forming for counterattacks, but also because future plans called for the division to swing east and northeast across the island on the right of the corps and clean up the north end of the island. This maneuver would not only meet head-on any resistance in the central mountain area, but it would also expose the right flank and rear of the division to any Jap forces that might be in the southern half of the island.

Although it was believed that the Japs would withdraw to the high ground northeast of Agaña, there were indications as late as July 26 that strong forces were still present in the Facpi Point—Mt. Lamlam—Harmon Road areas. If these Japs were in strength and intended to stay in this area and fight, division headquarters wanted to know it. On the 27th, the Reconnaissance Troop was given the job of finding out.

PATROLS

This was to be the troop's first contact with the enemy. Until then not even patrols of the infantry regiments had penetrated more than 1,000 to 1,500 yards beyond our forward battle line. Critical points along the southeast and southwest coast were selected and routes thereto covering critical areas in the interior were designated. On the morning of the 27th two patrols set out across the island for objectives on the east coast, two to the southeast, and one down the southwest coast. Several days later another patrol was dispatched to reconnoiter to the east coast along the route tentatively chosen for the advance of the division. On July 30 another patrol was dispatched to the south-

east coast through Talofofo to Port Inarajan. The hidden dangers of the island interior, a chance of being ambushed or cut off by the Japs, and the very newness of the terrain itself combined to make these missions hazardous.

Lt. Simpson's patrol, which headed east for Ylig and Pago Bay Areas, was forced to turn back when the second in command became dangerously ill with dengue and required medical aid. It had gotten half way to its objective. Although the patrol traveled 8,000 yards, it encountered no Jap forces.

Lt. Miller's patrol headed east for Talofofo and Ylig Bay. Traveling through the back-breaking canebrakes and jungles of the lowlands, with climbs to the high ground for observation, this patrol successfully evaded the small, nomadic enemy patrols and from their movements and the reports from natives determined that there had been a recent general exodus of all organized units of the enemy to the north. This patrol traveled 24,000 yards and returned on the third day.

The two patrols sent into the thicknesses and cave-pocketed slopes of Mt. Alifan and Mt. Almagosa had rough sledding from the time they left the division until they returned three days later. The slopes of Mt. Almagosa were ripe with snipers. These patrols were unable to follow their prescribed routes and had considerable difficulty in maintaining communication with the troop. After traveling approximately 18,000 yards they returned with information concerning ammunition dumps, Japs in caves, and deserted bivouac areas. Although they encountered some Japs, their information indicated no organized enemy in strength.

The patrol sent south along the west coast to Umatac ran into similar difficulties of communication. After a three-day silence, it returned with about 75 extremely grateful natives but had encountered no enemy. It covered about 21,000 yards in 39 hours.

The patrol reconnoitering the route of advance of the division made the cross-island trek to Pago Bay in about one day. An engineer reconnaissance party accompanied this patrol, which successfully evaded the enemy except for one brief encounter which yielded two dead Japs. It covered a total of 13,000 yards, located Jap troops moving north along the east coast near Pago Bay and gained valuable information of both the terrain and the enemy.

INFORMATION

All of these patrol reports confirmed the estimate that the bulk of the Jap troops known originally to be in the south half of the island had already moved out to the north. This information enabled the division to shift its strength to the left, take Mt. Tenjo, and drive straight across the island to the east coast, in record time in hot pursuit of the withdrawing Japs, without too much concern over the vulnerability of an exposed flank.

During the division's attack across the island, the Reconnaissance Troop continued to patrol on the south flank of the division, and when the advance to the north end of the island commenced, the troop had the mission of patrolling from the right flank of the division to the east coast.

While still on the south flank the troop was ordered to reconnoiter straight across country to Port Inarajan. Lt. Stringer, with part of his platoon, carried out this mission. They killed two Japs en route and returned in three days after covering 28,000 yards in enemy territory. This patrol covered the areas where our OP's had seen most of the Jap activity in front of our FBL. The information it gained, both from observation and natives, definitely proved that the Japs had withdrawn from this area to the north.

All of these patrols—the one to Inarajan in particular—contacted many native Chamorros, most of whom were not aware that the Americans had already landed. The excitement and gratification displayed by these natives as the American troopers—the first white men they had seen since the Japs moved in on December 10, 1941—emerged from the jungles into the edges of the native clearings, was a moving experience for the men of the patrols. They were showered with what gifts of value which had been left them by the Japs.

The leaders of patrols were looked upon as direct emissaries of the government, and the local leader of the native-type underground immediately offered the services of his people for whatever collaboration might be expected. Life and death decisions concerning the people among the villagers accused of traffic with the Japs were asked of men of the troop sometimes carrying no more than two stripes. The men and women of the villages asked first for arms and organization; then for a chance to even the score with those who had made them bow twice daily to an oppressive, mythical Emperor.

Friendly native guides, familiar with the terrain, accompanied all of these patrols.

FIRE SUPPORT

One main problem encountered was that of coordinating these distant patrols with artillery, air and naval gunfire support. In order not to jeopardize the patrols, it was necessary to have them make periodic reports of their exact positions by radio so that each fire support mission called for could be checked with the location of the patrol before it could be fired. On the other hand, patrols could not be allowed to interfere with defensive fires, particularly those at night in support of front line troops. In no case, however, did a fire support request have to be refused on account of these patrols, and in one instance a patrol itself was able to direct artillery fire by radio on a small concentration of Jap troops.

COMBAT RECONNAISSANCE

During the advance to the north, elements of the troop reconnoitered the area near Yigo where natives reported that the Japs had built a considerable number of concrete tunnels. One platoon, which surprised ten of the enemy, killed four as the rest took to their heels into the jungle. Another mile up the trail, the patrol discovered installations, living quarters in caves, CP's that had been thoroughly pounded with artillery fire, an elaborate system of wire communication, and an aid station. One live Jap, lying in the filth and stench of a dozen of his dead comrades, still showed enough fight to necessitate his elimination. There were all the familiar manifestations of what undoubtedly had been the nerve center of a contemplated defensive line.

Proceeding on its mission, the point proved its worth by spotting a machine gun and crew of four located ten yards off the trail waiting in anticipation for the main body of the patrol. Quick action by the point and a platoon leader accounted for all four of those Japs. Snipers then opened up from the other side of the trail.

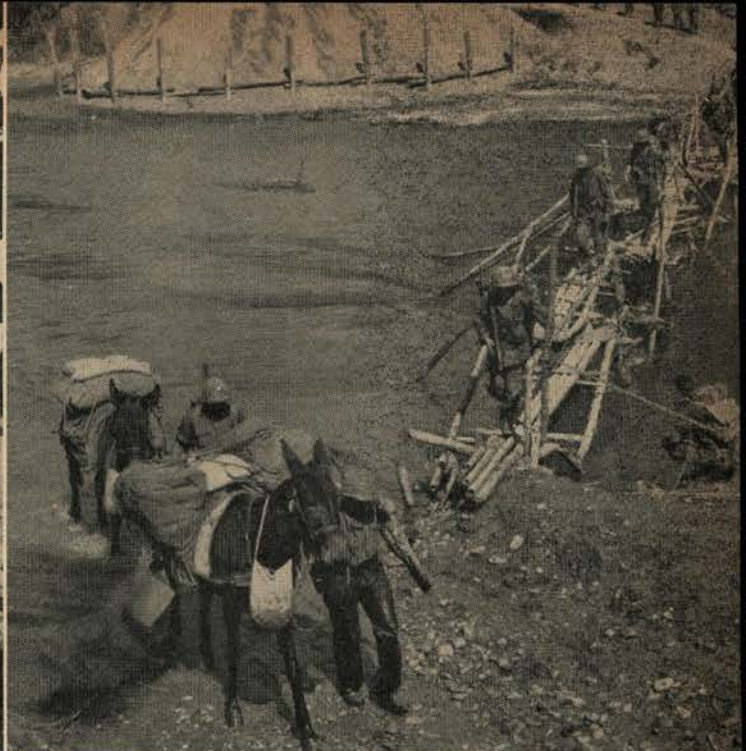
Sergeant Johns, one of the platoon sergeants, was carrying a Japanese-English dictionary and a bottle of Scat in the right hand pocket of his fatigue jacket. A sniper found his mark; Johns grunted, was whirled by the impact and hit the ground. With Scat running down his belly, and the corner of the dictionary torn to shreds, he was relieved to discover that the round, deflected by the book, had passed through a loose fold in his fatigues without leaving a scratch.

When knee mortars started landing up and down the trails, the troop decided that it had found something big that called for something bigger. An infantry battalion then followed the Reconnaissance Troop into this area and in three days killed some 350 Japs.

Up to this point, the troop had suffered no battle casualties; however, on August 7 a patrol was ambushed along the northeast coast of the island. Its leader, Sergeant Hall, was lost in attempting to outflank and determine the enemy resistance, and a member of the patrol was wounded.

Mt. Santa Rosa was secured August 9 and with that came the cessation of all organized enemy resistance in our sector. The right kind of a flag was raised over the entire island of Guam on August 10. Shortly thereafter the troop returned to the rear with the congratulations of Major General A. D. Bruce to bolster a C-ration morale, and with the right to wear thirteen Bronze Stars written into the records of its members.

This campaign reemphasized the importance of reconnaissance personnel being thoroughly schooled in the fundamentals of basic training with primary attention to physical conditioning, scouting and patrolling, keen observing and accurate reporting. As one trooper told me a few days after the operation, "It was the things I learned during our first seventeen weeks of basic training that got me through this fight."



Signal Corps Photos

124th Cavalry Regiment in Burma

Transporting supplies on native pack animals, men of the 124th Cavalry trudge over barren wastes, cross precarious bamboo bridges and ford swollen streams in the heart of northern Burma. Pack supply has played significant rôle.



CARD

"Box

Left. An Allied tank moves up along the twisting, precipitous Imphal-Ukhrul Road to reinforce Fourteenth Army troops during their steady advance toward beleaguered Kohima.

Indian Official Photo



These pictures illustrate the action which led to the relief of the 7th Indian Division, under General Messervy, which, with part of the 5th Division, and an echelon of cooks, muleteers and other noncombatants in the Ngakyedauk Pass, were cut off from all land supplies. They resisted all attacks by the Japs and were kept going for a month by supplies dropped from the air. Finally another division of the Fourteenth Army broke through and relieved General Messervy. At right, a Tommy and an Indian, spot Japs in "Bloody Nullan." The fierce action that developed here gave the gully its descriptive name.

THE still unfinished Burma campaign of 1944, which began in an atmosphere of criticism and foreboding, is now recognized as a resounding Allied success—and this, in spite of the fact that the path of American and British cooperation in this theater has been full of booby traps. The Burma campaign, with India as its great supply base, and the freeing of communications with China as its objective, could have been only a joint Anglo-American enterprise.

Yet, because of all the countries involved, clouds of suspicion overhung the project. And national jealousies and sensitiveness are realities that have to be reckoned with—as booby traps have to be reckoned with. But neither the smoke nor the fire of suspicion succeeded in preventing the combined Allied effort from inflicting a great military defeat on the Japanese. In that defeat British and Indian troops played far more than a token part. Some 50,000 Japanese, fighting in bunkered hill positions or thick jungles, cannot be killed by token forces, nor can it be done without incurring heavy casualties in killed, wounded, and sick.

ARAKAN

Throughout the autumn and winter of 1943-44, the Japanese radio had been announcing the imminent



British Official Photograph

*by Arthur Moore**

invasion of India. Nothing happened until the beginning of February when the Japanese counterattacked in Arakan, where the Mayu Hills in Burma run up the coastal strip toward the frontier of India and the Province of Bengal. In January, as the 7th Indian Division was advancing south on the eastern side of the range, the Japanese began infiltrating in force behind them in an effort to cut their communications with the western side of the range at the Ngakyedauk Pass, generally known to the troops as the "Okeydoke" Pass.

West of the range was the 5th Indian Division, and the Japanese in their first rush also got behind those troops and cut the main Chittagong-Maungdaw Road.

Having cut off these two divisions from their base and from each other, the Japs then attacked the 7th

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"Strategy in Burma—

How the Japanese Gamble in India was Turned Into a Disastrous Defeat

Division with great fury, both frontally and from the rear. The position of the 7th was thus grim, and the Japanese took its annihilation for granted. But Major General Messervy, who commanded the division, had no thought of retreat. He had good troops of English county regiments, and a battalion of the King's Own Scottish Borderers. And he had big, tall Punjabs and small, short Gurkhas, who were not the men to give in.

An Indian division is normally composed of three mixed brigades, and a mixed brigade generally consists of two Indian battalions and one British battalion. In time of war there are occasional departures from this practice; for example, apart from the purely British divisions, the proportion of British troops in Indian divisions fighting in Burma is approximately 40 per cent. In an Indian battalion the troops are Indian, and the officers may be either British or Indian.

On February 5th, when the Japanese took the "Okey-doke" Pass, the 7th Division had only two days' rations. The pass, however, remained closed for three weeks, and hard and heavy fighting was necessary to get it back.

Meanwhile, farther to the rear, the divisional headquarters had been overrun and the administrative area in rear of the front line had become a battleground. General Messervy with his staff officers and clerks fought their way out in a hand-to-hand struggle, and, by wading down a river which was shoulder high, they slipped through the Japanese net and opened up a new headquarters. Here they formed a "box" and withstood all the attacks which four Japanese battalions hurled upon them.

The Japanese had assigned a large special task force for the whole operation, and their plan was first to wipe out the 7th Division east of the Mayu Range, and then the 5th on the other side. But the plan failed because, in the first phase, the 7th refused to give ground, and fought their enemy to a standstill. Secondly, the Japanese were quickly driven off the Chittagong-Maungdaw Road. After that they still interfered with supplies for the 5th Division but they could neither stop them, nor prevent reinforcements from arriving. Finally, although the Japanese at this period were still competing for air supremacy, they were heavily defeated in the air battles, and were unable to prevent the big transport planes from dropping supplies to the hard-pressed 7th.

The first fierce rush of the Japanese was quickly

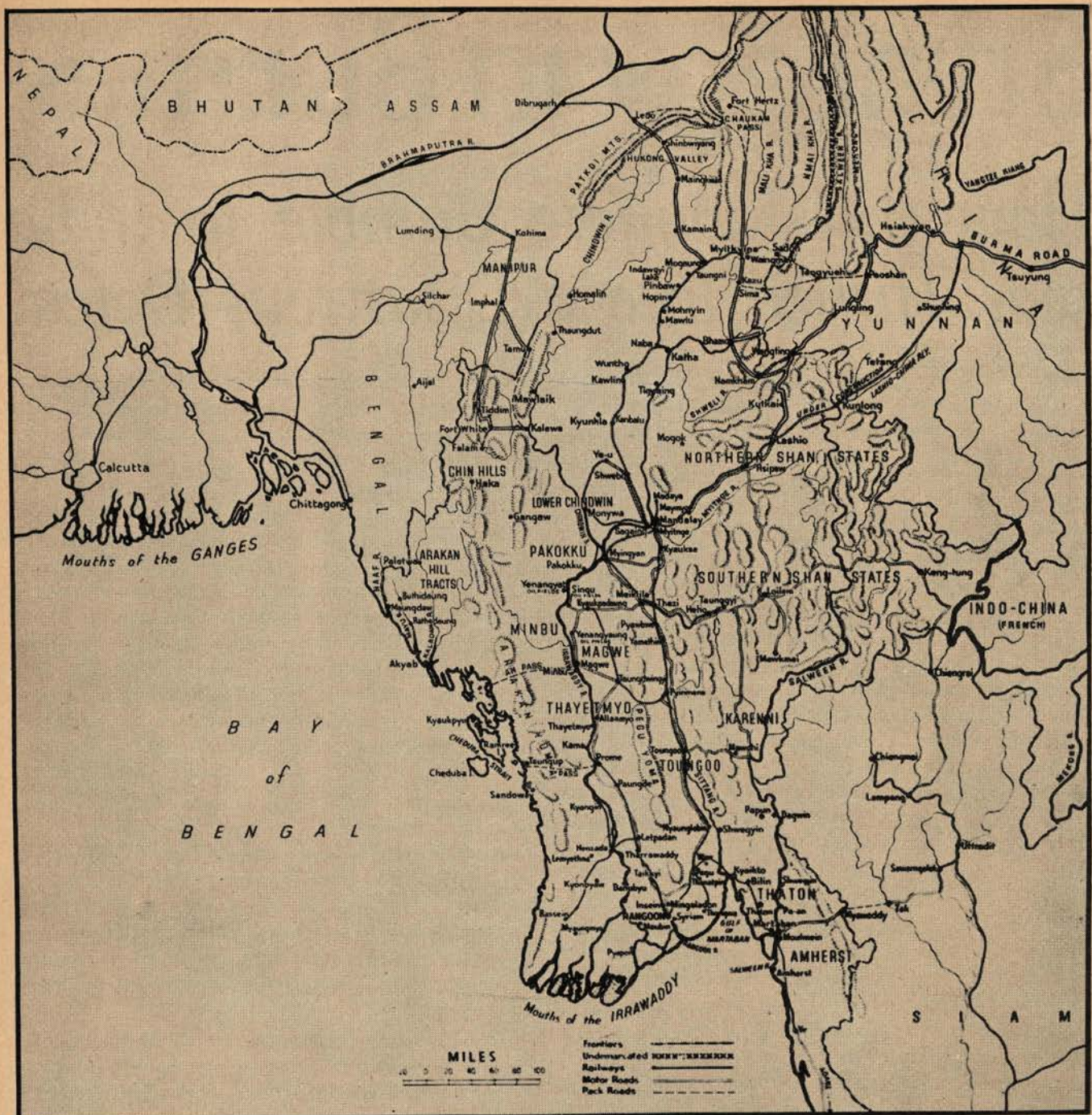
checked. Messervy's troops east of the range formed a "hedgehog," or rather a family of "Hedgehogs." This was a series of "boxes" and all the boxes were getting ammunition, food and gasoline dropped from the sky.

Soon the Japanese hounds became the hares. They were seriously weakened by the repeated attacks of the Scottish Borderers, the Punjabs and the Gurkhas supported by the 25th Dragoons, who manned the tanks. The Dragoons, British mechanized cavalry, also ferried gasoline from one "box" to another and kept the "party" going. Inside the administrative "box" of the headquarters area more Borderers and the West Yorkshires were soon counterattacking. Reinforced on the west of the range by fresh British troops from the north, the Lincolnshires swept straight up to within 150 yards of the crest.

The Japanese were caught in their own trap. Now it was they who were cut off from their lines of communication—but for them the sky rained neither food nor ammunition. Instead, it rained bombs. The Japs split into groups and shut themselves in bunkers, but the British and Indian troops encircled and systematically exterminated them. From east and west the drive to reopen the pass went on and, by February 24th, it was cleared.

Thus the Japanese offensive in the Arakan, the first half of their much advertised program for the invasion of India, lasted less than three weeks. Only remnants of the special task force got back to the original Japanese lines farther south.

There is little doubt that the Japanese command had calculated that in three weeks they would have at least captured the port of Chittagong in Bengal. They even announced its fall, though they were not within a hundred miles of it. The whole Jap scheme had been wrecked by the grim determination of British and Indian troops, the resourcefulness of their commanders, and Allied mastery of the air. This Allied air supremacy made Japanese ground infiltration tactics not only useless but dangerous to themselves. The Japanese had cut the British troops from their base, but the British had refused to surrender or to seek escape. Meanwhile, the air force had kept them supplied, while no air force supplied the Japanese who had gotten around in their rear; the Japs in turn were caught between two fires.



The American Brigadier General Old commanded the Dakotas, a mixed U. S. and British air force, which, for three weeks, kept the 7th Indian Division—infantry, artillery and tanks—supplied, and dropped over 1,500 tons of stores. The Royal Air Force and the Indian Air Force in Spitfires and Hurricanes escorted the Dakotas and saw to it that they got through safely; only one was lost in the whole three weeks, and that after it had dropped its supplies on the target. The reinforced Japanese Air Force was completely outfought, and since then there has been no serious challenge to Allied air supremacy anywhere on the Burma fronts. All this triumph of air supply was later repeated on a larger scale and for a longer period at Imphal.

MANIPUR

Although the Arakan Campaign had failed, the Japs

lunged immediately into the Manipur Campaign, which they had originally planned as their second move in the program for the invasion of India, having counted on establishing a southern base in Bengal, before attacking farther north.

In Arakan the Japs had been flung back by British and Indian troops of the XV Corps. Now they attacked what was then the only other corps in General Slim's Fourteenth Army, the IV Corps, commanded by Lieutenant General Scoones. Like the XV Corps, it consisted of both British and Indian troops.

The Japanese objectives were the capture of Imphal and the Imphal plain; then by cutting the Bengal-Assam railway at Dimapur they expected to isolate General Stilwell's forces in the Hukawng Valley. General Stilwell's Ledo Road project depended on the success of the British and Indian troops of the Fourteenth Army

in preventing the Japanese from reaching their objectives.

From the south the Japanese thrust rapidly up the Tiddim Road and the Kabaw Valley against Imphal. Farther north they flung two fresh divisions across the Chindwin to blockade Imphal from the east and north and to cut the only road between Imphal and the railway at Dimapur. Advancing over fair-weather tracks, with less than three months between them and the monsoon, the Japs were taking great risks, and they knew it. Nowhere have they attacked with more suicidal determination and reckless disregard of losses.

In the south, the 17th Light Indian Division was ordered to withdraw northward from the Tiddim area to cover Imphal from the south. The Japanese were already in strong positions on the only road—a single, winding mountain road—between the division and Imphal. The Japs announced that the Indian division was trapped; then that it was annihilated. Both claims were false. The division took a month to blast its way through the Japanese lines to the Bishenpur area, south of Imphal, but it got through and killed Japanese by the hundreds, all the way. The R.A.F. fed and supplied the troops from the air, and the division's ground transport, which could not leave the only road, got more than 80 per cent of its cargo safely through.

Even more desperate fighting occurred farther north. Early in April the Japs poured through lightly guarded gaps and seized a long stretch of the Imphal-Dimapur road between Imphal and Kohima. They got possession of part of Kohima and, on the north side of the town, cut the road and isolated it from Dimapur.

Kohima, a lovely hill village in Assam, close to the border of Manipur State, was a convalescent camp and had but a small able-bodied garrison. Convalescents and able-bodied, they fought like tigers, against terrific odds, and with their main water supply cut off.

The transport planes flew over and kept them supplied; the garrison knew that reinforcements were on the way. Relief troops marched up from Dimapur and

broke in to their aid, but the fight for Kohima continued. Reinforcements were also rushed up for Imphal by air. The big Dakotas flew into Imphal the whole of the 5th Indian Division which, a month earlier, had been fighting in Arakan. Soon there was another British and Indian Corps, the XXXIII, working from the Kohima end. The Japs, thrusting desperately and yet more desperately, raced against time and the breaking of the rains. But their efforts were of no avail against the unbreakable resolution on the ground, fortified by the steady supply from the air.

JAP RETREAT FROM INDIA

By the beginning of May the Japanese gamble had failed. The tide turned, and their slow and dogged retreat began. The rains were coming, and the roads were going. The British Fourteenth Army turned fiercely upon its enemy and, driving the Japs from foxhole to foxhole and bunker to bunker, killed them by the score.

By this time the XXXIII Corps from Kohima was thrusting down the road to Imphal, and the IV Corps from Imphal was driving up to meet them. As they met on the 22nd of June, the last threat to the railway and the Ledo Road disappeared.

Thenceforward it was merely a case of finding and killing Japs. Both sides had to struggle with thick jungle, blinding rain, rivers in flood, roads and tracks that were a series of ponds connected by mud. East and south toward the Chindwin Valley fled the starving remnants of two Japanese divisions. In mid-July the Jap division south of Imphal also broke and turned south. Hacking at its heels, British and Indian comrades in arms drove it back on its track down the full length of the Tiddim Road and in mid-October captured Tiddim itself. On the whole front, from Arakan to Manipur, approximately 30,000 Japanese were killed up to mid-September. That is but a fraction of the total wastage in the equivalent of 5 Japanese divisions deployed in Arakan and Manipur.

Indian Official Photo



By wading through mud and water, penetrating thick jungles, rebuilding blown up bridges or putting up new ones, men of the Fourteenth Army pushed the Japs back into Burma. In the north they crossed the India-Burma border on August 20. Indian soldiers of the Fourteenth Army round up supplies dropped to them by planes of the Southeast Asia Carrier Command. Parachutes carrying supplies often get entangled in trees, bushes and telephone wires.



Signal Corps Photos

Figure 1. Terrain was difficult; the going hazardous—"Even the sure-footed pack-animals sometimes slipped from the trail and fell to the valley below." Above, Americans and Chinese use ropes to assist animals down defile.

Author's Note

This brief article will give the reader some idea of the terrain over which we are operating, the magnitude of the problems which have been and are being faced by the members of the American-Chinese team (over in the CBI). It will also give an idea of the types of animals, their training and conditioning, their capabilities and limitations, and their handling.

I have the utmost respect and admiration for the men who operate in this combat area. They must wage an unceasing war against not only the enemy, but also the weather, disease and the terrain. I have, also, the utmost respect for the rugged little animals, without which the operations would have fallen short of the efficiency expected.

Ours is a rugged battle ground. Insects, disease and weather interfere with operations. Problems, met no other place in the world, arise. But, no problems have arisen which have not been solved.—Reginald L. Hatt, Lt. Colonel, Cavalry.

Packing A

The history of operations a
a saga of the successful sol

by *Lieutenant Colonel*
Reginald L. Hatt, Cavalry

THE Salween River area is the highest battle ground in the world." This statement is verified by just one trip over the trails which traverse the theater of operations. On this terrain, war was waged under the most primitive, realistic and terrible conditions imaginable. There were many difficulties, but here, as in any other operational area, the action had to be supported if it was to be successful. Supplies had to be pushed up to the using troops.

TERRAIN

Elevations of some of the key points tell their own story. At Myitkyina on the Irrawaddy, the elevation is 467 feet; Tengchung is at 6,435 feet. In between these points ranges rise to elevations of from 8,412 to 11,167 feet. From Tengchung to Paoshan across the Salween is only 70 kilometers by airline but about 100 miles by road. Paoshan's altitude is 5,600 feet. In between Tengchung and Paoshan two ranges rise to more than 7,500 feet, while the valley of the river is only 2,500 feet. This gives an idea of the terrain which presented nightmarish problems in the operations. Supplies had to reach the front in spite of problems of transport.

The transportation problem was aggravated by several conditions. The Burma Road had been destroyed over much of its length by the contesting armies. The former bridge over the Salween had been replaced by a substitute affair, not too substantial, but usable. Too, there was a scarcity of trucks.

Trucks *did* move along the portion of the Burma Road left in a usable condition. But, they were few in number. Most were of the 1½-ton variety, though they were usually overloaded. There were a few weapons carriers and jeeps. All vehicles were in urgent need of repairs, and spare parts were practically non-existent.

Pack animals took up the burden of supply from the point beyond which the trucks could not go and, in some cases, were used to augment the carrying capacity of the trucks in the rear areas. After the fall of Tengchung, pack animals could make the trip from Paoshan to Tengchung in from 5 to 6 days, depending upon the weather and the condition of the animals. Supply-

long Salween Trails

*long the Salween River is a story of both men and animals—
ution of what, many times, seemed to be unsolvable problems.*

menting the pack animals and, at times, replacing them, were the human carriers—the coolies.

It is almost impossible to describe the terrain over which the supplies had to be moved. The trails crawled up slopes which not even the pack animals could make under load. In such cases, the packs were removed and were carried up by men. Frequently, the trails followed the stream courses. Then, the going was still more difficult and hazardous. Even the sure-footed pack animals sometimes slipped from the trail and fell to the valley below! Trails were especially difficult when wet and slippery from the rains of the "monsoon," and travel was slow and dangerous. Men and animals wading through torrential streams, often slipped and fell on slippery rocks just beneath the waters.

Only men filled with sheer intestinal fortitude could deliver the supreme amount of effort required. The animals, too, must have been imbued with some of the same quality, judging by the wonderful work they performed. Figures 1 and 2 illustrate some of the terrain difficulties met hourly along the trails in the operational area. Both men and animals *had* to be—and were good!

ANIMALS

Now for the pack animals. They range in age from 3 to 8 years. They are, in most cases, stallions. Their weight will vary from 350 to 500 pounds and they will

average from 10 to 12 hands high. Their general conformation is good—narrow in the rump, stocky, short barreled, usually with good legs. Their temperament is, initially, not good at all, but they react favorably to kind treatment and careful handling.

These shaggy little animals are bought in the local markets. I visited one of these markets just to see what we were getting for the money expended. Each animal costs, approximately, \$600.00 (gold)! So each represents quite an investment. The work of the pack horse has been so very valuable, however, that I am of the opinion that the excessive cost has been justified. The campaign along the Salween River would surely have "bogged down" had it not been for these sure-footed allies!

During the Salween Campaign, the loads carried by the pack animals varied in direct ratio to the amount of forage available. If there was sufficient forage, the load was about 120 pounds. But most of the time, the loads had to be pared down to about 80 pounds.

There are, as may well be imagined, many veterinary problems in connection with these animals. After purchase, the animals are neck-branded and are all reshod. The feet are usually in rather poor condition as a result of the Chinese habit of using excessive nailing in the toe. The walls of the hoof, in many cases are split badly. Corrective shoeing, in some cases, must be used.

Figure 2. "Trails were especially difficult when wet and slippery from the rains of the monsoon, and travel was slow and dangerous." At right Americans and Chinese pull two animals from a mud bog into which they have floundered.





Figure 3. Chinese packsaddle used along Salween is of ancient design; consists of saddle pad, saddle and pack carrier. In use by the Chinese for centuries, its style still meets demands of terrain and weather in northern Burma.

Following the application of the shoes, the animals are given the test for glanders. About 10% react to this test. All of the animals are also given the vaccine against anthrax. They are put on regular feed—twice daily—at 0730 and 1630. The ration used in the Kunming area consists almost solely of a variety of bean, slightly smaller than the lima bean, 8- to 10-pound amounts daily. To this is added a tablespoon of salt, daily. Small amounts of padi straw complete the ration. The ration is supplemented by grazing where possible.

Regular grooming is initiated immediately upon receipt of the animal. This is usually done by men detailed from the units to which the animals are assigned.

The combination of veterinary attention, regularity of feeding and grooming, and the careful, kind handling soon transform these shaggy little outlaws into good military pack animals. They soon are ready for the trials and tribulations of the trails they are to traverse.

Conditions out in the field are, of course, quite different from those at the rear bases. The forage is much different. Along the Salween, beans are not available off the Burma Road. The ration, in such cases, consists of unhulled rice, rice straw and grass (when available). There is usually no salt for the men, much less the animals. About 6 pounds of rice is the daily allowance for each animal and very frequently even that small

amount is not available. Grazing is not possible much of the time, either because of the absence of grass or the exigencies of the tactical situation. Grooming of the animals is not too well observed except in artillery units and in the American Liaison teams, serving with the Chinese.

CHINESE PACKSADDLE

The packsaddle is a far-cry from the Phillips. Though the artillery units do have the Phillips, most supplies were carried on the Chinese packsaddle.

Since readers of *THE CAVALRY JOURNAL* are familiar with the Phillips, its construction and its efficiency, I shall not devote space to it. I shall, however, try to describe the Chinese packsaddle in such a manner that it can be visualized and appreciated.

The design of this saddle is an old native one and has been used all over China for many, many years. It still is working out very efficiently. It is composed of three major parts. These are the saddle pad, the saddle itself, and the pack carrier. (See Figure 4.) The saddle



Figure 4. Two men place load on saddle. In an emergency this can be handled by a single individual. Note breast strap and crupper. Pack carrier is easily removed at halts.

pad is about three-fourths inch in thickness, made of padi straw covered with canvas or heavy cloth. The saddle is a small wooden affair, more like a rack than a saddle. It is fitted to the animal's back as soon after the receipt of the animal as possible. The pack carrier, which has long wooden legs, fits on the saddle securely. It is easily and quickly removed by two men, but can be handled by one man in an emergency.

Usually the pack is placed on the carrier before it is put on the animal. Figure 3 shows the usual method of lashing used. The pack, of course, must be balanced carefully, but the packers get to be experts at this. After packing and lashing are completed, the load is placed

on the animal's back as shown in Figure 4. Figure 5 shows the pack animal completely loaded and ready for the trail.

This saddle has demonstrated its efficiency for our supply purposes. Over the terrain along the Salween, it has worked out better than any other type. In case the animal slips and falls, the load is usually thrown free, and can sometimes be recovered, even though the animal cannot be. As shown in Figure 2, the design facilitates quick removal in emergencies. It also facilitates the removal when the opportunity presents itself for a brief rest along the trail. Because of the steepness of the slopes, these rests are necessarily very frequent. At such halts, the major portions of the loads are removed easily and quickly by raising the pack carrier and load from the saddle. At night halts, only such portions of the baggage needed are unpacked from the carrier.

ON THE TRAIL

The operation of a pack train is interesting. Early in the morning the packers make their preparations for the trail. Figure 6 shows these preparations, but it cannot show the hectic nature, the seeming confusion, and the noise attendant upon such preparations. But, if permitted to do things as they have done them for years, these Chinese pack train drivers will do an excellent and workmanlike job. They cannot and will not be hurried or harried. But, the train *will* eventually get on

Figure 5. After the packing and lashing are completed load is placed on animal's back. Pack must be balanced perfectly, but native packers are expert at handling loads.



Figure 6. Packers prepare for trail amid much apparent confusion. "Chinese pack-train drivers . . . cannot and will not be harried or hurried," but they do an excellent job. Animals are from 3 to 8 years old, weigh 350 to 500 pounds; cost an average of \$600.00 (gold); are invaluable.

the trail, and the loads *will* ride very satisfactorily.

One must really see the pack animals in action to appreciate their amazing strength, stamina and efficiency. Each is an individual. Each has his own idea of what he wants to do and how he wants to do it. Some placidly follow the leader, but others must be continuously led or driven. Some are quarrelsome, and bite the animals ahead or behind them if they get too close; others seemingly do not care about anything except getting to the end of the march. For a newly arrived American soldier, all present a major problem in animal psychology. The animals have, seemingly, accumulated a large dose of the traditional Chinese patience. They cannot be forced unduly, but will go forward steadily. They plod upward along the trail, surmounting all difficulties, side by side with their American or Chinese masters.

Distribution of loads throughout the train has been learned from experience. Caution must be exercised so that the loss of one pack will not be too badly felt. This is particularly true when carrying valuable medical supplies, which are hard to get and very difficult to handle in this type of packing. Much of the supplies arriving from the States must be repacked completely in order to provide suitable loads for both animal and coolie transport. The packages must balance to avoid sore backs on the animal or to avoid the overbalancing of the animal when it is negotiating some of the turns on the mountain ledges. If supplies are not distributed correctly throughout the pack train, there may be excessive losses of some types of badly needed supplies. If the loads are not distributed correctly on the animal, there may arise accidents which will cause the loss of the supplies *and* the loss of the animal.

RED ARMY COS

"Determined surprise attacks in close cooperation with fire support and mechanized forces will secure the greatest cavalry success."

**—Red Army Combat Regulations for Cavalry
Chapt. I, Par. 4**

MOBILITY

THE idea that cavalry cannot keep up with armored forces is refuted by the frequent combinations of cavalry and armored forces in Russia. When in contact or near contact with the enemy no tanks or armored vehicles of any kind are going to travel on roads at thirty or forty miles an hour in the direction of the enemy. In wide encircling movements, cavalry can often be assembled beforehand in a convenient adjacent area or moved on interior lines across country. When cavalry and armored forces cannot be kept close together the cavalry can be given a separate mission and moved on interior lines to connect the large infantry formations with the armored forces, thus acting as a link."

BRIGADIER GENERAL H. S. HAWKINS.

These words of General Hawkins from a previous issue of THE CAVALRY JOURNAL bear repeating, for they not only contribute important truths under this heading, but they also typify the kind of logic and replies that one receives when talking to Red Army officers on the subject. Red Army officers of all arms display a great deal of enthusiasm for their cavalry, and they appear to be well informed on the capabilities of the arm. Having seen Red cavalry in action on the front, or having been close to the actual demonstration of cavalry usefulness, the Russian officers' approach to the subject is far different from that of many American officers who have only read of horse cavalry in action.

The average Soviet officer will wonder *why* argu-

ments are sought to support the cavalry arm, or *why* the question is asked, "Can cavalry keep up with armored vehicles?" The usual Russian answer to such a query will be, "Not in a race but, properly employed and coordinated, the cavalry fits well into the combat picture, and many times it plays a rôle that other arms cannot."

VULNERABILITY TO AIR ATTACK

Armed as they are now, the Cossacks are no more vulnerable to air attack than is the infantry. Like most troops, when in close combat, Cossacks do the greater part of their moving at night so as to avoid aerial observation and to insure tactical surprise. On the march cavalry can disperse easier and faster than infantry. The Cossacks have seen tankmen "dig their vehicles in" and camouflage them. Some instances are on record where, in open country, the Cossacks have done the same for their horses. They have dug long trenches concealing squads, and, on occasions have utilized former infantry trenches; tops of the trenches were then covered. In general, the Russian cavalry relies on its mobility to protect it from heavy air attack.

Red cavalry field manuals describe regimental AA defense as composed of: The VNOS (Air observation, liaison and report) Service, AA weapons, march procedure, and concealment. The VNOS is equivalent to the U. S. "air scout system." It consists of an outpost system, scouts, patrols, etc., whose duty is to watch for and warn the unit of enemy air threats. In addition to the VNOS each squadron has its own scouts for general

PART V — CAVALRY, AIR AND ARMOR

SACKS

by Major Robert B. Rigg, Cavalry

security purposes. Both are obliged to cooperate closely with each other.

There are several 20mm AA guns with the Cossack sotnia, although the range of this weapon is limited. The Maxim machine guns on the *tachanki* are mounted so that they can be elevated for AA fire. They are effective up to a range of 1,650 yards. The guns must also have the AA sight, which differs from the sight used for ground targets. The long-barreled AT rifle (also used by the infantry for the same AA purpose) on the pack horse is so mounted that it can be unhinged and fired AA with the animal providing the mount.

One of the severest aerial attacks known to have been made on a Cossack corps occurred during the battles in and around Taganrog. The enemy air attack came after Lt. Gen. Kirichenko's Kuban Cossack Corps was well on its way to success in German rear areas. So serious was the Cossack threat that evidently a high German command ordered a bomber force to wipe out the cavalry. According to the Soviet account, the enemy divided the cavalry corps sector into squares, and then conducted a thorough bombing (at a height beyond range of the cavalry's AA guns) of each square. The Cossacks suffered heavy losses in men and animals, but they did manage to complete their missions successfully, as evidenced by the citation they later received.

CAVALRY VS. GERMAN ARMOR

Today the Cossack division is well equipped to protect itself against enemy armored attacks, although the staying power of cavalry under such circumstances is limited. The .50 caliber long-barreled AT rifle carried by pack horse provides the AT protection within the Cossack squadron. The horse-drawn 45mm gun is the regimental AT weapon, while the 76mm field artillery pieces are brought into play where necessary. There is recent information to the effect that the cavalry has a new model 45mm AT gun.

In 1941 and early 1942 the Cossacks and Red cavalry managed to survive a very critical period during which they were inadequately equipped with AT weapons. These circumstances caused them to resort to some rather unorthodox AT measures, and to the author's knowledge the Cossacks were the first cavalrymen to use "Molotov Cocktails" successfully against tanks. The tactical merit of such procedure was short-lived, however.

Soviet reports quite frequently mention cavalry units repulsing enemy armored attacks, but they never give details of the exact rôle of Soviet supporting units which are no doubt required.

Red Army combat regulations stress continual observation on the part of cavalry units for mechanized

threats. These regulations state, "By virtue of the ability of tanks to strike in depth through troop dispositions, cavalry is obligated at all times to be prepared to repulse tank attacks."

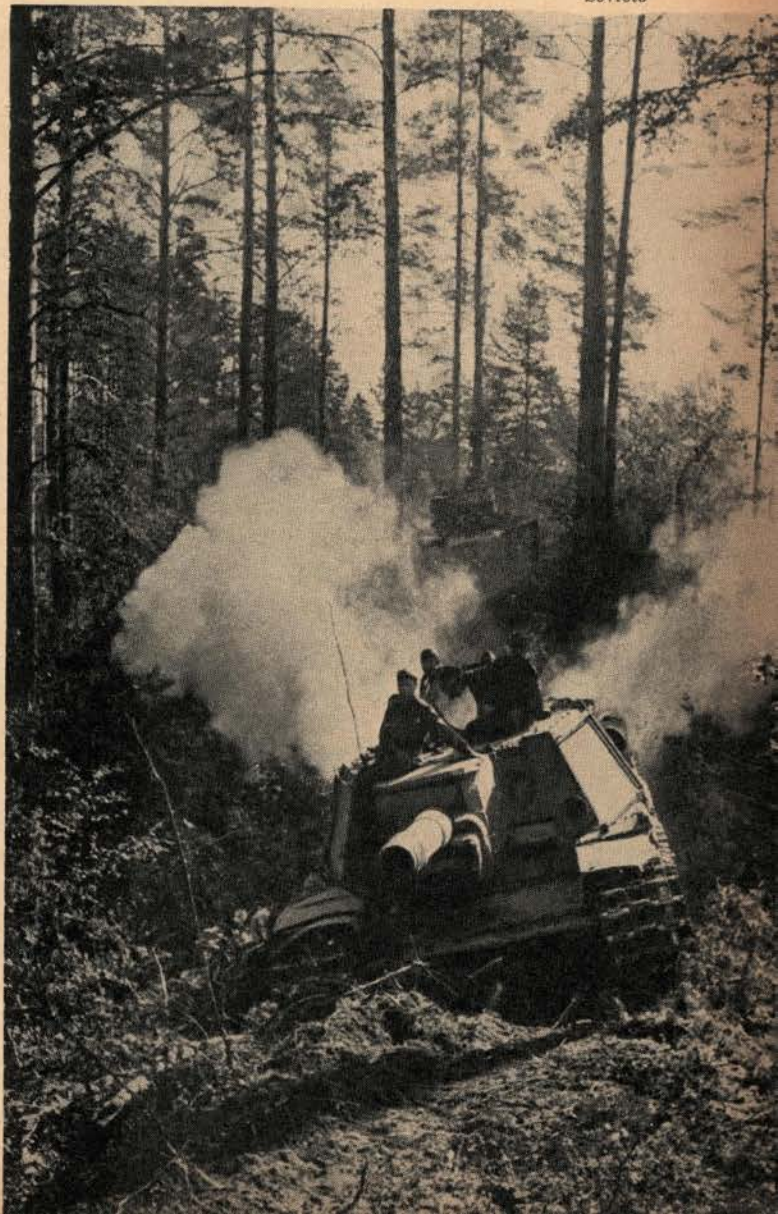
As outlined in a present Russian cavalry field manual, tank attacks must be repulsed by:

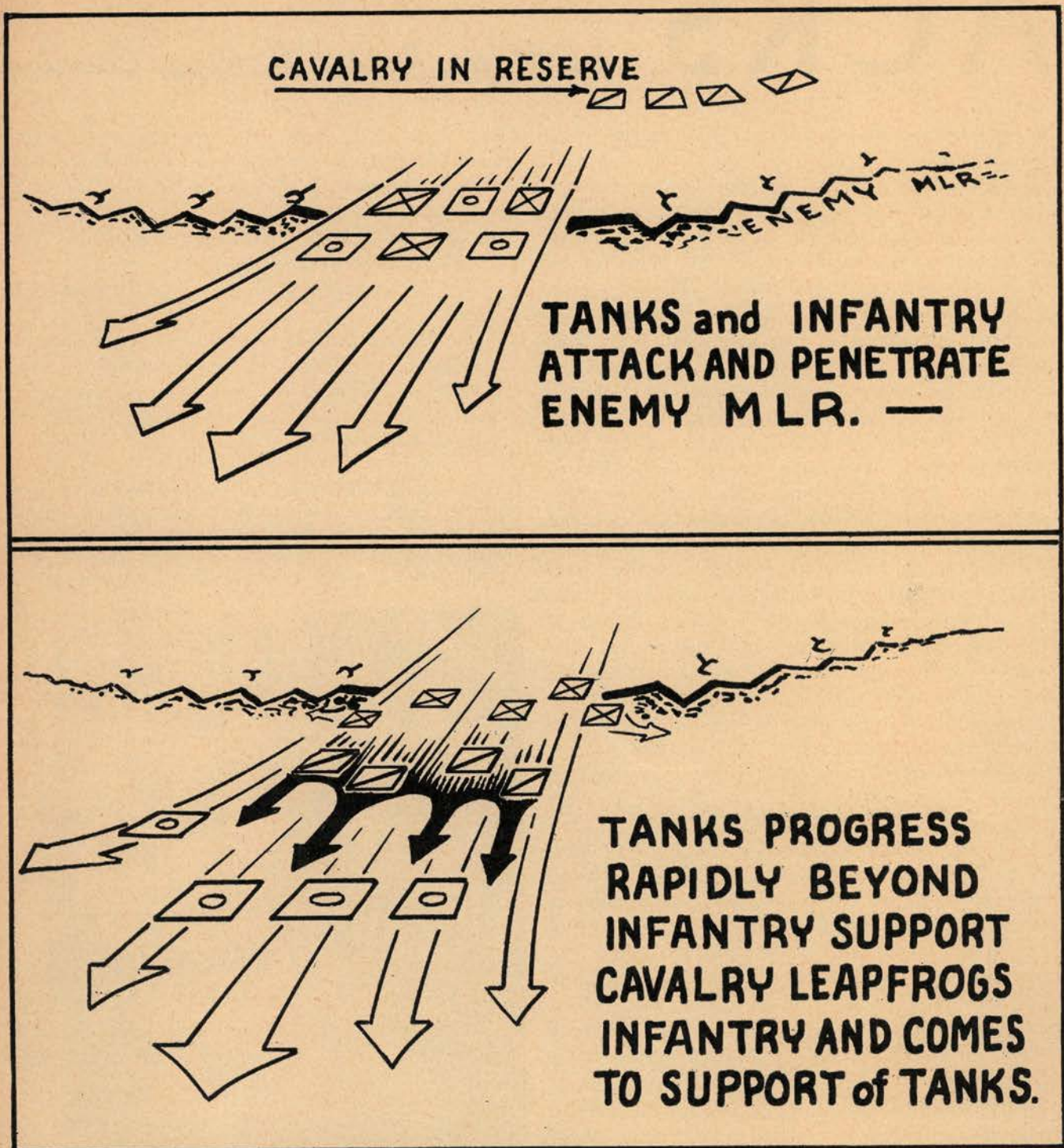
1. Quickly utilizing all artillery at the moment of attack.

2. Pushing antitank observation forces forward to the threatened points. (In a regiment this would be a platoon reinforced by guns from the regimental artillery, heavy machine guns, sappers with AT mines, and the AT guns.)

On the second Baltic front in August, 1944 Soviet self-propelled guns, overcoming natural and artificial obstructions, make their way through a forest. This 42-ton KV chassis mounts a 152mm M1937 howitzer. Gun is used both as assault gun and as field artillery; supports cavalry.

Sovfoto





Figures 4 and 5. Cavalry supplanting infantry as armored unit support. Here the tank units received the vigorous support of cavalry whose mobility is more in key with the armored tempo, if a pursuit is developed, than is the infantry.

3. Augmenting the squadrons with guns of the regimental artillery.

4. Utilizing the cavalry's own tanks for counter-attack.

5. Organizing ambushes with groups of selected men armed with grenades, armor-piercing bullets, etc. (Where they can, these men are also obliged to construct obstacles.)

6. Using smoke for protecting cavalry units, and for screening any of their countermoves or maneuvers.

7. Placing the led horses in areas where the tanks cannot penetrate.

THE HORSE-ARMOR COMBINATION

In July, 1944, the Soviet press announced that a Kuban Cossack tank regiment commanded by a Lt. Colonel Shapor was in action as a part of a larger Kuban Cossack formation containing horse cavalry. Late in August a Don Cossack tank unit was fighting in General Gorshkov's Don Cossack-Cavalry Corps in Romania.

Prior to this war, each cavalry division included an independent mechanized regiment. In view of the successful combat achievements of the tank-cavalry team it is possible that the Red Army is again incorporating a mechanized regiment in the cavalry division. Information is difficult to secure, however, and nothing has been discovered which will confirm this fact. During the greater part of this war, the tank-cavalry teams have been made up by *attaching* armored elements to horse cavalry units, or vice versa.

SUPPLANTING INFANTRY WITH CAVALRY

Early in the war the Red Army saw that its tank attacks could be accelerated by substituting horsemen for infantrymen. Heretofore a tank attack had been more or less keyed to the marching rate of infantry, or approximately $2\frac{1}{2}$ miles per hour. By the use of cavalry the tempo of attack was increased to about 5 mph. This was one factor which influenced the creation of the now famous tank-cavalry team. It should be noted that the Red Army has given *much attention* to the matter of *tank support*. For example, the Russian Army initiated the practice of carrying infantrymen on tanks, and during the past year accounts have been heard of armored vehicles towing special trailers loaded with infantry.

As illustrated in Fig. 5, Cossacks or other cavalry units are used to supplant infantry when the latter cannot keep up with a tank attack or pursuit. For example, in an attack against a well fortified line, infantry is the proper and usual supporting element of armor. When the attack is successful, the tank units continue their thrusts and pursuit. The infantry, worn down by the initial attack, may be unfit or too occupied with a mopping up action to continue far in support of the tanks.

The Red Army generally solves this problem in one of two ways.

One is to have the infantry remount the tanks as fresh infantry units arrive to occupy and consolidate the territory won by the initial group. If the initial infantry units are badly decimated or disorganized, there is some risk to this procedure.

The second method is to dispatch cavalry to the support of the progressing tanks, as shown in Fig. 5. An example of this type of employment occurred at Korsun-Shevchenkovsky in March, 1944, when the infantry was unable to keep up with a highly successful tank pursuit and cavalry supplanted the slower moving foot soldiers.

FLANK ATTACK

Another combat combination of the tank-cavalry team is illustrated by the diagram in Fig. 6. Here cavalry follows close in wake of an infantry-tank attack, and as soon as the enemy lines have been breached the cavalry extends the flanks of the breakthrough neck.

This is one aspect of cavalry's rôle in finishing the breaching of a position. The value of cavalry over infantry here is that the former, possessing great speed and mobility, can pursue the enemy remnants reeling back from the main assault and prevent them from having time to fortify and create new positions.

Cavalry's speed also insures greater surprise in attacking other enemy positions from the flank. An example of such employment occurred at the Ingulets River (March 1944) when cavalry was poured into a breach, and it crossed very muddy terrain to take many enemy positions and several fortified towns in rear of the hostile main line of resistance.

During the highly successful summer offensives in

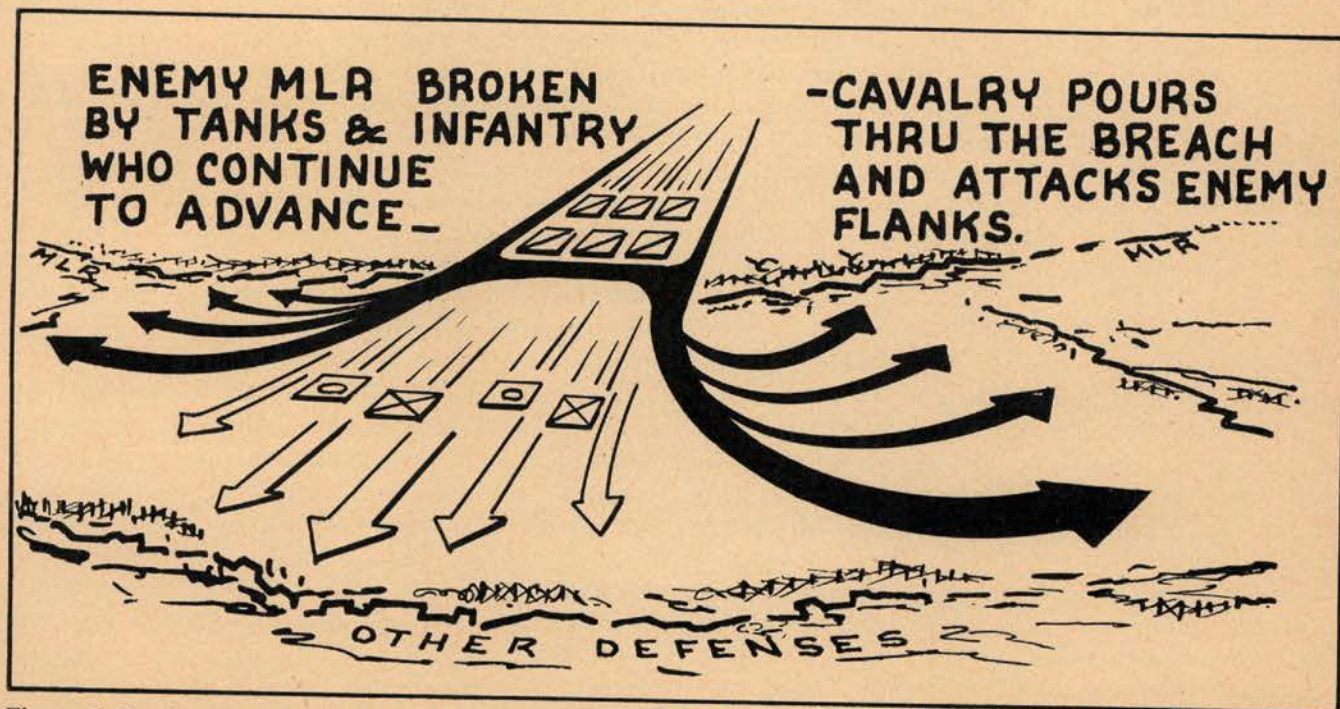


Figure 6. Cavalry extends the flanks of a tank-infantry breakthrough, while tanks and infantry continue the advance.

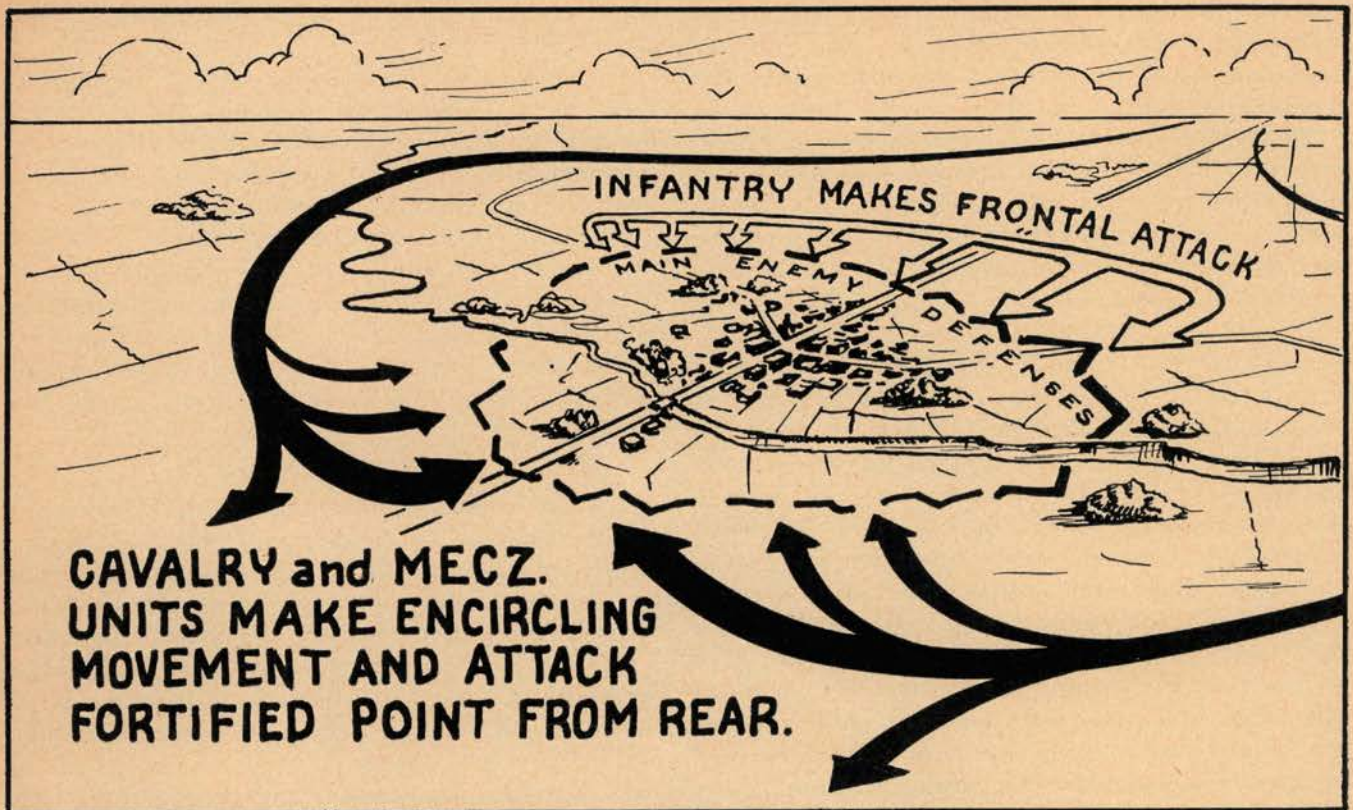


Figure 7. The tank-cavalry-infantry team in operation against a fortified town. Grodno, Brest, Litovsk, Lublin and other cities were taken by this combination of arms and encircling maneuver during the Russian offensives of 1944.

1944, the Red Army captured a great many strongly fortified cities and towns in minimum periods of time. Its tactics were not new, but *skilful use* was made of the tank-cavalry combination. While the infantry pressed forward and occupied the main enemy strength of a fortified town, cavalry and tank units swung wide around to the flank. Usually, the flanks, being weaker, were attacked and cut. Thus the armor-horse teams swung in toward the rear of the fortified point, and not only attacked the strong point from its weakest line of defense, but also cut off its communications and probable line of retreat. The Skala pocket in April 1944, Minsk in 1944, Roman, Bacau, Focsan and Barlad of August 1944 are some of the many fortified positions taken by this procedure.

ATTACK TECHNIQUE

From the cavalry's standpoint a mounted charge in conjunction with tanks is the most successful type of *strictly mounted* action in which horsemen today can participate. (Space does not permit the very deserving mention that should be made of the artillery and air rôle in providing the barrages which always precede these attacks.)

When attacking strong enemy defenses, the first wave of an armor-horse assault is composed entirely of tanks. Once the attack is launched, the horsemen follow their armor at a fairly close interval. Russian cavalry and tank officers agree that the interval between tank and horse echelons must not be too great; otherwise, the

enemy may have a chance to cut the cavalry element off from its armor.

Where the objective is *not* a well-organized defense, cavalrymen are mixed with the initial tank echelon. The latter is followed by at least one other echelon similarly organized. Care is taken to place extra armored vehicles on the flank so as to protect the more vulnerable horsemen from flanking fire.

In the assault, the tank fire power is mainly directed at the larger targets, while the mounted cavalry makes enemy personnel its objective. Horse units must, and do, dismount to fight on foot during these assaults.

Secondary missions of cavalry vary with the success of the attacks. Where only limited gains can be made, the cavalry consolidates the forward ground won and holds the area until relieved by infantry. Where complete breakthroughs are accomplished the horsemen proceed forward with the mechanized units.

Where an attack is slowed down or stopped, the cavalry seeks soft spots or takes to the more difficult terrain in an effort to penetrate in and around the enemy resistance. In instances where cavalry and other arms are successful against hostile forces, the cavalry attempts to cut the enemy's way of retreat. The cavalry's cross-country mobility is an asset in pursuing opposing dismounted forces who may take to swamps, ravines and other difficult terrain. The Russian cavalry commander's choice is always to strike from the flanks rather than frontally.

It is always important to visualize cavalry in terms of

divisions and corps—with all its components, AT weapons, mortars and artillery, which balance the present day cavalry team.

THE SMALL MOBILE TEAMS

The flexibility of the armor-horse combat combination is well demonstrated by a method employed on the Third Ukrainian Front in the first two months of 1944. Special teams were organized to pursue the retreating Germans. General Malinovsky's commanders created a mass of many small combat groups designed to cut up the German units in and about the Bug and Ingulets Rivers. These groups consisted of two tanks (or self-propelled guns) carrying tommy gunners, plus mounted cavalymen. Some of the latter included cavalry trench mortar crews and machine gunners in their *tachanki*. The combination proved successful by reason of the combined mobility. They were employed in a mass push, and while not all teams were able to penetrate the enemy defenses, a great many did.

Once the situation was fluid, these mobile combat groups proceeded to wreak havoc on the enemy, and they capitalized on the confusion which they created in the enemy ranks. In one area a group of these teams attacked a German motorized column on the road. Striking at this winding train of retreating enemy vehicles a group of these small tank-cavalry teams broke up the column into a series of isolated and surrounded islands of resistance, which were then attacked by other troops and annihilated.

SUMMARY

During the year of 1944 the tank-cavalry team participated in the liberation of Razdelnaya, Odessa, Kamenets, Podolsk, Lublin, Minsk, Slonim, Grodno, Zolo-

"Tanks and armored cars, while crushing and destroying enemy personnel and fire power, make a way (for) and provide direct support for the cavalry. In separate circumstances cavalry can be employed on independent missions such as reconnaissance, attacking lone enemy groups, etc. The greatest success in battle is attained by concentrated attacks of tanks and armored cars. The limit of division of tanks is the squadron (U. S. troop), but separate tank and armored car platoons can be attached to cavalry units and detachments which are to carry out independent missions."

—Red Army Combat Regulations for the Cavalry Squadron and Regiment, Chapt. I, par. 14.

chev, Brodi, Krasny, Brest-Litovsk, Focsan, Roman, Barlad Debretsen, and many additional small places—not to mention the defeats inflicted on the enemy in the course of this fighting. It is interesting to note, that at Debretsen in October 1944 no less than ten cavalry divisional commanders were cited by Marshal Stalin, and most of these were commanders of Cossack units. More cavalry units participated in this battle than were ever announced before.

The story of the Cossacks' combat achievements in World War II is still unfinished. Furthermore, details are lacking on what Russian cavalry has already performed in battle. But, when military historians begin to write the account of this war, the Cossacks and Red cavalry will have provided more than enough documentation to prove cavalry's usefulness in the "so-called" machine war.

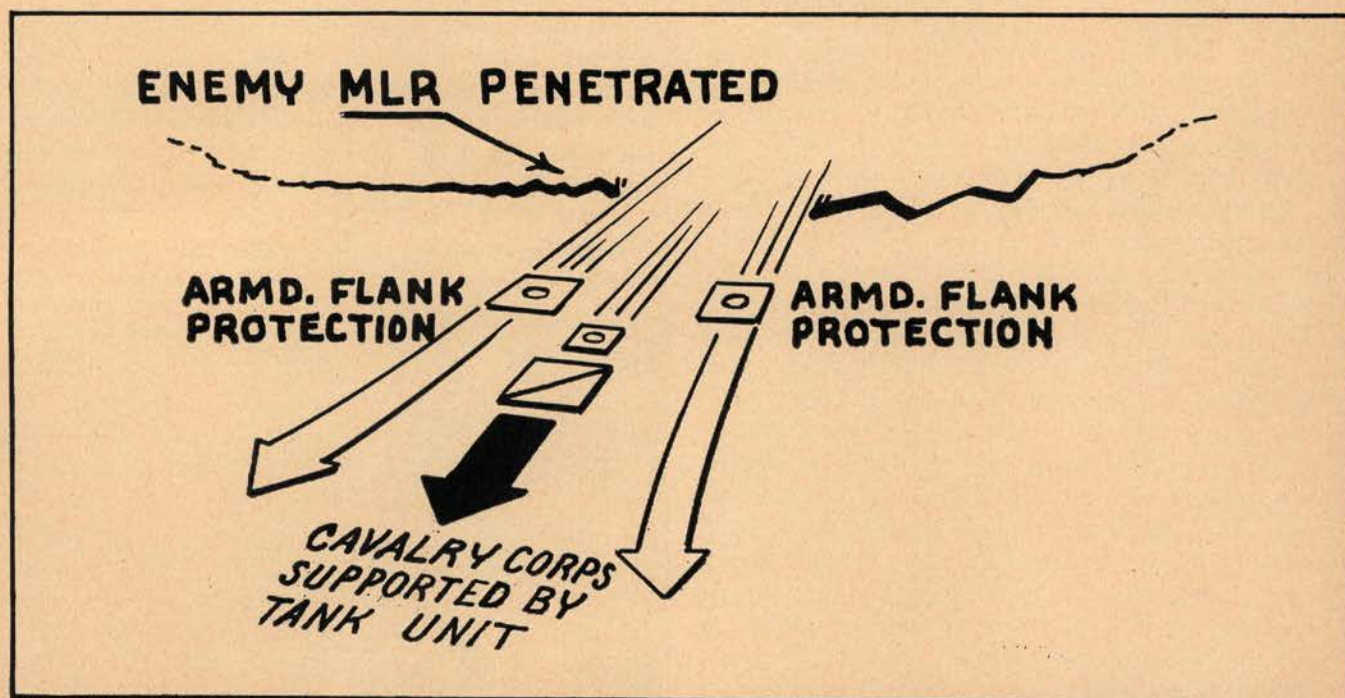


Figure 8. Typical organization of the tank-cavalry combat team for pursuit of enemy combines armor with cavalry corps.

Soviet Night Attacks

Cavalry — 1945*

by Major Nicolai Kostrov, Red Army

DURING the 1945 January-February offensive on the Russian Front, Soviet cavalry sliced up many enemy groups, dealt blows on the German flanks and rears, and cut their communication lines. Making good use of its mobility and striking power, the cavalry, in co-operation with other arms, captured the cities of Allenstein, Bromber, Beuthen, Lodz, Tomaszov and Kalisz; penetrated to Brandenburg, and seized Neudorf and Meseritz.

Thus throughout recent campaigns Soviet cavalry has remained true to its past glorious traditions.

What is the distinguishing feature of Soviet cavalry in the fighting of today?

A horseman presents a good target. Even a bad shot can hit the horse and put it out of action. For this reason, Soviet troopers as a rule operate at night. Maneuvering in secrecy, they circle the enemy positions and launch surprise raids on the enemy rear and reserves on their way to the front. The execution of such assignments is invariably connected with various difficulties. The troopers have to surmount woodlands and marshes, swim across rivers, and then go into action without respite. One must possess unfailing will and stubbornness to stand the strain.

Here is a story of a recent battle on the southern sector of Pomerania, as described by a squadron commander, Senior Lieutenant Voloshko:

"My squadron screened the flank of a unit that was to emerge on a vital inhabited locality and capture it. The night was dark, and a cold wind was blowing. But confronting us were even greater difficulties—the forcing of a river which had only recently thawed. It was past midnight when a runner from a forward detachment returned to report that the party had reached the river bank and had seen no sign of the enemy.

"We dismounted and watered the horses to cool them a bit. Then came sleet, which was fine, because it concealed our movement. Soon we reached the cold, broad waters of the river. In accord with previous arrangements, the troopers approached the river with as little noise as possible and, leading their ponies, swam across in pairs. It requires nerve to plunge into the ice-cold water with a horse to follow, but before long the squadron was assembled on the opposite bank. There was no time to dry, and the cavalrymen proceeded on foot in order to warm their numb limbs.

"Within a half-hour a runner came to report that a

German infantry column, evidently with artillery, was moving on the road across our path.

"Not knowing the strength of the enemy, I hesitated, but after a moment's reflection decided to attack the column. Posting a dismounted cavalryman on the road and, after despatching three troopers armed with machine guns, I assembled the rest of my force in the shrubbery with the object of attacking the center of the column from the flank. The attack of the squadron and the action of the three machine gunners were timed to coincide with the fire of the dismounted trooper in front. The operation was a remarkable success.

"No sooner had the dismounted cavalrymen opened up than the machine guns began to rattle in the rear. The Germans scattered in confusion. Just then the squadron rushed at the column, dimly visible in the murk.

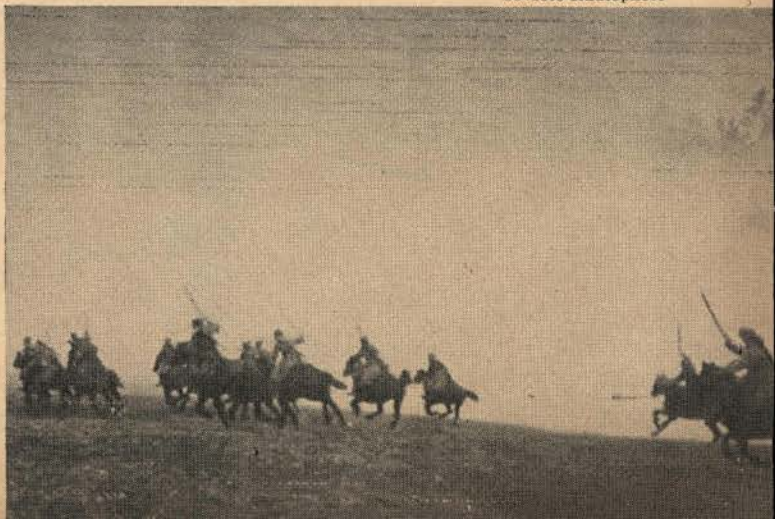
"The Germans fired at random. The Nazi officers were heard calling their men to action. But it was already too late. Slashing the frightened Nazis with their sabers, the cavalrymen penetrated to the very midst of the column. The battle lasted one-half hour; then quiet set in again. We took 24 guns, several machine guns and a large supply of ammunition."

This officer's story presents a typical example of successful cavalry operations founded on sudden action.

Surprise raids, as a method, are not only employed by small detachments, but by strong cavalry units as well. That, for example, is how Allenstein was captured by the units of Lt. General Oslikovsky. This skilfully handled operation will go down in history as a model cavalry attack. When the cavalrymen rushed the edge of the town, the population in the center had no idea of the impending catastrophe. At the railway station troops found the station master calmly issuing orders, totally unaware of the peril. Even after Soviet units had captured the area adjoining the station, trains arrived

Protected by a smoke screen, Soviet cavalry makes a mounted attack in East Prussia. Tops of trees show at right.

Sovfoto Radiophoto



*By cable from Moscow.

with vital cargo from the Baltic port of Koenigsberg.

The episodes described show what a significant part Soviet cavalry has played in recent campaigns and how well the cavalry copes with its assignments.

Tanks^{*}

by Colonel Peter Ribakov, Red Army

NIGHT fighting is a complicated affair, particularly for tanks which find themselves hampered by poor visibility, difficulty in taking bearings for conducting fire, and controlling operations. Yet it is quite possible to wage successful night battles provided they are carefully planned. This has been proved by combat experience.

Night battles by Soviet tanks are a common occurrence, especially during the winter season when the day is too short to accomplish major operations. Such night attacks are carried out on a wide scale during offensive operations and raids in German rear areas.

Combat experience shows that it is the best strategy to breach a strong German defense zone in daytime and complete the operation during the night. Soviet tank units, in coöperation with the infantry, were ordered to force a passage in the German defense positions and, after cutting the highway in the rear, prepare the way for a Soviet rifle unit to reach the road. In the area of the German defense line there were three ravines (impassable for tanks) which stretched perpendicular to the front of the breakthrough and parallel to one another.

Preparation for execution of the assignment was conducted in the following manner:

Columns of infantry and light machine gun sections were attached to tanks, and after two night trial operations, each man knew his tank and crew. Landmarks in enemy territory were picked, and arrangements made to illuminate them. Special parties were formed to move on the tank flank and mark steep banks of ravines with tracer bullets.

To make it easier for the tanks to locate the infantry in the darkness, and *vice versa*, special combat men signalled their whereabouts with electric torches. In the course of two nights, sappers prepared enemy minefields for destruction and during the day gunners trained their guns on the chosen landmarks, which had to be set on fire.

In the dead of the night the infantry and tanks assembled at prearranged points, and when gunners illuminated the landmarks, tanks, with infantry in their wake, infiltrated through the gap.

Another example of tank night operation was presented in another section. In the course of a large-scale daylight offensive, Soviet rifle units had considerably reduced a German defense zone. That night tanks were ordered to complete the breakthrough, penetrate to the rear, and cut off the enemy's escape route to the west.

^{*}By cable from Moscow.



Sovfoto Press Photo

Tanks drive on German positions during action on the Third Byelo-Russian front in East Prussia, early 1945.

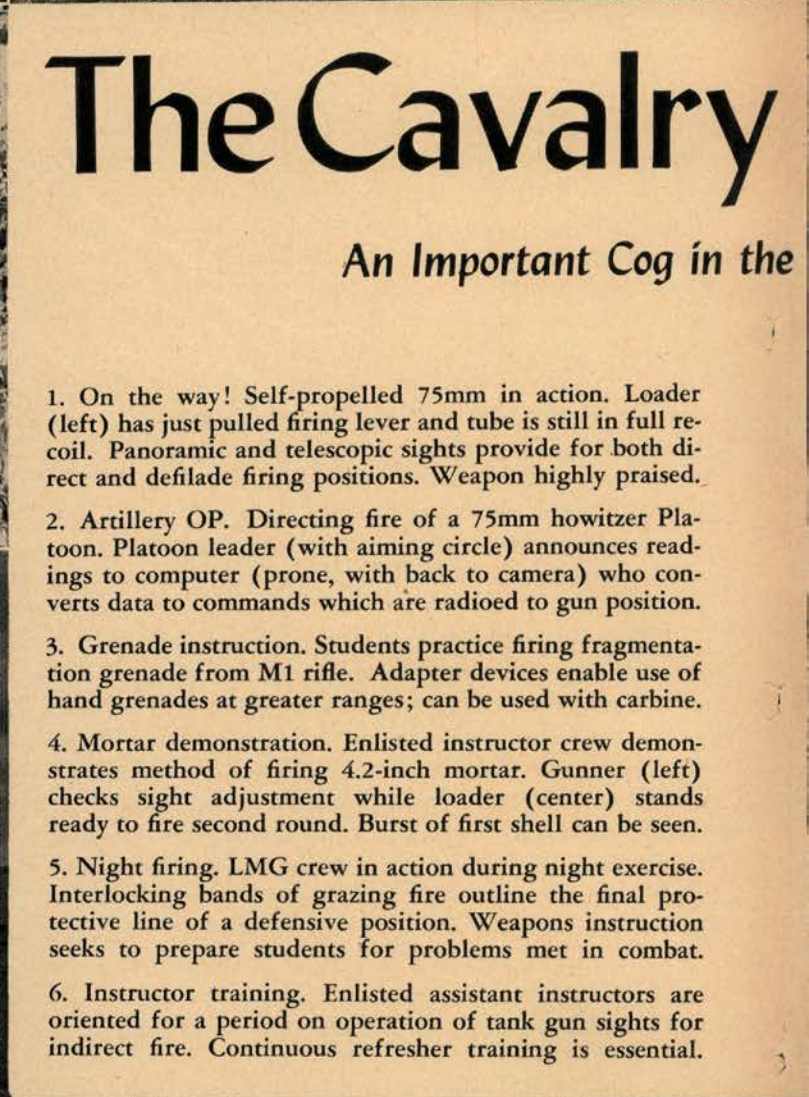
Before the tanks were introduced into the gap, all necessary preparations were made. Each tank carried a party of Tommy gunners, while the leading tank carried sappers and guides. Points were established from where signal flares were to be fired. In front of the column were scouts, then an advance guard, followed by the main tank force.

When the infantry had assembled for action, the tanks assumed battle formation and attacked the German positions. The enemy was so stunned by the night attack that he failed to put up any serious resistance, but retreated toward the town to the north. Tank units, continuing the pursuit, advanced through a woodland, and with headlights blazing, swept the forest with cannon and machine-gun fire, which had a devastating effect on enemy morale. Then, racing into town at top speed with lights still flashing and cannon and machine guns firing, the tankmen accomplished their mission by morning.

During the pursuit, motorized infantry followed in trucks also with lights on. Experience shows that headlights and rockets are effective only in cases where swift movement is possible. When for various reasons tanks have to make frequent stops, headlights and rockets permit the enemy to conduct precision fire.

On another occasion a tank unit, under Colonel Derbinian, approached a river bank but was unable to force the waterway during the day because the Germans were well established on the opposite side. Thereupon, Colonel Derbinian decided to cross during the night. As darkness set in, he assembled the tanks near the river. The fact that the Soviet units had ceased active operations in daytime had led the Germans to believe that the Russians had postponed the attack until morning, and the lull during the period of preparations had strengthened this conviction. When it was dark tanks, artillery and mortars began pounding the German positions, while under this cover of fire motorized infantry landed on the opposite bank and immediately went into action. Sappers soon spanned the river, and the tanks were taken across.

Developing this initial success the tank units made good progress and by morning were continuing their pursuit.



The Cavalry

An Important Cog in the

1. On the way! Self-propelled 75mm in action. Loader (left) has just pulled firing lever and tube is still in full recoil. Panoramic and telescopic sights provide for both direct and defilade firing positions. Weapon highly praised.

2. Artillery OP. Directing fire of a 75mm howitzer Platoon. Platoon leader (with aiming circle) announces readings to computer (prone, with back to camera) who converts data to commands which are radioed to gun position.

3. Grenade instruction. Students practice firing fragmentation grenade from M1 rifle. Adapter devices enable use of hand grenades at greater ranges; can be used with carbine.

4. Mortar demonstration. Enlisted instructor crew demonstrates method of firing 4.2-inch mortar. Gunner (left) checks sight adjustment while loader (center) stands ready to fire second round. Burst of first shell can be seen.

5. Night firing. LMG crew in action during night exercise. Interlocking bands of grazing fire outline the final protective line of a defensive position. Weapons instruction seeks to prepare students for problems met in combat.

6. Instructor training. Enlisted assistant instructors are oriented for a period on operation of tank gun sights for indirect fire. Continuous refresher training is essential.



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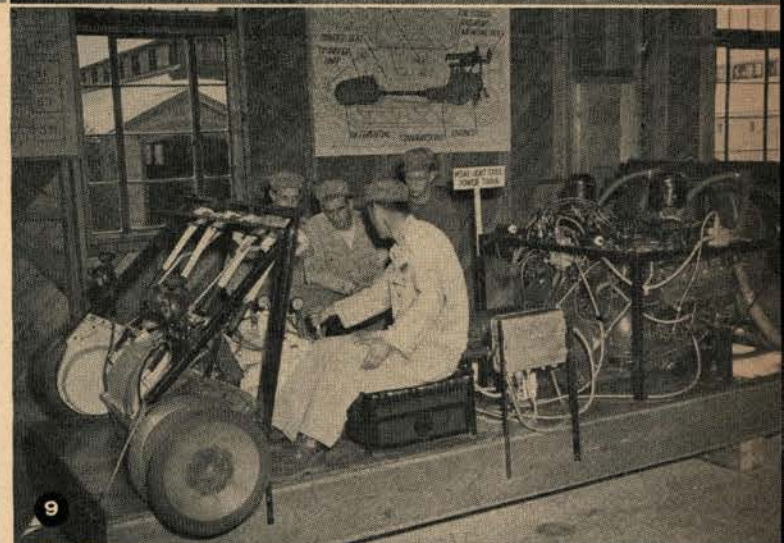


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School-1945

Army's Training System

Photos from Cavalry School

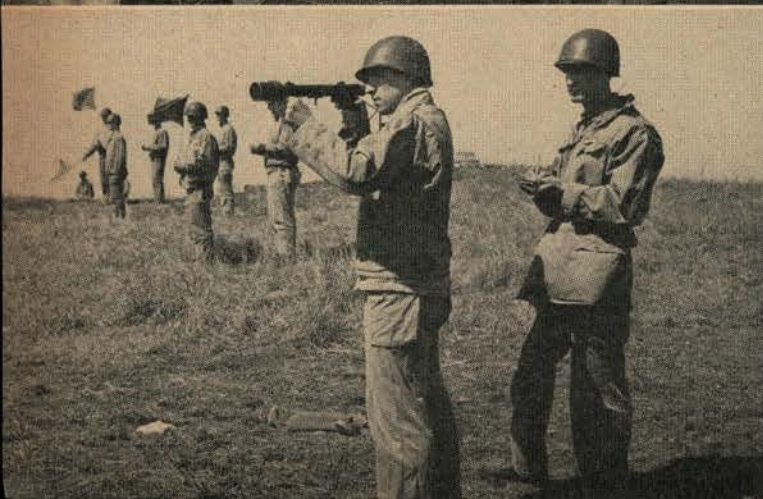


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FOREWORD

WHILE its historic background and traditions provide stability, The Cavalry School is modern and progressive, and has accepted the edicts of the times. Its important rôle and mission are synchronized to current needs as outline by Army Ground Forces and the War Department.

All cavalry units have cleared continental United States. Each is going strong in some theater of operations. Some have been cited for battle honors.

In the Mediterranean and European Theaters, mechanized cavalry reconnaissance echelons—groups, regiments, squadrons, and troops—without exception, have rendered conspicuously outstanding service in spearheading advances and providing fast streamlined reconnaissance. Mechanized cavalry has demonstrated its combat value and efficiency. The 1st Cavalry Division and two separate cavalry regiments are operating dismounted, with great gallantry and success in the Pacific Theaters.

The Cavalry School has a job to do. It is getting that job done with spirit and energy. The employment of mechanized cavalry demands the overwhelmingly major portion of its instructional time. Every single hour of training is approached, planned, and conducted realistically, geared as it must be to theater requirements. Battle realism is the goal. In all training the transition from the classroom and maneuver area to the battlefield is not abrupt.—W. M. Grimes, Major General, U.S.A., Commandant, The Cavalry School.

CURRENT EMPHASIS

The Cavalry School now has such courses as: Jungle Operations, Forward Observer Methods, Land Navigation by Odograph, Battle Drill for the mechanized cavalry team (squad) and platoon, Mule Pack Transportation, and 4-day field problems involving air-ground liaison, combined operations, minefield gapping, battlefield recovery of vehicles, and combat firing.

The school is using howitzers on M8 motor carriages, liaison-type planes, 5 man rubber reconnaissance boats, and standard and test models of combat vehicles.

For small unit tactics and technique, there has been an almost enmass movement out of the classroom into the field.

A technique or procedure which cannot be worked

13. On target! Seated in an M10 trainer, instructor demonstrates how gyro stabilizer helps gunner keep on target.

14. Field expedient demonstration using Spanish windlass, an EMC student pulls a vehicle from hole.

15. SCR 399, Cavalry's most powerful set. Student tunes and operates set removed from its shelter HO17. Student also works on SCR's 506, 193, 694, 508, and 510 sets.

16. Combat communications include visual signals. Using Morse Code, students signal with flags and Lamp SE 11.

out on the ground is not worth discussing, so approximately 70% of the tactical training is done in the field. The remaining 30% includes preliminary and technical phases. The comparatively few classroom periods are essentially conferences on principles and logistics, sand table exercises, and experience seminars.

The Cavalry School is in a transition period. Each sub-course is being subjected to the critical scrutiny of combat-seasoned officers and men. The school is taking maximum advantage of what mechanized cavalry units have accomplished and learned in combat.

Among others, the Director of Training, the Chief, Department of Tactics, and members of the latter's Employment, Doctrine, and Training Committees are experienced mechanized cavalry and armored commanders. Instructors in staff work and logistics all have successfully performed duties of S-3 and S-4 in actual operations. Instructors in small unit tactics have led mechanized troops and platoons.

All concerned are currently assisting in the preparation of a new field manual on the employment of mechanized cavalry, which will incorporate the lessons learned in battle and reflect to an appropriate extent each specific type of mission accomplished successfully by a mechanized cavalry unit in the several theaters of operation.

PRIMARY INTEREST AND MISSION

The Cavalry School's primary interest is the progress and welfare of its officer and enlisted students. Its mission includes:

1. Teaching officers the tactics and technique of cavalry and familiarizing them with the missions and methods of associated arms.
2. Training enlisted men as specialists in single fields such as communications, motors, tank maintenance, saddlery, horseshoeing, radio repair, and odograph operation.
3. Conducting courses through which selected officers and enlisted men of different branches of the service are qualified as specialists in animal pack transportation.
4. Assisting in the development and perfection

17. "Pick-up" method in air-ground communications. Note message sack. Use of radio between air and ground elements is also a feature of TCS field problems and exercises.

18. Trouble-shooting. Second phase of radio repairman's course. Student learns circuit and repair procedures for all cavalry radio equipment. Sets are SCR's 510 and 508.

19. Final phase. Radio Repairman Course sends students into field. Here students, equipped with only those tools available on unit T/O & E, make repairs on an SCR 506.

20. Land navigation. Instructor orients students in the operation of land model odograph prior to first field problem. Students come from all arms; also Navy Seabees.





of cavalry tactics and technique, and preparing manuscripts on training literature projects.

OVERSEAS RETURNEES

During recent months, The Cavalry School has been concerned with the overseas returnee problem from several angles: administration, utilization, and morale. First, the school is receiving an increasing number of returnees as students; second, the school is replacing key instructor, staff, and instructional department overhead personnel with qualified returnees; and third, special training is being conducted to qualify selected returnees as replacements in the several departments. Students who have had overseas service are recognized, welcomed, and urged to contribute sincere, constructive comment at appropriate times throughout their respective courses.

If an instructor has had overseas service, he is urged:

1. To analyze his combat experience and use it to vitalize instruction for which he subsequently is made responsible.
2. To participate actively in planning conferences with his department chief and express his ideas freely.
3. To examine official training literature and instructional material with a view to recommending essential changes.
4. To prepare a factual narrative of combat incidents of which he has personal knowledge and which, in his opinion, have training and intelligence value.

Overseas returnees with combat experience attend assemblies and are invited to participate actively on a "disregard rank" basis. Outspoken comments are solicited, evaluated, and discussed. Realism in field problems and exercises is essential. Overseas returnees in key positions do much by attitude and action to assure it.

Returnees who are married and whose families accompany them are permitted to live off the post while students at The Cavalry School as long as they maintain a satisfactory academic standing.

If an otherwise qualified returnee needs some special training prior to assignment as an assistant instructor, he gets it, either as a member of one of the specialist classes or individually under the members of the instructional group to which he will be assigned.

In each sub-course of instruction a seminar is sched-

21. Field shoeing. Students are required to operate with T/O tools. In Burma and China, forges were air-dropped.

22. Repairing pack equipment. ESC students in training work on packer's saddle and Phillips cargo packsaddle.

23. Herded train. Officers' pack class clears the post at the start of a road march. Note lashed loads on "jug-heads."

24. Zero hour. Breaking camp on the 6-day march and bivouac. Student officer packers "hobble off" a basket hitch on boxed 105mm ammunition. Note stacks at right.

uled for the purpose of giving students an opportunity to present their combat experiences.

The situation in the Department of Horsemanship is particularly interesting. There are 20 enlisted overseas returnees performing duties as assistant instructors in the pack section, and all have had packing and animal management experience with horse cavalry units. Twelve are former members of the 112th Cavalry, a horse regiment which was dismounted for combat service in this war. All of these men like their jobs and appear to be especially happy at having the opportunity of serving in an animal activity.

Special-purpose training detachments have replaced T/O Units as school troops for the presentation of perfected tactical demonstrations for instructional purposes. All enlisted personnel are Classed D and X. Seasoned men from Africa, Italy, Sicily, Pacific, Aleutians, and Europe are contributing to the effectiveness of current training. School troops test new equipment and techniques.

A War Dog Platoon will soon be added to school troops. Handlers will be picked men with war dog experience in New Guinea, New Britain, and other islands of the South Pacific. Employment will augment current reconnaissance instruction. Battle reports indicate uniformly successful use of war dogs on patrol missions.

The III Tactical Air Command's 2d Composite Squadron is stationed at Marshall Field, Fort Riley. It performs air-ground missions and provides demonstrations. This splendid coöperation has assisted in modernizing the school's field instruction to a marked degree.

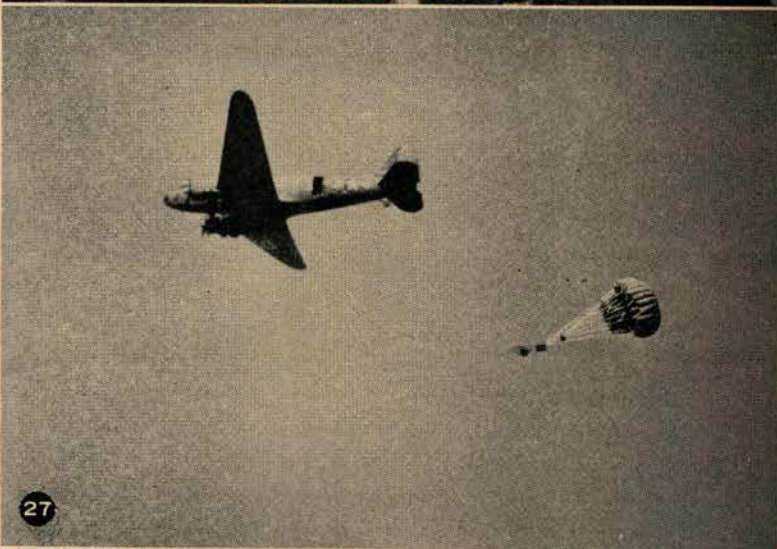
CURRENT COURSES

Courses now given at The Cavalry School include:

Officers' Refresher Course (Mechanized)—Includes mounted and dismounted reconnaissance and combat patrolling, jungle operations, and the operation of OP's under fire.

Officers' and Enlisted Pack Courses—To qualify selected officers and enlisted men for service with overseas pack units or combat units which utilize pack animals for the transportation of weapons and other organic loads.

Officer and Enlisted Communication Course (For officers, duties of a communications officer; for enlisted



25. Stream crossing. The Guide's boat is improvised with cargo packsaddles, ropes, and rigging covers.

26. Technique and speed. A 2-man team balances load.

27. Resupply by air-drop. A C-47 transport plane drops ammunition to Officers' pack class during field problem. TCS and the 1st Troop Carrier Command coöperate. In Burma campaign, a small but valorous air unit supplied approximately 17 divisions in combat for a month.

28. Rain or grain. Sacked oats in a free-fall from C-47.



29



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men, code practice and basic communication procedures)—To qualify officers and men as communication specialists with specific MOS for T/O positions; includes radio theory, tuning, maintenance and repair, and cryptography.

Officers' Special Basic Course—To train troop-grade officers of other branches to lead mechanized cavalry platoons and troops; includes tactics and technique employed by small mechanized cavalry units in performing their primary mission, reconnaissance, as well as land navigation, reconnaissance in jungle operations, night combat patrols, and OP operation.

Land Model Odograph—To train selected personnel in the employment and maintenance of the land model recording odograph; includes day and night field operation of the odograph over all types of terrain as well as magnetism, compass theory, and compass compensation. Officers and enlisted men of all branches of the service undergo training as 2-man teams, each consisting of one officer and one enlisted man. Students selected to attend this course must be well grounded in the use of maps and aerial photographs, radio communications, and vehicle maintenance.

Officer and Enlisted Motors Course—To train officers to supervise intelligently 1st and 2d echelon maintenance on cavalry vehicles and to qualify enlisted students as 2d echelon mechanics; includes small group shop and field maintenance instruction, road and cross-

29. Packing up air-drop cargo. Note special clothing.

30. Mechanized cavalry team (squad). Under current T/O & E, mechanized platoon has 3 such teams. Each consists of 2 1/4-ton trucks mounting a LMG and a 60mm mortar respectively and an M8 armored car mounting a 37mm gun. This basic unit is now subject of critical study.

31. Patrol leader issues order. Note reconnaissance patrol's improvised "snow suits" and SCR 511.

32. Director orients staff during 3-day field maneuver of Officers' Refresher Class and TCS school troops.

33. Flame thrower in action—a phase of CWS training.



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country marches over varied terrain, all-weather operation, and field expedients. Spanish windlass instruction is particularly interesting and effective.

Enlisted Saddlers' Course—To qualify selected men for duty as saddlers in cavalry, field artillery, and quartermaster units. Most of the graduates currently are being assigned to overseas pack units.

Enlisted Horseshoers' Course—To qualify selected men for duty as horseshoers in cavalry, field artillery, and quartermaster units. Most of the graduates currently are being assigned to overseas pack units.

Enlisted Tank Maintenance Course—To develop and qualify men as 2d echelon mechanics on the motor carriage M8 and the M5A1 and M24 light tanks; includes trouble shooting and repair as well as parts replacement and field maintenance. Prerequisite for this course is graduation from a service school motors course or appropriate practical experience as a mechanic in lieu thereof.

Enlisted Radio Repairman Course—To qualify selected enlisted men for MOS 648, radio repairman; includes trouble shooting, repair, and cannibalization. Prerequisite is graduation from a service school communication course or appropriate practical experience as an operator in lieu thereof.

Enlisted Armorers' Course—To train and develop armorers for service with cavalry units; includes adjustment and repair of all types of cavalry weapons, individual and crew-served.



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34. Contact! L-5 liaison plane lands on secondary road and gives mechanized cavalry element some information.

35. Sand table problem arouses interest. Such exercises are always preliminary to field work with school troops.

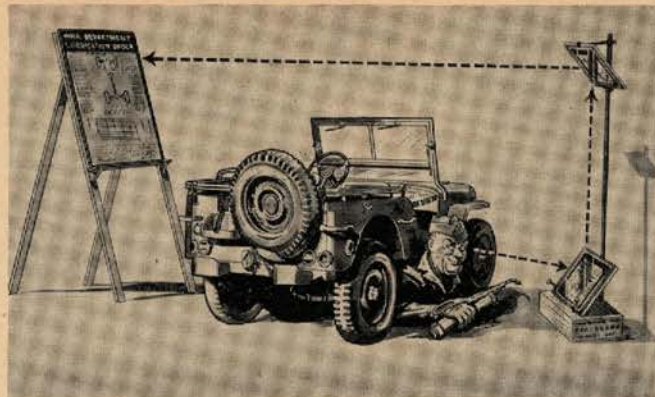
36. Attack on fortifications. Student practices individual demolition technique.

37. Reconnaissance boat. Equipment is organic in the mechanized cavalry troop. Students learn to navigate craft.

38. 75mm howitzers blaze away during field problems which bring together students and training personnel.



Know Your Fuels and Lubricants



Sugar and salt look alike. So do many petroleum products. But if you can imagine sugar on steak or salt in coffee you get some idea of what happens to cavalry equipment when the wrong fuels or lubricants are used. War Department Lubrication Orders (WDLO's) and Technical Manuals prescribe the right fuels and lubricants for cavalry equipment. They should be followed at all times, and the following facts should be kept in mind:

The Product

GASOLINE (Unleaded and undyed)
(USA 2-116)

MOTOR FUEL (All purpose)
(USA 2-103B)

MOTOR FUEL—72 Octane
(USA 2-114A)

GUM-PREVENTIVE COMPOUND
(Fed. Stock No. 51-C-1586 225)

OIL, ENGINE (USA 2-104B)
SAE 10, 30 and 50

LUBRICANT; GEAR, UNIVERSAL
(Hypoid and other types)
(USA 2-105A)

GREASE, GENERAL PURPOSE No. 0
(USA 2-106, Amend. 2)

GREASE, GENERAL PURPOSE No. 1
(USA 2-107, Amend. 2)

GREASE, GENERAL PURPOSE No. 2

What You Should Know About It

It's an unleaded gas for use in lanterns, stoves and the like. Don't use it in vehicles except when preparing them for storage or shipment.

This is a high quality gas with an octane rating of 80. It is for use in all vehicles in the combat zone and all combat vehicles in the zone of interior.

This is a good quality gas for use in all noncombat vehicles in the zone of interior. It is issued to conserve the supply of 80 octane gas which is urgently needed for combat.

This compound is for use in gasoline-powered equipment which is to remain idle for 30 days or more. It prevents the gum in gasoline from clogging fuel lines, pumps, filters, and carburetors. See TB ORD 75, 10 April 1944 for detailed instructions.

It is used for lubricating certain artillery equipment and all internal combustion engines except aircraft. This oil has a peculiarity which cavalry officers and enlisted men should understand. The oil is designed to clean as well as lubricate. Due to its cleaning action, the oil holds carbon in suspension which would normally collect on pistons, rings, and other internal parts of an engine. This causes the oil to turn black quickly, and many individuals are inclined to drain it out and throw it away. A black color is normal for this oil. It should be changed on a mileage or hourly basis only—never on a basis of color.

This is the only type available for lubricating automotive gear units such as differentials, steering gears and the like. Comes in three grades: SAE 75, 80 and 90. If it leaks, don't ask for heavier grease as none is available or necessary. Replace your oil seals.

It is for winter lubrication of vehicle chassis and other equipment where specified.

It is for summer lubrication of vehicle chassis and other equipment where specified.

It is for lubricating wheel bearings at all temperatures. Don't use any other grease or grade.

NOTE: See the new SB 10-139, 11 October 1944, for complete information and list of fuels, lubricants, preservatives, and other petroleum products.

Book Reviews

THE MORAL CONQUEST OF GERMANY. By Emil Ludwig. Doubleday, Doran. \$2.00.

For many years the world has read with keen interest and delight the penetrating psychological biographies of the great by Emil Ludwig. As the country of his birth is being overrun by the nation of his adoption and its Allies, this eminent psychological writer utilizes his gifts to present the conquerors with an invaluable analytical text on the German character.

This study shows the German people as the antithesis of the Americans. They accept with slavish adoration the authoritative manner that Americans instinctively reject. The Germans worship war and exalt its accoutrements, while Americans long for the day when peace will be declared and uniforms will be seen only on state occasions or army posts. In the summation of the nature of the Germans, emphasis is placed on the historical importance of their leaders in the building of national ideals, and the susceptibility of the citizenry to the influence of forceful, warlike overlords.

Dr. Ludwig climaxes his specific information with 15 rules of behavior for occupying forces in Germany:

MUCH depends on the first attitude of the occupying forces. . . . Germans are used to overlordship; any attempt to approach them according to the Anglo-Saxon concept of fair play would have undesirable consequences. . . .

1. You are entering Germany, not as a liberator but as a victor. You are supposed to govern the country, and you will not be regarded as a master unless you are strict and reserved.

2. Never give way. Anything that is granted as a favor will be regarded by the German as his right, and he will subsequently demand twice as much. He considers fair play cowardice.

3. Always speak English when dealing with the Germans. Many Germans understand English, others will easily find friends who do. As soon as you speak German you will be regarded as a man without self-assurance, who is seeking favor.

4. Do not keep smiling. Never shake hands with a German visitor. Never offer a cigarette to a visitor unless you know him well. To the Germans you are the successor of Hitler and Himmler; they never shook hands. The firmer your manner of speaking, the greater will be your authority.

5. Always wear a uniform. A uniform is the symbol of authority to the Germans who for three hundred years have been governed by soldiers. In hotels, restaurants, and theaters always insist on having the best rooms or seats. Pay the full price, but refuse to accept anything but the best. The more often Germans have

to give up their places to you, the more their respect for you will grow.

6. The authorities of occupation should publish their restrictive orders along with a reprint of the corresponding orders which the Germans themselves had earlier imposed on subjugated nations. Surely the Allies will imitate none of the German atrocities in occupied countries; but, on the other hand, they should by all means adopt some of the restrictive measures introduced by the Nazis. The German children, who have never heard of these things, as well as the many German civilians who lived through those years without adequate information will thus be reminded that their present restrictions are but the consequences of German crimes.

It is not enough for the Germans to know that they have lost the war. They also must realize that they deserve to lose it. And only such a reëxamination of moral values can make them search their hearts.

7. Be polite to German women, but never be cordial as you are in your own country. If you offer your place in a trolley car to a woman, other Germans will consider you an arrogant foreigner trying to teach them manners. Under no circumstances flirt with German women; they would think it their duty to betray you.

8. Give conspicuous preference to any German who has been in a concentration camp or who in any way opposed the Nazis and suffered under them. To him you may offer a cigarette, especially in the presence of a German of the other type—a former Nazi or a German who has not been in a concentration camp.

9. Give open preference to workers. You may even talk German with them. They will be surprised by and grateful for any sign of friendliness.

10. If you are in need of something—a new lamp, a car, or a plane reservation—and you are told there is none to be had, reply with an icy look and the comment: "It must be here by six o'clock." It will be there in time, and you will have gained in authority.

11. Make everyone entering your service give you an account of his doings under the Nazis and of his actions under the republic. Even in republican days most Germans, including Socialists, were in favor of rearmament and revenge. Only those who can prove their leanings during the past twenty years toward a spirit of European coöperation should be employed by the occupation forces.

12. Be on your guard against German professors who quote English or American literature and history, especially if they do so in English. Many such men have been teaching racial theories for ten years or more—but even that is not so criminal as the sermons of

Books on The Postwar World

Political Aspects

AN INTELLIGENT AMERICAN'S GUIDE
TO PEACE. *Edited by Sumner Wells* . \$3.75

M-12 on The Cavalry Journal Booklist

WINGED PEACE. *By Air Marshal William
A. Bishop* \$2.75

N-23 on The Cavalry Journal Booklist

THE GENTLEMEN TALK OF PEACE. *By
William B. Ziff* \$3.00

L-7 on The Cavalry Journal Booklist

TAKING YOUR PLACE AT THE PEACE
TABLE. *By Edward L. Bernays* \$1.00

L-21 on The Cavalry Journal Booklist

GERMANY, RUSSIA AND THE FUTURE.
By J. T. MacCurdy \$1.25

Social Trends

FULL EMPLOYMENT IN A FREE SOCIETY.
By William H. Beveridge \$3.75

M-8 on The Cavalry Journal Booklist

WHEN DEMOCRACY BUILDS. *By Frank
Lloyd Wright* \$4.00

FOOD FOR THE WORLD. *Edited by Theo-
dore W. Schultz* \$3.75

revenge they preached in the days of the republic. Professors and "scholars" form the most dangerous group in Germany, for they feign interest in a new Germany, yet still mean to promote restoration of the old. Besides, a learned German always considers you an inferior—you will recognize that attitude in the amused smile which promptly appears at every tiny slip of your tongue.

13. Try to learn by heart a dozen or so humane maxims and verses from Goethe and Schiller—preferably containing some critical remark on the Germans—and make use of them in conversation, quoting in German. The German sees in you a strong barbarian; he will be surprised at that bit of German erudition.

14. Forget the American habit of meeting everyone in an open way. Distrust everyone, no matter what rank he holds, who has given no valid proof of his honesty. Then, after some time, the Germans will realize that under your government personality and character count higher than military grades.

15. Never forget that you are in enemy country—even when all arms have been destroyed. Hate and the will for revenge will live on in the hearts of Germans for many years to come. The only way to get along with the Germans is to make them respect you; and they respect nothing short of the strong hand of the master.

It is fortunate that the publisher has wisely bound this important little volume (183 pages) so that it will fit into a pocket and can be tucked easily into any corner of luggage without adding more than 9 ounces to the weight.

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SURRENDER ON DEMAND. *By Varian Fry*. Random House. \$3.00.

Mr. Fry is not only an excellent and ingenious organizer of a refugee underground railroad from occupied France to Spain, but he is also an interesting raconteur of his activities.

Under the auspices of the Emergency Rescue Committee, an effort was made to get as many Gestapo-hunted anti-Nazis out of occupied France as possible. This had to be done with the help of forged passports, and frequent reliance on gangster elements. Many of the smaller countries assisted by giving visas—with the assurance that they would not be used in the country of source. The dangers were manifold, particularly for the unprotected and hunted members of Mr. Fry's staff, who worked indefatigably despite their personal danger.

In the 13 months of his stay in France the author was shadowed, searched, interrogated, and arrested. He was given little support from several sources to which he should have been able to turn, and was eventually seized and deported. The satisfying result of his work was the safe transport to America of such men as Konrad Heiden, Franz Werfel, Heinrich Mann, Lion Feuchtwanger, Marc Chagall, and many others who were smuggled across the Spanish border and on to Portugal, to contribute to the future culture of America and the world.

THE GENTLEMEN TALK OF PEACE. By William Ziff. Macmillan. \$3.00.

In *The Gentlemen Talk of Peace* Mr. Ziff views the present world crisis with harsh realism and few illusions about the nature of men, nations or war. While brutally cynical at times, Mr. Ziff refuses to temporize with obvious trends an attitude which makes this work as important as his earlier best seller, *The Coming Battle of Germany*.

The problems of the individual nations, as well as the difficulties that beset them all, are faced with the same clear, incisive analysis. As the author makes plain in the early pages of his book:

"It should be accepted as axiomatic that there are no problems on earth which cannot be solved if the proper willingness and skill are applied to them. The key to their solution lies in an exact understanding of the nature of the problem, plus a willingness to regroup the facts of today in those known terms toward which the future is driving."

It is to the end that these problems may be solved to the best possible advantage that Mr. Ziff endeavors to strip aside many comfortable illusions that tragically obscure the vision of present world affairs.

Although many statements will unquestionably engender controversy, the reader interested in world affairs will find much concrete information and material for serious thought in this latest addition to the library devoted to the political and economic ills of mankind.

✓ ✓ ✓

TAKING YOUR PLACE AT THE PEACE TABLE.

By Edward L. Bernays. Duell, Sloan and Pearce. \$1.00.

Mr. Bernays has dealt with problems of public relations in official and unofficial capacities with the U. S. Government in two world wars. In this book he endeavors to show how public opinion can be guided by the average citizen, whose responsibility the peace should be.

There is a brief outline of the Dumbarton Oaks proposals and other information vital to one seeking an understanding of international problems. Most of the book, however, is given over to a description of the best methods of channeling individual ideas so as to influence the greatest number of people. Some methods of dissemination will not be immediately available to many, but other suggestions will be within the reach of all men.

In the appendix Mr. Bernays has very briefly outlined our previous peace making and listed supplementary reading available in book and pamphlet form, some publications are free on request, others range in price from 5c to \$5.00.

✓ ✓ ✓

ONE AMERICA. Edited by Francis J. Brown and Joseph S. Roucek. Prentice-Hall. \$5.00.

One America is a complete revision of *Our Racial and National Minorities*, published in 1937. Some of the early chapters have been omitted, new ones added, and all material has been brought up to date. Thirty-three contributors have combined their efforts to make this one of the most comprehensive and eminently readable books on minorities and the racial, cultural, and educational conflicts that must

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inevitably result in the process of amalgamating so many widely different national groups.

Part I introduces the subject of the meaning and status of minorities and the background of America's heterogeneity. Part II contains much important information drawn from the earliest days on immigration statistics, localities of settlement, cultural habits and adaptability of each group. Part III explains some of the activities engaged in by the press, broadcasting stations, fraternal and political organizations. Racial and cultural conflicts and education are frankly and fearlessly covered in Part IV, while Part V indicates the important trends toward cultural democracy being made in relation to the minorities by the nation as a whole. Comparative tables for the substantiation of statistics, an exceptionally full bibliography, and index complete the book and offer an advantage to the serious student.

The material in this volume has been carefully and thoughtfully compiled and skilfully edited to the end that the reader may realize that "The culture of the American people is a composite of the cultures of all America's groups. . . . Each group will recognize and understand its own culture, but not for itself, per se. Rather it will seek to understand the ways it has blended with, and thereby contributed to, the total and kaleidoscopic pattern of American culture."

1 1 1

FREEDOM IS MORE THAN A WORD. By Marshall Field III. University of Chicago Press. \$2.50.

Freedom Is More Than a Word is primarily of interest as the verbal expression of the ideology of one of America's great liberals. Marshall Field III, grandson of the man who helped build Chicago, and a product of great wealth plus the educational systems of Eton and Cambridge, has given concrete proof of his beliefs in the support of PM and the *Chicago Sun*.

Mr. Field tells the story of both of these newspapers and describes their editorial policies. He also gives considerable space to monopolies in the field of news services, a subject of interest to the public at large.

1 1 1

TANKS AND ARMORED VEHICLES. By Lt. Colonel Robert J. Icks. Duell, Sloan and Pearce. \$4.75.

Colonel Icks, Ordnance Department A.S.F., has compiled one of the most valuable books on tanks and armored vehicles yet to make its appearance on the market. Its profuse and exceptionally good illustrations of a wide variety of models will be an invaluable asset to anyone with identification problems.

The first chapter of this book gives a general history of the use of armor prior to World War I, with illustrative photographs and drawings. After a chapter on elements of design and construction, succeeding chapters contain brief, but adequate, histories of the developments of armor in the United States, Great Britain, U.S.S.R., France, Germany, Japan and some of the smaller countries. The models are described, and illustrations show the changes through the years since the last war.

While this book will undoubtedly be appreciated by

adults who will find it of interest as a source of information for many years to come, its appropriateness as a gift for any boy over twelve years old should not be overlooked. It is one of the few books that can be relied on to appeal to the youngster and be of value to the man.

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ROCKETS AND JETS. By Herbert S. Zim. Harcourt, Brace. \$3.00.

The first chapters of this volume deal with the origin and development of the rocket. Later pages go on to describe the construction and operation of battle rockets from the bazooka to the V-1 and V-2 and rockets for meteorological use. The practical and peacetime use of the rocket are anticipated. All of this information is couched in clear, understandable terms. Forty-one drawings and diagrams, and 52 photographs illustrate the various models and their use.

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DOUBLE TEN. By Carl Glick. Whittlesey House. \$2.50.

This book is the story of Captain O'Banion's experiences with the fabulous Homer Lea, General in the Chinese Army, and organizer of American-Chinese support for the 1911 revolution, which brought Dr. Sun Yat-sen into the foreground of China's development.

Told in the first person, the story is limited to incidents involving the author, who was a former American sergeant, and the Chinese troops whom he was secretly training. While this builds up to an adventure story of more than usual interest, the more serious reader is tantalized by too little about the intriguing figure of Homer Lea and a dearth of information about Dr. Sun and his ideology, and influence in the new Republic of China.

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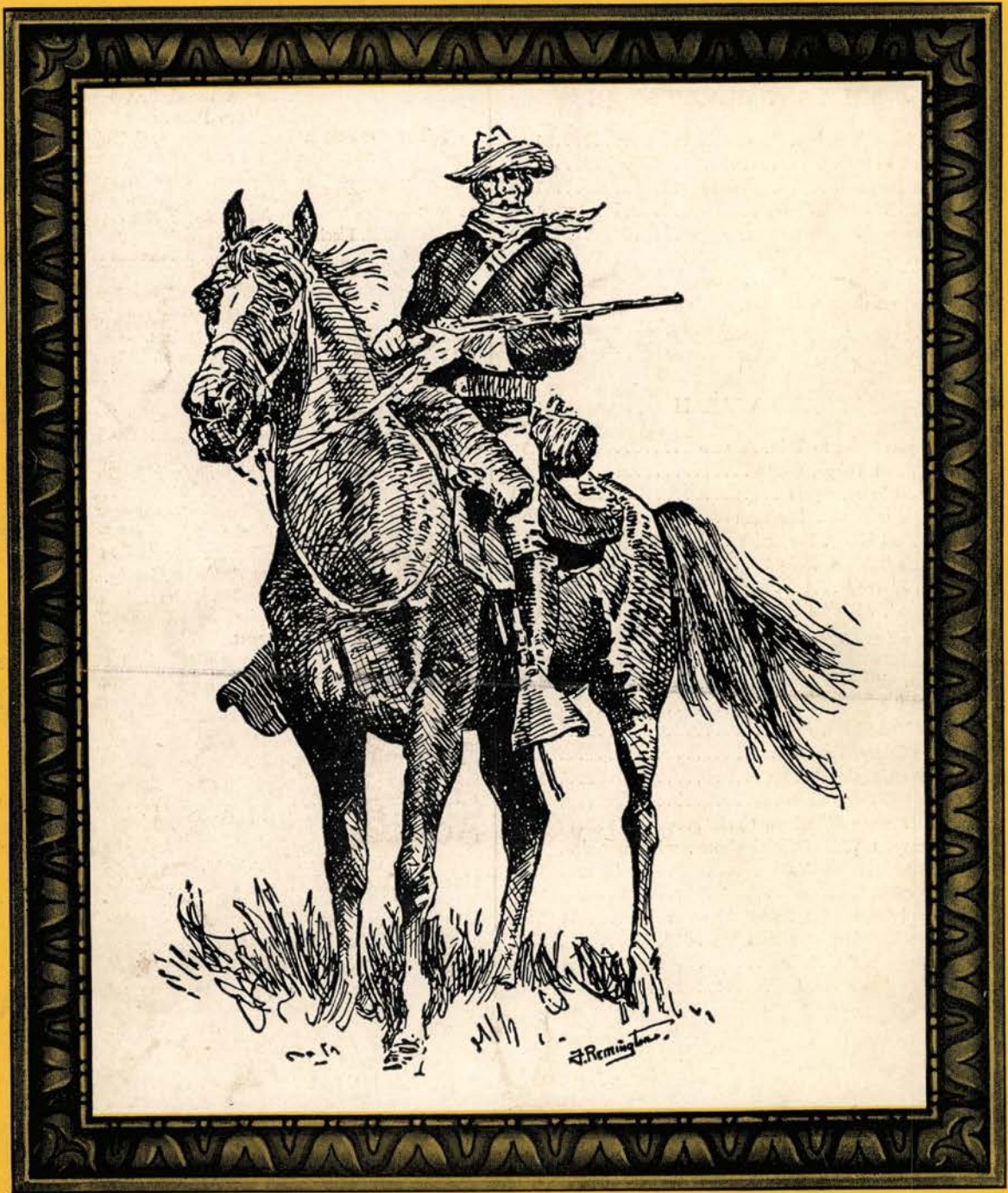
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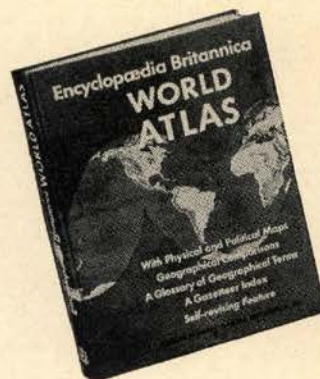
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JULY-AUGUST, 1945

Number 4

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WE W



Signal Corps Photos

Above: Cavalrymen of the 8th Regiment on a flank guard push into the woods along the highway just outside of Santo Tomas, Luzon in search of snipers.



Left: A cavalryman watches for signs of Jap snipers who are firing on a hill held by the 2d Squadron, 7th Cavalry, near Antipolo, Luzon, March, 1945.

inition from Lingayen Gulf to Cabanatuan for the 8th Cavalry Regiment of the 1st Cavalry Division.

At 1900 the two trucks from Battery B, plus a third from Headquarters Battery, reported to 8th Cavalry Headquarters. Everyone there was packed, and only a kitchen stove, on which some coffee was brewing, remained set up. The instructions given Lieutenant Sanders (in charge of the convoy), at 8th Cavalry Headquarters differed from those received earlier. "Haul supplies, Hell!" he was told. "You boys are hauling troops. We're headed for Manila."

The trucks were to pull out at 2100 and move south to an advance base about 6 miles down the highway, where we would meet the remainder of the convoy. With 20 men from Troop H mounted on each of the three trucks, we moved out and in 20 minutes reached the advance base.

LINE OF MARCH

Here the convoy was re-formed and a last minute orientation was given.

CAPTAIN FELLE, Battery B commander, had just returned from the evacuation hospital at Guimba, where the American prisoners of Bataan had been admitted after their release from the Cabanatuan Prison Camp, when Battalion Headquarters issued instructions for two 2½-ton 6 x 6 trucks with two drivers and two assistant drivers to be at the message center at 1800, January 31, 1945.

When we arrived at the message center, it was learned that the trucks would haul supplies and ammu-

ERE FIRST IN MANILA

*by Tec 5 Ralph C. McGraw, as told to Corporal Frank R. Bent**

The mission of the 8th Cavalry was to reach Manila as quickly as possible. The 7th and 5th Cavalry were to follow and keep the road open for supplies and troops. The convoy was comprised of 15 Sherman tanks, 15 light tanks (M5A1), the 302d Reconnaissance Troop, the 2d Squadron, and an engineer section.

The mission of the 15 Sherman tanks was to open the road—to destroy road blocks, pillboxes, antitank guns, and whatever else was necessary to facilitate the movement of the column. The 302d Reconnaissance Troop which followed the Shermans, was to subdue enemy automatic and rifle fire, and eliminate as much enemy personnel as possible along the sides of the road. Troop H was to be the leading troop of the squadron, followed in order by Troops G, F, and E.

Each 6 x 6 carrying troops was to be preceded and followed by a peep (¼-ton) equipped with a heavy .30 caliber machine gun. The peeps carried four men each, the 6 x 6's 20 each. Troop equipment, such as mortars and ammunition, was to follow the personnel of each troop in a ¾-ton truck. The 14 light tanks were to bring up the rear of the column and knock out all by-passed obstacles. Our convoy consisted of 700 men.

General Mudge, commanding the 1st Cavalry Division, was to fly ahead of the convoy in a liaison plane and radio information on road blocks, bridges out, and any other information that would assist the rapid progress of the regiment.

JAPS BLOW BRIDGES

The first objective was Cabanatuan, and both squadrons began moving at H hour, 2230, January 31. Time was lost along the way because it was necessary to ford streams over which the Nips systematically had knocked out the bridges. The engineers laid crossings to repair the smaller bridges; where this was not possible, the banks of the stream were knocked out with a D8 bulldozer so that they could be forded.

The 26 miles to Cabanatuan were covered in 8 hours. While waiting there to cross the river, the enemy threw a dozen rounds at us from knee mortars (50mm grenade launchers) but caused no damage. To avoid loss of time, the tanks hooked onto the 6 x 6's and pulled them across the uncertain river bed. When the town was entered the Nips moved out to the flank. The 1st Squadron had not kept abreast of us on the other road, but it arrived in time to meet and kill 30 of the fleeing Nips.

By 0800, the convoy was on the highway outside of

Cabanatuan waiting for the 1st Squadron to finish the enemy. At 1000 General Mudge landed at the head of the convoy to give further instructions and enemy information. We waited until 1500 and, as the 1st Squadron was still cleaning up the Nips, the convoy headed for Santa Rosa, where a platoon of Nips had been reported. They had already evacuated when we arrived at 1730, so we established a perimeter, and bivouacked until midnight.

The Battery B trucks were to have been relieved at Santa Rosa, but replacements failed to arrive, so we were ordered to remain with the convoy to Manila. Manila was some distance away, and many Japs were along the route.

We left Santa Rosa at midnight and continued without incident to the Santa Maria River, and the town of Santa Maria. En route we did see many signs of the Nips, but reports indicated that prior to our arrival the enemy had evacuated most of the towns, leaving only small rear guards. Large forces probably were too far away to arrive in time to support any effective holding action.

At 0800, February 3, the convoy stopped opposite Santa Clara, on the Santa Maria River. From 50 to 60 Japs were reported in a warehouse there. Dismounted troops, firing mortars as they advanced, moved into the town but met only limited sniper fire.

MOVEMENT BY BOUNDS

Returning to the convoy at 1100, the troops continued to San Vincente. This marked the end of our unhindered advance. From here to Manila, the Jap was established on both sides of the road with automatic weapons, and the convoy had to move by leaps and bounds. Each 400 yards, the tanks were forced to stop and clear the road. The troops then dismounted and set up a small perimeter around each vehicle; the Recon's moved up and fired heavily to gain fire superiority and pin the Nips down. Then the tanks moved forward again, soldiers mounted, and the column continued speedily on its next bound until it was stopped again by enemy fire.

A few hundred yards from Muzon we came upon 9 empty Jap trucks, which had been well camouflaged. The spark plugs were removed, and the trucks were destroyed by the tanks at the rear of the convoy.

Near Muzon, the convoy ran through a gauntlet of

*Now serving with an artillery unit in the Philippines.

heavy machine-gun fire. The leading tanks ran into obstacles and were forced to stop. My truck was going over a rise in the road at the time, and as I pulled the emergency brake back, a machine gun opened up and a bullet hit the .50 caliber MG mount over my head and sent a piece of hot metal down my neck. This made me give the brake an extra hard pull, and it jammed tight.

We all jumped from the truck. One Jap, who was on the side of the road 10 feet in front of the truck, was killed immediately. As I reached up to release my Tommy gun from the cab rack another Nip behind him began firing an American BAR. Several troops had gone after the first Nip, so I was afraid to fire the Tommy gun in that direction. However, a trooper next to me shot him through the shoulder with a carbine.

We had no opportunity to get the BAR because the convoy started to move. My brake was still jammed, but in "low low" gear I was able to move the truck the remaining 30 feet over the rise ahead. I jumped out quickly, put a screwdriver between the hand lever and the ratchet, and in a few seconds had pried the brake loose. Off again, the truck had not moved 14 feet when a shell passed through the spot where we had been standing, and another bullet struck the .50 caliber MG mount.

The convoy moved on and soon passed one of our peeps that had been hit. The driver had been killed, and the remainder of the passengers had mounted other vehicles in the convoy. We strafed the sides of the road heavily as we went by.

Along the highway north of Novaliches, many roadways led off into Jap bivouac areas; and at the entrance to each roadway was a sign bearing Jap inscriptions.

A mile past Novaliches, the convoy was stopped by

Chow is served near Manila to soldiers of the First Cavalry Division. Some, having eaten, and visible in pathway, lug grenades and ammunition up hill to forward positions.

Signal Corps Photo



heavy fire from several pillboxes, and this time it took our tanks 45 minutes to clear the area before we could proceed.

MEET ENEMY VEHICLES

At Bagbag, the column met 25 Jap trucks loaded with troops and supplies. They were evidently evacuating Manila and moving to the foothills. What a field day followed! The tanks, Recon's, machine guns, and everyone in general opened up. Many Japs tried to escape across the rice paddies. One Nip got about 150 yards away, and then tracers were over, around and through him until he fell forward. The Japanese force was completely annihilated.

The enemy was next met when the colonel's peep was approaching the Tulipapa crossroad. A sedan with 5 Nips came speeding down on him, but it was caught by a .50 caliber machine gun and set afire. The Japanese were killed and the sedan went out of control and nearly crashed into the colonel's peep, which fortunately had stopped in the middle of the crossroad.

Still continuing by bounds, the convoy arrived at the outskirts of Manila at 1830, February 3. Excited civilians came out to meet the troops even in the face of sniper fire. Each individual knew where the snipers were located, and each one was trying to talk at the same time. The soldiers tried to convince them that there still was fighting to do, but the citizens of Manila were so overjoyed that they simply could not realize the situation, and were constantly in the way.

The main objective in Manila was the internment camp at Santa Tomas University, but as we neared the objective our progress was slowed down by increasing sniper fire. Troops were able to move only a block at a time. At first they fired from trucks at the snipers in the buildings. Finally, they dismounted and set up a moving perimeter defense around each truck, some men in front, some along both sides, and others in the rear.

When we arrived at Santa Tomas, the tanks tried to go through the gates, but as the guns would not clear the arches, it was necessary to batter down the wall beside the gates.

While the tanks were hammering the wall, I heard a cap go off in a Jap grenade, and jumped behind the big dual wheels of the 6 x 6. The explosion injured a guerrilla major, who had been the convoy's guide on the trip, and also a colonel and lieutenant.

When openings had been knocked in the walls, the tanks and trucks entered the university grounds. The trucks formed a motor park 400 yards within the campus; the tanks formed a protective defense at the 4 corners of the grounds.

INSIDE SANTA TOMAS

The troops moved toward the main building to meet the internees, who were as wild in their reception as the civilians of Manila had been. Four Japs stood in front



Signal Corps Photo

En route to Manila, men of the First Cavalry Division take cover from enemy fire by crouching on the roadside.

of the internees and three of them were attempting to surrender. The fourth made a move as if to attempt suicide. The lives of the internees near by were probably saved by the quick action of Lieutenant Sanders, who jumped forward, struck the Jap against the ear with a carbine, and knocked him completely out of the crowd.

Snipers began firing from the windows of buildings both inside and outside of the university grounds. The troops immediately dispersed to search out the enemy, and discovered 130 internees being held by 60 Nips in the Educational Building. The release of the internees was agreed to on the condition that we furnish the enemy safe conduct for at least 5 blocks from the university. The safety of the internees permitted no other choice, and the agreement was made. Allowed to carry rifles and pistols, but no automatic weapons, the enemy marched from the building, took their place between two lines of 60 troops, and were conducted to the street. Here the column zigzagged back and forth until it was 5 blocks from the grounds. The troopers returned by a different route to prevent possible ambush.

All food supplies, which had been under lock and key, were opened. The internees had to be prevented from overeating. Children already had stomach-aches from candy given them by soldiers. Although everyone was undernourished, the children seemed to have withstood the restricted rations better than the adults.

That night the Japs made a banzai attack at the gate, and machine guns killed 35. At midnight three warehouses around the university wall were blown up by the enemy. It was believed that they were marking the area for artillery or mortar fire, but none came that night.

The next morning the 1st Squadron arrived and began clearing other parts of Manila. Santa Tomas became headquarters for the 8th Cavalry.

Sniper fire had continued through the first night, but after that became intermittent. One particular sniper had been shooting for two days, harassing everyone, but doing no damage. We named him Willie. Our snipers were posted to locate him, but to no avail. On the second day, however, a cub plane flew over Willie's building and as he jumped for a shot, our snipers got him.

Rations for all the internees arrived the second day and a diet was established. The death rate had been from three to 9 a day, but after we entered only one person died. This one died of a heart attack in the Educational Building before the 60 Nips evacuated.

The last two days at the internment camp my time was mostly my own. I spent it in the tower of the Santa Tomas main building, watching the Nips systematically blow up buildings. The tower afforded a bird's-eye view of the American attack on the Bilibid Prison, 800 yards away. With a pair of field glasses every move could be picked up. The Nips could see us observing the action, and it seemed to annoy them no end, for they began to fire at us. We took up the interest and fired back. The second day, artillery fired at us without damage, but on the third they did manage to hit the top front corner of the main building.

The third day and night I spent at the "Palace." Rockets whizzed over our heads all night and lit the sky as bright as daylight. Early the fourth morning our detail from the 148th Field Artillery Battalion started out in our three trucks to return to our own unit in the north.

Radio Guerrillas

by Technical Sergeant Holland Hickok

ON December 7, 1941, a group of 40 men, in command of Lieutenant Rogers, was on its way to Mambulao in the province of Camarines Norte, with instructions to establish an air raid warning unit there. This was one of many to be set up at strategic points throughout the Philippine Islands. Just before disembarking we learned by radio of the bombing of Pearl Harbor.

On landing at Mambulao we proceeded by truck to our location, a mountaintop one mile from the town and two miles from the harbor. Here we unloaded our equipment, which consisted of one stationary and one mobile unit, and set up for operations.

We had been in operation only two days, however, when reports were received that the Japanese were landing at Legaspi, in the province of Alba, 150 miles southeast of our location. Lieutenant Rogers decided

to take 30 of the men and return immediately to Manila. He left me in charge of the remaining soldiers, with instructions to destroy the equipment, if necessary to prevent its capture by the Japs.

A short time later we learned of the close proximity of the enemy and decided to dismantle the station and attempt an evacuation of the equipment. The road north had been under construction at the start of the war, but work had been stopped, and it was in very poor condition. Our largest unit weighed over 15 tons, so it was with considerable difficulty that we moved our heavily laden trucks along the narrow roadbed. One truck turned over, and though we were able to right it, the accident damaged some of our most valuable material.

During the march north we were joined by a Mr. Anderson (who had spent some time in the Philippines as a mining engineer), one other civilian, and a few Filipino reserves. Later we contacted a captain in charge of a scouting party, and he kept us informed of Japanese movements in the vicinity of our convoy. Evacuated civilians were also able to furnish us with some enemy information.

We had several encounters with the Japs en route, but suffered no casualties until we reached a river crossing near the end of the constructed roadway. Here we found a bridge 50 to 75 feet above the river bed, adequate for the passage of our small trucks, but unable to support the weight of our large ones.

As the Japs were not immediately on our trail, it seemed safe to camp here to wait for the detachment of Filipino soldiers who we understood were on their way to reinforce us.

We attempted to mislead the Japanese as to the number of men in our party by the simple ruse of asking civilians whom we met where we could obtain a number of large size cooking and eating utensils. Gossip travels fast in the islands, and we figured that the Japanese would hear of this request, and overestimate the size of our force accordingly.

After several days in this camp, we sighted a Jap patrol, and immediately realized that evasion was no longer possible. The small trucks were taken over the bridge, and after nightfall the large vehicles were dynamited, and the bridge destroyed by the demolition crew of Filipinos. This had to be done after dark in order to prevent the smoke from attracting the attention of the Japanese.

On December 22 we arrived at a clearing and small



rest house which marked the end of the road. Here we went into camp again to wait for our reinforcements. The scouts and civilians kept us furnished with sufficient information to give us a general idea of enemy activities in the neighborhood, and it was apparent that they planned to attack us.

At dawn the next day, after a forced march of 48 hours with little food, Lieutenant de Brinick and his 125 Filipinos reached us. They had no sooner arrived than our camp was attacked by a force of about 300 Japanese.

When the enemy first started their attack they made no effort to take any cover, but walked slowly toward our position "as skirmishers" and thus made easy targets for our Filipinos to shoot at. We would have had very few casualties had it not been for a few snipers who had managed to get up into some tall trees, in the dense jungle on our flanks. We not only could not see them, but the rapid and steady ground firing made it impossible to locate them by the sound of their rifles or machine guns.

Our plans for defense called for the scout captain to take the forward area, while my men covered the guesthouse, which served as a fort. Before he could reach his command, however, the captain was shot by one of the snipers and had to return to the guesthouse.

I moved out at once to take over the forward area, and, crossing the clearing, saw the captain's pistol on the ground. But before I could reach the protection of the surrounding jungle, the sniper shot me in the arm.

Some of the men took me back to the shelter and gave me first aid, but we had no doctors, and no adequate medical attention for any of the wounded.

Shortly after the captain and I were shot, Lieutenant de Brinick was killed outright by machine-gun fire. The fighting continued all day, but the two officers and I, with 25 Filipinos, were our only casualties. The Japanese lost about 100 men.

The enemy withdrew at dark to wait for reinforcements, so we made good use of this opportunity to evacuate the position. I was the only one too badly wounded to walk, so a blanket-stretcher was made and the men took turns carrying me through the jungle that night and the next morning.

We finally reached a Filipino army doctor, Lieutenant Arcenio B. Almonte. He could give us little medical assistance, as his supplies consisted solely of bandages and one bottle of peroxide. He arranged for buses to take us to Lucena, in the province of Tayabas, where there was an adequate hospital.

The Filipino soldiers traveled in the first vehicles and I was laid on the back seat of the last one. We drove on safely until late afternoon when a soldier in the leading bus sighted some Japs approaching in tanks. The Filipinos attempted to wave our car off the road, but it was too late, and we rounded one curve as the Japs rounded the other. There was no need for orders, everyone who could move, made a dash for the roadside.

Pulling my blanket over my head, I played dead. The fighting went on for two hours on either side of the road, and bullets sprayed the air around me. Finally the Japanese withdrew, and we turned back into the jungle for protection. I was placed in a pit used for drying coconuts. We settled down without food or water to wait until darkness would enable us to move out with safety. This was Christmas day.

It was now impossible to reach Lucena, so the Filipinos put me on board a motor launch going to San Narciso, on the Tayabas peninsula. We were met at the landing by some natives who took us into the town. They put me in the public dispensary in order to avoid reprisals from the Japanese should they enter the town. The penalty for harboring an American was not only death for the entire family, but sometimes for the entire village.

A doctor in the town had a few medical supplies, but I was badly in need of surgical care, and this could not be given. The doctor's family cooked food for me, and I received what care they were able to give.

The local radio was still in operation, so I reported my whereabouts to headquarters with a request for orders, but no reply was ever received.

At the end of a week the Japanese were reported approaching the town and I was taken by motorboat to Aurora, a village safely back in the jungle on the southwest part of the peninsula. Here I remained for two months.

My arm had become infected and there was grave danger of gangrene. Medical supplies in the village consisted of one bottle of potassium permanganate, and bandages of flannel or any available material. Fortunately two Filipino nurses, Miss Loretta G. Shanches, head Red Cross nurse of the province of Tayabas, and one of her assistants, had taken refuge in the locality. Miss Shanches had worked for 15 years in San Francisco, and was familiar with American technique. The untiring efforts of these women undoubtedly saved my life.

At the end of two months the Japanese again were reported on the way, and I was taken by motorboat to the island of Marinduque, which was still unoccupied by the enemy. On this island I was able to secure the only good medical attention that I was to receive, other than the ministrations of the nurses. The drugstores and supplies had not been looted by the Japs and I was able to get some sulfanilamide, which at least localized the infection. By February, 1942, I was well enough to be on my feet again.

A constabulary of about 3 officers and 50 Filipinos was stationed on the island. I volunteered to help them make plans to cope with the probable Japanese landing. Except for this activity, and keeping the radios functioning, until July I spent most of my time in convalescing.

The Japs landed on the morning of July 7, 1942, at 5 a.m., and we withdrew into the mountains as planned.

Word was brought by natives that the Japs had immediately circularized a "dead or alive" notice for the constabulary officers and myself. About the 17th of July the captain and the lieutenant left the encampment, stating that they were going to town to secure information about a Japanese meeting.

At this time I was living with a Filipino family back in the mountains, where I returned after the officers left. It was not until my return to the camp next day that I found they had left no orders, and that most of the men had scattered.

Cosyao, one of the men who had been with the lieutenant in Aurora, had taken quite a liking to me, and together we rounded up the men. We scouted the area and secured enough shotguns, rifles, pistols and homemade guns to equip everyone. The Filipinos selected their own officers, and I remained with them in an advisory capacity.

Every effort was made to keep the Japs out of the southern part of the island. Bridges into the area were destroyed and road blocks established. Snipers were posted at strategic points to prevent small groups of the enemy from moving in our direction. In these operations we learned that if we worked hard, the natives were willing to help, but if we relaxed, so did they.

We got some radio equipment set up and tried to keep the island supplied with news. A few typewriters were found, and "newspapers" were typed and passed out. Natives were called in to listen to what news we could get of the outside world.

Once we ran out of gasoline for the engines which supplied electricity for the radios. In order to keep in operation we asked some Filipino carpenters to make a water wheel. They used a wheel from a native vehicle and rigged it up with paddles, and we placed it in a mountain stream. It was crude, but furnished "juice" for the batteries, and did a creditable job until it was washed out by a typhoon.

Although Japanese were on the island, they usually stayed fairly close to the coast and kept away from our

headquarters in the mountains. We were able to defend ourselves against those who did come our way by taking stations at the high points over trails. As the Japs came along each of us fired at his target: *i.e.*, I took the first Jap, the next man the second Jap, and so on. In this way 70 casualties were inflicted upon the enemy against none for ourselves.

A constant effort was made to contact other radio units believed to be in operation in the area, and finally one day Colonel Macario Peralta was contacted at Panay. Through courier I learned from him that there were several Americans on other islands. Captain, now Major, Arthur K. Whitehead* was one of them. He wrote me to meet him to map out future plans. I left the units in charge of one of the boys and went to Tablas Island, where I found Captain Whitehead with several civilians, mining engineers, and enlisted men.

Major Enrique L. Jurado, a graduate of Annapolis, who had been in charge of shore patrol torpedo boats, was also here. He found that I was a radioman, so together we worked out a plan with Colonel Peralta, to organize a signal radio communication system.

Major Jurado assigned a Filipino, Lieutenant Andal, as island commander. Because of my knowledge of the island, I became Lieutenant Andal's advisor, and worked with him until the unit had been reorganized.

Three of us worked in close coördination. Mr. Kenneth H. Hanson, a mining engineer was put in charge of the engineering section, T/Sgt. Nathan W. Talbot, the communications section, and myself, in charge of design and construction. This group worked together until we left the islands.

The following months were spent collecting all types of electric equipment; transmitters, receivers and other essential items that might be used in the construction of radio sets. Batteries were obtained from cars, trucks, planes, or any other source. Radios were collected from a variety of places. Telegraph lines seldom were avail-

*See THE CAVALRY JOURNAL, September-October, 1944.



Scenes such as this were repeated many times as the small aircraft warning unit of 40 men moved ahead of the Japs.

able, but telephone wire, clotheslines and fence wire were adapted to fit the needs. The island was combed for equipment, but in spite of the fact that most of our searching was done at night there were many narrow escapes. Small native sailboats were used for transportation of equipment whenever possible, and one night we ran into a Japanese patrol.

This time we were en route across the channel returning from Romblon to Marinduque with equipment. We started on the trip late one evening in a *batile* (a large sailboat about 50-60 feet long), after waiting several days for a moonless night. As we came into the channel the wind died down and Mr. Hanson, 15 Filipinos in the crew, and I were left floating in a calm. Just before dawn we could see two Jap patrol boats signalling to each other near by. They knew of the operations in that area, and searched every boat in the channel. When the Jap boats headed toward us, we sent the 15-year-old daughter of the owner of our boat up on deck, to make it appear as if it was a private boat. The rest of us went below. The Japs looked us over, but luckily did not come aboard.

A central headquarters was established, and we sent Filipino operators disguised as merchants out from there to the other islands to secure information. It was then brought back by boat to the nearest radio unit, where it was coded and transmitted to our central headquarters. Here the messages were decoded and anything of value was relayed to Australia. Other outlying observation units covered the islands from coast watch stations, reporting ship movements direct to naval units. This service cost the Japanese thousands of tons in shipping sunk.

The small stations were frequently manned by Filipinos. The equipment consisted of a small radio transceiver weighing about 50 pounds, 2 batteries and a 4-cycle engine for recharging. It could be operated by 4 or 5 men.

Individual units were constantly being discovered and forced to change their location often from one island to another. But every possible effort was made to save the equipment on each move, as it was considered more valuable than a man's life.

We hated to let the Japanese capture any of our equipment, not only because of the great loss to us, but also because they could use it themselves. The sound of our transmitters sending their messages was very annoying, to say the least.

Before a radio unit was transferred from one island to another, scouts were sent ahead with letters to the governor of the island. He advised us of the safest location for the station, giving due consideration to the loyalty of the inhabitants, the terrain, and the location of the enemy. As soon as the unit arrived at its new location he would assign to that unit the *barrio*-lieutenant or "mayor" of the town nearest to the selected site.

The *barrio*-lieutenant's duty was to select the people

who were to build our houses, get our supplies, and be responsible for the transportation of equipment and other necessary items which required native help. Through all moves, the Japs constantly trailed us, and many natives lost their lives because they would not betray us.

A location site for one of the radio units was always sought near water and coconut palms. These trees provided building material and food. A 90% alcohol for running the engines that recharged the batteries could be distilled from the sap. The coconut oil could be used for lubricating the engines, although it was not too desirable as a substitute.

The alcohol was distilled from coconut sap in a contraption made from empty oil and gas drums, and steel pipe. A trough was built over a fire pit and the pipes were run through water to empty into another can. This process had to be repeated at least three times in order to secure a 90% alcohol. The engines fouled quickly on such a distillate, and required constant cleaning.

On one of the islands we built a power plant which furnished the camp with electric lights, a luxury not enjoyed in many places.

Immediately after the station was set up at Sibuyan the Japs started a campaign to clear all the islands. A Jap sergeant there asked the *barrio*-lieutenant for information about us, but he never did secure any. This Jap stayed on the island for several weeks, and finally (with the aid of an informer) found our location. We just managed to escape with enough equipment to build another station. It was learned later that the Jap sergeant reported to his colonel that he had found and killed the three white men and burned their station.

By this time we were forced to move back into a mountain fastness, where there were no trails and where the Japs very rarely attempted to go. Here we lived with the Manians, a half-wild people, who run even from the Filipinos. They were kind, however, and took good care of us.

We had been here only a short time when word was received that we would be evacuated by a submarine which would surface at Panay for the delivery of supplies to guerrillas.

Rendezvous was set at dusk, but many hours beforehand we were in hiding 10 miles from the point, so that we could straggle in by small groups and prevent observation of our movement.

Finally in the distance, we could hear the sub recharging its batteries and unloading. We moved out according to plan and were safely aboard by midnight.

As usual, the Japs were trailing. A patrol in the vicinity apparently had spotted the sub and summoned a Jap ship, which pulled into range at daylight. We left immediately, but it was necessary to fight a running surface battle until the sub reached water deep enough to permit it to submerge.



Pushing inland on Leyte, 1st Cavalry Division veterans, who conquered the Admiralty Islands in their first campaign, are shown advancing toward enemy positions 100 yards beyond the beachhead. An enemy shell bursts in background. Signal Corps Photo

The First Cavalry Division

*by Captain Harold D. Steward**

WHEN war was declared the 1st Cavalry Division, as part of the Southern Defense Command, was given the mission of patrolling the southern border of the United States, a mission which it continued to fulfill until February, 1943, when word came that it had been alerted for overseas combat.

Horses and horse equipment were hastily turned over to other units. Instead of blacksmiths paring hooves, motor mechanics cleaned and tested vehicles. Gatling guns with their big rotary drums were replaced by .30 caliber machine guns. The troopers were equipped with repeating carbines, Tommy guns, Browning automatics, and worked with new "Bazookas" and flame throwers. The only sabers in evidence were the insignia on the officers' uniforms.

By June 18 the last unit of the 1st Cavalry Division had left Fort Bliss, and had embarked on a new war with 100 years of tradition behind them.

Arriving in Australia in July, 1943, the division underwent special jungle and amphibious training for

5 months. It then stopped for a short time in New Guinea before going to the Admiralties.

THE ADMIRALTIES AND LEYTE

As the one remaining link to be closed around the Bismarck Sea, the Admiralties were only 750 miles from Truk, at that time one of Japan's largest naval bases, and only 1,300 miles from the Philippine Islands.

Major General Innis P. Swift, later made commanding general of the I Corps, commanded the 1st Cavalry Division during the Admiralty Islands campaign. The original reconnaissance force to land on the islands consisted of the 2d Squadron of the 5th Cavalry Regiment, a section from the 99th Field Artillery Battalion, a platoon from Troop A of the 8th Engineer Squadron, and attached units.

A reconnaissance force under the command of General Chase landed on Los Negros on February 29, 1944, with the mission of securing and holding Momote Air Strip.

*1st Cavalry Division. From the 1st Division's Souvenir Booklet, "The First Was First."

Six hours after the original landing, General MacArthur came ashore to discuss the situation with General Chase. The commander in chief told him, "You have all performed marvelously. Hold what you have taken, no matter against what odds. You have your teeth in him now—don't let go." General MacArthur then turned and decorated Lieutenant Marvin J. Henshaw, first soldier ashore, with the Distinguished Service Cross. Lieutenant Henshaw later drowned while attempting to save a soldier's life.

The division stormed Philippine beaches at Leyte on October 20, 1944, and cavalrymen of the 7th Cavalry Regiment, under the command of Colonel Walter E. Finnegan, set the tempo of the campaign by taking Tacloban, capitol of Leyte, a full day ahead of schedule.

Writing for the Associated Press, James Hutcheson, war correspondent, said of the 1st Cavalry Division troops when they entered Tacloban: "When veteran troops of the 1st Cavalry Division arrived in the provincial capital a day ahead of schedule, they were met by happy Filipinos . . . General Mudge personally received 40 surrendering Formosan laborers after his tank battered through an upset truck which the enemy had set up as a street block. He found guerrillas presiding over the Formosans who held their hands aloft and appeared happy to be taken. General Mudge, who in the late afternoon underwent sniper fire on a swift reconnaissance at Tacloban, estimated 300 Japanese were killed while the division suffered 10 killed and 25 wounded."

Moving across the entire northwestern end of the island, the 7th Cavalry Regiment continued to push on until it was 4 days ahead of the original schedule when it captured the town of Babatngon. In this rapid movement the division's mission of securing San Juanico Straits also was accomplished ahead of time.

Invading Samar, third largest island of the Philippines, in October, 1944, the 8th Cavalry, under Colonel William J. Bradley, pushed through until it gained all military objectives including Catbalogan, the capitol.

The 7th and 8th Cavalry Regiments make up the 2d Cavalry Brigade, which during the Leyte campaign was commanded by Brigadier General Hugh Hoffman. Included in his command was the entire operation on Samar, which was fought simultaneously with the Leyte campaign.

The 5th and 12th Regiments spent more than 50 days in the rugged, mud-soaked mountains of western Leyte, which was the Japs' last stronghold. The 12th Cavalry fought through to deliver the final blow to the stubborn Jap forces on Leyte. During these campaigns the 5th Cavalry was commanded by Lt. Colonel Charles E. Brady, and the 12th Cavalry by Colonel John H. Stadler, Jr.

No story of the 1st Cavalry Division's campaigns in World War II should be written without mention of the division's field artillery under the command of Brigadier General Rex E. Chandler. Every cavalryman

in the division thinks of these artillery pieces as his own special weapons.

Forward observers of the artillery have become as much a part of the front-line troops as riflemen. They eat, sleep and live with the line troops through each action. The way for many attacks in all the division's campaigns has been paved by heavy barrages of field artillery.

Terrain on Leyte was described by General Chandler as "A field artilleryman's nightmare." Yet not once during the campaign did bad terrain prevent the field artillery battalions from going into action.

The artillery not only knocked out enemy positions, it also used its big tractors to haul vitally needed supplies to front-line troops over roads that were impassable for other types of vehicles.

On one occasion in the Leyte campaign a field artillery battalion commander found a front-line outfit in need of supplies. His men and equipment immediately obtained them. Liaison planes of the artillery were used many times to make reconnaissance flights over enemy territory and to drop supplies.

ON TO MANILA

One minute after midnight, February 1, 1945, dismounted cavalrymen of the 1st Cavalry Division started their race for Manila. Only 4 days earlier they had set foot on the beach at Lingayen Gulf, fresh from three months of tough fighting on the plains and mountains of Leyte Island. They had captured Tacloban, capitol of Leyte, and Catbalogan, capitol of Samar. They now

Members of the 7th Cavalry move forward on Leyte Island, October 21, 1944. Raising a pall of black smoke, a Jap oil dump burns near by. Soldier in rear uses radio.

Signal Corps Photo





Signal Corps Photo

Moving against a backdrop of smoke, 7th Cavalrymen of the 1st Cavalry Division advance toward Jose, Leyte.

wanted to capture Manila—the Pearl of the Orient—and the capital city of the Philippine Islands.

In the early afternoon, January 31, Major General Verne D. Mudge, division commander, called his unit commanders together and issued instructions.

"Gentlemen, our objective is Manila," he said. "We will move there by motorized columns spearheaded by tanks. I want the 1st Cavalry Division to be there first."

Contact with the Japs was made at Cabanatuan, where more than 200 of the enemy were killed. So complete was the surprise arrival of the troopers just before daylight, that the Japs had no opportunity to mine the main bridge across the Pampanga River near the town. They had succeeded in blowing one span, which was quickly repaired by the 8th Engineer Squadron.

Jap resistance at Cabanatuan was the strongest encountered by the cavalymen before Manila was entered, yet Japanese soldiers were killed along every mile of the road.

When the 1st Cavalry Division began the push at Guimba the column was spearheaded by tanks from the 44th Tank Battalion and squadrons from both the 5th and 8th Cavalry Regiments, commanded by Brigadier General William C. Chase, 1st Cavalry Brigade. Supporting the leading columns was the remainder of the 5th and 8th Cavalry, and the division's other two cavalry regiments, the 7th and 12th.

Twenty miles from Manila at the Angat river the 1st Cavalry and 37th Infantry Divisions met. The 37th continued on the main road while the 1st detoured.

On their new route, the cavalymen quickly built a ponton bridge across the Angat and were once again speeding for Manila. Every bridge was being blown by the retreating Japanese. Bridges that could not be quickly repaired were by-passed, and often rivers and streams were forded as the division drove on.

A few minutes after 1800 hours, February 3, a cavalry tank entered the city limits of Manila, and the 1st Cavalry Division had won the race.

On the outskirts of the city the cavalry column split. One unit sped on to capture and occupy the Malacanang Palace, the other advanced through Manila's streets and crashed through thick walls to capture Santo Tomas University and liberate more than 3,700 Allied civilians who had been interned by the Japs for three years.* The 2d Squadron, 8th Cavalry, reinforced almost immediately by the 2d Squadron of the 5th Cavalry, seized and occupied Santo Tomas University and Malacanang Palace.

First in Manila, the 1st Cavalry Division since has gone on to new battles and new honors, but will find it difficult to surpass its spectacular entrance into the capital city of the Philippines and the help it gave in the fulfillment of General Douglas MacArthur's promise to return.

*See "We Were First in Manila," page 2 this issue.

The 40th Reconnaissance Troop on Luzon

Amtanks land at Lingayen, January 9, 1945, and move rapidly inland.



Signal Corps Photo

Hair—Wheels—or Tracks

AS the 40th Cavalry Reconnaissance Troop headed through the surf toward Lingayen Beach, Luzon, on the morning of January 9, 1945, it demonstrated the current feeling that "the cavalry can ride anything with hair, wheels, or tracks."

Two weeks prior to embarking for the Philippines the troop was ordered to pick up 13 LVTAI amphibian tanks in which it was to make the landing and cross the two rivers which were strong natural obstacles.

The 2d Platoon of the reconnaissance troop, with 5 LVTAs, was attached to a battalion of the "X" Infantry Regiment which was to land two companies abreast on the extreme right flank of the beach. The battalion mission for S Day was to effect the crossings of the Calmay and the Agno Rivers and establish 4 roadblocks along the division beach headline, and the platoon was to spearhead this advance inland and to the west. Two of the platoon tanks were attached to each of the two infantry companies, while the command tank was to move with the battalion CP.

S DAY

The 5 tanks landed on ——— Beach, which was as orderly as an OC's foot-locker. Within 15 minutes they were all in position and moving inland according to plan. From the start, the versatility of cavalry training proved valuable. When intra-battalion communications began to fail, the platoon radios were used to maintain communications within the battalion, and the men were able to handle this additional assignment

*by 1st Lieutenant Stephen C. Perry**

without in any way interfering with their job of spearheading.

As S Day progressed into afternoon, various objectives were taken, secured, and passed, and the battalion moved rapidly toward the day's main objectives. Opposition all along the way was extremely light; the battalion plan of operation was being executed smoothly. Every detail of the terrain had been noted previously and was familiar to men and officers, who moved forward—sure of the ground, sure of the job, and sure of themselves.

By careful study, thorough planning, and intelligent briefing of his officers, Lt. Colonel Braze, battalion commander, achieved near perfection during the initial phase of this operation. By the evening of S Day all objectives had been secured and, in addition to maintaining communications, the tanks were further used to establish roadblocks.

Employment of the tanks in this manner continued until the morning of S plus 3 when Captain John Scott Robinson arrived at Port Sual with the reconnaissance troop's M8s and bantams. Lieutenant Leo P. Davenport also arrived with the 3d Platoon and its vehicles; the 1st Platoon vehicles still had not reached the beach.

CONTACT

Several weeks aboard ship had done nothing to improve the equipment, but there was no time for main-

*Commander, 2d Platoon, 40th Reconnaissance Troop.

tenance, so the troop moved out immediately to perform reconnaissance over an area at times as much as 30 miles ahead of the main forces. Roads were excellent, although extremely dusty, but stream crossings and destroyed bridges constantly called for ingenuity. Field expedients as taught were often impracticable, and unique methods had to be employed.

The troop as a unit ran into its first fire fight just 10 miles out of Port Sual. At the Municipio of Alaminos some Japs had set themselves up in the municipal building, located in the heart of the city and directly across from an open plaza. The enemy force consisted of about 10 Japs and 2 LMGs.

Captain Robinson sent two of the LMG bantams to the rear of the building to cut off any retreat from that direction, and sent one M8 and two LMG bantams around a side street to a point where they could cross the plaza and attack frontally. He then took a third team down the main street to a point just in front of the plaza. This placed his team in position where they could fire to their right front at the municipal building, while the team which had advanced by the side street, delivered frontal fire. The plan worked perfectly, and the surprise and suddenness of the attack had the Japs quickly running from the building before they had time to man their machine guns. From the various positions it was then no task to dispose of them.

As reconnaissance of this area continued, the troop encountered similar pockets of Japs along the way but had little difficulty in similarly disposing of them. Enemy resistance was haphazard and poorly organized. In many cases Japs retreated to the hills without even their personal weapons.

ASSISTANCE FROM FILIPINOS

A short distance out of Alaminos the troop encountered its first destroyed bridge. The river had a hard bottom and was shallow enough in one spot to be forded, but the river banks were impossibly steep, and at first the task looked hopeless. At this point, however, the valuable coöperation of the Filipino people was enthusiastically demonstrated. Seemingly from nowhere, a Filipino civilian materialized, sensed the troop's difficulty, identified himself as a civil engineer, and offered to create a fording spot within an hour. As though he had pulled them from his vest pocket, he shortly had about 100 civilians digging a pass through the banks. In just 50 minutes the first M8 moved across the river, and once again the troop rolled forward.

The Dasol River, which is a deep swift-running stream about 150 yards wide, was the next obstacle in the way. Again the bridge had been destroyed, and again the troop seemed stymied. The mayor of Dasol solved this problem by producing a newly constructed bamboo ferry and about a dozen pole-men. Of course, it was not possible to get M8s aboard the ferry, but a strong patrol of LMG bantams (some of which mounted 50s) was sent across, and reconnaissance of the area

was soon completed by these light, useful vehicles.

Meanwhile, other elements of the 40th Division had been successfully pushing inland toward the main highway which ran through the vast central plains to Manila. Guilar had been secured quickly; then Camiling, and infantry patrols were at the gates of Tarlac when the 40th Reconnaissance Troop received orders to proceed to that sector and perform forward reconnaissance to the south.

FORWARD RECONNAISSANCE

Working to the south and the west, which represented the division's extreme right flank, the troop found nothing but traces of retreating enemy and indications that the Japs were all moving into the hills west of Bam-Ban.

Assigned the mission of moving to O'Donnell Airfield, the troop arrived to find that 500 Japs had moved out of the town of O'Donnell less than an hour before. The reconnaissance point spotted a couple of stragglers, but were unable to prevent their escape. In their hurried retreat, the Japs had left huge stores of valuable equipment, which was left guarded by guerrilla forces.

The troop's next important mission took it to Mabalacat Airfield on the east side of the National Highway and just a stone's throw north of Clark Field. As the first men reached the field they began to draw machine-gun fire. One artillery cub plane, already overhead, landed and displayed the holes in the tail of his plane where some machine-gun fire had caught him.

Throughout the rest of the day the men were constantly harassed by dual-purpose-AA, machine-gun, and rifle fire. That night while attempting to return to division lines by way of the National Highway the patrol was fired on at about 1700 hours by the advance party of one company of Japs just south of Bam-Ban. The point killed 10 of them and then turned back south, passed through Mabalacat, and headed for the back country. It was then too late to return to division lines that night, so the unit bivouacked far inland and worked its way back the next morning.

REST AND MAINTENANCE

At the end of two weeks, the 40th Reconnaissance Troop was withdrawn to defensive positions on the division flank. Cavalrymen, who had spearheaded the division's advance without interruption since S Day, were able to get some much-needed rest; and equipment, which had taken the worst imaginable treatment for that same period, was given the expert attention it required.

More than ever it had been made apparent that the cavalry can ride anything "with hair, wheels, or tracks" It had ridden through heavy artillery fire when the column was spotted; into machine-gun and rifle fire and into mortar fire. Incredibly enough, only once was a vehicle hit, a .25 caliber rifle bullet bounced off the turret of one M8.

Jap Defenses in the Pacific*

*by Captain C. Vermeulen, Canadian Army,
attached to 27th U. S. Infantry Division*

BOUNDED by rocky shore lines and surrounded by high coral reefs many of the islands in the Pacific have been natural fortresses for the Japs. The whole system of their defense evolved around a multitude of caves, camouflaged concrete pillboxes, and strong points in the hills, joined together by elaborate and well concealed communication trenches. Coral reefs were good



This entrance is one of the many that were part of the underground labyrinth of tunnels. Many of the Jap defenses were high on the faces of cliffs and hard to get at.

natural outward defenses and in many cases there were only one or two openings through which an attacking force could enter. When this was the case these entrances were well "covered" by Jap fire power and the beaches inside thickly sown with land mines.

Typical of these islands was Saipan. The invasion of this small island had to be effected from the western side, which was shielded by a coral reef with only one opening of not more than 600 yards, through which the assault could be made. The opposite side of the island was sheer cliff, at some places 100 feet high. The Jap artillery and mortar fire was so arranged that it was defiladed from the fire of our cruisers, destroyers and warships and they had the opening completely registered. These artillery and mortar positions could only be reached by the carrier-based planes, and were particularly hard to locate because they were hidden in

natural caves, reinforced concrete emplacements and well camouflaged positions. With the protection of smokeless powder which the Japs used effectively the job of our raiding planes was a very difficult one.

The island caves in some cases were man-made but for the most part were improved natural caves. There were several found after the island was occupied that could accommodate as many as 300 to 400 men, and some that could house several battalions of tanks and guns. Nearly all caves travelled several hundred yards underground, had multiple entrances and were mutually defended. Then, too, there were innumerable small caves accommodating machine guns or a mortar crew. To dislodge the defending Japs, the Marines would very often enter the caves in teams of three or four men each, and clear them by the use of hand grenades and flame throwers. This was a very slow process.

The flame-throwing tank was a weapon very much in use to clear out caves. They were rigged up like bulldozers—were driven to the mouth of the cave—the flame was fired and the entrance bulldozed shut. This method was only feasible when the mouth of the cave could be easily reached, but many caves were on the face of cliffs and mountainsides and had to be dealt with by other means. Caves of this nature had to be taken at a high cost of life because of little cover available on the approaches.

The Jap is equipped with infantry weapons much of the same pattern as ours, except that they are mostly of .25 caliber type. Their automatic weapons have a much higher rate of fire than ours. In all operations they use mortars in great numbers.

Seldom do the Japs concentrate more than two or three batteries of artillery fire on one spot. They are accurate but do not "saturate" a target. Their field pieces are made up of 155mm, 105mm, and 75mm guns. Frequently they use the dual-purpose 90mm AA gun in a ground rôle. A trick which caused much waste of ammunition to our forces was often played by the defending Japs. "Flash tubes" were set up at various spots, which, when fired, gave a very realistic imitation of gun flash. Many cases have gone on record of Japs overturning their guns when a near miss was scored by our artillery fire, leading our air-ops to think the gun had been put out of action, only to discover the gun back in action when the spotters left the area. Guns were often sited in the mouths of caves—a few rounds would be fired and the gun pulled back into the cave out of sight. Positions of this type were difficult to locate and when located were very difficult to neutralize.

*BMA Blitz, Brockville, Ont.

The initial navy and air force bombardment on Saipan inflicted few casualties on the defenders because of their being firmly entrenched underground. The first landings made on the island were effected by LVT's. As the waves of men passed through the narrow gap in the coral reef they came under murderous artillery and mortar fire for a distance of 100 yards, all the way to the beach. This fire kept up for the entire first day and our troops were only able to penetrate a few hundred yards inland. Casualties were heavy—so much so that the first two battalions of artillery were knocked out before they could organize to fire a single round. The entire left flank, which had made gains of several hundred yards at one point, were forced to retire by a heavy Jap tank attack. They stayed this counter-attack by the use of bazookas, which were our main antitank weapon, and most effective.

After landings were achieved "in force" a new problem presented itself—that of armed civilians. Although the island had been bombarded by pamphlets outlining the surrender procedure for civilians, many chose to fight rather than give in. Some chose to fight along with the Japanese soldiers in the trenches and others operated in rear areas as snipers. The general impression was that these people had been terrorized by Jap propaganda into believing that the Americans were out to destroy them to a man, and there was no other way for them than to put up resistance. So they became tools of the Japanese army and many of those who did not fight died by their own hands. Many whole families were killed by the father, who in turn committed suicide—many jumped off cliffs into the sea rather than be captured. There were instances where Marines went to the aid of wounded civilians only to be killed by grenades hidden on these people, who pulled the pin at the proper moment to destroy themselves and their benefactors.

One factor that entered into the Jap defeat on Saipan

Natural caves of this type were used by the Japs for the accommodation of tanks and guns. This one was used as a tank harbor. Several were found that could hold 400 men.



This large reinforced concrete pillbox housed a 6-inch gun, and proved a tough, strong point to break. Defense points were placed to make possible mutual fire support.

was their inability to lay away supplies of drinking water. Like most of the Pacific bases, Saipan depended on rain water, which had to be taken from rooftops and stored in reservoirs. When the buildings were demolished this source was stopped and soon the supply was exhausted.

There are certain things officers and men must be efficient in to do battle in the Pacific with the Japs:

(1) Be proficient in the use of the hand grenade, and likewise familiar with demolition work and the use of explosives of all types. The reinforced emplacements of the Japs often require the use of satchel charges, bangalore torpedoes, etc., to blast the opening. The chances are that engineers are not always available and it is up to each section to do the jobs on their own.

(2) Be able to fire accurately from the hip. A great percentage of firing is done in this manner.

(3) You must be able to set up a good defensive position at night. The Jap is a most efficient night fighter preferring to stay under cover by day and come out to attack under cover of darkness. The Jap night infiltration patrol is a serious menace, not alone to forward positions, but rear areas have to exercise every precaution to avoid casualties. In the first stages of the retaking of the Pacific islands many first-aid posts, hospitals, supply dumps, and higher formation HQ were destroyed before it was evident that all positions must be on the alert for action at night.

(4) Platoon and section tactics—because at nearly all times operations are carried out by a series of sub-unit attacks. Standard battle drill procedures must be adopted to cope with common battle situations, such as pillbox clearing, cave clearing with either tank or flame-thrower support.

(5) The use of flame throwers and cooperation between flame-throwing tanks and infantry is most important. Likewise close cooperation between the different arms on small-scale tactics is essential.

Training Against Jap Enemies

by Lieutenant Clarence A. Schoenfeld

War Department training regulations on combat state that "Field training must be aggressive and realistic. . . . The use of well-trained personnel to represent the enemy adds realism to the exercise."

BECAUSE a good soldier must know his enemy, training for Pacific combat should include as much instruction as possible in the organization, equipment, and tactics of the Japanese army. To be effective, such training should include a minimum of lecture and a maximum of demonstration and practical work. Seeing and doing is believing. If a trainee can watch a simulated Japanese squad attack an outpost position or can actually patrol against a perimeter of "Japanese" pillboxes, his understanding of the enemy will be greatly improved.

A method to represent the enemy realistically is a real problem for plans and training officers in the States.

Japanese equipment is not ordinarily available, but improvisation can be used to create a reasonable facsimile of a Japanese unit.

The instructor should know what he is demonstrating. He should learn what the individual Jap wears and carries, and give especial attention to the conduct of small enemy units in attack and defense.

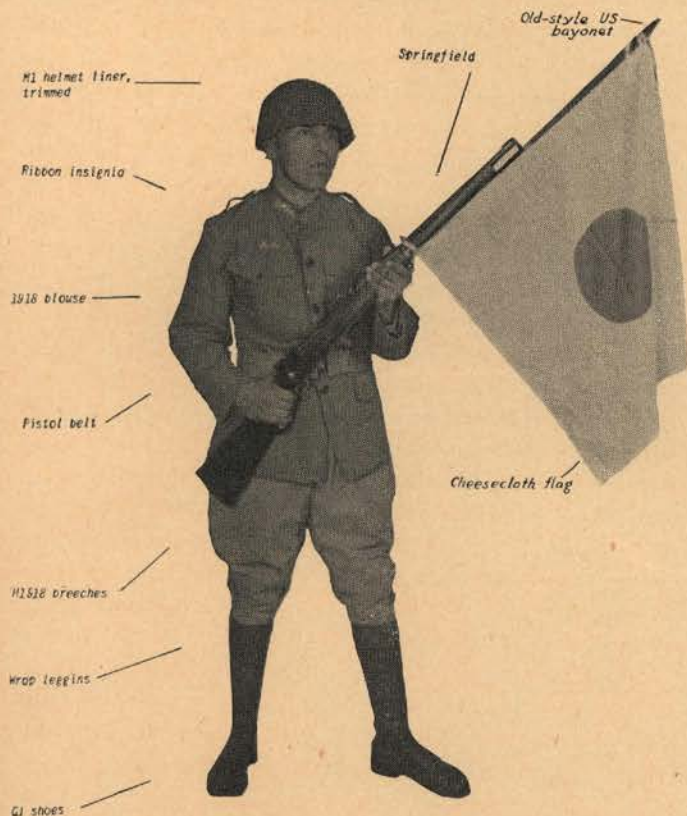
The size of the demonstration unit will depend on manpower and available equipment. It should number at least a Jap squad—13 men. If more elaborate, 75 men may be trained—enough for a 54-man platoon, including a machine-gun section, mortar, and antitank gun crews. Choose short men. The Jap is uniformly small.

After the simulated unit is ready to function, its uses are many—from demonstrating basic Jap squad and platoon formations in the attack to manning pillboxes in a "Jap" perimeter while trainees practice fire and maneuver. *Speed, simplicity, and surprise should be the principles of any Jap tactics demonstrated, since according to reports from every combat zone, these are the enemy's keystones of attack.*

MEET YOUR "ENEMY"

Any Jap squad demonstration should emphasize the rôle of the light machine gun. This weapon spearheads the attack, often from a central position, and riflemen are deployed as its security. Any platoon demonstration should emphasize the Japanese principle of rapid envelopment. For instance, the Japs often employ two squads forward in a frontal assault, supported by a grenade discharger squad, which is in position to the rear. The third enemy squad usually makes a rapid movement to one flank or the other, depending upon the terrain and disposition of opposing troops.

Any demonstration of Japanese defensive tactics will call for a good deal of digging in. The Japanese customarily set up an all-around perimeter defense system made up of a series of strong points or bunkers. These will be arranged to dominate any available high ground. A replica of such a bunker must be dug deep into the ground and carefully camouflaged. It can be constructed of heavy logs and covered by a mound of rocks and soil. The firing port should be a narrow slit (ap-



Dressed in clothing and equipment that can be improvised on almost any army post, this American soldier can be used for highly realistic training against the Jap, which he closely resembles. Only 10 items are listed as necessary.



Demonstrating Japanese defensive tactics will call for a good deal of digging-in. Bunker shown is 8 feet by 6; is constructed of native material, and has a low firing port.

proximately 6 x 14 inches) and two feet above ground level. This permits little traverse, and the fire is directed along prepared lanes or tactical wire. The bunker might well be 7 feet high and 10 to 12 feet square, accommodating 4 or 5 riflemen and a machine-gun team. Communication trenches should be dug connecting all bunkers.

To add further realism, the defense demonstration area should include numerous "spider traps"—circular one-man foxholes three to four feet deep and two feet in diameter, covered with completely camouflaged lids. The Japanese soldier in a "spider trap" usually will let the enemy pass his hide-out, then open fire from the rear.

THE JAPANESE UNIFORM

Now, to give these men the appearance of the enemy:

Blouse: The old-style army blouse substitutes well for the Japanese blouse with its choke collar. These 1918 blouses can be found in many army warehouses. "Jap" insignia of rank, made from red ribbon, will add authenticity.

Breeches: Use 1918 breeches to match the blouse, or breeches issued for mounted troops.

Leggings: Draw wrap leggings from a quartermaster warehouse, or cut them from salvaged army blankets.

Shoes: The old regulation shoe (minus the combat top) does very well as a "Jap" boot.

Helmet: Trim about an inch off a fiber helmet liner to make the outline circular, paint it a dirty brown, cover with netting, and a helmet results which in silhouette at least can not be distinguished from a Japanese helmet. If surplus liners are lacking, winter caps or drivers' caps make fair "Jap" field caps.

Belt: Any type, but preferably a pistol belt worn around the waist, will complete the "Jap" soldier. Put him in a spider hole or let him filter through a thicket and from a short distance it is difficult to tell him from the real article.

ENEMY WEAPONS

Once uniformed, demonstration crews will need "Jap" weapons. These can be improvised from Ameri-

can weapons, which have an added advantage in that they can be used to fire issue blanks:

Rifle: The bolt action Springfield or Enfield looks like an Arisaka and can be used effectively by your "Jap" riflemen. The sling should be removed.

Bayonet: The old issue long U. S. bayonet, while not as saber-like as the Jap weapon, is satisfactory.

Pistol: The U. S. .45 caliber pistol may be used.

Light Machine Gun: The Japanese rifle squad is built around a light machine-gun team, which carries either the Model 96 6.5mm or the Model 99 7.7mm. Since both of these models have shoulder stocks and bipods, they can be represented only by U. S. weapons with such mountings. If available, the M1919 A6 will do admirably. Lacking that, a serviceable "Jap" light machine gun can be fashioned by clamping a wooden stock to the pistol grip of a M1919 A4, discarding the tripod, and fastening a makeshift bipod to the barrel jacket. This gives a blank-firing automatic weapon as the core of the "Jap" squad.

Heavy Machine Gun: An American light machine gun mounted on a heavy tripod will represent the Model 92 7.7mm Jap heavy.

Grenade Discharger: Every Japanese rifle platoon has a support squad equipped with at least three 50mm grenade dischargers—the so-called "knee mortar." Dummy GDs can easily be made out of gas pipe scraps painted dull black. The over-all length should be 28 inches, barrel 10 inches long and two inches in diameter, and base plate 6 inches by 4. A rawhide thong can substitute for the trigger cord. Musette bags looped over the belt make fair GD ammunition carriers.

Mortar: Both the Japanese 81- and 90mm mortars can be represented by an American 81.

Antitank Gun: The U. S. 37mm antitank gun can double for either the Jap Model 94 37mm or the Model 1 47mm.

These weapons will be sufficient to demonstrate the organization and tactics of a small Japanese unit. Other items can include sabers carried by "Jap" officers, "Jap" battle flags tied to fixed bayonets, wooden land mines, grenades, and garlanded camouflage nets. Booby traps, snipers, road block, charges simulating mortar fire, and plenty of blanks can be used to complete the picture of jungle warfare.

The demonstration crew can also be taught a brief Japanese vocabulary as follows:

Attention	Ki Wo Tsuke
Rest	Yasume
Fall In	Atsumare
Right Face	Migi Muke Migi
Left Face	Hidari Muke Hidari
Forward March	Mae Susume
Detail Halt	Bunti Tomari
Fall Out	Wakare.

The demonstration unit described in this article can represent the Japanese in a highly realistic fashion. Troops trained with such a "Jap" crew will know the enemy and be better soldiers for it.

Notes On the Japanese Army^{*}

THE following details of the Japanese Army, drawn mainly from American sources of information, should be of interest and value to those who may shortly have to encounter it on the battlefield.

The Japanese army at the end of last year numbered some 4,000,000 men, organized in about 70 field divisions; the addition of depot units and allied puppet troops would probably raise the total figure to 5,000,000. Of the 4,000,000 of the field army 2,000,000 are in China and Manchukuo and 250,000 cut off in the Pacific islands by recent Allied advances and no longer in a position to play an active rôle. It is estimated that since the Chinese war began in 1937 the total Japanese losses in killed amount to no more than 850,000, and more than that number have since been recruited in the various annual contingents. From the numerical point of view, therefore, the Japanese army is growing.

TRAINING BEGINS EARLY

The Japanese soldier begins his military training at the age of 8 and before he joins the ranks has usually had at least two years of secondary school education. All but 4 per cent of the Japanese population are literate and 50 per cent of the soldiers usually study English. The average Japanese soldier's educational level is therefore fully as high as that of any other army.

In peacetime the term of military service is two years with the regular army for all males between 17 and 40 years of age, with preservice training from 8 to 15 years of age. In this war the term of color service has been extended to three years. Koreans were first conscripted last year, and this year Formosans will be taken in too.

The average Japanese soldier is 5 ft. 3 in. tall and weighs about 120 pounds; he can lift weights up to 150 pounds and can march up to 20 miles per day.

Most regular Japanese officers are trained in the military academy, candidates for which are selected from the various military preparatory schools in accordance with very high standards.

Japanese forces in the field are organized in groups of armies, area armies, armies and special mission forces. A group of armies usually comprises all the forces in any one theater of war; an area army corresponds to our army and an army to our corps, having a strength of some 50,000 men. The strength of the Japanese infantry company, organized into headquarters, three rifle, one heavy weapon and one ammunition platoon, is 262 all ranks.

ENEMY EQUIPMENT

The artillery used to be one of the weak points of the Japanese army but it has recently been rearmed with

new or redesigned material. Up to 1929 all Japanese tanks were homemade versions of French or Russian models; there are now 4 main types, ranging from light machines of 5½ tons to medium ones of 22 tons. Japanese lorries are poor; there are few of heavy category; many use self-generated fuel systems.

For intercommunication the army has "walkie-talkie," radio equipment and field telephones, both of somewhat antiquated types. Japanese engineers, on the other hand, are well equipped, and have shown special skill in the construction and demolition of bridges; but air-fields and roads constructed by them fall considerably short of American or British standards. The construction of fortifications from materials available on the spot has been brought by Japanese engineers to a high level of efficiency.

Medical equipment is up to normal European standards, but some of the drugs used are out of date by British and American practice. Injected drugs, patent medicines and standard drugs are used extensively, as well as vaccines, antimalarials, and vitamin products.

The traditional stolidity of the Japanese soldier is rather the result of a lifetime training in repression than a natural characteristic. In actual fact the Japanese are a highly emotional race, but feudalistic indoctrination and ideology has taught and keeps on teaching the soldier that his highest duty is to his country and his Emperor, and that defeat in battle can be atoned for only by suicide, even if this suicide should in the long run be detrimental to his country. This indoctrination now seems to be somewhat losing its potency, to judge by the increasing number of Japanese soldiers now surrendering to the Allies.

EXPERT AT RUSES

The Japanese have always shown themselves experts in the devising of ruses and stratagems. The variety of these devices is limited only by the fertility of the Japanese imagination.

The Japanese believe strongly in sudden and swift offensive action, so much so that they often attack prematurely; they are skillful at camouflage in taking full advantage of natural cover. They are hard fanatical fighters and on the defensive will usually hold out to the last man. Their prime weakness is lack of individual initiative. When once committed to a plan, they always follow it to the end, even if it is clearly no longer applicable to a new situation. When an officer is killed, the efficiency of his whole unit is impaired unless and until a new officer arrives to take his place. Fine and formidable soldier as the Japanese is, he still has his faults and deficiencies and is by no means invincible, as the recent course of the war in the Far East has clearly shown.

^{*}From *The Tank*, London.



Signal Corps Photo

Cavalry is shown on the Ledo Road in Burma, in March 1944, in a rugged terrain of mountainsides covered with trees.

Facing Eastward with H

*by Colonel Albert E. Phillips**

WITH the European phase of the war over, the hard roads of France and Germany, which favored the use of armor, will now have to be replaced in our battle plans by the mountains and jungles of the Pacific area, where roads are either nonexistent or difficult.

Because in open warfare no campaign follows a predetermined course, a war of movement calls for weapons which are appropriate for both offensive and defensive action. Warfare is dominated by the factors of weather and terrain, which vary in each theater of this war.

China is made to order for horse cavalry. Burma is known to have the world's worst terrain in which to wage war. Surely it is now time to change the balance of our armed forces.

Field Marshal Sir Harold Alexander should concur

with this statement, for it was he who said that "The last thing you want in Burma is a mechanized army." He also highly praised the 10th Mountain Division for its effective operations in Italy.

RUSSIAN CAVALRY

At the beginning of the war, Russia had 1,000,000 horses in her armies, and about 200,000 were in the cavalry.

War correspondents reported that they were astounded at the enormous number of horses with the Russian armies, and that one of the most surprising battle sights of the war was Russian Cossacks riding horses and tanks down the banks of the Elbe, to sweep the terrified Germans into the icy waters. It was no rare sight for the Russians, however, because they employed

*U. S. Cavalry, Retired.

tank-cavalry teams whenever it was possible to do so. During the Russian retirement, Cossack cavalry did not fight a rear guard action, but raided the German rear, disrupted communications, and destroyed supplies to cause the enemy consternation and dismay. Its primary rôle was combat, not reconnaissance.

At Stalingrad a Russian horse cavalry brigade turned the German flanks and rear, created havoc and accelerated the tempo of the retreat until it became a rout.

It is little wonder the Germans feared the horse cavalry of the great Russian offensives. The Cossacks operated in coordination with armor, provided flank protection through difficult terrain, and played a major rôle in encirclements. The Russian principle was: "Tanks and infantry for a breakthrough, and tanks and horse cavalry for a breakthrough with encirclements." The Russians also say: "The hammer is our tanks, the sickle our cavalry."

It has been said by some people that "Primarily, the mission of cavalry is reconnaissance." The Russians do not agree to that statement, and they admit that they learned a lot about cavalry from us.

JAPANESE CAVALRY

Japan learned the military value of the horse in Manchuria and China, and prior to 1937 and her present

Foochow." And let it be added that cavalry is the only arm with which to fight cavalry.

SICILY AND ITALY

Horse cavalry could not successfully have operated on the African desert. But it *was* suited for Tunisia, Sicily, and especially for Italy, where mountains seriously restricted the use of armor.

In the final analysis, the campaign in Sicily was a series of rear guard battles fought by the Germans to enable them to escape to Italy, and a combat pursuit by the Allies to block the escape routes.

Escape was not prevented by airpower, and only accelerated by the armored units, unable to leave the roads and outflank the Germans. Amphibious landings made in the rear of the Germans were of no avail, and actually demonstrated the desperate need of a heavily armed force capable of surmounting terrain difficulties. Horse cavalry was designed for just such specific rôles.

Strenuous efforts were made in Sicily, Italy, Burma and Leyte to obtain horses for cavalry, and mules for pack troops.

General Truscott, commanding the 3d Division in Sicily, stated: "If one squadron of horse cavalry and one pack troop of 200 mules had been available to me at San Stefano August 1, they would have enabled me to cut off and capture the entire German force opposing me along the north coast road."

General Lucas, when commanding the VI Corps in Italy, said: "I was in need of a unit that could get through the mountains, and trails. Horses and men on foot were the only things that could move. If I could have gotten troops behind the Germans the results might well have been decisive. I made strenuous efforts to get at least a regiment of cavalry."

Reconnaissance cavalry of the 10th Mountain Division in Italy, which led the 15th Army Group in an advance of 100 miles to cut enemy escape routes, is shown on way to front.

Signal Corps Photo



orse Cavalry

war with China, initiated a breeding program for the production of 5,000 stallions by 1945. The U. S. had 759 stallions standing in 1941. One of Japan's first acts in China was to round up horses—for one of her first discoveries had been that the machines of war flounder in the mud.

During the Chinese "Stalingrad," which was fought on the Upper Yangtze between May 25 and June 6, 1943, 40,000 Japs were killed. The Japs used tanks, and the Chinese used pack artillery. The Tokyo Gazette commented: "The usefulness of the horse in modern warfare is one of the discoveries of the present conflict, particularly in battles on the rugged steppes and in the narrow passes of the Chinese mountains."

Both Japan and Russia maintain large forces of horse cavalry on the Manchurian border, and Japan constantly has reinforced her cavalry units in China. A press report of September 27, 1944, stated: "A huge convoy of Japanese cavalry has unloaded 18 miles northeast of

"Improvised" cavalry is makeshift at best. The improvised cavalry of Italy was not trained as cavalry, and could have been overcome in short order by trained cavalrymen.

TACTICAL MOBILITY

Man has not yet made the machine that can replace the foot soldier, the pack mule, or the horse cavalryman.

It is claimed that many horses would be killed by planes and machine guns, but hard facts belie this view. Horse cavalry can disperse faster than any other force and has machine guns which can be put into action at the gallop from Phillips equipment in 10 seconds.

All troops in battle require fire support, and every moment's delay causes casualties. An infantry division engaged in a holding action could easily be supported by cavalry, which, operating with air bombing or overhead and flanking fire support, could drive home a coordinated flank attack.

Horse cavalry is an arm of sudden speed, the value of which at times is incalculable. When coupled with surprise, it can and has achieved decisive results.

General Patton made the point clear when he said: "Horse cavalry possesses the additional gear ratio which permits it to attain sufficient speed through mountainous country to get behind and hold the enemy until the more powerful infantry and tanks can come up and destroy him."

BREEDING

If modern cavalrymen do not take horses overseas with them, it means the use of improvised horses and improvised riders (which is one hell of an outfit to bear the honored name of cavalry).

The horse itself is a weapon, and a cavalry is half beaten that has poorer mounts than the enemy's. Germany bred the "Haflinger," a sturdy, mountain type horse of endurance, stamina, and toughness, even when food is scarce. The Japs have been breeding special types of cavalry horses.

The great breeding establishments that we have maintained for years should be in use. Australian cavalry horses were tried years ago and found too light. Horses bred and trained in the United States and shipped to the Philippines required but two weeks to become acclimatized, while Australian horses required from two to three months.

The old horse-and-mule transport, *Dix*, formerly kept the army supplied with animals in the Philippines, and 4 ships can do it now, and carry the forage as well.

NATIVE BRED ANIMALS UNSATISFACTORY

The policy of using animals native to a theater of operations cannot succeed for horses. It already has failed for mules, and American mules are now being shipped for combat purposes. It also has been found that many difficulties result from the use overseas of untrained pack personnel. Cavalry, therefore, should be shipped complete, both with better-bred mounts, and

with trained horsemen who then will be available to care for animals which are on a mission, as well as those left in camp when troops are on dismounted missions.

CONCLUSIONS

A division of horse cavalry should be composed of a mobile force of horses and horsemen, mules and motors; of combat cars and light armored units. It would be armed with M1 rifles, .30 and .50 caliber machine guns, mortars, 75mm howitzers in pack, and 105mm motorized artillery. Motorized 105mm artillery should not be one of its integral units. The division should employ the 37mm with the short trail, as developed by the cavalry. It can be packed on one horse and is easily man-handled. The cavalry should be liberally supplied with rockets.

Such a unit would be integrated and self-contained; it could fight independently, but preferably would fight with infantry and armored units. It could operate in terrain wherever infantry could move, and would be most valuable in mountainous, hilly and jungle terrain. It is the most adaptable unit in our army—a task force that would be to infantry, artillery and armor what cruisers and destroyers are to battleships.

If I made but one recommendation, it would be to re-horse the 1st Cavalry Division, and to place it, or a similar unit, in the China theater.

It has been predicted that cavalry would never be employed as a division; so likewise it was predicted for armored units, which have fought almost exclusively as divisions.

No other horse cavalry equals that of the United States in armament, equipment and training. The 1st Cavalry Division was a superb combat unit, equipped with all the modern implements of war, from the M1 rifle to 105mm cannons.

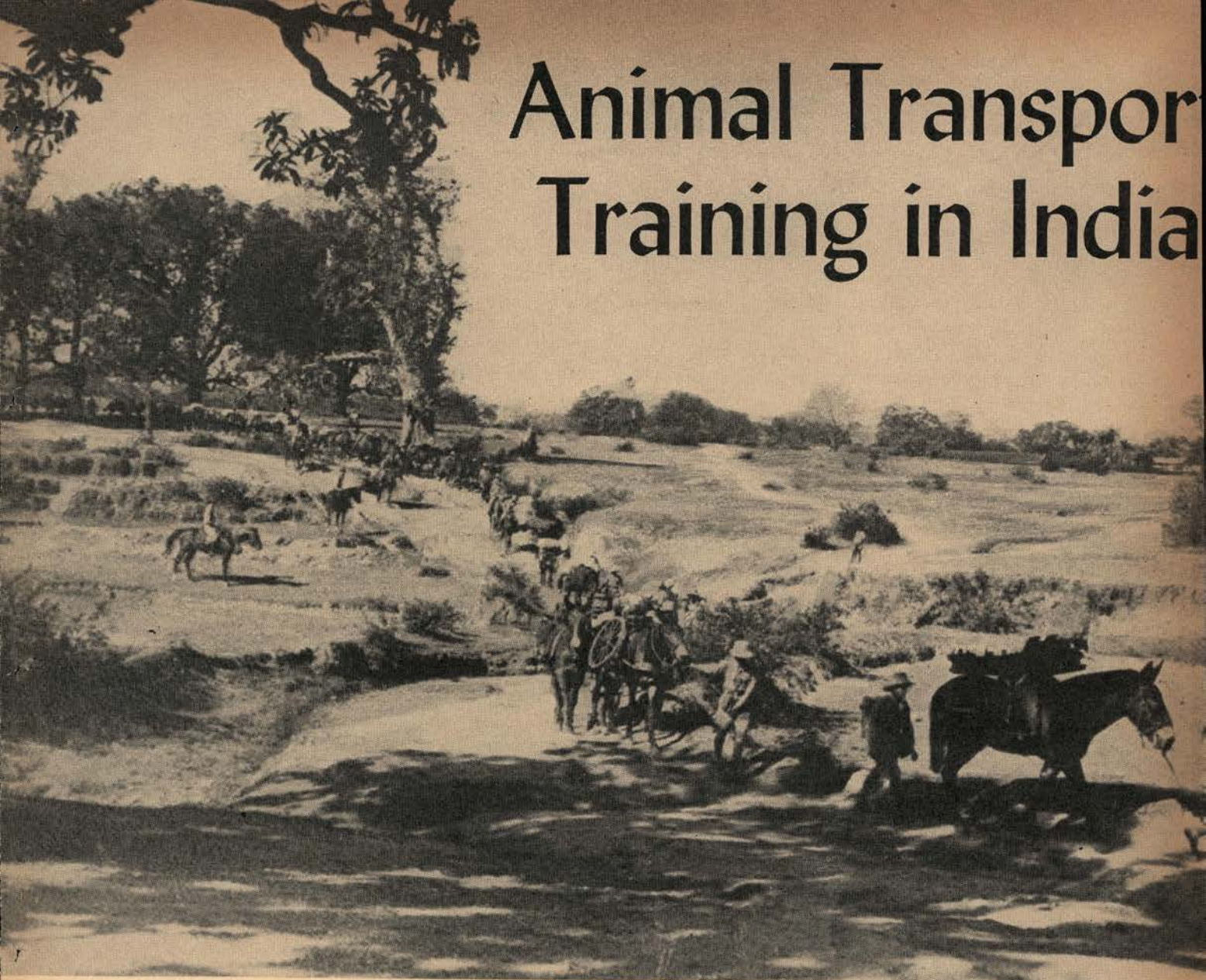
United States horse cavalry is a war tool of first importance—but only when properly used. Without bold and resourceful leaders it is not worth its keep. The war has developed such leaders.

It is possible with Phillips equipment, below, to go from the gallop to ground and to automatic fire in 10 seconds.



Signal Corps Photo

Animal Transport Training in India



*by Major Henry C. Woodward,
Cavalry**

IT was contemplated that the employment of Chinese troops retraining for Burma at Ramgarh, India, would necessitate much animal transportation, and in December, 1942, an Animal Transport Department was activated for that purpose. Many problems were encountered, both in training and equipping, and can conveniently be divided for discussion here into three groups:

1. Animals—including types, immunity to disease, forage, payload, transportation—and dispositions.
2. Equipment—modification of packsaddles, available riding saddles, the tandem wagon, and hangers for mortars.
3. Training—class organization, courses, marches over rough terrain—and a Chinese enthusiasm hard to beat.

A pack artillery unit of the Chinese Army is shown on a field problem. These troops "learned readily and their interest and enthusiasm would be hard to duplicate." A course was given which did not stop for the monsoons.

ANIMALS

Although the Chinese units brought a few of the Chinese Mongolian ponies with them, it was necessary to requisition additional pack animals at once. Initially the only stock available in India was a local horse, called a "country-bred horse," or more popularly, "Tonga." Tonga more nearly conforms to the measurements of a pony. He averages $13\frac{1}{2}$ hands in height, and weighs about 800 pounds. His general appearance, conforma-

The retreat of the Allies from Burma in 1942 brought Chinese troops to India. They were sent to Ramgarh Training Center for further training and re-equipping by an American Training Mission in preparation for their re-entry into Burma.

*Chief, Animal Training Center, Ramgarh, India.

tion and disposition leaves much to be desired. However, he proved highly immune to native diseases, and maintained a good physical condition on poor or limited rations. He grazed well on native grasses that were unpalatable to other horses, and was in most respects a hardy beast. Most of the animals received had been in use before, as was evidenced by scarred backs. A few had never been broken to pack or riding. During this early period, a limited number of Indian mules and large draft horses were received and assigned to the Chinese pack artillery, where a shortage of heavy animals existed.

In the fall of 1943, the training center began to receive horses purchased by an American Remount mission in Australia and New Zealand. These animals closely resembled the American cavalry horses and could transport a heavier payload than the Tonga. More problems were added to training, because the majority either had not been broken or had reverted to an untamed state. They were not acclimated to the Indian heat or to local forage, and disease began to make it evident that although smaller and lacking conformation, the Tonga did have certain advantages over his imported relative.

In the spring of 1944, the training center was assigned a remount company. With it came the first of the American pack mules—old campaigners from the States, Panama and way points. These animals solved many of the problems. They could carry twice the payload and fared much better on native grains and straw than the Australian or New Zealand horses. Although the American horses and mules were considerably larger than the Mongolian ponies with which the Chinese "bing" was acquainted, the good humor and tenacity of the soldier soon had its way.

From the experience at Ramgarh, and observation of Chinese and American personnel in combat, the value of the foregoing types of horses can be rated in the following order: (1) American mule, (2) Indian mule or heavy horse, (3) Tonga, (4) Australian and New Zealand stock.

The care and feeding of animals in a foreign country is a subject generally omitted from most text books. We soon learned its importance, for there were neither oats nor good hay available at Ramgarh until the middle of 1944. Grain feed used consisted of a mixture of grain and barley, with maize and bran as substitutes. The best Indian long forage at this time was baled chopped rice, locally called "Bhoosa." An unchopped rice straw in loose bundles could be substituted. The chopped straw, although lacking many vitamins found in our own long forage, kept well regardless of exposure to weather because of the tightness of the bales. In the summer and early fall months, native labor was employed to cut green grass, which proved very beneficial and aided the animals to recover flesh lost in the exceptional heat. Rock salt was easily obtained locally.

Although Ramgarh is located in the milder Surra

district, so that problems usually encountered in Burma during the wet season were not met, the veterinarian ordinarily had a busy sick call. The usual run of kicks, sore backs, rope burns and skin abrasions were aggravated by screw worms if not promptly treated. The Tonga added to the sick call with a mean disposition, which expressed itself in kicking. Some hoof trouble was encountered, but was kept under control by proper shoeing and attention to the standings. Scar tissue on the backs of many of the older Tonga ponies reopened under pack loads. A short epidemic of glanders was quickly and effectively brought under control.

The methods of rail transportation of animals in India are not familiar to most American personnel. The freight cars or wagons hold only 8 to 10 animals on the broad gauge rail, and 6 to 8 on the narrow gauge. A rail movement generally lasts a week or more. Transfers from one gauge to another or to ferries are frequent. For the movement, three or four animals are loaded in each end of the car. Heads face toward the center, and animals are held in place by two breast-high retaining bars. Hay, grain, and water are then placed in the center portion. One or two Chinese soldiers remain in the car to care for the animals throughout the journey.

Water is a major problem in rail movements, as it is not obtainable at most stops and when available often is limited. Containers are improvised from old pack boxes lined with a packmanta, or from gasoline or oil drums. In fact, one of the principle duties of the American liaison personnel on these trips is to perform considerable improvisation to provide retaining bars and loading facilities.

Exercise of the animal at every transfer point is mandatory. It is surprising that the animals come through this rigorous journey in good condition.

EQUIPMENT

The initial issue of equipment for the Chinese in the Indian theater consisted mostly of British stocks.

American mules are shown being run through the chute in the remount corrals. These animals solved many problems, could carry twice the payload, and fared much better on the native diet than Australian or New Zealand horses.



One of the principle exceptions was the packsaddle, which was a "Phillips," with the weight reduced by the substitution of light steel for aluminum in the frame, and the removal of part of the filler in the packs. This was necessary because a majority of the pack animals in this theater were smaller than the average American cavalry horse.

The British packsaddle differs from the American. It weighs less, does not have so rigid a frame, and is constructed to use slung rather than lashed loads. The cargo is tied with a special "baggage hitch." After the hitch is attached, the cargo is raised and fastened to the saddle by means of two hooks on each side of the arch. This enables it to be removed without undue difficulty at the halts, but does not permit bulky or odd loads to be carried.

Initially, pack hangers were not available at the training center, but improvisation and experience showed that any load could be lashed onto the saddle and packed out. This was excellent training, for in combat it is not always possible to have the proper hanger at the proper place. A hanger was designed and produced locally for the 60mm mortar and its ammunition.

Horseshoeing, saddler and veterinary kits used were all of British make. Riding saddles were an odd mixture of British trooper's saddle, English riding saddle and French officer's saddle.

At the beginning of the training at Ramgarh, it was believed that a horse-drawn cart would be of value in the terrain. Because of the narrow trails it was thought that the cart should be drawn by two animals on a tandem hitch, to which the British packsaddle could easily be adapted. But the cart soon proved impractical for several reasons, and was discarded.

With the American mules, came a large cargo of packsaddles and many types of hangers from the States. Initial training had been made with British horseshoe and saddle kits, and the equipment was not changed.

TRAINING

Training was carried out by a unit under the supervision of the liaison officer, and was conducted by the Animal Transport Department in schools and special courses. The liaison officer had a difficult and important task, and was generally assigned to accompany the unit into combat. His first duty with a unit was to co-ordinate the enrollment of students in the appropriate schools offered by the Animal Transport Department. He then helped the Chinese draw animals and equipment. This work was complicated, because the animals were scattered throughout the organization, and it was necessary for each unit to draw special types of equipment. The Chinese rapidly learned the dispositions of the animals; this made careful assignment of horses by the liaison officer advisable.

Chinese students from infantry, engineers, signal, medical, veterinary and heavy weapons units joined men from the pack companies in learning packmastership, horseshoeing, saddlery and animal management.



Chinese troops are shown on the trail during training at the Ramgarh, India, animal transport center. Troops are members of a pack artillery unit; the animals are of a larger type for this kind of work. The terrain is rugged, and is therefore well-suited for training for the work ahead.

A separate school was established for each subject under specialized instructors; courses were created to train specialists for the many units.

The 6-day packmasters' course included classification of packsaddle, selection and training of pack animals, nomenclature, fitting and adjustment of equipment, loads and loading. It ended with a practice march.

The saddlers' course was a 9-day course. Students worked with, and learned to use tools—cutting leather, finishing the edges, sewing and repairing it, in practical work.

The horseshoers' course lasted three weeks, during which time work was of a practical nature.

The training centers' 6-day animal management course for both horse and mule covered such subjects as feeding and watering, stable and field management, preventions and first aid treatment for disease and injuries.

A 4- to 16-hour course to familiarize Chinese general officers and American officers and enlisted men with animal pack transport often was presented.

Located in a valley with mountainous terrain near by, the training center was situated ideally. Training did not stop for the monsoon season, and as soon as individual training had been followed by unit training, long marches were made under conditions approximating those anticipated for the units. On these marches the unit was in a completely inaccessible part of the mountain for 4 days. They were the first proof that the training was sound. The Chinese officers and enlisted men learned readily and their interest and enthusiasm would be hard to duplicate.

The Phillips cargo hitch, used exclusively by the training department, was found to be the best for general use.

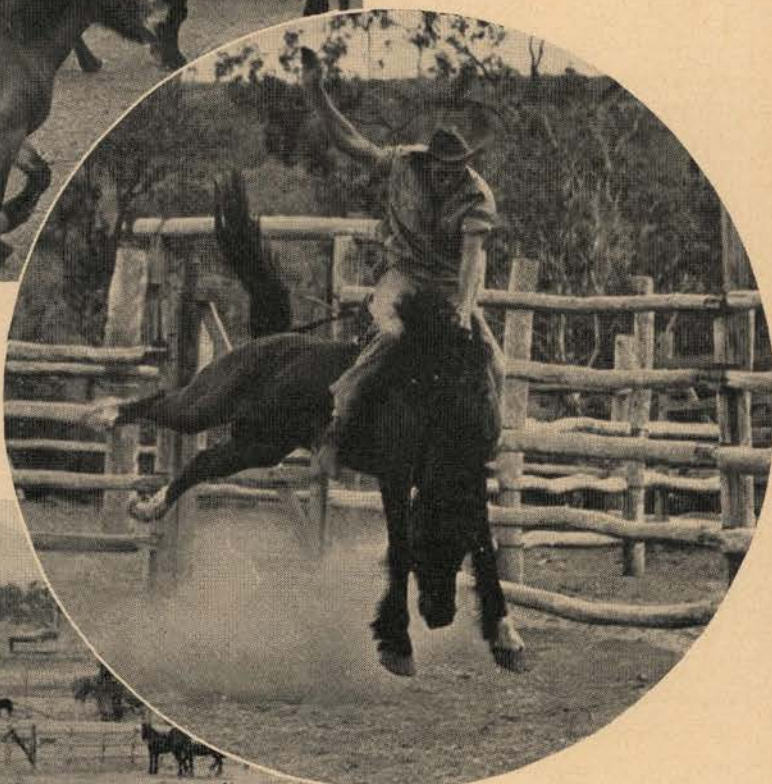
During the Burma campaign, the success of Ramgarh-trained Chinese troops proved that the efforts of the Animal Transport Department had contributed its part toward driving out the Japanese.

Aussie

*Pictures by Australian News
& Information Service.*



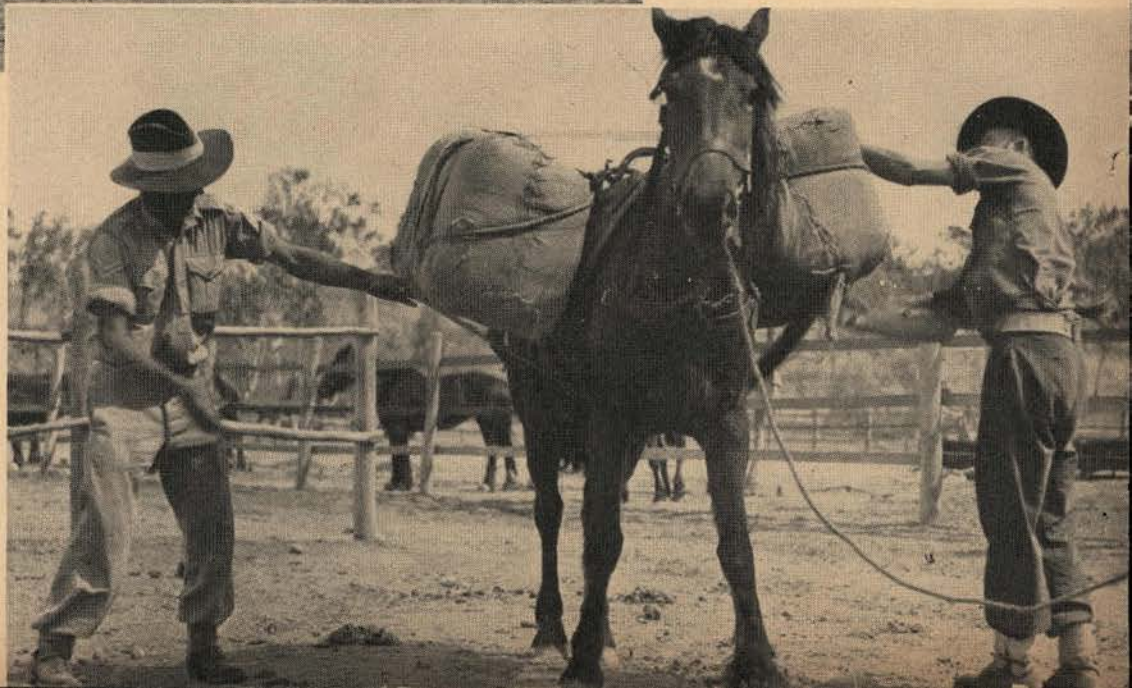
Above: Roaming the paddocks with ungroomed winter coats, flowing manes and tails, these horses are a rough lot. But limbs and lungs are sound; eyes are bright. Under currycomb and balanced diet of alfalfa, oaten chaff, oats, bran and salt, they will develop into handsome, powerful and valuable animals.



Above: Some of the draft do not take things as easily as others. Then trainers must show them who is master the hard way. Rough rider mounts and outrides bucking horse. Australian stock saddle offers much less grip than Mexican type used in U. S. so riders must have perfect balance, experience.

Above: Now accustomed to bit, animals are taught to respond to directions on reins. They have four lessons, each of two and one-half hours. At the same time, horses are made accustomed to the feel of saddle and harness.

Right: Weight of nearly 200 pounds loaded onto packsaddle makes this horse brace its legs and flatten ears back before staging a show of temperament. Men are ready.



Horses Join U. S. Army

OF necessity horses are now joining the world's most mechanized army—that of the United States—to do transport jobs that planes, jeeps, tanks and trucks are unable to do. Drawn mainly from the vast horse herds of North Queensland's cattle country, the Australian horse of World War II is doing humble work compared with the spectacular feats of past generations of the Australian remounts. (Editor's Note: Or of today's Red Army Cossacks).

A milling mob of mostly unbroken horses, herded from open mountain pastures, is handled and trained by expert Australian horsemen before going on Uncle Sam's ration strength. Like a draft of humans, the mob contains good characters and bad ones—wild outlaws who will never submit to discipline and easy-going types who will work herocially for anyone who treats them well.

There are no office jobs for 4F horses in the U. S. Army. Size requirement is between 15 hands and 15.3 hands, and age limits, 4 to 10 years. The ideal Army type is light enough to be agile, sturdy enough to carry loads, with a chest that indicates powerful lungs, and hindquarters muscled to push her up steep grades.

A highly skilled Australian veterinary gives inoculations that make the horse trainees virtually immune to tetanus and strangles.

Very soon horses look sleeker and better-groomed. The bit is harder to take than the bridle straps; a horse will give 4 lessons with the mouthing tackle, each lasting two and a half hours. When lessons are over, pressure of the bit will have made the horse's mouth not sore, but tender enough to facilitate later lessons in responding to direction by the reins.

★Australian War Photographer now with the Allied forces in the Philippines.

The horses learn their paces, get used to steady trotting and cantering instead of the wild dashes of their "civilian" days. During training they get evidence that men's gestures and voices do not bode ill for horses; at least, for obedient horses.

A horse is ineligible for the U. S. Army in the Pacific if the white on the face and stockings extends over too much of the hide, or if the horse is grey or "washy colored." Bay color is most suitable. Brown, black, roan or chestnut also are O.K.

When grooming the new horse recruits, Australian soldiers pet them, talk to them, handle them, mount and dismount, do everything possible to make the horses proof against surprises or shocks.

Unless a good horse is particularly placid, she will like the place of honor at the head of a training pack team and will resent any other place in a line of horses once she has become used to being leader. She will want to see where she is going—not just the rump of the horse ahead.

Scientific care is given all horses. Dentists are no more popular than with humans, but horses are handled quickly by men who know the difference between what merely feels uncomfortable and what hurts. For even a minor operation instruments are sterilized and handled with care.

The shoe-advertiser's assurance that "if your feet hurt, you hurt all over" goes for horses too. Farriers are important men in horse units, and members of the pack train are as carefully fitted as members of an infantry column. Lost, loose, or uncomfortable shoes can mean disaster on jungle trails.

An Australian horse in the U. S. Army gets periodical health checkups, receives a scientifically balanced diet, gets tooth and hoof attention at regular intervals.

by
*Cliff Bottomley**

Trained to their jobs, pack horses walk in line-ahead formation along a mountain road in New Guinea. Total time from a wild bush mare to a finished army pack horse is only 24 days; horses not ready to take their places in a pack-train in that time are reckoned outlaws, and dishonorably discharged. Others take to trail.



A Cavalry Tank Force

In the Defense of a River Line

*by Major Aaron Cohn**

THE 3d Cavalry Group landed on the beaches August 9, 1944, at the height of the enemy counter-attack at Mortain. By September 1, spearheading and screening the advance of the XX Corps, advanced elements of the Group were at the Moselle River overlooking Germany. The historic fortress of Metz, however, still denied our forces a crossing in force over the Moselle. It was clearly evident that the campaign would stabilize along the river until troops and supplies could be built up for a major assault crossing.

During the month of September the 3d Squadron was employed as infantry on the Corps' front. By October 10, the Wehrmacht had been cleared from the west bank of the Moselle from Echternach to Maizières les Metz. The 3d Cavalry Group (reinforced) was in a stabilized position along a 16-mile front on the Moselle River. (See Plate 2.) The line was thinly held, but it enabled the Corps to concentrate the 90th Infantry Division behind this cavalry screen. The 10th Armored Division was concentrated in rear of the 90th Division, ready to exploit the bridgehead gained on the east bank. In order to successfully hold such a front, the 3d Cavalry Group was supported by one battalion of 155 howitzers, and one battalion of 105 howitzers. A tank destroyer battalion (3-inch guns, towed) and an engineer combat battalion were attached.

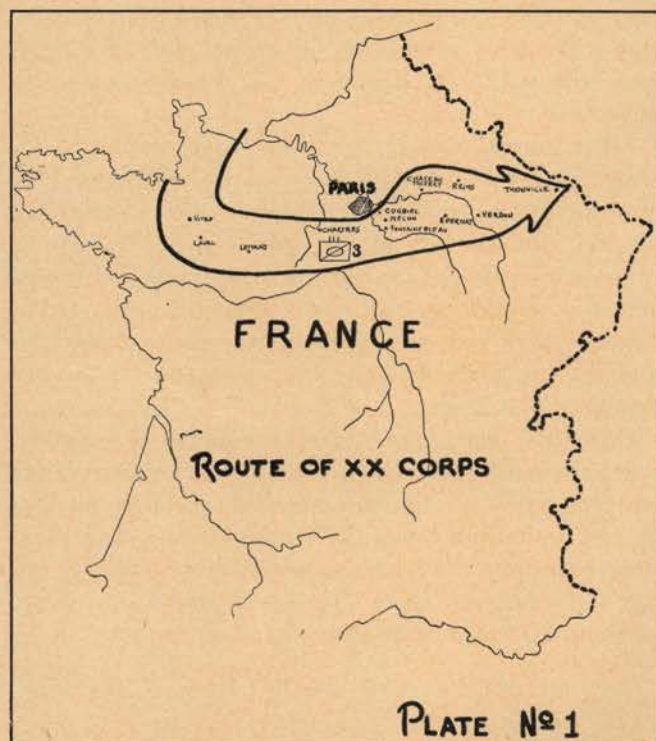
It was of utmost importance to hold the terrain along the river as it was here in an encircling movement from the north that the Corps planned its successful attack over the Moselle on Metz.

The method of this successful defense of a river line as a line of departure of a major attack was simple and effective. There were a number of villages along the river, backed by a series of rolling hills. The buildings in the villages, made of solid stone and brick construction, formed the core of resistance. They made excellent OPs, and weapon positions to cover the flat land adjacent to the river, and offered a haven to the troops against the elements. (In this rainy autumn, more men were lost to the elements than to enemy action.) The buildings also provided good protection from the enemy artillery positions and from Forts Koenigsmacher and Illange on the east side of the river.

The vehicles accompanied the troops into the towns, and were placed in buildings available for action. This provided highly mobile fire power to sweep the flat land of the river valley and also furnished radio communication with all units in the event that wire failed.

During the day, a system of OPs kept the river line

under constant surveillance. Wire lines were run back to mortar positions, assault guns, tank destroyer and artillery positions, so that fire could be massed quickly at any given point. The tank destroyers, artillery and assault guns, and organic cavalry weapons fired during the day at targets of opportunity reported by the OPs, and the enemy was made to realize that his slightest



movement brought a veritable deluge of fire. These tactics caused him to be more reluctant to assume an offensive attitude and limited his activities to darkness.

At night, heavily armed listening posts were moved down to the river's edge, patrols were sent across the river periodically, and combat patrols worked between strong points to intercept hostile enemy patrols probing into our area. The constant harassing fires of all the heavy weapons during the night created a considerable show of force, gave the enemy no time to relax, and complicated his supply problems. In an effort to keep the enemy off balance, this fire was changed from day to day, with variations in weapons, locations, and routes.

Immediately before the Corps attack across the Moselle, the counterreconnaissance screen was intensified to prevent enemy patrols from penetrating the

*S-3, 3d Cavalry Group (Metz).

area to discover the heavy concentration of troops in our rear.

At times tanks and armored cars were deliberately exposed to the eyes of the enemy to let him know we had a force prepared to repel any thrust. Vigorous patrolling, a show of force, and strong fire power are necessary to hold a large sector with a small force.

The following summary of the successful defense of the position should be of more than passing interest.

Patrolling: In the defense of the river line involving a large portion of ground, patrolling was aggressive and constant at night. The gaps between the strong points were covered by strong combat patrols on the prowl to prevent infiltrating troops. The men were fully briefed, equipped, well armed, and imbued with an aggressive spirit of either "kill or capture" the enemy.

Patrols sent across the river to capture prisoners, to ascertain the enemy's plans, installations, capabilities, etc., were extremely valuable. Missions were simple, and had limited objectives. If possible, patrol leaders made a ground study of the terrain by liaison plane. Maximum use was made of aerial photographs for briefing of the patrol and a study made of possible crossing sites. The men were also given preliminary training in the use of the boat to be used. The artillery support was always ready for execution.

Armored Vehicles: Vehicles were prepared for action and accessible to the troops, at all times. Hidden in the daytime to prevent being a lucrative target, they were brought out at night to form the perimeter defense of the strong point. Routes were previously reconnoitered so that when the LP reported any enemy movement, the vehicle rolled to the scene immediately, to destroy the hostile patrol. Time after time, it was proven that the fire from weapons on the armored cars and tanks were particularly destructive to enemy caught in the open.

Assault Gun: These were placed in battery, to fire at targets of opportunity during the day and for harassing fires during the night. Good forward OPs were maintained with direct lines to the assault guns. The guns were also tied in by a lateral wire line to the artillery FDC. This enabled the assault guns to obtain any meteorological or fire data necessary and, through observers with both the artillery and the assault guns, to place coordinated fire on targets with the artillery. They were invaluable in this particular type of action as the cavalry's own organic artillery. Key personnel in the reconnaissance troops were given an opportunity to adjust fires of the assault guns.

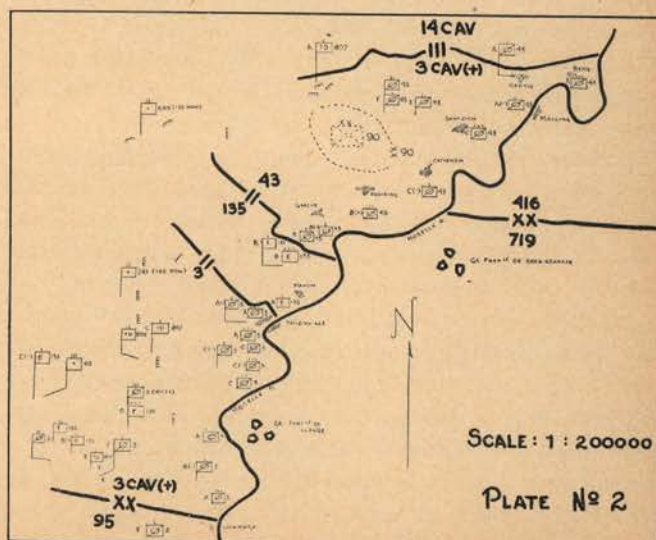
Communication: In a stabilized position such as this, wire communication was essential, and maximum use was made of it. Radio alone was not feasible (particularly CW), so wire and FM were both used, with wire given the priority. The reasons are obvious. Speed was essential, particularly when any portion of the sector was threatened. Wire was invaluable to tie in the artillery, tank destroyers, engineers, the group head-

quarters, the squadrons, and the troops, and this network of communication made the task force a homogeneous team. Wire was certainly the answer to our communication problem. (Each group headquarters, squadron headquarters and troops will have to train a makeshift, small wire team for just such situations.)

Supporting Artillery: The senior artillery officer was made responsible for coordinating the plan of harassing fire of the assault guns, tank destroyers, and his artillery. This centralized control prevented repetition of harassing fires, and coordinated fires so that they could be massed in a crucial area on prearranged plan. The plan of prearranged fire concentrations were directed from his FDC. It has been mentioned that the assault guns were wired in to the FDC by lateral lines. This permitted even greater cohesion because the FO of the assault guns could fire the artillery, or vice versa. The plans of fire concentrations were disseminated down to the platoon leader and his men, so that a private could ask for a concentration number when it was necessary, and know what he was talking about. The men were made "artillery conscious" and realized that in such a stabilized position artillery is valuable. They were taught to have confidence in their supporting artillery, and key personnel were able to adjust artillery fire correctly.

Tank Destroyers: The towed weapons which this task force had were used to augment the supporting artillery in their indirect rôles. Possessing an FDC in the company headquarters made the fire plan simpler. At least a platoon of guns was kept for their primary rôle of countering any enemy tank threat. They were also prepared to fire on any lucrative targets on the other side of the river by direct fire.

Engineers: One platoon of engineers was sufficient to support each squadron. They were utilized in placing booby traps, trip flares and antipersonnel mine fields along the river bank, in wiring in strong points, and in constructing road blocks. No antitank mine fields were placed, as they tended to limit the movement of our



own tank troops. Friendly troops should know the location of such installations and accurate sketches made to turn over to relieving troops. The engineers who placed those obstacles should remain available to orient relieving troops or remove the fields. Failure to do this will be disastrous.

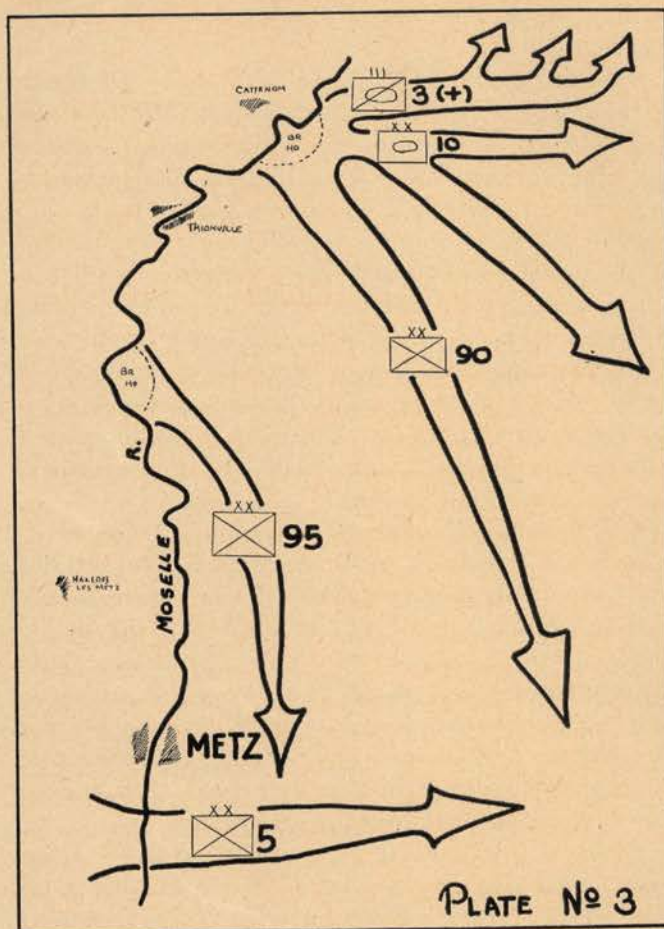
An engineer combat company, armed with M-1 rifles, possesses considerable defensive strength and each squad is also equipped with a water-cooled machine gun and a bazooka. In this situation, two companies were placed on line, two platoons supported the two squadrons, and one platoon was resting. By rotating these assignments, no engineer unit suffered any undue hardship. It is realized that such a use of engineers is wasteful of their skills, but when the situation demands, their training and equipment fit them for an infantry rôle, particularly in the defense.

Tanks: The tanks of the squadron should be held in mobile reserve and should not be rendered immobile by committing elements of the tank troops in the line as infantry unless absolutely necessary. This furnishes the squadron a local counterattacking reserve to coordinate with the reconnaissance troops covering their approach. It may be necessary to dismount men from the reconnaissance troops to act as close-in protection for the tanks from the enemy panzerfaust teams.

Machine Guns and Mortars: Mortar was placed in a good locality so that night firing was accomplished with minimum enemy interference. The use of the .50 caliber machine gun for night harassing fires was excellent, and in conjunction with harassing fires of the mortar, assault guns, and artillery greatly discouraged enemy action at night. The enemy was studied, and his habits discovered to ascertain which hours during the day or night were the most dangerous. The resulting deductions allowed fires to be intensified during the hours at which the enemy might be tempted to launch his attack. The light and heavy machine guns (with listening posts) were placed at strategic points along the river in positions to rake the river line with interlocking bands of fire. The 60mm mortar fired the only good illuminating flare used.

LPs and OPs: These cannot be overemphasized. Their skillful use were the crux of the successful defense of our river line.

Security Measures: In this operation, it was absolutely necessary that secrecy be maintained, and it was known that the enemy was identifying units by divisional insignia, bumper markings, etc. The following ruse was utilized successfully: All vehicles entering the critical area were painted with the 43d Squadron markings, because this unit was holding the vital sector. All other corps, and divisional insignia were removed. At the entrance of the critical area, a motor pool was established with all of the 43d Squadron vehicles. Reconnaissance parties stopped here, and proceeded with vehicles of this unit, unless their own vehicles were marked with 43d Squadron markings. Reconnaissance



was limited to a single vehicle and all parties were checked in and out through group headquarters. This plan of secrecy was divulged only to those who had to know.

A humorous situation arose when one of the soldiers insisted that a member of the corps artillery on a reconnaissance mission was a "spy" because the "spy" was riding in a vehicle marked "43C; B-19." The soldier insisted that it was a fake because he drove the bantam marked "43C; B-19." This is the type of secrecy that must be maintained.

This critical area was held successfully for approximately 6 weeks. On numerous occasions, the enemy sent reconnaissance and combat patrols into the sector, but they were either killed, captured, or driven off by an alert force. This was due in great measure to the individual alertness of the soldier, the rapid system of communications, and the maintenance of the maneuverability of the force. Enemy patrols never found out if the Corps intended to attack in that portion of the sector.

When the Corps did attack on November 9 (Plate 3) the German PWs who were captured stated that the attack had taken them completely by surprise. A document captured later revealed that the enemy predicted an attack, but believed it would be made farther south. The defense of the river line and the counter-reconnaissance screen were successful.

Mounted Attack, Mechanized

—A unique cavalry action in which mechanized cavalry reconnaissance elements—operating mounted—attacked, overran, and completely destroyed a German infantry battalion dug in on a defensive line with supporting weapons.

by Captain Carleton P. Jones, Jr., Cavalry

ALTHOUGH the mounted attack is not generally recommended, in some instances and under special conditions it can be employed successfully by light mechanized cavalry elements. Here is one instance of a successful mounted attack from the records of the 113th Cavalry reconnaissance Squadron (Mecz).

SITUATION

The background situation for the action under consideration is important. The date was September 13, 1944. The German armies in the West were fighting for time—time to reorganize and equip their mobile formations and time to occupy the length of the Siegfried Line with fortress troops. Under the command of Lt. Colonel Allen D. Hulse, the 113th Cavalry Reconnaissance Squadron of the 113th Cavalry Group (Mecz), had fought the German rear guard across

the breadth of northern France and Belgium, and by September was crossing the Meuse river at Liege in an advance north against stiffening resistance. (See Map 1.)

The 113th Cavalry Group had been attached to the 30th Infantry Division, and the 113th Cavalry Squadron (less Troops A and B in group reserve, and one platoon of Company F attached to the 125th Squadron) had been assigned a zone lying between the division left and the Meuse River. In addition, the squadron was charged with the responsibility of protecting the division's left flank. The cavalry mission was to destroy all enemy resistance in the assigned zone and to maintain contact with the left flank of the 30th Infantry Division.

The terrain in the squadron zone was generally flat; bounded on the east by high wooded ground, and on the west by the Meuse River. Observation was only fair by reason of numerous orchards and hedged farmlands. The Maastricht-Vise highway, the main axis of advance, was paralleled by a secondary road following generally along the Meuse River in the left of the zone.

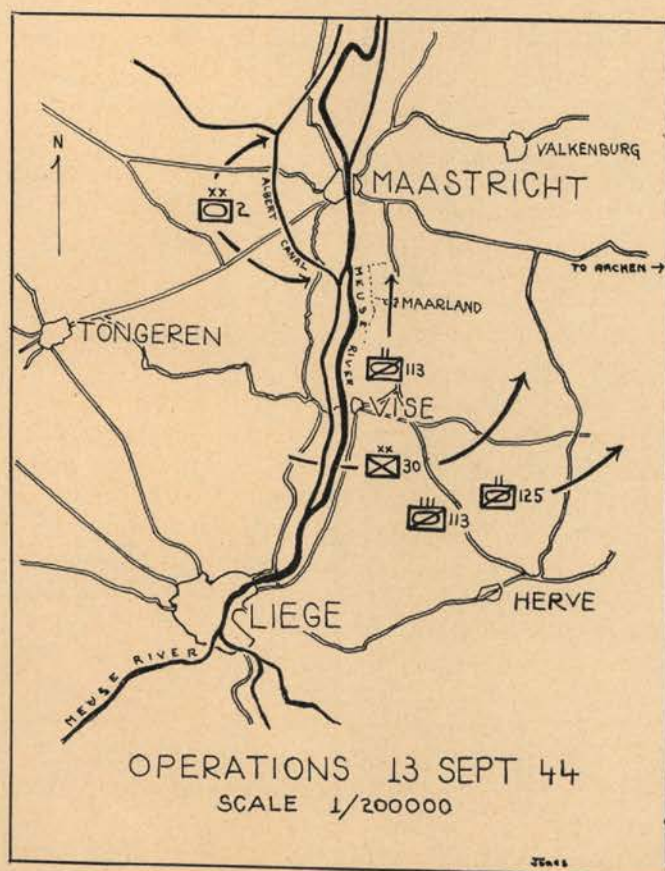
The execution of the squadron mission had fallen to Troop C, supported by Troop E in battery position. Company F, less one platoon, remained in squadron reserve. With two reconnaissance platoons abreast and astride the two main routes of advance, Troop C was moving north against moderate resistance. The 1st Platoon was on the right; the 2d on the left, and the 3d was in troops reserve. (See Map 2.)

INITIAL ATTACK

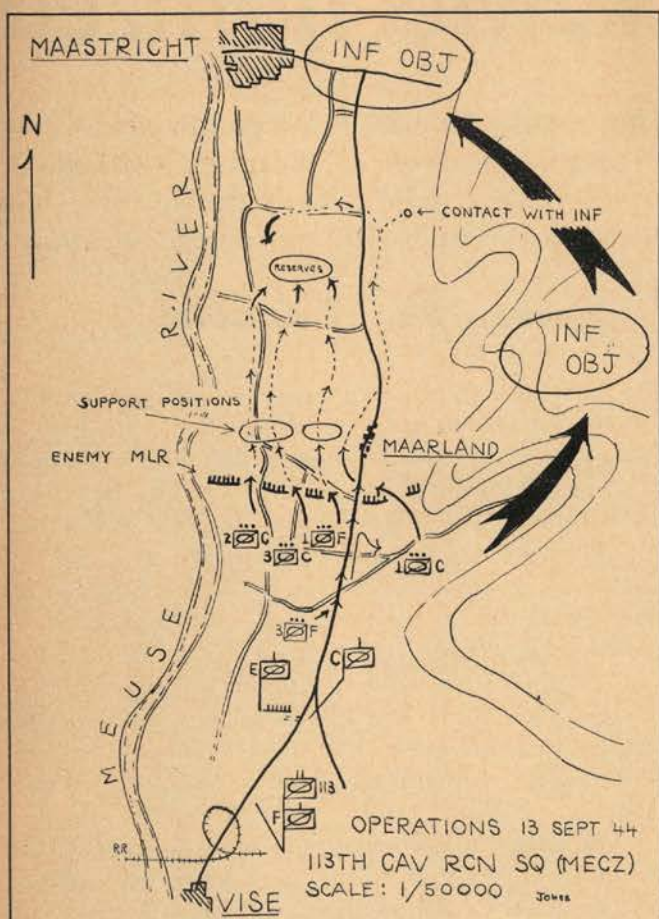
At 1000 hours heavier contact was indicated by the following radio message from Troop C:

Troops fired on by EST 75mm A-TK gun in position vicinity ———. No damage. Will adjust A/Gs.

Deciding to develop the situation by fire, Lieutenant Patrick J. Kilbane, commanding the 1st Platoon, Troop C, rolled his three armored cars into position, and the fire power of the platoon was soon brought to bear. The ensuing fire fight served to disclose a dual-purpose 20mm gun and 4 machine guns in addition to the known 75mm gun. Mortar fire commenced falling around the platoon's position. The enemy was disclosed to be in greater strength than had been expected, so Lieutenant Kilbane decided to withdraw slightly to the



Map No. 1.



Map No. 2.

rear to take stock of the situation. (See Maps 3 and 4.)

Lieutenant George L. Dana, the officer-observer for the assault gun battery, worked himself forward and started to adjust on the enemy gun positions. Lieutenant Kilbane radioed a brief estimate of his situation and was informed that his troop's 3d Platoon, under Lieutenant Richard S. Demory, was on the way to reinforce him and that the troop commander was also going forward. Lieutenant Dana scored a direct hit on the enemy 75mm gun then shifted to engage the 20mm. At that time Colonel Hulse with Captain Roy C. Jordan, Troop C commander, arrived on the scene of action.

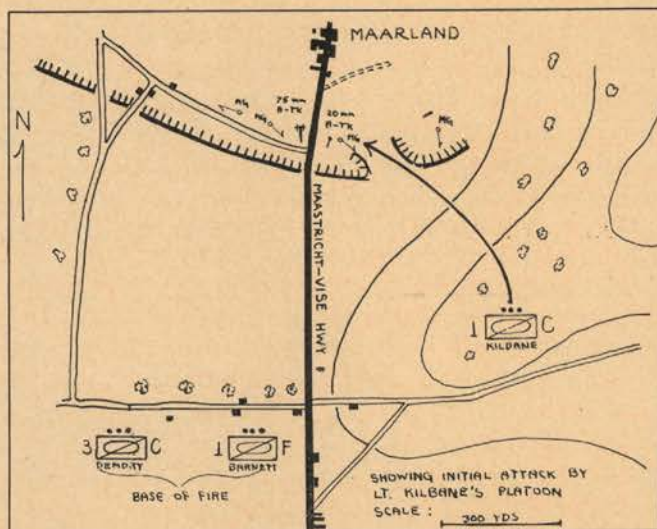
It was decided to reinforce Troop C with one light tank platoon from squadron reserve. A brief message was encoded in prearranged message code and radioed back to squadron. The 1st Platoon of Company F under Lieutenant Roy L. Barnett was rolling forward before the confirming message was decoded. The assault guns were fired with deadly effect, and the 20mm and two machine guns were silenced. Lieutenant Dana then proceeded to work over the enemy position with time fire and tree burst while the commanders formulated a plan of action.

MOUNTED ASSAULT

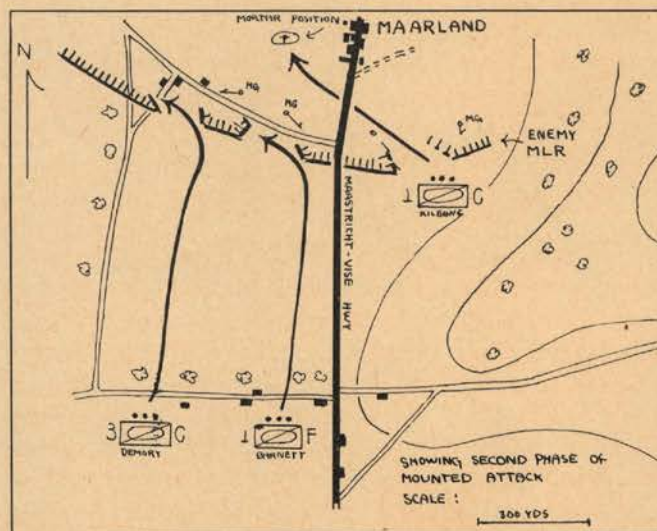
The plan, evolved quickly, was simple and direct.

Lieutenant Kilbane was to swing wide to envelop the enemy's left. Upon a prearranged signal by radio he would then launch a mounted assault down the long axis of the enemy position. Initially the reserve tank and reconnaissance platoons would cover this movement by fire and move forward in frontal attack after the flank action was under way. The reserves arrived, and the plan was carefully explained to all commanders. Lieutenant Kilbane mounted up his platoon and moved out. (See Map 4.)

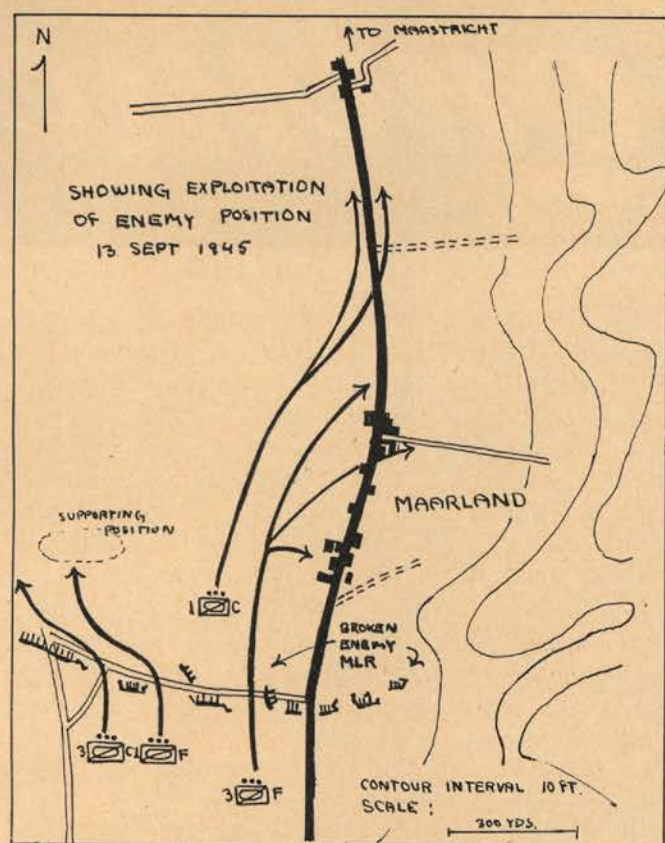
The flanking platoon moved approximately 500 yards to the flank and assembled in slight defilade. Lieutenant Kilbane placed the platoon in wedge formation, his three armored cars comprising the center, and his machine gun ¼-tons wide to the flanks and rear. The assault guns raked the enemy position with a last flurry of time fire, and the machine guns and 37mms of the base of fire joined in to keep the enemy down. The signal to jump off was given, and Lieutenant Kilbane rolled his platoon forward while firing all weapons.



Map No. 3.



Map No. 4.



Map No. 5.

He talked to his platoon and by coaching them over the 508 radio, controlled their fire and movement. Within 100 yards of the enemy he began to use 37mm canister, which was very effective at that range and virtually cut a lane ahead of the advancing armored cars. Then the light tanks and armored cars of the base of fire commenced their coordinated assault.

The combined actions of the mounted platoons overrode the enemy positions, and shortly the enemy defense deteriorated into complete confusion as the cavalry, tanks, and armored cars, cruising up and down the position, cut down the now disorganized German soldiery. The position astride the main road was soon completely neutralized and 111 Germans remained alive to surrender; 74 of their comrades were not as fortunate. Casualties sustained by the 113th were two men slightly wounded.

EXPLOITATION OF SUCCESS

This spirited action tore a 400-yard gap in the enemy MLR (main line of resistance) and laid his defense open to exploitation. Further aggressive action was not long in coming. Lieutenant Kilbane was ordered to move his platoon through the gap and up the main road toward Maastricht. His mission was to make contact with the infantry, now reported about a mile east of Maastricht, and to shoot up enemy supporting positions and rear installations. Lieutenant Demory's reconnaissance platoon, which had been occupied with prisoner collection and disposition, was quickly reorganized and,

with Lieutenant Barnett's light tank platoon, was committed in a westerly direction to roll up the broken enemy line of resistance. Lieutenant John W. Wright, commanding the 2d Platoon of Troop C operating in the left of the squadron sector, continued to punch at the enemy MLR. A second light tank platoon—the 3d Platoon of Company F, under Lieutenant Martin J. Grady—was brought forward from Squadron reserve and committed through the breach to seize and outpost the small village of Maarland, 300 yards behind the enemy line of defense. (See Map 5.)

The operation from this point moved rapidly to a conclusion. Lieutenant Kilbane rolled his platoon north with sections abreast up the Maastricht-Vise highway. At a point 2,000 yards north on the highway he dispatched a patrol to his right flank which succeeded in contacting the friendly infantry. This accomplished, he maneuvered deep into the enemy rear and turned south. There ensued a succession of very brief and one-sided actions, in which Lieutenant Kilbane's platoon took 119 prisoners, including the German battalion commander complete with staff. Operating as a team, units under Lieutenants Demory and Barnett rolled up the enemy position west from the initial breach and made contact with Lieutenant Wright, who by that time had broken the resistance to his front and was preparing to move on north. After a short action in which 30 prisoners were taken, Lieutenant Grady's platoon of light tanks succeeded in taking Maarland. His platoon then reorganized and outposted the village, while the main action swung north and took on the character of a mopping-up operation.

Prisoner evacuation became the first necessity of the day, and 6 x 6 trucks from the rear echelon were rushed forward, along with all available halftracks, ¼-ton trucks and armored cars of Squadron Hq. Prisoners streamed to the rear on this motley array of transportation until the final count swelled to 387. An estimated 150 Germans lay dead beside their foxholes. Casualties to the 113th for the entire operation were 5 men wounded, three of whom were back on duty within 24 hours.

In some instances and under special conditions, as in the action described, the mounted attack can achieve success. The action adopted in this case was based upon the assumption that the enemy morale would suffer in proportion to the gains of the 30th Infantry Division toward Maastricht. It was estimated that as the infantry approached Maastricht the enemy left-rear would be threatened and the enemy's position would become increasingly untenable. Canalized between the Meuse River and the advancing infantry, the enemy, with slight hope of reinforcement, would be mentally prepared for defeat. This was the train of thought that influenced all decisions and the foundation for the calculated boldness of attack that eventually proved successful.

Assault Guns

by Lieutenant

Colonel Albin F. Irzyk*

Comm

LESSONS learned from the employment of assault guns in combat have resulted in the molding of these weapons into a small but potent fighting unit which has unobtrusively produced results far beyond those ever expected of it.

This unit includes the assault gun platoon and the assault guns of a tank battalion, of an armored division; and in spite of limited men and equipment, has saved time and lives. To make possible the admirable record of the assault gun platoon in combat, it was necessary to improve its organization, and to modify it so that it included the remainder of the assault guns of the battalion. Even though these changes were found satisfactory, a few more minor changes would make the unit a still more effective vehicle of war.

Suggestions for the modification of the Table of Organization, and for standardization of usage, will be discussed here, and will provide an answer to the numerous discussions and opinions, some at wide variance with others, on the manner in which assault guns should be committed.

As set up at the present time, an assault gun platoon consists of three medium tanks with 105mm howitzers, a platoon headquarters half-track, and an ammunition section mounted on a half-track. According to current publications, during movement in close proximity to the enemy, the platoon leader should ride in his half-track with battalion headquarters, keep abreast of the situation, and be prepared to make recommendations for the employment of the platoon.

Each medium tank company is equipped with an assault gun section consisting of one assault gun and trailer. It is prescribed that the assault gun section usually will operate with the company but, when not needed for direct support of the tank company, this section may operate with the battalion assault gun platoon.

During recent months in combat, a more satisfactory way has been found to employ the assault guns in a tank battalion. It is felt that because of its success, the procedure is worthy of consideration.

We found that the most effective way to use our assault guns was to group the three from the assault platoon tanks, and one from each of the three medium tank companies, into a 6-gun battery. This was actually reduced to 5 guns, as the platoon leader who commanded and fired this unit rode in one of the 6 tanks.

It was the responsibility of the platoon leader to do the forward observing and adjust and coordinate the fire of his platoon. He always accompanied the tank company, or companies, most likely to need his unit's fire. This usually placed him close to the commander of the leading tank company. On occasion he remained slightly behind to observe fire from a covered position, if such were available. He was always close enough to perceive and call for fire needed by tank companies, and to pick up targets of opportunity. The proximity of the assault platoon leader enabled the tank platoon leader and the company commander to call by radio for fire on a target. By operating in this manner, fire was quickly and effectively placed and a base of fire and close support was given not by one or two guns, but by what amounted to a battery of artillery.

In the meantime, the platoon was kept behind to take advantage of covered firing positions, and moved by bounds in order to be well within range for effective support of the lead elements.

Exponents of the use of assault guns singly, in pairs, or in two units of three each, may question what would have happened if fire was needed to a flank or to the rear, or by a company unaccompanied by the assault gun platoon leader.

The answer is, that the assault gun platoon leader operates his own fire direction center, and at the first opportunity adjusted his platoon on a crossroad, or some other well-marked terrain feature. Thus, although he believed that he was where he would be most needed, he could still bring fire to assist any other company. Whenever such fire was needed, a company commander or platoon leader simply gave the assault gun platoon leader a coordinate and the latter would direct the fire close enough to enable it to be adjusted onto the target by the person who called for it. When the fire support came it was an effective, massed fire, of unquestionable value.

Many disadvantages result when guns are used singly or in pairs. Each must have an observer to adjust and coordinate when used for indirect fire (which is rarely of sufficient strength to be effective). Moreover, when the firing is direct, a single gun or two guns can seldom accomplish more than the tanks themselves.

A company commander usually has enough to do maneuvering his company, employing his three platoons, and coordinating with the infantry that is generally with him, to concern himself with his single assault gun. This condition results in a tendency to

*8th Tank Battalion.

ts from Combat

employ it as if it were another tank, or else neglect it. Moreover, when a commander does require assault gun support, he usually needs more than a single gun can furnish him.

We learned that when all of the assault guns were massed, the assault gun platoon could give close fire support quickly. In addition, it could relieve the artillery of close support missions, and when no more important missions were presented, it was used to reinforce the artillery.

Throughout the operations, the M10 ammunition trailers, a standard part of assault gun tank equipment, were not necessary, so by cutting them loose a great deal of mobility could be gained. The assault tanks were then able to follow the tank companies anywhere. It was no longer necessary to feel their way across country and pick spots where the guns could turn off the road without overturning the trailers. Abandonment of the trailers also enabled the assault tanks to go extremely well forward without the danger of ammunition being hit and set afire by enemy guns. It was no longer necessary for a tanker to dismount under fire to cut loose from a burning trailer.

A trailer normally carries from 54 to 100 rounds of ammunition and it was necessary to compensate for the stowage space lost. The regular ammunition half-track was supplemented by the command half-track, which was no longer used by the platoon leader. This provided the platoon with two ammunition sections. By careful and planned loading, 100 rounds of ammunition in fiber cases could be placed in each track. This, together with careful planning, proper anticipation of needs, and prompt calls to the ammunition section, kept the guns sufficiently well supplied. A self-constructed ready-rack built in each tank increased by 5 or 6 rounds the 66 normally carried. The great gains in mobility more than offset the slight loss of ammunition.

The advantages to be gained by keeping assault guns extremely well forward, where they can fire direct, has been frequently discussed. It has been found that such a practice can be carried to extremes. An assault gun does not compare with a tank as a weapon for direct fire. The assault gun lacks a power traverse and the necessity to do all traversing manually makes aiming dangerously slow. The 105mm mounted in the medium tank is a howitzer, and consequently is inaccurate when fired direct at ranges greater than 1,000 yards. The trajectory is very high, and often range changes on the gun result in no change on the ground, or worse, a

minor change on the instruments often produces no change or a greater change than desired on the ground. If direct fire is to be accurate and effective the range cannot exceed 1,000 yards.

The lack of power traverse also makes it dangerous to place the guns near the head of the column, because they could easily hinder the movement of tanks moving forward into action.

It was found that the ideal position for the assault gun platoon was well forward, preferably with the advance guard, but behind at least a medium tank company. Here it could give prompt, close, and effective support; take a covered position not vulnerable to direct fire, and provide indirect fire. If emergency arose it could fire direct at close ranges, and prove a devastating opponent to any kind of an enemy concentration, including armor. This forward position also enabled the assault guns to blast road blocks and other such obstructions, a mission they performed more effectively than tanks.

In all of these actions the platoon leader was with the most forward elements, and served as the observer. It must be remembered that the assault guns are most effective when fired indirect. This is their primary mission.

The assault gun platoon works directly under the battalion commander, but is often attached to a tank company. This is highly recommended, especially when a company needs that type of support. Even when so attached, however, the platoon can give support to another company.

Although the employment of assault guns as discussed above was extremely valuable and effective, their organization can be improved upon by making a few changes in the Tables of Organization.

RECOMMENDATIONS

An assault gun platoon should have 6 assault guns: three from the three medium tank companies, plus the three originally in the platoon.

The medium tank companies should have no 105mm assault gun. Customarily they work with the assault gun platoon, and as a result well-trained assault gun crews from tank companies frequently were broken up by tank company commanders who needed a driver or gunner. If the assault tank is taken from the companies, it thus will cause no difficulties, and will make a smoother organization.

As a command vehicle, the assault gun platoon leader

should use a tank like that used by medium tank companies. In addition to the 6 assault guns and the one tank, the platoon should be equipped with two half-tracks as ammunition sections. There should be no command half-track. Each track should carry 4 men as operators and ammunition haulers. Under this TO, 5 men should be in each full track vehicle, plus an additional 8, 4 in each half-track, making a total of 43 men. Of these two should be officers (lieutenants).

The platoon leader should ride well to the front with the tank companies, act as forward observer, and operate his own fire direction center. The second officer should stay with the platoon, fire it, and move it into successive positions. He should care for its resupply of ammunition, rations, and gasoline, and its administration. Two officers are not absolutely required; as a capable platoon sergeant could perform the duties of the second. It is felt, however, that since the 6 guns constitute virtually a battery of artillery, the responsibility is too great for one officer and platoon sergeant to be required to shoulder.

It is recommended further that M10 trailers be deleted as part of the platoon equipment.

The platoon, although a part of Headquarters Company, works independently in combat, and should

therefore be equipped with a ¼-ton C & R car with a 510 radio. It could be used for liaison and administration as well as for forward observation from a dismounted point in a defensive position, when the use of the command tank would make it vulnerable to enemy observation and fire. Two more men would be needed to operate this vehicle and thus bring the total of the platoon strength to 45 men.

The platoon leader's tank, and the assault gun used by the second officer or platoon sergeant both should be equipped with 508 radios in order to insure good communications. The second officer, or platoon sergeant, could run a fire direction center as well as the platoon leader, should he become a casualty. Each half-track and ¼-ton C & R car should be equipped with 510 radios.

Finally, a power traverse should be installed for assault guns—to speed up shifts of deflection, to enable the gunners to work faster in indirect fire, and to fire to the flanks and rear if attacked while in position.

Such changes in organization and employment of the assault gun platoon will make it a small effective fighting unit. As such it has already proven in combat that it is handy, important, highly effective and well-nigh indispensable.

Reconnaissance in the Philippines

by 2nd Lieutenant Robert M. Hill

IT was at supper that the captain told us we would go on a patrol some time the next day.

"Guerrilla information," he said, "indicates a force of several hundred Japs in the vicinity of Nangongen. We'll take all available men and vehicles. Gas and rations for three days." Here was our order; our mission, the verification of the report.*

That evening we organized our equipment, put a couple of candy bars and tins of fruit cake in our musette bags, and read and answered our letters, if we were fortunate enough to have received any.

The following morning rolls, packs, and rations were tied to armored cars and peeps. Guns were recleaned and oiled. Six armored cars, 6 peeps, and the indefatigable half-track were lined on the road with 50 men and 4 officers. Every part of the troop was represented, including supply and kitchen.

We moved out at noon and traveling south on a fair road covered some 30 miles that afternoon. By 1600 we found our road leading west to our objective. Rain was coming down in torrents and rather than risk bogging down in a muddy river bottom, we organized a

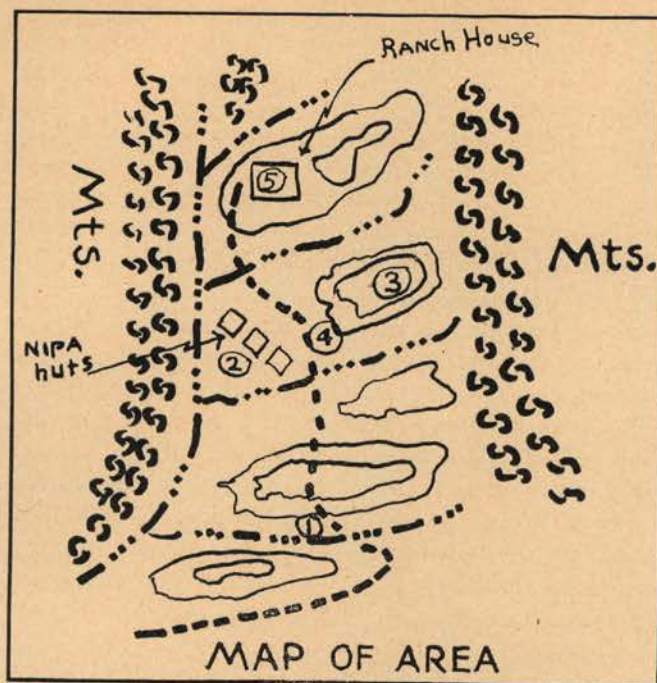
perimeter for the night around an old abandoned Filipino shack. Guards were posted, and we bedded down.

By 0600 the next morning, we resumed our mission. Our objective lay 14 miles west of the main road. We took the road west and for 4 hours sought by-passes, and winched or pushed vehicles across muddy quagmires, or swift, swollen streams, we labored vehicles up steep hills, and eased them down steeper ones. A feat to test Hercules, but by this time an old story to our troop.

After the first couple of miles, the road ended and from there on we followed a carabao trail. About noon fresh Jap tracks were found along the trail. We continued to push ahead, but became more cautious and, needless to say, more alert. From the top of a knoll (1), the lead peeps sighted our immediate objective. A signal was given and a quick perimeter formed. Observing the enemy activity to our front, a plan of attack was formulated. About 15 Japs had been sighted at a distance of half a mile, but our presence as yet was undetected.

The peeps moved forward with machine guns fully loaded, followed by the armored cars with one round canister and one of HE in the car commanders' hands. Lastly came the half-track, with mortar crews and mortars ready for immediate action. Here was sudden death

*Prior to this patrol our vehicles and men had been on the move for almost two months. Many men were restricted to the area for medical reasons and a good many vehicles had become unserviceable.



pounding across the soft, brown hillside upon the totally unsuspecting foe.

The lead peeps began a swift, deadly fire upon three nipa huts (2) on their left. The armored cars came up and moved into a supporting position, showering the huts with .30 cal. and 37mm canister. Six Japs were seen to run for cover, which they never made.

Suddenly we were brought under mortar fire from the vicinity of a large ranch house to our left front (5). By a series of quickly understood hand signals, the peeps and their crews headed for a draw on the left flank. The armored car commanders found partially defiladed firing positions on the right flank (3); the half-track

brought the mortars up into a firing position in the center (4). The mortars were quickly adjusted on the rear of the house. All hell seemed to have broken loose for several minutes as .30 cal., .50 cal., and 37mm HE beat a deadly tattoo on the clapboard house, while 60mm shells exploded behind it. In return we received only sporadic mortar and rifle fire.

When the firing ceased the peep crews went in and the armored cars spread out to give all-around security. The huts and ranch house were ransacked, and American and Japanese machine guns, rifles, sabers, pistols, and other items were collected. An incendiary grenade then sent the huts and house into flames. Explosion on explosion boomed forth as grenades and land mines were set off by the heat of the flames.

We killed 15, estimated wounding a score, and destroyed the rations and equipment of well over 100 Japs. We had contacted the enemy, but he had scattered to the deep, dense hills on either side of us. Finally the order came for us to withdraw several miles and set up a perimeter for the night. The next day we continued to our ultimate objective on foot.

Conclusion: This patrol was our fourth across country. We covered 20 ground miles, making our own roads, fording shallow streams, or winching vehicles across deeper ones. The value of the winch for us has been the successful completion of our missions. Without this single item, we would have had to go on foot, losing speed, fire power, and surprise. The armored cars were excellent for cross-country work, whenever we found firm ground. The power was there, but not always the traction. A winch on an armored car would make them perfect for our operations. The "ole faithful" ¼-ton has no faults in our eyes, if it has chains on all 4 wheels and carries a tow rope.

35th Reconnaissance Troop Drives to Rhine

by 1st Lieutenant Robert W. Woods*

DURING the Ninth Army's push across the Roer to the Rhine, the 35th Infantry Division drove north to liberate Venlo, then east to overrun Sevelen, Nieukerk, Lintfort and liquidate the Wesel pocket. For the 35th Reconnaissance Troop it was an 8-day mission full of action. First the troop prepared to throw 1,700 smoke pots into the Roer. Then as the situation became fluid, it drove north along the river, blazed a trail through dense minefields and scientifically constructed road blocks, participated in the liberation of Roermond and Swalmen in Holland, and finally protected the exposed north flank of speeding Task Force Byrne as it drove for the Rhine.

The smoking of the Roer fizzled. It was never needed. But the preparation and possibilities make a story. The

35th Division was to make a secondary crossing, a day after the XIII Corps, and on February 26 at 1500 the reconnaissance troop moved out. Attached to each platoon was a QM truck, and 500 smoke M4 and British land pots. The troop's mission was to dump 360 pots every hour at 6 points on a 3,000 yards front along a secondary stream paralleling the Roer at 500 yards. The pots were to be dumped on division order, but the order never came—a concrete bridge captured intact rendered the smoke unnecessary.

It was then that the troop's work really began.

ROAD TO ROERMOND

With the 134th Infantry Regiment halted on the German side of the German-Dutch frontier, the reconnaissance troop received the mission of reconnoitering northward as far as the Roer River on the left flank

*35th Reconnaissance Troop.

and an east-west railroad on the right. Moving north out of Birgelen, 1st Lieutenant George Krumholz' 1st Platoon passed the last infantry outpost, and within 300 yards found a carefully laid minefield dug into the macadam road surface. There were 15 Regal mines staggered across the road and shoulders to a depth of 15 yards. Fields on both sides were mined. The mines, however, were neither camouflaged nor booby-trapped and were so spaced that bantams could thread a way among them, and armored cars could straddle them. So that is what they did.

In an hour, the platoon had progressed 8 kilometers through 5 similar minefields to the outskirts of Herkenbosch, in Holland, where they drew small-arms and automatic weapons fire. In the darkness the random fire-fight that followed forced withdrawal of the enemy from Herkenbosch without any known casualties, and the 1st Platoon, reinforced now by the 2d under the command of 1st Lieutenant Robert Woods, set up in the outskirts of the town.

At 1600, March 1, the 1st Platoon skirted the town and took off over unimproved roads to the north. The 2d Platoon started to clear the town, but was relieved by the advent of Troop HQ and the reserve platoon. The main road to the next objective, the Dutch town of Roermond, was effectively blocked by a prepared log obstacle, and all other roads out of the town were mined. After an hour and a half of false starts, a bypass was found, and the platoon started moving again along the main road.

In the next 8 kilometers from Herkenbosch to Melick, the 2d Platoon encountered 16 prepared minefields, all similar to the ones of the night before, and were able to straddle them in the same manner. In one cut where a horse-drawn supply wagon of the Germans had run over one of their own mines during the previous night, it was necessary to drag a dead horse through the mines to allow vehicular passage. At Melick, where the east-west road joined the main Venlo highway, three log roadblocks forced the platoon to use the sheer weight of the armored cars to bulldoze a way through barns and garages before the highway was reached.

At the northern outskirts of Melick, with no sign of enemy mines, the remaining 5 kilometers to Roermond appeared simple, but within 500 yards the platoon encountered an antitank ditch, which civilians reported ran for 15 miles to the east. It took only an hour for a dozen willing Dutch civilians to fill the ditch enough to allow the vehicles to pass.

Another 500 yards farther the platoon encountered and removed a conventional railroad tie and 10-inch I-beam erect roadblock by using a cement block as an "A" frame and the armored car for power. This procedure was repeated three times before the platoon reached Roermond. In each case a space was made wide enough for the bantams to pass and allow three machine-gun jeeps through, but each time they were

held up by the next block. No mines were encountered on this road.

ROERMOND TO SWALMEN

All streets within Roermond were blocked by upright railroad ties, but none of the 10 such obstacles removed were mined or booby-trapped. Northward, progress through town was finally halted by a stretch of 200 yards where trees from both sides of the highway were felled across the road.

Passing to the east of the town, the platoon encountered another antitank obstacle, this time a ditch some 30 feet across the top and 15 feet deep. The only conceivably bypass was over heavily mined, cultivated fields. It seemed a hopeless situation, but Dutch gratitude was boundless that day, and within two hours a volunteer force of some 200 Hollanders had filled the ditch level enough to pass the platoon. It was strictly a shovel job, but two days later, when Roermond had become a back area, the MSR signs routed traffic over that make-shift fill.

North of town on the main road again, the platoon reached another 300-yard stretch of felled trees, which forced a bypass, and the only casualty of the day occurred. After filling a cratered section of road, the lead peep started across and was blown up by a mine buried under at least 4 feet of dirt.

The 2d Platoon of the 35th Reconnaissance Troop was not the first American outfit in Roermond; the 15th Cavalry had sent boat patrols across the river the previous night, but the 2d Platoon was the first unit to ride in on wheels.

Meanwhile, the 1st Platoon, while picking up scattered prisoners and encountering numerous mines, had progressed north to its phase line; and after an hour's wait there, it was ordered on to Swalmen, 8 kilometers north of Roermond. It reached the town without opposition and had started pushing north to Venlo, 19 kilometers to the north, when it was ordered to outpost the town for the night.

During this time the 3d Platoon, which had followed the 1st Platoon's route, had removed 85 Teller and Regal mines from the road and cleared a path that the 15th Cavalry Group followed when they relieved the troop at 2000 that night. The group, unable to follow the Melick route into Roermond, came into town from the east with the loss of at least one armored car and one bantam.

FLANK PROTECTION

On March 2 at 0800 hours, the reconnaissance troop assembled at Herkenbosch and moved administratively to Bracht in Germany. There it was ordered to provide left flank protection of TF Byrne which had swept through Venlo and was then fighting for the town of Straelen. As that unit rolled through Straelen heading east, without clearing out the town, the 1st and 3d Platoons of the recon worked their way through the town to the northern outskirts. While outposting

Editorial Comment

To the 1st Cavalry Division

THIS is an unofficial commendation. It is not from the War Department in recognition of deeds of valor and bravery on the field of battle. It does not authorize the wearing of a ribbon or medal, but you can be just as proud to receive it as if it did.

It was written by Reverend Father Hurley in a letter sent home after his liberation. For three years he was the "strong man" of Manila, defying the Japanese in their efforts to oppress American citizens. Although he protests that he is still the same hard-boiled, unemotional man, his tribute to you of the 1st Cavalry Division speaks for him. It also expresses the thoughts of every other man, woman, or child who was liberated from Jap cruelty and torture by your brilliant and daring dash into Manila.

In what better way could be answered the war-old question—"Why do we fight?" than by the following words of Father Hurley, extracted from an article published in the *Jesuit Mission Magazine* for April, 1945, by Reverend Father Calvert Alexander (S.J.)?

"God bless all Americans, but especially the magnificent 1st Cavalry Division—which made this brilliant and daring dash into Manila. No words of any living man could possibly exaggerate the magnificent character of our deliverers. Of course, they are big, muscular, hard-as-rock, magnificent specimens, but that, of course, is taken for granted. The feature that has impressed us all—swept us off our feet and put these men in our hearts forever—is the unbelievable kindness, consideration, thoughtfulness, gentleness, tenderness toward us."

No Partiality

THE following statement by Bill Mauldin in his recently published *Up Front* is also a very accurate description of the predicament that THE CAVALRY JOURNAL now finds itself in:

"During the three years I spent in the 45th Division, I was certain that it was not only the best division in the army, but that it *was* the army. Since then I have kicked around in more than fifteen other divisions, and I have found that the men in each of them are convinced that their division is the best and the only division. That's good. *Esprit* is the thing that holds armies together. But it puts people who write about the army on the spot.

"In order to do the right job, you'd have to mention six other outfits if you talked of one, and if you mention one battalion in a regiment, you're going to hear from the other two battalions, and the same with the companies."

We have no desire to slight the experiences of any unit, or to publish more of the exploits of one unit than we do of another, but it so happens, that in spite of our frequent requests, all units have not supplied us with material.

We are extremely anxious to find out what you and your unit has learned in battle that may be of value to other troops. They want to know of the engagements in which you participated, what was done, why it was done, how it was done, and what might have been done differently to advantage.

Postwar Educational Program

WITH the cessation of hostilities on the Western Front the army inaugurates another educational program which will apply to the European, Mediterranean and other inactive theaters of operation. Academic and vocational instruction will be offered at upper elementary, high school, technical school and college levels.

With approximately 500,000 enlisted men in the army planning to return to full-time school after they leave the army . . . accreditation of military training experience and army off-duty education will also apply to educational experience gained in the overseas program. In addition we must realize that informal, general educational benefits are gained by many men and women in the armed forces through travel in new localities and countries through observation of the customs and cultures of other peoples, and through other experiences gained in the service. Because the resultant educational development and growth may not appear on their service records, the army has provided for special examinations, the findings to be reported to civilian educational institutions.

From speech by Under Secretary of War Robert P. Patterson.

Mr. Tinio

Hq, XI Corps Arty,
APO 471, c/o P.M.,
San Francisco, Calif.,
27 May 1945.

Editor, CAVALRY JOURNAL,
Washington, D. C.

Dear Sir:

Almost all cavalry officers formerly with the 26th at Fort Stotsenburg, Philippine Islands, were acquainted with a Mr. Tinio, well-known Filipino businessman.

At the outbreak of the war wide circulation was given a report that Mr. Tinio had been in the employ of the Japanese and was executed by the Americans. To correct this report, which officers came to believe with difficulty, I suggest you carry the following item in the JOURNAL:

"Cavalry officers and families formerly stationed at Fort Stotsenburg, Philippine Islands, will be interested in the following information received from a general officer now in the Islands. It concerns a Filipino merchant who had a wide acquaintance among army personnel:

"Shortly after the outbreak of the war a rumor was circulated throughout the army that Mr. Tinio, of Angeles, Pampanga, had been executed as a Jap spy. This was completely false. He has not been under suspicion, is alive and is considered loyal to the United States. His wood-carving factory, store and home were demolished and all his business records lost. He is attempting to rebuild his business."

Respectfully,

GEORGE V. KEYSER,
Brigadier General, U.S.A.

✓ ✓ ✓

Horse Show Restrictions

Editor,

THE CAVALRY JOURNAL:

"The editorials of some of the leading publications in your field indicate that a misconception of the program of this Committee exists insofar as it pertains to horse shows. There *are* restrictions on horse shows, just as there are on dog shows, field trials, pet shows, and other similar events. In fact, these restrictions have existed since February 1, 1945, and they have never been modified or realized.

"Under these restrictions, it is the responsibility of every organization sponsoring a horse show to file an application with this office requesting permission to hold the event. The purpose of this application—Form WCC-1—is to enable this Committee to determine whether or not the specific event for which application is made, is of the type which conforms to the Committee's policy.

"In order to qualify, the show in question must be purely local in nature. All attendance, entries, and exhibitors must be drawn solely from the city in which it is held, or from the suburban area. If it is held in a rural community, the attendance, entries, and exhibitors must reside within that community or its normal local trading area.

"All horses entered in the show must be owned or domiciled within the local area as defined above. The judges and handlers must also reside within that area. If no qualified judge is available locally, the Commit-

tee interposes no objection to one judge from outside the local area.

"Application must be filed for each show not less than 30 days before it is to open, and with the application must be filed a list of all entries and exhibitors, giving the name and address of each. Otherwise, it will not be possible for the Committee to determine whether or not the show is purely local.

"Sponsors and show managers who fail to follow this instruction not only invite public criticism as evaders, but also run the risk of being instructed by the Committee to call off their shows.

"The War Committee on Conventions is an inter-governmental agency comprised of the Under Secretaries of War and of the Navy, the Chairman of the War Production Board, and the Deputy Director of the War Manpower Commission. The Director of the Office of Defense Transportation is the Chairman of the Committee. It was set up by the Director of the Office of War Mobilization and Reconversion.

"It is our belief that the horsemen of America would be the first to disclaim any desire to obstruct the war effort by disregarding a government request to reduce their shows to a scale which will not interfere with transportation. The men and women who attend these shows, or who participate in them, pride themselves upon their tradition of sportsmanship—that means playing a fair game according to the rules.

"The 'local show' requirement is a rule that horse shows *must* comply with for the duration so that, in your own words, we can 'keep America traditionally American' and 'bring our boys back.' Every show which breaks this rule helps to defer victory and threatens to hinder the return and redeployment of our troops.

"Very truly yours,

"FRANK PERRIN, Secretary,
"War Committee on Conventions,
"Washington, D. C."

✓ ✓ ✓

Errata

IN the article "Maneuver Formations for the Cavalry Division Artillery," by Colonel H. C. Demuth, January-February, 1945: Page 62: Under diagram of Formation C the last sentence of caption—"Interval decreases effect of air bombing"—should have appeared under Formation B diagram.

Also fourth line from the bottom of the page, right column, should read: "This interval in Formation B" (instead of Formation C).

Under the picture on page 12, May-June, 1945, issue, the picture caption should have read "a dug-in M8 armored car" instead of "a dug-in tank."

General Hawkins' Notes

The Germans Had No Cavalry

MARSHAL ZHUKOV, generally regarded as the outstanding Russian general of World War II, is quoted as having said that one of the important reasons for the defeat of the German armies in their attack against Russia was that they had no cavalry. This statement is not surprising, because, to the careful observer, the fact was obvious from the early months of the war, in 1941, to its conclusion in May, 1945.

When Germany attacked Russia in June, 1941, most American military and civilian observers thought that the Germans would defeat the Russians, capture Moscow and end the war in a few months, except possibly for roving guerrillas and underground movements. They expected the blitz war, so successful in Poland in 1939, and in France in 1940, to be equally successful in Russia. Early victories over the Russian armies seemed to justify this opinion. The great tactical maneuver called the *Wedge and Kessel* about which the Germans so happily boasted, seemed to bring invariable success and victory, and resulted in heavy Russian casualties and the capture of thousands of prisoners. The principle of the *Wedge and Kessel* was based on superiority in armored forces, which drove a wedge through the Russian lines to a depth of 10 to 20 miles. The armored columns then turned to the right or left, or to both flanks, encircled thousands of Russian troops, and either destroyed or captured them. This required great depth in the formation of armored columns, and close support by rear elements composed of infantry.

When the Russians came to understand this type of maneuver, they deployed their defense in great depth, and sent mobile troops around the flanks and to the rear of the wedge. These mobile troops, composed principally of cavalry and light tanks, were equipped with numerous antitank guns. Until it became equipped with more antitank guns and artillery, the Russian infantry in front and near the flanks of the German wedge fell back to prevent encirclement. Although these tactics prevented Russian units from being engulfed by superior German armored forces, it forced the Russian armies to retire deeply into their own territory. The Germans advanced to within a few miles of Moscow, where, to their own surprise, as well as that of the western Allies, they were finally stopped. The Russians attacked the German armored spearheads in front with artillery fire, and the flanks with cavalry and antitank guns. The Germans were severely defeated, and Moscow was saved. The German armies in the south, however, advanced as far as Stalingrad, and into the Caucasus. The Russians by this time had increased their

strength in artillery and antitank guns. Their great stand in Stalingrad is a famous episode in history. The repulse of the Germans at Stalingrad was followed by the great Russian offensive operations, during which strong columns of Russian tanks in combination with cavalry encircled both flanks of the German Sixth Army, and later destroyed it. It was then that we commenced to hear of Russia's famous tank-cavalry teams.

The Germans failed to take Moscow in 1941 largely because they lacked enough cavalry to protect the flanks of their spearheads against the attacks of the Russian cavalry. The subsequent German disasters, which occurred after their defeat at Stalingrad, were due in large measure to the activities of the Russian tank-cavalry teams and the lack of German cavalry which might have neutralized their efforts.

During 1942-43-44, Russian cavalry, in combination with tanks, played a very important and decisive part in driving the Germans hundreds of miles back, out of Russia into Rumania, and through Poland. During the winter months of these years, Russian cavalry was engaged constantly in raids upon German communications.

In 1943, the Germans began to appreciate the self-imposed handicap of their lack of cavalry, and attempts were made to reconstitute some of the cavalry divisions which had been suppressed when they undertook to conquer Europe by means of the blitzkrieg. These efforts to improvise cavalry during a serious war were futile. It was impossible to organize and properly train enough cavalry in time for it to be of any use.

Meanwhile the Russian cavalry became more aggressive, and confident of its ability to oppose any kind of German troops. It openly boasted that a regiment of cavalry had nothing to fear from a regiment of German infantry or tanks. Its equipment had been improved with mobile and effective antitank guns and mortars. They already carried rifles, Tommy guns, grenades, machine guns, swords and pistols, and had learned how to use these varied weapons to meet different situations.

The Germans had no cavalry. Their mechanized blitzkrieg had worked well against improperly prepared Polish armies in 1939. They overwhelmed Holland, Belgium, and France in 1940, and Norway and the Balkan States were speedily conquered. The armored forces of Germany appeared invincible, because there was nothing to oppose them. So why should they bother about cavalry?

But their day of reckoning was coming. They still had to defeat Russia. Russia had been watching and

was frantically making antitank guns, artillery and tanks. Their 60-odd divisions of cavalry were being equipped with modern weapons and more divisions were being formed. When the Germans attacked in 1941, the Russians were not quite ready. Preparations had not been completed, but from the very beginning they threw their cavalry into the fight and succeeded in preserving their armies from destruction. Then, when they were ready, they turned upon the Germans with results so successful as to gain the indebtedness of the rest of the world. The war in Europe could not have been won without Great Britain and America, but it is also true that it could not have been won without the victories of the Russian Army.

Could these victories have been won without the Russian cavalry? Could they have been won if the Germans had provided themselves with a cavalry force of several hundred thousand? Germany had everything else in great abundance—infantry, artillery, all auxiliary arms, air forces and armored forces. They certainly expected to win the war quickly with these mechanized forces, before their enemies could awaken to the necessities of modern war, or could equip themselves.

That the Germans had suppressed practically all of their cavalry was most fortunate for the Russians and for us. British and American armies fought the Germans in Tunisia, Italy, and in western Europe with no cavalry other than some mechanized cavalry reconnaissance units. It was fortunate for us that the Germans had no cavalry there either.

During the tremendous sweeps made by our armored forces through France, Belgium, and Germany in 1945, the Germans constantly were being caught by surprise because they failed to guard against surprise. German

cavalry could have operated across country and between the roads to attack us on our flanks or ambush our road-bound armored troops. They were without means for fighting delaying actions properly, however, because they were without cavalry. They were forced to fight on roads and in the villages through which roads ran and American columns had no fear for their flanks. American tanks could outflank defenses of a German village by moving a short distance off the roads. If we had been fighting cavalry-minded Russians the situation would have been far different.

It is not pleasant to contemplate what the Germans could have done if they had had a large force of cavalry available when they broke through our lines in the Belgium Bulge. I have written in previous "Notes" about what might have occurred had we had cavalry in the Bulge, and also in other theaters of operations in Africa, Italy and western Europe. Under some conditions, cavalry could not have kept up on the roads with armored forces, but it would have been available when real resistance was offered, and highly useful to precede the infantry, which followed behind the armored forces and dealt with points by-passed by the armored troops in their rushes along the roads.

The lack of cavalry hampered the Germans in almost every theater of the war. It might have been difficult for us to bring cavalry across the oceans, but the Germans could have had it, had they not expected mechanization to do everything. Bad and stupid military counsels prevailed in Germany in many respects, despite their demonstrated efficiency in many other ways. Their failure to provide themselves with a strong, numerous and modern cavalry was one of their egregious mistakes of the war.



THE following are excerpts from statements made by General George S. Patton, former cavalryman, when he appeared before the War Department upon his return from Europe:

When asked by Secretary of War Stimson to talk about horses, Patton said—

"If we'd had a brigade or a division of horse cavalry in Tunisia and Sicily, the bag of Germans would have been bigger because cavalry can conduct a pursuit faster than infantry." He added that it was simply a question of speed and mobility. As good as U. S. armor was, the General continued, the war still could have used some horses.

He said this was so because:

"An advancing infantryman goes, say, N miles an hour. A retreating soldier goes N plus one miles. So the man going N miles an hour can't catch him. But a man on a horse can go N plus three and get him."

He then laughingly told of how he extemporized some cavalry once in Sicily: "900 immortal heroes" who rode jackasses, bulls, and anything else that resembled a horse.

This bizarre outfit was formed, Patton explained, because the army had no regular cavalry there—and because cavalry comes in handy.

A superb horseman himself, the General said that while there is hardly an American who cannot drive an automobile, there were few who could saddle a horse.

By illustration, he told of meeting one of the "immortal heroes"—an officer—astride a jackass which had been saddled on the withers. The officer wanted to salute Patton and thought that regulations required that the jackass first be halted.

When the jackass stopped, it lowered its head and the officer toppled over on its neck.

"Does that happen often?" Patton said he asked.

"Every time I stop," the officer replied.

Patton said he asked the officer where he had learned to saddle a horse and that the officer replied that he had never saddled one—in fact, the only animal he had ever ridden was an elephant.

"And you ride on the elephant's head," Patton quoted the officer as saying, concluding that this should illustrate what a hard task it is to improvise cavalry.

Soviet Cav

by Colonel I. Pronin

Beyond the Oder, Soviet cavalymen move along roads of German Silesia, penetrating deeper into Germany. Flank movements by such units seriously hindered the enemy.

Below: Cossack gunners on their way to firing positions.



Sovfotos

IN spite of all the modern means of warfare employed by the armies of today, Soviet cavalry proved to be an equally powerful force, both in defensive and offensive operations.

In the early phase of the war, Soviet cavalry, with other branches of the Red Army, bore the brunt of the German onslaught. Troops fought bravely, and were able to deal costly blows at the flanks and rear of the enemy.

In August, 1941, cavalry under General Dovator breached the enemy front in the area of Podviazyeustye, cut communications and disrupted the enemy's control. The German Sixth Army was forced to change its headquarters several times within a day, and such fear and panic were created in the German camp that the enemy asserted that at least a "hundred thousand Cossacks" were operating in his rear.

In September, 1941, mobile units of the Wehrmacht sought to attack the Soviet flanks and rear, in the vicinity of Shtepovkasalo, where a wide gap divided the armies of the southwestern front. Cavalry units under General Belov routed this superior force.

The Nazis launched their second general offensive toward Moscow in November, 1941. Hitler massed 51 divisions for the operation, 13 of which were Panzer and 5 motorized. Soviet cavalry played an important part in the final rout of this army. Troops of General Belov particularly distinguished themselves, and dealt the first counterblow against the Second Tank Army.

The final stroke which forced the enemy to retreat was eventually delivered by General Guderian's Corps in a coördinated attack with other arms near Tula. After the Germans were defeated, Soviet cavalry units were immediately used to pursue the enemy, destroy his manpower, and make his battle technique ineffective. Cavalrymen then took the towns of Stalino-gorsk, Kozelsk, Belev, and Masalsk, and by striking at communication lines of the enemy's Fourth Army, forced its retreat to the south. The Second Tank Army had almost ceased to exist after the rout near Tula and only remnants of the crack divisions escaped.

Soviet cavalry played a singular rôle in the great battle near Stalingrad, when the German Sixth Army of 330,000 was surrounded and entirely liquidated. In this operation strong cavalry units took part in the encircling movement, as well as in attacks on the enemy flanks. Operating with tank units, they accomplished the most responsible part of the action which eventually closed the circle around the enemy. Subsequently the cavalry routed enemy units which broke through the ring, and also attacked reinforcements which the Germans sent up. When the Red Army assumed the offensive after the route of German troops at Moscow, Stalingrad, and in the Caucasus, *the cavalry, as well as*

While infantry attacked the front of the enemy positions, cavalry in coöperation with other mobile forces, developed break-throughs and operated *far in rear of* the enemy.

*By cable to THE CAVALRY JOURNAL from War Department, U.S.S.R., Moscow, June 26, 1945.

alry in World War II*

As an example of this type of tactics, in January, 1943, cavalry units of General Sokolov were pushed into the gap which had been made in the enemy positions at Pasukovklenovi. They penetrated to a depth of 200 kilometers behind the enemy lines, and in 5 days of fighting seized Valuiki and Urazoy. Strong enemy garrisons were annihilated, operational communications were cut, and supply bases destroyed. The foe was forced to begin a disorderly retreat, but cavalrymen infiltrating behind him, headed him off and turned the retreat into a rout.

When the enemy's front was breached in the Mius River sector August 1, 1943, a mechanized cavalry force rolled through the gap and emerged in the rear of the group at Taganrog. Here, in conjunction with troops of the southern front, it surrounded and annihilated the enemy. This operation cleared the road to Donbas, and resulted in the destruction of the vital enemy springboard which had constantly threatened Rostov, the gateway to the northern Caucasus and the Volga River.

Near the end of 1944, the Second Urkainian Army encircled strong enemy forces at Zvenigorodka. Fighting inside the ring, cavalry units* under General Selivanov conspicuously distinguished themselves.

Kuban Cossacks under General Pliyev proved especially valuable in operations on the Third Ukrainian front when they surrounded and wiped out the enemy at Snigirev.

In the Odessa operation, in April, 1944, Cossacks of General Pliyev,* in coördination with mechanized forces, struck at Razdelnaya, split the enemy front in two, and in a dashing attack, took Razdelnaya. The Germans were taken so completely by surprise that they threw down their arms and retired in panic to the west

and southwest. Following up this success, the Cossacks then broke through to the coast, south of Odessa, cut escape routes and, with other units, liberated Odessa.

In June, 1944, the troops of General Oslikovsky's Corps, operating on the Third Belorussian Front, were thrown into a breach in the area of Bogushevsk in order to divide the enemy groups at Vitebskorsha, and to secure a bridgehead on the bank of the Berezina River.

Cavalry accomplished both tasks. After turning the enemy flanks on the north and northwest, it combined with other units to capture Bogushevsk. On the fiftieth day of the operation, cavalry seized a bridgehead on the Berezina River, north of Borisov. In coöperation with mechanized troops, it continued in pursuit, captured the towns of Vileika, Molodechno and Krasnoye, and cut up enemy groups at Minsk and Vilnius. These victories created a situation which later permitted the encirclement and capture of Minsk. Soon afterward the towns of Lida and Grodno were occupied and the troops reached east of the Russian border. Soviet cavalry operated with exceptional success and courage in Belorussia, where the rout of the central German group (which was covering the strategic road to Berlin) made a catastrophe inevitable for the German Army.

Utilizing their war experience to the utmost, mounted units dealt the enemy crushing blows, cut his communications, harassed his flanks and penetrated deep to the rear. Cavalry, in conjunction with other arms, took the strong points of Allenstein, Bromberg, Beuthen, Lodz, Maskow and Kalisz, and penetrated into Brandenburg Province, where Schwerin neu Dorf and Meseritz were captured. In the final phase of the war in Europe cavalry took part in battles for Berlin, and participated in action in the south, and also in the capture of Budapest and Vienna.

Nearly all Soviet cavalry units have now earned the right to be named *guards* units, an honor bestowed only on units which have distinguished themselves in battle.

*See "General Pliyev's Cossack Guards," THE CAVALRY JOURNAL, July-August, 1944.

Soviet cavalry, which proved equal in power to any means of modern warfare, is shown on the shore of the Baltic Sea.

Sovfoto



Tactical Air Power

In Europe[★]

ON the morning of 7 August 1944, two weeks after the First American Army had broken out of the Normandy beachhead at St. Lô, the front was visited by a certain German General Warmilont, Hitler's personal representative. The Germans had been attacking savagely for days in an attempt to close the gap and cut off the American forces which had been pouring through to the south. Warmilont undoubtedly was dispatched to find out why this had not been done. The sentiments he brought with him from his Fuehrer unfortunately have not been recorded. But the blast he got back from Von Kluge, commanding the German armies, was:

"Whether the enemy can be stopped at this point is still questionable. His air superiority is terrific and smothers almost all our movements. At the same time, every movement of his is prepared and protected by his air force. Our losses in men and equipment are extraordinary. The morale of our troops has suffered heavily under murderous enemy fire, especially since our infantry units now consist only of haphazard groups. Behind the front, terrorists, feeling the end approaching, grow steadily bolder. The Eighty-fourth Corps has reached a certain degree of disintegration . . . fresh troops must be brought in . . . from somewhere. . . ."

General Warmilont fled from this melancholy recitation. How he later prepared the bitter pill for consumption by his carpet-chewing chief will never be known. But two things were certainly as clear to him as they were to the other German generals. The Luftwaffe was nowhere to be seen, having failed utterly in its greatest crisis. Without it, the mighty Wehrmacht was being dissected by an enemy ground force no greater than itself and with considerably less battle experience, but made irresistible by the addition of American tactical air power.

GERMAN ADVANTAGES AT THE START

This scarcely resembled the situation of a scant four and a half years earlier. The Germans had started the struggle with all the advantages except three. Their political, economic, and sociological structure had been carefully shaped for war for a number of years. They had the best equipped and most efficient (if not the largest) army, by far the largest and most powerful air force in the world. They were surrounded by smaller, weaker, badly prepared neighbors. Of the great powers which might possibly constitute a threat to them, one, Russia, was an enigma whose military ability and industrial efficiency was open to question;



B-26s, which became the chief medium bombardment weapon on the Western front, here roar over Annweiler, where a column of smoke rises from a previous strike, as they head deeper into the Reich to hammer at other targets.

the second, Britain, was involved in trying to hold together a sprawling empire by political rather than by military persuasion, and had no army nor air force worthy of mention (her fleet was powerful, but Germany intended to fight this war on land and considered herself impervious to blockade); the third, the United States, was thousands of miles away and woefully unprepared.

Of her three disadvantages, Germany was aware of one. She was smaller than some of her potential enemies, but she depended on her speed of conquest to enlarge both her manpower and her resources to a point

[★]*Impact*, May, 1945.

where she could safely ignore this handicap. Moreover, she leaned heavily on what she thought was her superior air force.

THE SPITFIRE AND RADAR

The second disadvantage, and one she was unaware of, was the lack of anything to contend successfully with two British items, the new Spitfire and, more important, radar. German intelligence didn't know about radar and couldn't get the full story on the Spit. Britain had come to the correct conclusion that she could not be invaded as long as she controlled the air above her. Hence, the Spit: heavily armed and swift, designed exclusively for the destruction of other planes in the air, made enormously efficient by radar. Against German aircraft that had insufficient armor and armament, the result was massacre. The German failure against the Spitfire-radar combination may well have cost Germany the war. It certainly for a long time ended her offensive ability in the west.

The third disadvantage was rooted in her concept of how the war would be fought, and was, in essence, an insufficiency in the realm of ideas. Her air force was (and its remains still are) purely tactical. Her air planners did not discern the huge dividends that can accrue from a carefully planned strategic bomber offensive against the key industries that support ground armies.

After the Battle of Britain, it was apparent that, given time, Germany could be expected to reshape her air force and return to the attack. It therefore was clear that the war was only to be won for our side by wrecking German war industry with air blows and by

invading the continent and defeating the German armies in the field. But Britain was small and the resources of her empire were at the ends of the earth, separated from England by the U-boat fleet.

It is against this background that the importance of America emerges. We were distant enough to be unmolested by bombing, and had the industrial capacity to make an enormous amount of anything we chose. With these assets, it was logical to assume that if our theories were valid and if we made the right sort of things to support our theories we could carry the battle to the enemy. Thus the burden of "winning" the war was in a sense put on America's shoulders. Inasmuch as the airplane had already proved itself the dominant weapon in modern war, the importance of clear thinking and good planning by the U. S. Air Corps was only too clear.

At this juncture, the leaders of the Army Air Corps well realized the principal tasks of military aviation used tactically: (1) the gaining of air superiority, (2) isolating the battlefield, (3) coöperation with the ground forces in offensive operations. If, before 1939, the terrific power of tactical aviation had not been appreciated, the Germans corrected this. Their air force gave, in Poland, the Low Countries and France, a shockingly clear lesson on the effectiveness of the airplane as an air-ground weapon.

Up through the summer of 1943 the Germans had constructed several hundred large airfields throughout France, Belgium and Holland, many of them along the coast. Fighters from these fields attacked our bomber formations in swarms from the moment they crossed

In cities, too, tactical bombing paved the way for ground forces. Here the burghers of Bruehl start digging out.



the Channel. If they could be driven back from the coast, our bombers could fly farther in safety, their losses would be fewer, and as a result they would be able to drop many more bombs on their targets. During the summer and fall of 1943 this was done with increasing effectiveness. At first the Germans reduced the number of aircraft on their coastal fields, but eventually gave up entirely trying to operate them. The endless task of filling up cratered runways, repairing hangars and living quarters, and the mounting piles of twisted planes, wrecked either by frags or by strafing fighters, evidently convinced them that the game wasn't worth the candle. By the end of 1943 the air over the Channel coast was ours.

The stage finally was set for the greatest amphibious assault ever undertaken by man, the invasion of France. The problem was the familiar one of any such operation: to pour men and equipment ashore at one or more points so fast that they could overwhelm the enemy defenses there, then dig in firmly to avoid being thrown back into the sea by the first enemy counter-attack. From then on, it would be necessary to siphon men and equipment into the beachhead faster than they could be brought up from the interior by the enemy. In this way only would we be able to build up sufficient local superiority to break out of our beachhead and engage our foes in a war of movement.

THE RAIL AND AIRFIELD ATTACKS

In the light of these requirements, the antirail and antiairfield stage of our campaign appeared logical. In a few months of concentrated blows at these targets we hoped to eliminate the Luftwaffe entirely from the battle area, and so to wreck the transportation system that troops could not be moved in fast enough to oppose our build-up. There were a couple of hundred airfields to be hit, each one a difficult target to knock out. Once hangars and repair facilities are destroyed all you can do is to put holes in runways and damage aircraft by strafing or with frags. With respect to the former, it is hard to stay ahead of the enemy, who can fill in holes almost as fast as you make them. The latter becomes more difficult as the number of enemy planes decreases and as they are more widely dispersed and more carefully hidden. The rail problem was even greater.

"DICING" THE BEACHES

It was now necessary to obtain a more detailed knowledge of the beaches selected. Vertical photography had shown intricate barricades in the shallow water and on the sand, but could not show how strong these were, whether made of wood or concrete, whether anchored deep in the sand, whether they could be overrun by landing craft, or avoided by infantrymen storming the beach. There was extreme hazard in taking low-level pictures of a strip so formidably defended.

The first "dicing" mission was flown on 6 May in an

F-5, a light, unarmed version of the P-38, with a camera so mounted in the nose that it took a picture every five seconds, ahead and to the side of the plane. Earlier, P-38 pilots had been told that they might have to take photographs from as low as 29,000 feet. But that morning, one pilot crossed the Channel at 15 feet. He reached the other side at Bercq-sur-Mer, turning around a large sand dune to lessen his chances of being hit during the turn. His pictures later showed this dune to be an enemy gun position.

Altogether 11 dicing missions were flown and superb photographs obtained from Calais to Cap de la Hague. The inherent danger of this work is indicated by the fact that the pilot on the second mission was never heard from again. But the assault forces got what they wanted. Mines with trip wires were detected attached to the tops of posts, gun positions were revealed in the sides of cliffs, weak spots in the defenses located. Thousands of copies of these pictures were distributed throughout the invasion army.

For D Day itself an air plan of great complexity and scope was developed. The RAF Coastal Command would patrol the Channel for submarines. A constant fighter cover to protect the convoy from the air would be flown, directed from a control ship in the Channel. During the night two American airborne divisions would drop near the base of the Cherbourg peninsula and a British parachute division on the Orne river near Caen. Also during the night the RAF Bomber Command would saturate with its entire strength five selected rail yards in the immediate invasion area. At dawn, 1,200 Air Force heavies would begin to plaster the beach defenses themselves. This latter operation was a delicate one. It was realized that direct hits on defense installations with more than five percent of the bomb load were unlikely, and that confusion and panic among the defenders would be the real dividend from the operation. For this reason, it would be necessary for the invasion fleet to hit the beach immediately after the bombing while confusion was still at its height.

Finally, the great day came, and the electric phrase "This is it" was heard in hundreds of briefing rooms. The invasion armada steamed out of the British ports, the parachutists and glider troops droned off into the night, and the RAF went to work, dropping over 5,000 tons on five rail yards, at that time the greatest single lift in air warfare. By first light the American heavies had commenced their H2X job, and at H-Hour the first assault troops crashed through barbed wire and mine fields onto French soil. As expected, the defenders in most places were dazed by the bombing.

But bitter fighting ensued along the entire coast, particularly in one zone of American responsibility where a complete German division had by pure chance moved in the day before for beach maneuvers. But the landing stuck. In two days it was clear that no immediate counterattack by enemy troops already in the

area could be expected to push us back into the sea. German submarines failed utterly to penetrate the shipping lane protected so carefully by naval forces and by the RAF Coastal Command.

Careful study of the enemy reaction immediately preceding and during the invasion makes it plain that complete surprise had been achieved by our forces, due in large part to a magnificently executed campaign on the part of the RAF to liquidate all enemy radar installations along the coast. It also appears that our aerial blows around Calais and down in the Nantes area were not wasted. For weeks the Germans believed that the Normandy effort was a feint and the real thrust would come to the east where we had for a long time been planting bombs like nasturtium seeds.

During the early days of the beachhead all went well. The British held the line along the Orne river, while the Americans fanned west, and reduced the Cherbourg peninsula. But as our ground forces worked their way inland they ran into a type of terrain which put them further and further behind schedule. That section of Normandy, known as the Bocage country, is characterized by small fields edged with deep drainage ditches and stout, impenetrable hedges. The narrow winding roads are also hedge-lined. Each hedge became a fortress, each field a dangerous open space across which withering enemy fire spattered in such a way as to discourage frontal assaults. The Germans had succeeded, despite our rail attacks, in bringing up a ring of troops which contained our forces in the hedge-rows for weeks. These were well dug in, their camouflage discipline excellent, offering few targets for fighter bombers. They moved only at night.

By the middle of July, the schedule had gone so alarmingly out of whack that the air forces were persuaded to dust off a bombing technique which had been tried and had failed previously in 1944 at Cassino. But the reason for failure was known and it was believed that it could be corrected. This technique is carpet bombing. It consists simply of dropping such a heavy concentration of bombs in a small area that the defenders are stunned and demoralized for a short time. Before they can recover, Allied troops are among them mopping them up. Two carpet efforts were made from the beachhead. The first, a British show, was laid down near Caen on July 18. A five-mile advance was made, but was not followed up quickly enough, and the British troops soon lost their impetus when the enemy was given time to re-form and dig in. Despite this, another attempt was made a week later, this time by the Americans between Periers and St. Lô. It called for the dropping of 3,400 tons of HE by over 1,500 aircraft of all types in a space 7,000 yards long and 250 yards wide. American ground forces were brought up in strength as close as possible to the bomblines, and the bombers struck. Before the dazed Germans could recover their senses, the First Army had poured through the hole in the dam, and the rat race was on.

THE CARPET BOMBING PROBLEM

An analysis of the operation reveals some interesting facts. Enemy casualties amounted to less than 10 per cent, in some instances to only 5 per cent. This is because troops were well concealed in one-man foxholes and were not likely to be killed unless direct hits were scored on them. The damage to vehicles and weapons above ground was more serious. Communications were put in a state of chaos. But the real pay-off was in the psychological effect on the enemy. The endless stream of Allied aircraft completely destroyed the morale of several companies. Immediately after the attack scores of troops withdrew without orders and in utter confusion. This was the signal for others in the vicinity to follow suit. Prisoners taken were dazed, unable to co-ordinate or to think clearly. (After the Caen carpet attack numbers of them could not be interviewed by intelligence officers for 24 hours because they were unable to hear). Many stated that the mere presence of vast numbers of aircraft unopposed overhead was sufficient to produce a mental state bordering on panic. One prisoner voiced the opinion that a loud-speaker threat to lay on a carpet attack in a certain sector at a given time would result in mass surrenders.

But this mental paralysis lasts not more than one or two hours. To take advantage of it, the attackers must be so placed on the ground that they can rush in before recovery can be effected. This means that they will be in considerable danger of being bombed by their own planes.

THE DASH ACROSS FRANCE

It is not unreasonable to state that the carpet bombing at St. Lô changed the complexion of the war in

Americans advance over a road littered with the remains of German columns that had been hit by fighter bombers.



France almost overnight. The paralysis of the hedge-rows ended abruptly, to be followed by a war of extreme movement in which the American air-ground team was given its first chance to show its stuff. The First Army, under an umbrella of fighter bombers, widened the gap, charged a short distance south, then curled east in a giant wave, rolling up the German flank as it went. It was in danger of being cut off by a determined German counterattack at Avranches, but the air ended this threat, pulverizing concentrations of enemy troops and armor as fast as they were formed. A week after the break-through, Patton's Third Army followed the First through the gap and roared south as far as the north bank of the Loire river. After a swift mopping-up operation in Brittany, it too turned east and embarked on one of the most remarkable end runs in modern warfare. There were numerous lifted eyebrows in military circles at this rash maneuver, which apparently proposed to ignore the threat to Patton's flank of large enemy forces south of the Loire. But Patton had discussed the matter at length with the chief of the TAC, which was to cover his advance.

"I am going to forget completely about my flank," he said, "if you can guarantee to protect it for me from the air."

"I can do that," replied General Weyland, "if I have the weather."

Patton took off. In a little over two weeks he had reached Paris. The weather held. In a month he was within sixty miles of Germany.

Weyland's job was threefold. In addition to knocking down bridges on the Loire and chivvying the German forces below it, he had to cover Patton's advancing tank columns, and at the same time aid in the reduction of three ports in Brittany where German garrisons were stubbornly holding out. He soon found himself in the position of a man trying to stand on two chairs which were rapidly sliding apart beneath him on a slippery floor. The stretch became terrific. In no time at all, he was operating simultaneously in places 350 miles apart.

The Nazi rout continued as resounding triumphs were rung up by air and ground. The First and Ninth Armies plugged remorselessly ahead against the main enemy resistance, aided by their respective TACs. A German force of 36,000 men in the Loire area under the command of General Erich Elster could at any time and at any point for a hundred miles have driven a vicious barb into the Third Army flank. But Elster's movements were subjected to such constant aerial scrutiny, and any attempt to "snowball" his troops was met with such a blistering visitation of Jabos (German for dive bomber), that his threat remained theoretical. He was pinned down so tight that he found it impossible even to move out. When still another American army, the Seventh U. S. (along with its own air partner, the First Tactical Air Force, Provisional) landed near Marseilles and moved north to join the Third

Army in Eastern France, Elster had had enough. With 20,000 troops remaining, he surrendered to one of Patton's infantry platoons, but insisted that Weyland, whose planes had caused him so much anguish, be in on the ceremony.

It is interesting at this point to see what the enemy himself thought of the relative effectiveness of Allied attacks. From captured documents and interviews with numerous prisoners of high rank, it is clear that the German General Staff regarded the Seine-Loire interdiction as the greatest thorn in its side, closely followed by the strategic oil campaign. The field commander and the common soldier, on the other hand, felt that they had lost the Battle of France because of the intensity and accuracy of Allied artillery fire and ubiquitous activities of the fighter bomber. As in a football game, it all seems to depend on where you sit.

Meanwhile the Breton ports fell. For weeks the sky over them was ten-tenths airplanes, as British and American heavies, mediums and dive bombers poured an unbelievable tonnage on Brest, St. Malo, and the Isle de Cezembre—three battered monuments to the uneconomical use of air power.

PATTON RUNS OUT OF EVERYTHING

Patton's drive carried him right across France and almost into Germany. Here he stalled. He had run out of everything—gasoline, food, ammunition, maps. Attempts were made to keep him going with air supply, but this was not available on a large enough scale. He dug in west of the Metz forts, while all supplies were diverted to the north, where the First, Ninth and British Armies still had some momentum, the hope being that this momentum would last long enough to permit a flanking of the Siegfried Line and a crossing of the Rhine river in Holland.

With the Ardennes again in Allied hands, the ground forces resumed their task of crunching forward to the Rhine. With the British and Canadians already firmly anchored there at Nijmegen, it was planned to consolidate all our other forces along the west bank, preparatory to the launching of a giant double crossing north and south of the Ruhr Valley aimed at swallowing it whole. With the Ruhr and Saar gone, and Silesia long gone, it was not expected that the Reich could hold out much longer. Before this could be accomplished the Third Army had to get through a very sticky area involving the crossing of the Prum, Saar and Moselle rivers and the capturing of Bitburg, Prum and Trier. This was done, aided by the close-coöperation work of TAC. Meanwhile, the First Army cooled its heels on the west bank of the Roer, still held up by those damned dams. Several feints were made, hoping to get the enemy to blow the dams and get the water out of the way for good and all. Instead he did something far more disagreeable. He opened the valves and let the water out just fast enough

to keep the river at flood level for over two weeks. Finally it went down and the First jumped off, rolling all the way to Cologne in 10 days. Soon the Ninth Army was also gazing across the Rhine's waters at the smoke-grimed factories of Dusseldorf.

The battles of the Roer and Saar rivers were the last that the Wehrmacht was to fight in the West with any degree of vigor. We had foreseen great difficulty in negotiating Germany's mightiest river, but such was not to be. The enemy had cashed almost his last chip. Five years of war, three of mordant bombing which had reduced his cities and factories to cinders, the decimation of his regiments, the crystal-ball military inspirations of his Fuehrer, the presence of fresh and unnumbered armies on both his fronts and vast armadas in the sky over his head, all these produced in him a schizophrenia and despair which made the last great operation almost anticlimactic. Without pausing to draw breath, the First Army pushed across the Rhine below Cologne, setting up a bridgehead via the shaky Remagen bridge. This had long been a target for the Ninth Bomb Division, and it stood up under the tread of American feet and the clank of American armor just long enough for a sizable force to get across. Then it sank beneath the waves, to join the Rhine maidens and the other Rhine bridges laid low either by the hands of their builders or by Allied planes. In the next few days the Second British and Ninth American crossed in strength at Wesel, aided by the largest one-day airborne drop on record 14,365 troops and 1,345 tons of equipment were delivered by aircraft and gliders alone. Patton burst across at Oppenheim, followed by Patch below Mennheim. Operating at breakneck speed against dwindling enemy resistance, these five armies thrust a series of air-protected and air-supplied columns down Germany's highways and around her cities, encircling the Ruhr.

The iron tentacles kept curling farther and farther, to Frankfurt-on-Main, Mannheim, Muenster, Hanover, Gotha, Schweinfurt, to places which not so very long ago were at the extreme limit of heavy bomber range. By April 20, Magdeburg and Leipzig had been taken, and Patton had crashed across the Czechoslovak border with Dresden only a few miles ahead. Germany had lost the war so irrevocably that the German scene had degenerated into a maelstrom of destruction which was continued only because of the fanatacism of the Reich's gangster-leaders. Gone, through strategic bombing or capture, were 90% of Germany's steel capacity, 85% of her iron ore, 95% of her hard coal, 100% of her ferro-alloys, 100% of her coke, 80% of her lignite, 95% of her fuel, 95% of her synthetic rubber capacity, 70% of her tire manufacturing, 55% of her tank manufacturing, 75% of her truck manufacturing. And, as each day passed, these percentages were growing higher.

Germany by April 20, had been virtually cut in two. Tactical and strategic air forces smacked bridges across the Danube at Regensburg and other near-by

places to keep anything from moving across the remaining slender waist toward Munich and the Bavarian Redoubt where, it was reported, Hitler and his henchmen would make a last stand.

THE LUFTWAFFE IS FINISHED OFF

And the Luftwaffe? Its condition was perhaps best expressed by a German POW from a flak outfit. He said his units had three simple rules: (1) If a plane is silvery looking, it's American; (2) If it's dark in color, it's British; (3) If it can't be seen at all, it's German.

By April 20, 55% of all airfields in Germany had been captured. German aircraft were being crowded into fewer and fewer fields as each day passed, which, together with the excruciating fuel shortage, explains why in the first 18 days of April our air forces were able to destroy 3,121 German planes of all kinds, only 400 to 500 of them in the air. This merciless clobbering, plus the fact that 35% to 40% of the aircraft industry had been captured and a great deal more lay in ruins from bombing, meant that the Luftwaffe finally had ceased to exist as a fighting force.

As for our air forces, all were now tactical. On April 16, it was announced that the U. S. Strategic Air Forces would now play a solely tactical rôle.

Germany was seeing the final result of what she began when her dive bombers screamed down on Warsaw, Rotterdam and Coventry. What Germany had been able to dish out was literally microscopic compared to what she got. Her bombers destroyed only 17% of London. Fifty-six large cities in Germany are 50% to 80% destroyed by Allied bombing. Thus, as it turned out in the final accounting, German air planners had made some crucial errors. They had overestimated the power of their air force and underestimated the potential power of the Allied air forces. They had failed to concentrate on gaining air superiority before proceeding with other air plans. They had failed to plan properly in the sense that we planned a truly strategic bomber offensive, aimed at Germany's war industry, while the Germans, in the Battle of Britain, bombed almost indiscriminately. They had failed to organize air-ground coöperation to the extent that has made the Allied tactical air forces so successful. And, finally, in their insufficiency in the realm of ideas, they failed to discern even faintly on the horizon the overwhelming might of the strategic air power that had shackled their aircraft production and left them without the fuel to fly.

THE TACTICAL MISSION IS FULFILLED

The American tactical air forces have superbly fulfilled the three missions of tactical air power. (1) Gain the necessary degree of air superiority. (2) Prevent the movement of hostile troops and supplies into the theater of operations or within the theater. (3) Participate in a combined effort of the air and ground forces, in the battle area, to gain objectives on the immediate front of the ground forces.

Turning th

Unspectacularly, almost soundlessly in the ears of history was in the process of accomplishment. Germans off balance by drawing their reserves

offensive in the Ardennes it was without fear, because the line provided a secure flank against an enemy penetration of an exposed front in the event the offensive failed.

Early in March, 1945, the Siegfried defenses at last were turned on the northern end by British and Canadian troops under command of Field Marshal Sir Bernard Montgomery, who also commanded the American Ninth Army which performed a related mission in the south.

OPERATIONS COMBINED TO SINGLE PLAN

The operations of all forces engaged in the battle formed part of a single plan. Although composed of the British-Canadian phase of the north, and the American Ninth Army phase in the south, the single objective of the plan was to reach the west bank of the Rhine between Neuss and Emmerich, and to destroy the enemy armies in that sector.

Emmerich, on the east bank of the Rhine, was protected by flooded areas composing in themselves an extension to the northern Siegfried defenses. Neuss, on the west bank of the Rhine, faces Dusseldorf and the heart of the Ruhr; its approach lies across the Cologne plain.

The United States Ninth Army was to operate on the Cologne plain. Thus, although the operations between Emmerich and Neuss formed part of a single plan, the mission of the American Ninth Army in the south was an individual phase. An advance across the Cologne plain was not a promising operation until the enemy reserves had been committed; and it was the function of the British and Canadian forces, who were to attack in the north, to draw these reserves to their own sector. (Actually, two German Panzer divisions and one Panzer Grenadier division were moved north from the Ninth Army area before the Ninth entered the battle.)

For the battle, Field Marshal Montgomery created a task force comprising 10 divisions from the British Second Army, between three and 4 divisions from the Canadian First Army, and the United States Ninth Army. The British divisions included English, Scottish and Welsh infantry, the Guards Armored Division, and other armor. The attack was launched in the Canadian sector of the Allied front in northern Hol-



British Official Photo

A British infantryman, snow-camouflaged, dives for cover as a mortar bomb bursts near him. The action occurred as the British Second Army struck east of the Maas River.

THE spectacular advances by armor, which are sounded in the world's headlines, invariably are founded on a hard-fought infantry action. This is the main battle. Its progress, measured in yards rather than in miles, fails to lend itself to dramatic presentation. But once this main battle is won, and the enemy organization has disintegrated, the horizon of the battlefield is limited only by terrain and supply.

During the February-March efforts that took Allied armies to the left bank of the Rhine, the main battle was fought in the sparsely populated area at the northern extension of the Siegfried Line defenses, and not, as might have been expected, in the Aachen area—which was the gateway to the Cologne plain—where an advance would have brought the Ruhr industrial towns on the other side of the Rhine into the firing line.

For more than 6 months the deep defensive zones of the Siegfried, although penetrated in some sectors, had resisted all frontal attack. The line had served its purpose of preventing a sudden Allied eruption into Germany, and when the Germans undertook their major

e Siegfried Line - - -

of the world, one of the greatest feats in military
It was achieved when Allied troops threw the
into what was to prove merely defensive action.

*by Major John North**

land, and the British and Canadian divisions committed to it were under Lt. General H. D. Crerar, commanding the Canadian First Army.

RIVER CROSSING FORMIDABLE

The starting line for the southern operation was the Roer River, tributary of the Maas, which it joins at Roermond. The crossing of the river was in itself a formidable enterprise. On February 23, when the attack went in, the river's width from flooding was 80 yards, and its current $3\frac{1}{2}$ to 5 miles an hour. Nevertheless, it was crossed on a 15-mile front. Bridgeheads were formed quickly and linked up at a number of points. Bridging operations were successfully carried

through under heavy artillery fire; and tanks and guns soon were pouring over the river in large enough numbers to support a breakout from the bridgehead.

The Germans now were considerably disorganized and unable to form a coordinated defense against the armored and motorized infantry columns which thrust to the northeast and north. By March 3, Munchen-Gladback and Neuss had been occupied. Three days later Krefeld, Homberg, and Rheinberg had been taken. The United States Ninth Army had reached the Ruhr front.

Meanwhile, the main battle had been fought out in the north, where enemy reserves had been drawn. Here there were no big towns to capture; no opportunity for an armored breakthrough; and but few square miles to occupy. The British and Canadian attack jumped off from the Dutch frontier on the morning of

★British Staff Officer.

After "Crocodile flame throwers" have done their work, British infantry enters the small village of St. Joost.



British Official Photo



British Official Photo

Despite bad weather which slowed air support, British infantry advanced steadily to "turn the Siegfried." Above, a Tommy makes use of a shell hole in side of a building.

February 8 and went in across a waterlogged desolation.

It was hoped that cold weather would make the ground hard enough for a maximum use of armored forces. Instead, a continuous thaw produced almost impossible ground conditions. Mud and widespread flooding by the enemy prevented the movement of all types of vehicles on the few roads that were available, and these soon were broken up by heavy traffic. Only by use of the latest type of amphibian vehicles was it possible for the British forces to maintain pressure on a highly resourceful and tenacious enemy.

GERMANS USE BEST TROOPS

From the earliest days of this battle, the area had been defended by three parachute divisions, which were probably the best fighting troops still remaining in the German army, and 4 infantry divisions, reinforced as previously stated by three Panzer divisions. A crossing of the Rhine in the neighborhood of Emmerich offered direct access to the north German plain. Such was the sensitiveness of the Germans to the British and Canadian threat along this stretch of the Rhine that they fought for every inch along their slow and well-ordered withdrawal to the river line.

The battle lasted for just over a month. Using a variety of water craft, the Canadian infantry took the extreme left flank, then struck due eastward toward the Rhine for the Cleve-Emmerich road. The British divided and went east for Kranenburg and Cleve and southeast to Bruk and the western tip of the Reichwald,

a great defended state forest which was the immediate objective of the British assault.

Cleve lies at the northeastern corner of this forest, and was captured by British infantry on the fourth day after the attack opened. But the Germans speedily recovered from the initial massive air and artillery bombardment, and because of bad weather had little to fear from future air attack.

To the Canadians fell the grim task of clearing the Hochwald forest, a layback of the Siegfried defenses, and comprising a strongly protected "hinge" area for the enemy's withdrawal to his Wesel bridgehead, some 20 miles south of Emmerich.

Cleve fell, and then Goch—deep in the heart of the Siegfried defenses—became the center of German communications in the area between the Maas and the Rhine. Its perimeter was fortified with antitank ditches, concrete pillboxes, mine fields, and barbed wire. After a three-day battle it was taken by British infantry, who fought through the Siegfried fortifications at 10 yards range.

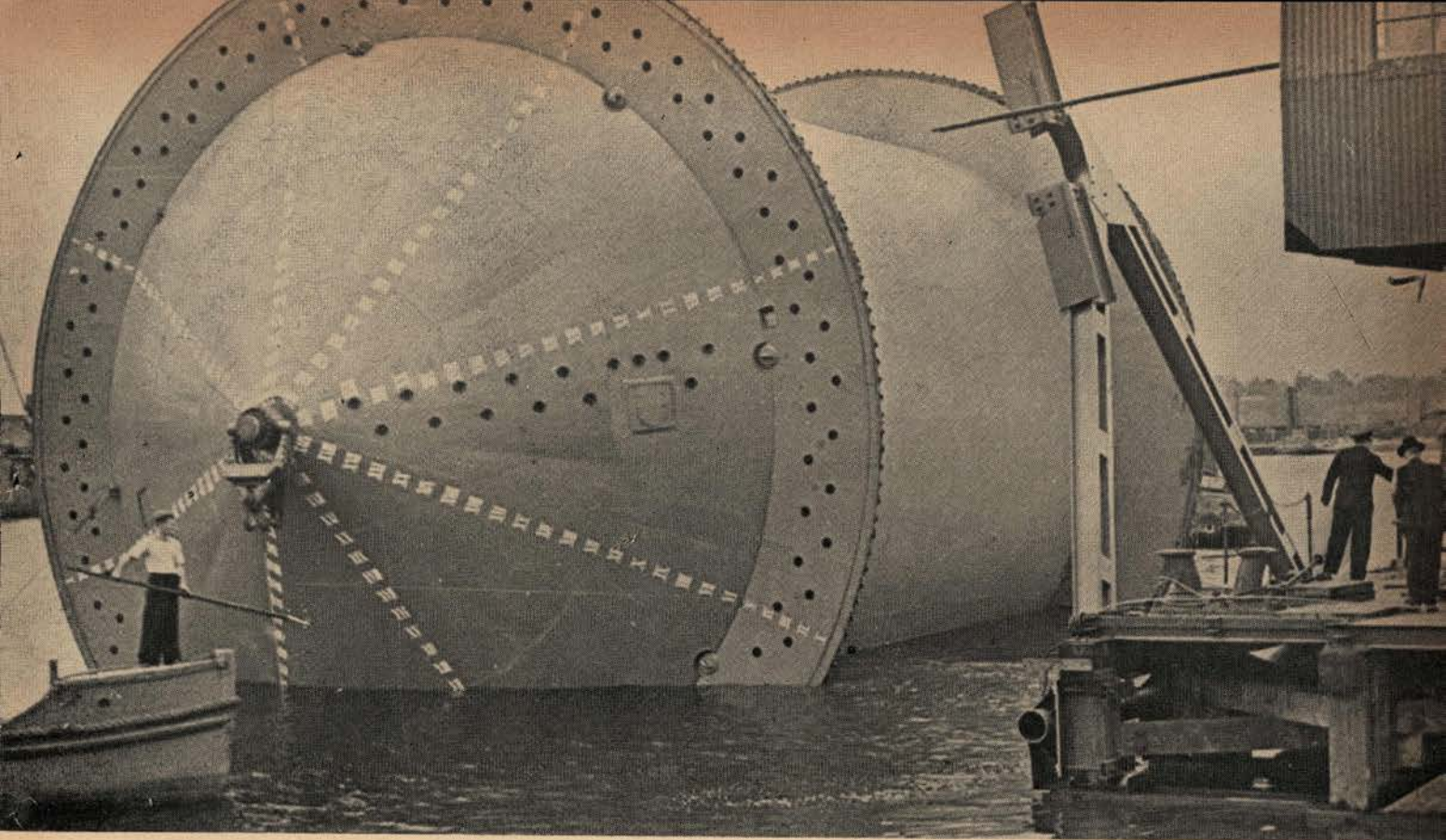
At last the Germans endeavored to stabilize a line through the Hochwald to Geldern. But by now the advance of the United States Ninth Army had begun to influence the northern battle, and the enemy was compelled to fall back upon his Wesel bridgehead. His resistance was so fierce, however, that the fight for the bridgehead was described as the toughest and bloodiest the Coldstream Guards had ever known. The bridgehead was not finally eliminated until the night of March 9-10, three days after the American entry into Cologne.

CONCLUSIONS

Thus the pattern of this British and Canadian month-long battle between the Maas and the Rhine was similar to the even more protracted battle for Caen. Each was part of a larger Allied operation. On each occasion the Germans chose to regard the British and Canadian sector as the "hinge" of the Allied front, and allowed their reserves to be drawn into what was merely defensive actions. In both operations American armor and infantry exploited brilliantly the openings provided in the weaker sectors of the German front.

The tactical plan of this second "hinge" battle in the west actually was imposed by the Germans themselves. It was not the Allied plan that the British and Canadian forces should bear the sole brunt of the fighting for over a fortnight.

But on February 9, the day after the opening of the British and Canadian assault, the Germans blew the Roer dams, and the average current of the river rose to between 6 and 8 miles an hour. This rate of flow continued for nearly a fortnight and entirely precluded the possibility of assault boating and bridging. Thus the American attack, originally designed for February 10, was postponed to February 23. As a result, the enforced interval between the two attacks served to put the German army off balance, and entirely "unhinged" the door to the Cologne plain.



One of the big drums which laid pipe under the English Channel, shown being moved into position for loading.

British Official photos

Operation Pluto^{*}—

The Channel Pipeline

DURING the 8 months from August 1944 to May 1945, approximately 120,000,000 gallons of gasoline reached the Allied armies in Europe via the pipeline system laid under the English Channel by British engineers in coöperation with the British Navy. One million gallons daily still reach France by way of 20 undersea pipelines, and thence are carried to the Rhine via high pressure gasoline lines.

This vast engineering feat was called "Operation Pluto," meaning "Pipeline under the Ocean." Invulnerable from air, surface or submarine attack, and completely independent of the weather, it guaranteed uninterrupted delivery of bulk petroleum to the beaches—a feat which usually required a special harbor and dock, and extensive storage facilities.

^{*}British Information Service.

The United States Army was working on a similar idea, but after discussions it was agreed that efforts should be concentrated on Pluto. Although General Eisenhower and his chief officers took an active interest in Pluto's development, the channel pipeline was a purely British operation in plan and execution, with the exception of 140 miles of cable manufactured in the United States.

The idea for an oil pipeline across the English Channel developed in 1942. The experts at first were doubtful. One of them, who had used three-inch high-pressure pipelines in Persia, suggested a pipeline something like a submarine electric power cable without cores and insulation, which could be laid across the Channel in a few hours from cable-laying ships.

By working day and night over two week ends, technicians completed the full-scale order for several hundreds of yards of this pipeline to be laid in the Thames from a cable-ship loaned by the British Post Office. The results were so successful that Prime Minister Churchill gave the scheme his blessing and two 30-mile lengths of cable were ordered made in the original two-inch diameter, so that full-scale trials could be conducted in Bristol Channel, where the currents and other conditions approximate most closely those found in the English Channel. Subsequently, the cable diameters were increased to three inches and strengthened for working pressure in excess of 1,200 pounds per square inch.

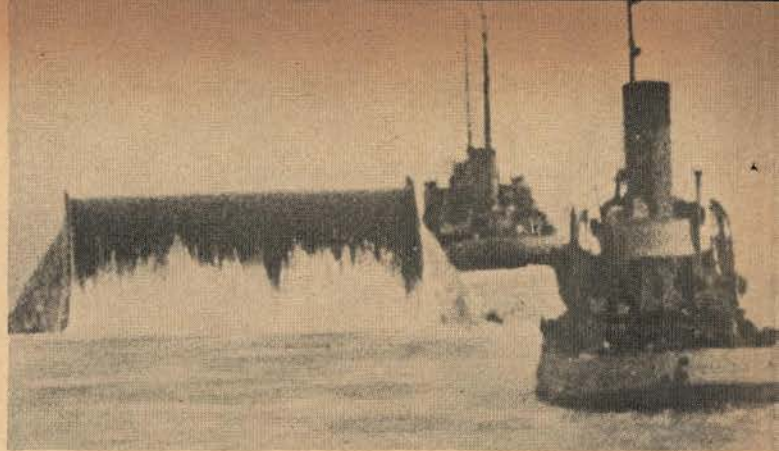
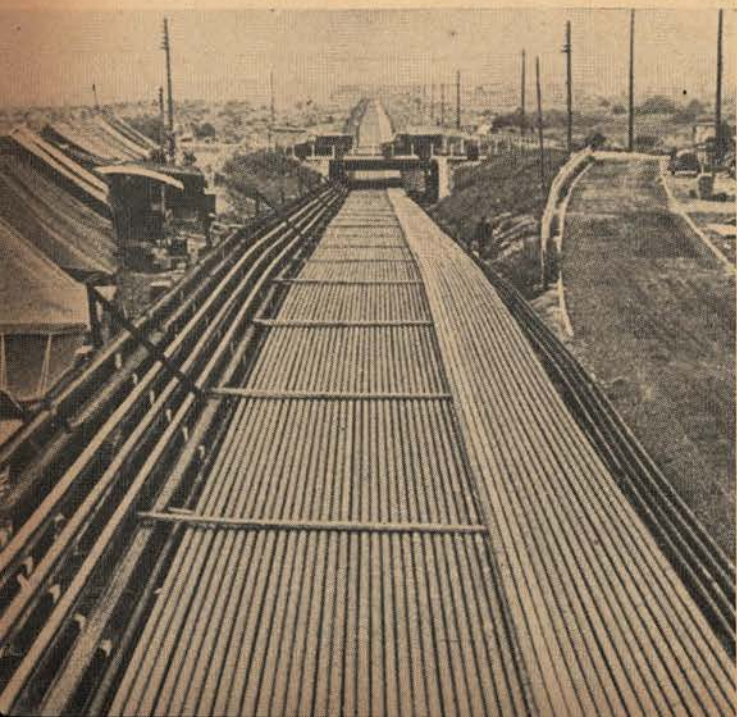
Eight months later, when half a gale was blowing in Bristol Channel, the experimental cable was laid by *H.M.S. Holdfast*, originally a coaster which had been fitted with gear for transporting this unusually heavy cable—and gasoline was delivered from Swansea to Ilfracombe. If the cable was hollow it was liable to kink and so stop the oil flow. It was, therefore, laid full of water, to keep it inflated. This pipeline was called the "Hais."

Meanwhile another pipeline was invented. Named the "Hamel," it was composed of 20-foot lengths of three-inch diameter steel pipe which could be welded automatically into any length, and could be wound on to a drum like thread on a spool, provided the drum was 30 or more feet in diameter. To use this, the *H.M.S. Persephone* was converted from a hopper barge to a craft with a great wheel rotating in trunnions on her deck, making it possible for the ship to carry many miles of the three-inch Hamel pipe, and to pay it into the sea. From this, a second idea was developed—a floating drum capable of carrying the full length of pipe for the Channel crossing, and which could be towed by tugs like a large bobbin paying off the pipe as it went.

Within a few months, a special factory in the Thames Estuary was equipped for welding 20-foot lengths of the Hamel pipe into 4,000-foot lengths at a rate of 10 miles daily, with facilities for storing the lengths to a total of 350 miles a day. Shortly afterwards a duplicate factory was established in case the first was bombed.

The floating drums, called "conuns" for short, were moored in deep water at the end of the pipe racks in order that the 4,000-foot lengths might be welded into a continuous length of 30 or more miles, and wound onto the conuns while they rotated. A conun is 90 feet long, over 50 feet in over-all diameter, and when fully

Told for the first time, and one of the greatest supply stories of the war, the 200 miles of pipe shown below in $\frac{3}{4}$ -mile lengths, made possible delivery of 1,000,000 gallons of gasoline daily during the invasion of France.



Gigantic seagoing "bobbins" wound with pipe were pulled across the English Channel to lay a pipeline to France.

wound weighs 1,600 tons, the weight of a destroyer. It can carry 70 miles of pipeline. The drum around which the pipe is wound is 40 feet in diameter and 60 feet long.

Finally the coördination of the whole scheme was perfected, provision was made for pumping stations on the English shore, and Force Pluto was formed to lay the under-channel pipeline. It was composed of ships of all sizes, from 10,000 tonners to barges and motorboats.

Force Pluto's main base was Southampton, England, with a secondary base at Tilbury. It numbered 100 British Merchant Navy officers and 1,000 men. In addition to *H.M.S. Holdfast*, three merchantmen were fitted with the cable-laying machinery. Two could carry 100 miles, and another 30 miles of Hais cable. Thames barges were converted for handling the cable at the shore ends, where large ships could not operate. Six conuns handled the Hamel pipe. New pipelines were run from the British system to take the gasoline to the coast.

The special high pressure pumping stations were cleverly camouflaged. One of these was in a row of blitzed houses at Sandown, on the Isle of Wight, another was in an old fort built in the 1860's against possible invasion by Napoleon III; and others were in a modern amusement park and in seaside villas at Dungeness.

Operation Pluto began as soon as mines had been swept from the approaches to the tip of Cherbourg Peninsula. The lines running from the Isle of Wight to Cherbourg took 10 hours to lay, and soon were conveying gasoline to the United States armies. The lines which were established as soon as Boulogne was captured, from Dungeness to Boulogne, took 5 hours to lay and transported gasoline to the British 21st Army Group. Men of the Royal Army Service Corps pumped oil to cleverly concealed pumping stations on the French coast. Operating frequently in rough weather, they were forced to wade up to their necks to bring in the end of the line from the ships. An R.A.S.C. petroleum unit maintained direct contact with the French terminals by cross-channel wireless-telephone, and thereby instantly reported variations in the quantities delivered.

Trends in Mechanized Cavalry

by Lieutenant Colonel Charles J. Hoy, Cavalry*

"Cavalry is a rôle and not a means of transportation. This fact cannot be ignored on the battlefield. Technically, mechanized cavalry possesses a combined road and cross-country mobility that is unmatched by any other arm."

EMPLOYMENT

IN the several theaters of operation, higher commanders have found it expedient to employ their mechanized cavalry on missions other than the one for which it was primarily organized and equipped.

Paragraph 38, FM 100-5 (FSR, Operations) states: *"Mechanized cavalry units are organized, equipped, and trained to perform reconnaissance missions, employing infiltration tactics, fire, and maneuver. They engage in combat only to the extent necessary to accomplish the assigned mission."*

In all theaters of operation mechanized cavalry units have successfully performed their primary mission. Their actions on strictly reconnaissance missions, however, constitute a comparatively small part of their history in World War II. During the advance through Normandy and the drive across the Rhine, they have been required to:

1. Seize and hold critical terrain features for a limited time.
2. Assist in the pursuit and exploitation of disorganized enemy troops.
3. Fill gaps between large units.
4. Perform ground reconnaissance and counterreconnaissance.
5. Accomplish protective missions (security for other forces on the march, at the halt, and on the battlefield).
6. Protect lines of communication troops.
7. Execute delaying actions to cover the retrograde movement of other troops.
8. Perform combat liaison between large units.

Each tactical decision which called for the employment of mechanized cavalry on missions other than reconnaissance was made because there was immediate battlefield requirement for light mechanized cavalry, and the mechanized cavalry squadron filled the requirement.

Cavalry is a rôle and not a means of transportation. This fact cannot be ignored on the battlefield. Battlefield circumstances dictate the need for an arm that can make long marches, and move its fire power and system of communication easily and rapidly from one position to another. Technically, mechanized cavalry

possesses a combined road and cross-country mobility that is unmatched by any other arm.

It has been the heritage of the cavalryman to look far afield, to possess a flexible mind, and to act quickly, aggressively and with great boldness when the situation indicates.

To meet battlefield demands, high commanders often call upon mechanized cavalry to perform traditional cavalry missions. Although reconnaissance remains the primary mission of mechanized cavalry, battlefield reports indicate that field manuals pertaining to mechanized cavalry should be revised to reflect current decisions and accomplishments. In other words, the pendulum has swung back to the point where certain cavalry missions can be assigned to light mechanized cavalry. This light rôle which has recently so often been assigned to our mechanized cavalry groups, regiments and reconnaissance squadron in no way duplicates the missions of the armored divisions. The means of transportation and the techniques for accomplishing cavalry missions are different now, but the original basic doctrine still is applicable.

The Cavalry School anticipated this change and, just prior to D Day in Europe, a pamphlet entitled "Employment of Mechanized Cavalry" was submitted to Army Ground Forces and approved. Instruction was revised to include the following:

1. Reconnaissance missions.
2. Protective missions, which include advance flank and rear guards and covering force for a withdrawal.
3. Other missions, which include seizing and holding critical terrain features for a limited time and pursuing a beaten or disorganized enemy.

The current organization and equipment of mechanized cavalry are not entirely satisfactory for the missions assigned on the battlefield. The spirit and the training of the cavalry officer and trooper have contributed to the successful accomplishment of what appeared to be incredible tasks. In view of what has been accomplished, written doctrine needs modification. These changes, as well as those affecting organization and equipment, must be based upon the past and present employment of mechanized cavalry in the European and Mediterranean Theaters, and its probable use when redeployed in the Pacific Theater. Considera-

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tion also should be given to the employment of mechanized cavalry in the postwar army.

ORGANIZATION AND EQUIPMENT

The swift movement of this war has been punctuated by periods of stalemate. Although mechanized cavalry's odometers have recorded thousands of combat miles, more shoes than tires have been worn out. Cavalrymen actually have spent, and will continue to spend, more hours in dismounted than in mounted phases. Excellent examples of the stalemated dismounted phases are to be found in the months spent in:

1. The Mediterranean Theater: In front of Cassino, on the Anzio beachhead, and to the south of Bologna.
2. The European Theater: In Normandy, west of the Rhine, and in front of the Siegfried Line.

During such stalemates, personnel of mechanized cavalry units have been required to perform dismounted combat and reconnaissance patrols and other missions, such as filling gaps. The scout section of the mechanized platoon is the main source of personnel for dismounted patrols. Of the 18 men available, 6 are mortarmen and 6 are drivers. To accomplish his patrol missions, the platoon leader has had to use his mortarmen and drivers as riflemen. In other words, mortarmen and drivers have had to "double in brass." Only in "ideal situations" can this be done successfully, and combat seldom presents ideal situations.

TRAINING

Because mechanized cavalry must be versatile, it is essential that its personnel be trained in the techniques for performing all missions which will be required of them. Apart from reconnaissance, these "other" missions have been assigned frequently enough to justify being referred to as normal.

Constant application of battle drill in training and combat will do much to simplify and accelerate the movement and action of mechanized cavalry units.

CONCLUSION

The record of mechanized cavalry in World War II is magnificent. It has been required to perform missions under the most difficult conditions. With organization and equipment which impose limitations, improvisation has been, and continues to be, a necessity.

When the present FM's 2-20 and 2-30 are revised, consolidated, and extended, the new FM 2-10 "Employment of Mechanized Cavalry," when published, will obviate much subsequent change.

Organization and equipment, however, will be subject to continuous improvement and change through research and service tests.

The trend toward new T/O & E for mechanized cavalry must be guided by the demands of the future. Cavalry's heritage—mobility of mind and body—must not be compromised.

Britain's Fastest Cruiser Tank



British Official Photo

BRITAIN'S fastest and most heavily armored cruiser tank, the "Comet," played a major part in the final battle for Germany.

The Comet followed the Cromwell, which proved itself in action in the advance through France and Belgium last year. Powered by a Rolls-Royce Meteor engine, the new tank was built in British factories and soon became a favorite with the troops.

It is as reliable as the Cromwell and carries heavier armor and a hard-hitting 77mm gun equipped with a new gun-laying device which makes it the most accurate British tank gun.

Before going into production the Comet was tested, as are all British tanks, over more than 1,000 miles of the roughest, most varied terrain that could be found. It passed the tests triumphantly.

From the Rhine to the Elbe and beyond the Comet played a major part in the disintegration of the Third Reich.

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Intelligence in the Cavalry Group and Squadron

Services of intelligence, whatever their reliability may be, are indispensable in time of war. The more that is known about an opponent, the better are the chances that strategic intentions against him will be effectively carried out and that the enemy will be surprised. Consequently, intelligence and information services should be as effective and efficient as possible.—From *Surprise* by General Waldemar Erfurth.

THE primary job of the intelligence officer is to keep the commander informed at all times of the enemy's situation and capabilities. But on the basis of a *complete* enemy picture, the S-2 usually knows very little because his sources of information are extremely limited and the reliance which he can place on even these sources is generally questionable.

Almost without exception, unless enemy information has been double-checked it cannot be assumed to be correct. The statement of one prisoner of war cannot be accepted at its face value unless unquestionably verified by another prisoner, or by some other means. A captured document cannot be accepted unless verified by another source. (The Germans repeatedly left false documents behind as they withdrew, as *any* withdrawing force could be expected to do.) Even a patrol report must be double-checked for absolute verification. If the foregoing statements are true, there is not much information available to an S-2 in sufficient time to be of tactical value to a coming operation.

A commander should not feel that his intelligence officer is not on the job because he cannot always present him with a complete enemy picture, and the troops should not feel that the S-2 is not aiding them when he is unable to hand them a clear enemy picture.

I have had many experiences with the war between *opinion* and *fact*, and it is a dangerous conflict with which to become involved. Only by persistent personal examination can the S-2 fight down the urge to include personal opinion in the information he gives out. The tendency is natural, but, by always keeping in mind the question, "Is it fact or opinion?" the inclination can be controlled.

The S-2 must evaluate the time element of the information. In precombat training we do not completely appreciate the utter ruthlessness with which time destroys the tactical value of enemy information. In combat, this information very frequently is not received in sufficient quantity and in sufficient time to be of value to the commander and troops in either a present or impending operation. For example, in February, the S-2 section of the 6th Cavalry Group developed a rather complete picture of the enemy occupying a certain portion of the German Siegfried Line—but most of the

*by Captain Robert W. Williams**

information was based on PW statements made *up to 5 days previously*. By the time sufficient information had been collected to present a clear picture, this information was so old that no faith could be placed in it. When the 6th Cavalry attacked it was quickly discovered that a complete shift of enemy units actually had taken place a few days prior to the attack.

Intelligence sections sometimes get jittery when information is slow in coming in from their troops, consequently, there is a temptation to "hunch" the time before passing the information to the rear. Instances have occurred where successive headquarters have "hunched" in such a way that an army headquarters has received information believed to be hot from the skillet—whereas in reality it is quite old.

There are also instances where information has been passed back *without the time being stated*. Neglecting to find out the time from the distributing agency, the headquarters receiving the information has rewritten the message, using *the time signed* or *an estimated time*, as the time of the information. Either course is treacherous, for it inevitably makes the information false.

If the S-2 constantly keeps the following questions in mind, much subsequent grief can be avoided:

1. Has the information been double-checked?
2. Have opinions influenced facts?
3. Has the true time element been considered?

THE SQUADRON S-2

The Cavalry Squadron S-2 has one of the busiest jobs in his headquarters. He has only one enlisted man (technical sergeant) as his assistant. These two must maintain the flow of intelligence to the rear and, at the same time, supply the troops of the squadron with information sent down from above. The Squadron S-2 cannot be more than a distributing agent. His time for the evaluation of information is limited. The squadron headquarters (Fwd. Ech.) must of necessity retain its mobility. This denies the S-2 the availability of those elabo-

*Formerly Hq., 6th Cavalry Group (Mecz).

rate charts and files of enemy information which he would like to carry. He must operate from no more than one small field desk. He is further burdened with a certain number of maps to be carried with him at all times. He must also perform his share of night-duty shifts. Harassed night and day by liaison officers and visitors, he must at times drop everything to handle a problem of counterintelligence or civil affairs. Hence, the squadron S-2 is not able to give sufficient meditative time to the analysis of information which passes through his hands. Briefer reports or summaries can take the place of the periodic report, with emphasis on the reporting of information *as it is obtained*. Intelligence is far too much alive in the cavalry group and squadron to neglect it for periodic summaries.

In an article published in this magazine recently an operations sergeant recommended that the squadron S-2 be subordinated to the squadron S-3, thus making one large operations section. This scheme makes a convenient working schedule at headquarters, but the flow of intelligence information through the squadron, group (Div.), corps, army, army group and theater headquarters is *thwarted in its initial stage!* The squadron S-2 represents the fountain of intelligence information. A group S-2 is paralyzed unless the squadron S-2 passes him information. The former is not in a position to observe the front for himself, neither can he make up intelligence reports from operations messages. Just as he is paralyzed, so is *every G-2 behind him*.

THE GROUP S-2

The Cavalry Group S-2 has a different setup. His section, consisting of a captain, technical sergeant and PFC, must operate on a scale and plane of thought comparable to that of the G-2 section of a division.

A corps headquarters controls the commanders of all troops assigned to the corps. The commanders of *combat* troops generally fall under one of three classifications: infantry division, armored division and cavalry group. The corps headquarters expects the information received from the cavalry to be as sound and intelligent as that received from the divisions. Further, it expects to place responsibilities on the cavalry which are placed on the divisions. In spite of the fact that a cavalry group with two squadrons is only approximately one-ninth the size of an infantry division, these things still apply.

The units which fight side by side in the line are almost invariably the three mentioned above. This means that the cavalry group must exchange liaison with the headquarters of divisions. The chiefs of sections and the commanders must also exchange visits and views. The cavalry headquarters must be prepared to hold its own at all times.

Now the big problem is, how the S-2 section of the group headquarters can strike the happy medium of operating on a plane of thought equivalent to that of a division while retaining the mobility normally expected of

a cavalry group headquarters rather than that of a division headquarters?

It must do this by thoroughly organizing the limited personnel of the section, maintaining only essential files and reference data, and employing a few, very necessary intelligence teams. These must be discussed in detail.

First, the organization of the personnel of the section. In the 6th Cavalry Group it was found that the S-2 himself had to keep his head above the mass of details which flowed through the section at all times. He was familiar with the principal material and enemy information received by the section, but ignored the petty details which serve to cloud the big picture of the enemy. Having this scheme in mind, the S-2 found himself capable of dealing with the commander, the many visitors and liaison officers who came to the headquarters, and supervising the general operation of the section (to include the tasks of an S-5).

The details of the section were taken over by the assistant S-2 (who, incidentally, should not be used as a liaison officer). The assistant S-2 prepared the daily Periodic Report, handled the administrative details of the section (in combat the flow of paper is very heavy), supervised the map supply for all elements of the group, operated the PW cage, served as public relations officer and was prepared at all times to take over the job of S-2 in the absence of the latter. He was assisted by the intelligence sergeant.

The clerk was busy reproducing the periodic report, intelligence annexes and bulletins, routine administrative reports and orders, and maintaining his vehicle.

At times during an important push it was found more efficient to place the S-2 in the same room with the S-3 and move the remainder of the S-2 section to another location where it could work more efficiently.

Second, maintaining only essential files and reference data. After only a few weeks of combat the S-2 Section learned that it must either separate the wheat from the chaff or become hopelessly engulfed in a mass of insignificant reference data. The most satisfactory solution to the bulk of this problem was to keep 4 files labeled: Enemy Vehicles, Enemy Weapons, Enemy Organization (order of battle) and Enemy Mines and Engineering. In these files were pasted and/or typed the latest information of the enemy and his equipment.

For example: a large intelligence bulletin published by army group headquarters reached the group headquarters. From this entire bulletin there is usually only a small amount of information which it is necessary to keep. It may be something concerning a Mk VI tank—"All Mk VI Tanks now have a front hull thickness of 190mm in lieu of the previous 180mm . . . 20 January 45." This would be cut out and pasted in the file "Enemy Vehicles" under the section on the Mk VI Tank. When all valuable information is thus filed the bulletin is destroyed. This system is very effective and is recommended for use everywhere.

In addition to the files above, only a very few, very necessary files were maintained: an Administrative file, our own Periodic Report and Other Publications file, and a Periodic Report file of our immediate higher headquarters. The remainder of the material, such as terrain studies, special maps, periodic reports from flank units, etc., were destroyed as soon as they were no longer of use.

In order to retain maximum mobility, most of the material in the section was kept mounted. When the CP moved to a new locality, only essential items were unloaded. The large field desk was found to be too large and cumbersome, and was never dismounted. The small field desk is sufficiently large to serve the needs of rapid loading and unloading.

Third, employing a few, very necessary intelligence teams. Without an interrogation team during an operation there can be no satisfactory flow of enemy information. The S-2 should have no illusions about his sources of enemy information. They are extremely limited and very slow. It has taken successive patrols three or more days to find the answer to one question, whereas a prisoner has blurted out the answer in one moment. All the aerial reconnaissance in the world could not answer one-tenth the questions the S-2 would like answered. Yet from a prisoner, he stands a good chance of having a great many of them solved. It is seldom that a document is captured in sufficient time to be of value—even then, its statements must be double-checked. An intelligent PW may furnish this same information in a moment of hastiness. In all this, the fact has not been overlooked that the statement of one PW must be confirmed by some other source.

PWs represent the chief source of vital, live information, but they will benefit the S-2 only to the extent that the interrogation team can grill them. It is quite important to have intelligent interrogators who know and appreciate the value of rapid, tactical information. With such a unit attached to the S-2 section of the cavalry group headquarters, the flow of information during an operation is usually assured. In the 6th Cavalry Group, one-half an IPW team (one officer and two enlisted men) was sufficient to handle the prisoners taken by elements of the group. However, a squadron on an independent mission should have the same unit.

A photo-interpretation team (PI) also was a valuable asset to the section, one-half a team (one officer, two enlisted men with one mobile shop vehicle) was an ideal size to handle the needs of the headquarters. Ordinary policies of the team were modified during operation to suit the workings of the S-2 section. Aerial photographs were very seldom obtained in sufficient quantity or in sufficient time to be of any value. Bad weather prevented sorties, and reproduction difficulties at army headquarters prevented a wide distribution of those prints which were obtained. The PI officer found himself making almost daily trips to the rear in an effort to keep his coverage abreast of the tactical situation.

This practice soon had to be modified, however, and in place of the primary mission of interpreting photographs, the PI team busied itself with other tasks which proved of vital importance to the commander and also the troops.

One of these was an up-to-date study of the terrain over which the 6th Cavalry Group was destined to fight. Detailed, practical terrain studies were drawn up and distributed to each squadron headquarters (and occasionally even down to platoons) in sufficient time to be of tactical value. As sensitive as mechanized cavalry is to terrain, these studies soon became a priority in the group.

Another task assigned the PI team was the preparation of plans of major towns and road centers at which the group would arrive during an operation. These town plans were drawn up from maps and aerial photographs, reproduced on a gelatin roll, and distributed in great quantity to all elements of the group. The 6th Cavalry Group was the first unit in Europe to use a PI team for the production of town plans, but the practice was adopted over the entire front during subsequent operations.

Another, yet not always practical task given the team was the preparation of an occasional terrain model. This was first attempted in February when the group faced the problem of breaking through a portion of the Siegfried Line. The model was made up on a 1/12,500 scale with a vertical exaggeration of 2.5 : 1. Plaster of Paris was obtained for the experiment. Paint was used to color woods, streams, roads, and towns. The model was a great success and was finished in ample time to be viewed by commanders within the group before the operation.

The PI officer was invaluable to the group when he was used to brief patrols and attacking units on terrain and enemy defenses prior to an operation. He employed aerial photographs, diagrams of the ground (both vertical and horizontal), terrain models, and any other terrain aids suitable at the moment. The men departed on these missions with a clear understanding and appreciation of the ground ahead of them, and with confidence which only a knowledge of terrain can give.

In addition to the IPW and PI teams, it is also important to have a counterintelligence corps (CIC) team. In Europe it was not possible to obtain more than a periodic attachment of such a unit. Since civil affairs must also be handled by the S-2 section, the attachment of a military government (MG) team is highly desirable. The closest possible liaison should be maintained between the MG and CIC detachments and the IPW and CIC detachments.

An S-2 section containing all the above attached teams is an ideal working unit. It cannot be expected that such attachments will be available to the cavalry group (or squadron) at all times, therefore, the priority value of the teams is in the order in which they have been discussed in this article.



Signal Corps Photo

After its first appearance in combat, the goon gun was given a high priority by both the army—and the enemy. Its light weight of 300 pounds makes it particularly useful in jungle warfare. Crew shown is in action in Italy, 1944.

THE “Goon Gun” is manufactured and fired by Chemical Warfare Service personnel, and is the only rifled mortar currently employed by our armed forces. It was given its nickname by the special troops who first used it.

Developed by the CWS in 1924 to lob gas shells, it has since earned military renown for its many uses in a non-gas war. General Marshall credits it (along with the CWS incendiary bomb and flame thrower) for having “contributed materially to the successes we have so far attained.”

“GOON GUN” HAS A “ONE-TWO” PUNCH

The goon gun really delivers a “one-two” punch because it fires two types of shell. One type spreads searing white phosphorus over the target, while the other, a high explosive shell, has the wallop of a “Long Tom.” The technique is simple. First get the enemy up and moving with WP particles, and then let him have the HE.

The gun is more portable, quicker firing, and handles larger loads than other comparable weapons. Though having the same bore as a 105mm artillery howitzer, it weighs only 300 pounds including the 150-pound baseplate, and can be moved speedily to places inaccessible to heavier guns. Chemical Warfare Mortar Battalions, which use the 4.2 exclusively, are motorized and carry the mortars in jeep trailers. In rough terrain, however, the mortar men use hand carts, mules, or carry the equipment themselves.

The mortar consists of a barrel, a standard, and a baseplate. When assembled, it resembles a stovepipe propped up by a jack. The 25-pound shell which is muzzle-loaded, slides down the barrel by gravity and

Meet the “GOON GUN!”

A captured Jap said, “We felt secure until your fast-shooting stovepipes were brought up.” He was speaking of the “Goon Gun,” which the American dough-boy says gives “Twice the firepower in half the time.” Although originally developed to lay down a gas concentration, this 4.2-inch mortar, now used with WP or HE, is a most versatile weapon, combining extreme mobility and devastating firepower.

strikes a firing pin, which ignites a shotgun cartridge affixed to its base. This sets off the propelling charge of powder rings strung around the cartridge in doughnut fashion. The exploding gases force a pressure disc on the shell to expand and engage grooves on the way out of the barrel. This rifling gives the shell rotation and greater accuracy. Each shell holds about 8 pounds of WP or HE. It has a range up to 2½ miles.

PROVES VALUE IN FIRST COMBAT

The goon gun became a high-priority item almost by accident. Its original purpose was to throw as many as 30 shells a minute and build up lethal gas concentrations before an enemy had time to don gas masks. Tests showed, however, that the mortar could fire TNT and WP with equal facility. The enemy could be drenched with burning phosphorus particles or hit with high explosive as readily as with gas. As an experiment, two chemical mortar battalions were sent into the Sicilian campaign. Making its debut with the initial assault waves, the goon gun furnished the infantry with such heavy close-in fire support that the army was convinced of its value.

Many battalions saw action in Italy and in France, and still others in the Pacific. A Chinese 4.2 mortar regiment, trained by CWS officers, was in action in Burma.

Members of the 2d Chemical Mortar Battalion, who were in protracted service in Sicily and Italy, first began referring to their "goon gun" in July, 1943, and this nickname has remained, even appearing in official reports. In August, 1943, these mortars functioned so effectively at Hill 715, Mt. Fratello, Sicily, that the operation has since been referred to as the battle of "Goon Gun Hill."

EFFECTIVE AGAINST VARIETY OF TARGETS

Since that time in Sicily the 4.2 has ripped apart concrete pillboxes, dugouts, fortified houses, tanks, half-tracks, and infantry and artillery positions. It has supported infantry, rangers, paratroops, mechanized cavalry, and other troops. On one occasion when no artillery was available, one mortar company wiped out a battery of German 88's with 12 rounds. Another unit dropped a round of high explosive in the open turret of a German tank.

A mortar battalion on the Solomon Islands drove the Japs from holed-in positions with such dispatch that a captured prisoner said he had felt secure until the "fast-shooting stovepipes" came along. The goon gun also routed the enemy from jungle strongholds on Arundel Island, blasted a Jap airfield on an adjacent island, and saw heavy duty at Bougainville.

SMOKE SCREENS

Smoke screens are a major part of the goon gun's work. Artificial fog created by these chemical mortars have helped hide river crossings all the way from the Volturno to the Rhine. (A captain of an infantry company who got out of a tight position with the aid of smoke remarked: "That smoke screen was the most beautiful thing I ever saw in my life!")

One chemical battalion, firing a round every 15 seconds, built up a smoke blanket three miles long and nearly 1,000 feet high, and maintained it for 18 hours. Another time a mortar screen was sustained over a two-mile front for 14 consecutive days. In another operation two mortar platoons provided a 43-minute "leap-frog" screen to cover advancing infantry. In Italy an entire division front was screened with mortar smoke. Some screens were used as decoys to draw enemy fire; others shielded beach landings, bridge building and troop movements.

PRECISION AND FIRE POWER

Precision of the 4.2 makes it ideal for close support. When the 100th Chemical Mortar Battalion was covering an advance in mountainous terrain, the attackers were able to move within 75 yards of the target area before the barrage was lifted. Mortars can work close to combat troops (rarely as far back as a 1,000 yards) and

often place observation posts forward of the advance.

It is not unusual for a chemical mortar battalion to fire 9 tons of shells in one minute, move to another position within 6 minutes and—a minute later—repeat the dose. This rain of fire or explosives is so impressive that the thankful foot soldiers have coined a phrase for it: "Twice the firepower in half the time!"

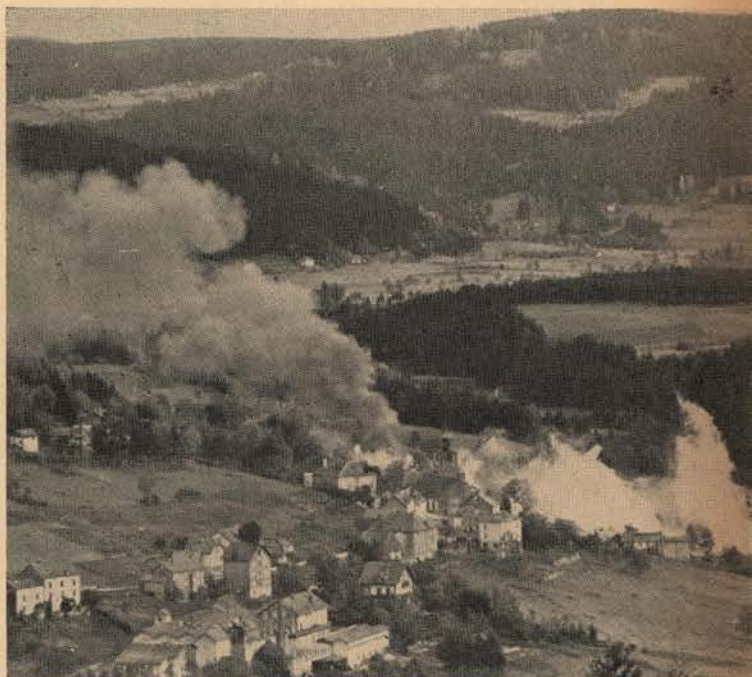
IN BATTLE ACTIONS

Two nights after a ranger task force had suffered heavily at Cisterna, Italy, "Axis Sal" broadcast over the Axis radio: "Now that the rangers are finished, the 83d Chemical Battalion is the next!" But the 83d, with 500 days in the line, still was going strong when Germany surrendered. During its first year in action, this battalion fired 85,000 rounds, received 4 division and army commendations, the Distinguished Unit Citation, and more than 700 individual battle decorations.

Another unit, the 84th Chemical Mortar Battalion, landed at Salerno and fought for 118 consecutive days. When the Fifth Army crossed the Volturno, the 84th fired WP for 36 hours to obscure enemy observation of the crossing. At Anzio the battalion was in continuous combat for 138 days. They just dug deeper into their foxholes with the remark: "Relief, hell! We're part of the terrain!"

Five Chemical mortar battalions took part in the invasion of Normandy. The 81st and 87th landed on

First four rounds from goon guns start fire to left of church at Le Tholy, France, from which dense clouds of smoke are pouring. Other bursts are seen center right. The weapon has a range of 2½ miles. It uses a WP shell to get the enemy moving, then changes to HE.



Signal Corps Photo

*Office, Chief of Chemical Warfare Service.

*by Major George O. Gillingham, C.W.S.**

D Day; the 86th and 92d followed immediately; the 91st reached France a few weeks later. For heroism in landing their 4.2's and fighting without let-up for 12 days, the 81st received a Distinguished Unit Citation. The 86th served with the First, Third and Ninth Armies, during which time it supported 21 different infantry divisions. In a year it had fired more than 124,000 rounds.

The 87th Chemical Mortar Battalion had the first guns in action on Utah beach during the Normandy landing, and also won a Distinguished Unit Citation. Troops of this unit were among the first to cross the German border and move into Aachen. This battalion was in such demand that at one time it was operating simultaneously on three different division fronts. In one operation in Germany the 87th fired 5,582 rounds in 24 hours with 24 mortars. At the time of Germany's surrender it had expended some 150,000 rounds.

The 91st Chemical Mortar Battalion got off to a late start, but it helped screen many river crossings. During the battle of the Belgian bulge one platoon fired so fast that the mortar barrels turned red from the heat. A gun of this battalion once was ordered directed at a house containing German troops. The shell landed on the target but failed to detonate. The next shell hit the dud and both exploded.

During two nights on the line in Normandy, the 92d Chemical Battalion fired 140 tons of ammunition. On the Vire River it expended 3,000 shells in a single day. Another time, resuming the fire where 16 field artillery battalions had left off, it hurled 115 tons of explosive into enemy positions in three hours.

After other means had failed, the 82d Chemical Mortar Battalion was called upon to dislodge the Japs from the Manila Post Office. Forty-five minutes of alternated WP and HE reduced the building to a burned-out shell. The 85th supported the 24th Division in steep, heavily forested mountainous terrain. As one mortarman put it, "We had to cross one stream 13 times to get to our position—except when it rained, when we had to wait 48 hours!"

NOW AN AMPHIBIOUS WEAPON

It now can be revealed that the goon gun is being used by the Navy to pave the way for Pacific landings. Mounted on LCIs, it has been most helpful in securing beachheads.

In such landings there has been a critical period during the assault and the establishment of the beachhead before artillery could be landed. The Japs' favorite weapon is their mortar, and their tactics have been to emplace it behind protective slopes from which they pour devastating fire on the landing waves. Gunfire from destroyers, cruisers and battleships provides the heavy artillery to cover landings, but it cannot always reach the Jap mortars. To meet this need the CWS interested the Navy in using seagoing .2s.

During July and August of 1944, three groups of

LCI mortar ships were made ready. They were operated by naval crews, but the mortars were manned by infantrymen commanded by CWS officers. One group participated in the attack on Palau while the other group headed for the southwest Pacific and the Philippines.

At Leyte, one group accompanied by LCI rocket ships, led in the first wave and laid down such concentrated fire that not a live Jap was found within 500 yards of the shore. The next target was a bridge over the Deguitan River. Approaching Jap tanks were prevented from crossing, and our troops took possession of the bridge 20 minutes later. For several hours the south flank of the river was neutralized, giving succeeding waves an opportunity to move in.

Catmon Hill and its strong point, Libaranan Head, protected by a nest of enemy mortars, 75 and 105mm howitzers, were the responsibility of another group. The larger guns were silenced by our heavy naval guns, but it took the ship-mounted "goons" to finish the Jap mortars. Only once did enemy fire imperil the landing ships. A quick shift of position of one LCI mortar ship, a quick volley, and only dead Japs remained.

A new technique had been developed and the Navy equipped more such ships. Men of the 98th Chemical Mortar Battalion were borrowed from the 6th Infantry Division to operate at Lingayen. Their mortars formed a line offshore and softened up the beach to protect the waves forming behind. Then, with ever-changing range, they led the waves in, a rocket ship abreast of a mortar ship, continually pounding the beach. As the troops landed and moved forward, the mortar fire was lifted inland in front of them.

During the invasion of France, a battalion of 4.2-inch mortars go into action on a beach. Since the invasion of Sicily, the 4.2 has destroyed obstacles from tanks to dug-outs, and has given fire support to all kinds of troops.



Signal Corps Photo

TANK FLAME THROWER

*by 1st Lieutenant Charles Hainfeld, CWS**



Armored School Photo

A trainee fires thickened fuel from a tank flame thrower at a cave. Thickened fuel has a "rod" effect, is used on narrow openings. Liquid fuel, which is thinner and spreads the flame widely, is used in underbrush where visibility is limited.

THE mechanized flame thrower has been of inestimable value in reducing American losses on the cave-pocked Pacific islands, and will be used more and more to burn out caves and pillboxes in the war with Japan.

An appearance of shooting around corners is produced by the billowing and swirling movements of burning oils. The flames penetrate gun ports of pillboxes, kill the occupants and explode sensitive ammunition. It also forces the enemy to close ports, temporarily putting the emplacement out of action, and thus provides protection for our demolition parties.

The flame thrower is mounted in M4 medium tanks, either as the main armament, or in the ball mount where the flame thrower and .30 caliber machine gun may be used alternately. A trained gunner can change from one weapon to the other in approximately 60 seconds, plus time to load or unload the machine gun.

Training in installing and maintaining the mechanized flame thrower unit, pressuring and fueling, mix-

ing of liquid and thickened fuel, and firing the unit at typical targets from stationary and moving tanks now is being taught in classes at the Armored School at Fort Knox, Kentucky. Nearly 1,000 students have already received this instruction.

Liquid fuel can best be used against targets in thick underbrush where visibility is limited. Thickened fuel is propelled through the air with a "rod" effect, and can be employed with accuracy against small openings and pillboxes.

Practice firing will create operator accuracy and pay dividends in combat by conserving the limited fuel supply, and should be included in all lessons, plans and demonstrations for the training of flame thrower operators. Training also should include practice in changing from the flame gun to the bow machine gun because an operator may require the speedy use of this weapon to shoot the enemy as he emerges from the cave.

In the Pacific Theater the tank flame thrower has proven itself a valuable close combat weapon and in the hands of trained operators can knock out targets that are immune to other forms of attack.

*Instructor, The Armored School, Fort Knox, Ky.

Epitome of Leadership

THROUGHOUT its history the Army of the United States has always nurtured patriotism and devotion to country, while teaching that honor, integrity, and the faithful performance of duty are to be valued above all personal advantage or advancement.

The American army differs from all other armies. Racially we are not a homogeneous people, and many of the characteristics which make the American soldier potentially the best in the world may be, with faulty leadership, a possible source of military weakness.

Americans are intelligent and resourceful to an unusual degree. These characteristics, while distinctly American, and the natural result of our democratic institutions, require vigorous and understanding leadership in all echelons of command.

The basic qualifications for military leadership are character, and a knowledge of men.

Bearing—The officer must carry himself erect, see that his uniform is clean and in good condition, and that it is worn correctly. Never for an instant can he divest himself of the responsibility of setting a high standard, and until he is satisfied that his own turnout and conduct are exemplary, he should not expect a corresponding standard from his subordinates.

Courtesy—The officer should set his subordinates an example of courtesy. A courteous manner in dealing with his men will increase their self-respect as well as their respect for him.

Personal Attitude—The officer should maintain a sense of humor and a balanced sense of proportion. In addition, he should cultivate a calm controlled manner and the habit of accentuating the brighter side of things.

The morale of the men is heightened when they see that their leader neither looks nor acts worried, even though they know that he has every reason to be.

In the interests of good discipline, officers are required to wear a distinctive uniform, to live apart from the men, and to confine their social contacts to other officers. *The officer must not make the mistake of thinking himself as a superior individual*; rather he should regard himself as one who has been accorded certain aids in order that he might best carry out the responsibilities of his office.

He must not take advantage of his position to obtain special privileges, especially those privileges which have no relation to military necessity nor effectiveness.

Moral Worth—The officer must demonstrate that the authority of his grade is deserved through moral worth. The habitual use of foul language by an officer is inexcusable; to swear at a soldier is despicable.

Knowledge—The officer is both leader and educator to his men. Experienced leaders prepare themselves in

advance for every task. Their purposeful preparation with its resulting power of quick and sound decision, should be a matter of constant practice in the daily routine. The leader should not bluff—the men will sense it immediately. It is much better to admit ignorance of the subject in question, and then take steps to acquire the information. Officers are not expected to know everything, but they are expected to be honest.

Knowledge of Men—The environment and education of the average American soldier have laid emphasis on his value as an individual; in order to get the most out of him, he must be treated as such. The wise leader will study the personalities of the men he is going to lead and be influenced by this knowledge. Mutual confidence between the leader and his men is of first importance.

Man is the fundamental instrument in war; other instruments may change, but he remains relatively constant. Unless his behavior and elemental attributes are understood and appreciated, gross mistakes will be made in troop leading. A leader influences his men by his manner and by his actions. Since these attributes are largely controlled by his knowledge of the methods of handling men, an officer without adequate leadership experience has much still to learn. In his relations with his subordinates, the officer should use a practical, intelligent approach, one that will not only mark him as a true leader but will also, by example, do much to develop the leadership qualities of his subordinates.

Loyalty—Absolute loyalty is a fundamental prerequisite to good leadership—loyalty that extends downward as well as upward. If by actions or words the officer is disloyal to his superiors, the men will doubt his loyalty to them, and their loyalty will be affected correspondingly.

Health—The size of the sick call turnout is a good indication of the unit's efficiency. The commander must train his men in personal hygiene and be constantly on the alert for conditions that are conducive to poor health. Frequent inspection should be made of quarters, latrines, and bath arrangements. When the men are cold and wet, the leader must not rest until they have been provided with warmth and shelter.

Approach—It is always a grave mistake for an officer to try to gain popularity by undue familiarity, coddling, or currying favor. However, there are many services which he can and should render. He must walk the thin line between friendship and familiarity, and at the same time be parent, brother, and father-confessor to the men. This is not a one-sided relationship, because experience has shown that if the officer will take care of the men, they will take care of him.

Complaints—It is important that a commander keep himself accessible at all times to the men of his unit. Thoughtful consideration must be given to complaints. The man who makes a complaint thinks he has suffered an injustice. If he has, the fault should be remedied; if not, his faulty impression should be corrected at once. In this way, no grievances, real or imaginary, will be allowed to develop.

Orientation—The leader should make every effort to indoctrinate his men in the Army way and keep them informed. Nothing irritates American soldiers so much as to be left in the dark regarding the reason for things.

Morale—The American soldier responds to leadership which appeals to his pride in himself and his organization. The officer must, therefore, make every effort to build up the pride and self-respect of the men by laying emphasis on the proud traditions of the soldier in general and of their organization in particular. Good morale, on the other hand, is indicated by a positive drive on the part of the men; a push beyond that which is expected; an eagerness and enthusiasm concerning the leader's desires. The men must never be allowed to forget that they carry the badge of their unit and their country, and that those who see them regard them not as individuals, but as representatives of the unit whose insignia they wear. If they appear smart, alert, and efficient, the comment will be not so much "that is a good soldier" as, "that is a good outfit."

Fear—The successful leader will teach his men to recognize and face fear, because fear is the enemy of morale; fear unchecked will lead to panic, and a unit that panics is no longer a unit, but a mob. There is no sane man who is altogether without fear, but with high morale, men will face danger, if not willingly, at least stoically, because of their ingrained sentiments of duty, of courage, and of loyalty, and because of their sense of pride in their country, in their unit, and in themselves; in other words, because of their *esprit de corps*.

Rewards—Every act of leadership should make the follower feel that as long as he is doing his best to follow, he will be secure and his efforts will receive recognition. A leader should not be stingy with praise when it is merited. Recognition of a task well done, when judiciously and impartially administered, will go a long way to sustain a subordinate's self-respect and morale.

Privileges—Army Regulations, subject to restrictions of military necessity, contemplate that all military personnel will be granted reasonable opportunity for rest and relaxation. This privilege is very dear to most individuals and requires that the commander so regulate the interior administration of the unit that all share alike in the work and enjoy the same amount of leisure and other privileges. Few things can lower the morale of a unit more quickly than the belief that the leader is partial to certain men in such matters.

Promotions—Promotions are a potent means for recognizing demonstrated efficiency. It is a function of command to provide each group with a competent leader in whom its members have confidence. Since the manner in which promotions are made gives the unit an opportunity to pass on the judgment of the commander, it is important that promotions be made purely on demonstrated ability and without regard to favor or affection. The wise commander will give careful consideration to recommendations from subordinates, but he will remember also that the determining factor in the selection of men to be promoted is his own estimate of the man's worth. Because leadership is a question of life or death to the man in ranks, and because placing the right men in positions of responsibility is the most important safeguard for success in battle, this responsibility cannot be delegated.

Discipline and Punishment—Military discipline should not be a cowed state of subservience based on a system of punishments. It should be based on mental, moral, and physical training designed to insure that all respond to the will of the commander, even though he is not present. Punishment should serve only as a powerful means of reminding the petty offender that he is acting against the interests of the group.

Drill is the foundation of discipline and training; it compels the habit of obedience and stimulates the feeling of corporate strength as the unit moves together as one man.

Nevertheless, the first essential of discipline training is example, and no man who is himself undisciplined can claim the moral right to discipline others.

If he must punish, the leader should punish promptly, and justly, after fair warning. The punishment should be fitting to the offense and to the individual, considering his age, length of service, and personal characteristics.

In administering punishments, the leader must remain calm, impersonal, and dignified. He must never humiliate a soldier in the presence of his equals when it can be avoided. The leader will avoid the use of sarcasm; a soldier will resent it since it is a weapon which takes unfair advantage of him. In administering a rebuke, the leader will appeal to the soldier's pride in himself and point the way to atonement, being sure to indicate that the misconduct reflects unfavorably on the organization.

Noncommissioned Officers—The noncommissioned officers are the backbone of the American Army. It is important that they develop genuine respect for their positions and pride in their status. The commander will encourage initiative, self-respect, and develop leadership among NCO's by frequent conferences with them and give them definite responsibilities for the training and combat action of the men under them. He will insist that they exercise their authority properly and then

support them fully. The ultimate goal is a group of NCO's who will always be glad to obey when obedience is called for, and who are capable of taking the initiative when the occasion demands such action.

The commander should check up on his NCO's from time to time; he should not rely entirely on them for his knowledge of conditions within the unit. It is important that he provide an understudy for every key position in the organization.

SUMMATION

The American Army of today is a fighting army;

under the inspiration of good leadership and a just cause, it is an effective fighting force. The immediate responsibility for this leadership, necessarily, rests on the shoulders of young officers of company grade. The officer should approach his duties with the firm intention of taking every opportunity for acquiring the broad knowledge necessary to successful leadership. In his personal life, he should live up to the standards of an old and honorable profession. He must be loyal to his superiors; firm, impartial, and humane in his dealings with subordinates; diligent in duty—a leader in the true American tradition, by always setting the example.

Twin Essentials of Success in War

ONLY the military genius can afford to take chances with the recognized rules of war.

A "Stonewall" Jackson may be able to throw a handful of troops between vastly superior forces and so win a smashing victory, as he did at Second Manassas. But Jackson was a great soldier. Germany's von Kluck was only a good soldier. He was unable to duplicate Jackson's tactics, which might have saved him, at the Marne.

... "Stonewall" demanded miracles of his troops—and obtained them. He asked them to reel off 25 miles in a single day, en route to Bull Run. They gave him 26.

The performance demonstrates that Jackson was a great leader as well as a great general. The terms are not synonymous.

Leadership and generalship, in fact, are entirely different qualities. One frequently exists without the other. Great leaders inspire blind devotion in their followers but that is no indication that the leaders themselves are masters of strategy and tactics.

The combination of leadership and generalship becomes almost irresistible. It is a prerequisite for the bold commander who dares the attempt to transform the science into the art of war. Only if his men worship him, trust him, are willing to follow him to the point of death; only if he is sure of the mastery of his own touch; only if he is both leader and general can the commander of either a squad or a field army run the risk of ignoring the ordinary precautions of his profession. But if he possesses the combination, then a great soldier may appear.

Two qualities distinguish the soldier from the civilian.

They are, virtually, secrets of the military fraternity, although they have been repeatedly discussed and analyzed in public. They remain secrets, however, because rare indeed is the civilian who ever acquires the slightest understanding of what the soldier means when he talks about them.

They are the twin essentials of success in war. With-

out them no leader can expect to win more than a transitory victory. They must permeate his entire organization, regardless of its size.

They are organization and discipline, or rather military organization and military discipline.

Organization is not limited to a group of uniformed men, ranged around a flag. Discipline is far, far more than punishment for failure to obey an order. Neither the uniform nor the punishment, in fact, contribute anything vital to the understanding of either term.

Neither is easy to define succinctly because each means so many things to the soldier. Each covers so much related ground. For our purpose, however, we may consider them from the following standpoints:

(1) Military Organization is the weaving together of men and weapons in a suitable pattern for their efficient use in war.

(2) Military Discipline is the practice of following the rules of the game which govern that organization.

Since leadership becomes spotlighted as one of the great primary qualifications for the art of war and a determining factor in its scope, the general theory of the art begins to be clear.

There are certain general principles which apply to warcraft. They prove decisive when all other factors are approximately equal. They are included in the science of war, they ordinarily govern any situation and their careful application constitutes generalship.

There exists a rather mysterious quality known as leadership, which enables its possessor to secure unusual results from the soldiers under his command.

In order to practice the science, a knowledge of which is essential to the art, the commander must work with soldiers. There are certain qualifications which make soldiers, setting them apart from civilians. Among them are organization and discipline, both of which remain to be discussed, together with the military rights and privileges which accrue from them.

—From *Twentieth Century Warfare*, by Lowell M. Limpus.

Universal Military Training

by Captain Myron W. Curzon, AUS

THE War and Navy Departments share jointly in the function of advising the nation on the military phases of national security. In considering plans for the postwar military establishment, the War Department takes into full account the implications of our tragic lack of preparation in World Wars I and II. This lack of preparation delayed our effective participation, caused excessive casualties in combat, and prolonged hostilities. It is believed that the adoption of a program for universal military training, integrated with plans for technological and industrial mobilization, will deter other nations from ever attacking the United States; but, if war should come again, we, having adopted such plans, will be able to meet its demands without again incurring these costly and unnecessary wastes and losses.

THE NEED FOR UNIVERSAL MILITARY TRAINING

The United Nations Conference for International Organization at San Francisco has produced the framework of a plan for international agreement through which it is hoped that the security of not only the United States, but of all nations, will be assured. However, until this agreement has been established upon an operating basis, and we are satisfied that there can be no more world disorder, we ourselves must provide for our own national security. Furthermore, it is clear that the international agreement following the war will need the strong might of the world's great powers to enforce it. Employment of a trained citizen soldiery by the United States will be a profound influence for peace.

Both in this war and in World War I, American forces have proved to be the elements which tipped the scales for Allied victory. We face the sober realization that weapons available now and in the future will make geography no barrier to an attack on the United States *first*. Any aggressor of the future will seek to paralyze us through a quick smash at our industrial heart.

The experiences of this war have demonstrated that the organization for national defense which we maintained in the two decades prior to 1939 was not sufficient to our needs. We must have an adequate military posture of a character that we can support financially. This is a very practicable proposition. We have a huge war debt to consider, and in view of the ever increasing expenses incident to the peacetime burden of the federal government, we must have some establishment that does not draw upon too large a percentage of the national income.

This places the large standing army idea in its proper light. It could not be attained by voluntary recruit-

ment; it would be too costly. It is not even, therefore, an alternative. It is out of the question.

The only plan is to establish a small standing army supplemented by a reserve of trained citizens, which could be mobilized within a relatively short period of time. A just distribution of the responsibility for participating in the reserve depends upon its being a general obligation. When the country accepts the need for training a large number of men, it will adopt the democratic and universal means of enlisting them for training.

Universal military training is not only the democratic way of assuring the number of ready trained men necessary to our adequate military strength, but it is also the most economical way in terms of immediate cost. Men would remain in the reserve for a specified number of years after completing their training. They would be subject to call when Congress determined a national need. They would receive their training at the least cost to the country, because they would receive it at the age most amenable to training, when their own economic contribution as civilians would not be great, and when most of them would not have incurred family obligations.

NEED FOR CONSIDERATION OF THE SUBJECT NOW

The security of the nation is a continuous matter. Universal military training, involving as it does a fundamental change in the principles underlying mobilization of the nation's forces in time of wars, is deserving of the most careful advance planning.

A system of universal military training should become operative upon the termination of selective service in the present emergency. If this is not done, there will be large numbers of men of military age, subject to call in time of emergency, who will not have had the opportunity for receiving this training, and hence will not be ready for immediate military employment. Nothing fair nor less democratic can be imagined than to rest the future security of America on the same heroic men and women who are sacrificing so much to win victory in this war. Millions of these citizens have already been under arms and absent from their normal civilian pursuits, many of them overseas, for three or 4 years. Surely, our country will not take the ungrateful position that, because some of these veterans may be technically in a reserve status for some years after the war, they and they alone should compose our military reserves in future years.

Unless the program is in effect at the termination of selective service, the army will lose the current "going concern value" of its vast physical organization and establishment. The cost to the nation will be almost

prohibitive, if all this value is to be junked; camps, aircraft, and equipment are to be allowed to deteriorate, only to have to be reestablished and built up again in part several years thereafter.

Our adoption of the program now would not be without significance in world affairs. We must encourage all nations to believe that we take seriously our responsibility in the plans which are being sponsored for a peaceful world. Collective security agreements will progress exactly as far as the extent to which the United States participates in such agreements. It would strengthen our hand at the peace table through showing to all allies—strong and weak—that we are a united nation; that we are determined at once to be militarily strong and to remain true to our democratic traditions, a combination which the real friends of democracy everywhere would welcome in the world's foremost exponent of the democratic way of life.

THE PLAN FOR UNIVERSAL MILITARY TRAINING

The objective of universal military training is to provide a pool of ready, trained men, capable of being rapidly mobilized in event of a national emergency to reinforce the regular army. The regular army would be no larger than necessary to perform its normal peacetime duties and to meet sudden minor emergencies.

Our training efforts in this war have been directed toward two different but related goals—unit training and replacement training. Unit training, designed to produce units capable of being committed to combat, requires that the soldier first be basically trained and made proficient as an individual, and then that he be trained as a member of a team.

Replacement training, on the other hand, is designed to produce a basically trained individual soldier, proficient in the use of his weapons and trained in elementary squad and platoon tactics to the extent necessary for him to fit into the highly trained veteran team. The replacement who joins a unit made up of experienced soldiers depends upon their skill and guidance for his final training on the job. Graduates of a universal military training program will be the men who, in the event of war, will constitute new units.

The contemplated program for universal military training parallels the present program for large unit training. It will produce divisions, air forces groups, and other large units in the shortest time upon mobilization. It will develop leaders and commanders trained in handling men, weapons and supplies. It will provide a reserve of specialists and technicians trained to fill key positions in units.

The program is far more than a mere schedule of hours, days, weeks and months. It is a carefully integrated 52 weeks of progressive training. All young men would pursue the same course in basic soldiery. This is a foundation of but a few weeks. With this as a start, the young man would be assigned to learn

technical subjects which will fit him as one of the hundreds of specialists required in modern armed forces. Curricula and methods of instruction will be modified as changes in training procedure may be indicated as a result of research.

At the conclusion of his training as an individual specialist, he applies this training as a member of a small team, continues it as a member of a large team, and in the last weeks, applies it in large-scale maneuvers. The 52 weeks are divided into 5 well-defined phases, in each of which training is progressively applied to the end that at the conclusion of the course, the training will stick with the trainee for a long enough time to enable him to rejoin the armed forces upon a declaration of a national emergency by the Congress with a minimum of refresher training, and can take his place on the same kind of team for which he was trained.

When it is considered that the young men to be trained will be preparing to participate in complex warfare against trained adversaries, there should be no disposition to reduce the training period below the minimum essential to do it effectively. In one year, we can train them with sufficient thoroughness to insure that, even though the emergency should arise some years after the completion of their training, the essential knowledge and skills acquired in training will be retained. Less than one year of training would necessitate shortcuts and omissions that would dangerously decrease the value of the trainees as soldiers and would correspondingly increase the hazard of combat to themselves.

The training should be conducted continuously for 12 months. Interruptions will impair the effectiveness of the military instruction on which the fate of our nation may some day depend. If piecemeal military instruction is completed with approximately the same thoroughness, it will require additional time. At the beginning of each period of training, time would be lost in examining, classifying, and reconditioning the trainees. Instruction partially assimilated and insufficiently practiced would require repetition.

From the standpoint of military training, then, and of the taxpayer, who deserves full value for his money, the weakness of a series of short snatches of training is apparent.

Basic military training cannot be effectively conducted in the classrooms and on the campuses of our schools and colleges. The soldier must learn to live and do his work in the field. The large and unrestricted areas of varied terrain necessary to effective basic training cannot be provided in the vicinity of our colleges. The numerous firing ranges, with their extensive danger zones, as well as many other necessary training aids, are not suited to the college environment. It would not be possible to assemble and maintain at any college the wide variety of weapons and equipment required in the combined training that has become abso-

lutely essential to effective preparation for modern war.

It is entirely practicable to conduct effective officer training in the colleges and universities provided that the candidates are basically trained soldiers when they arrive. With universal military training completed prior to the enrollment of students in college, we shall be able for the first time to raise the Reserve Officers Training Corps courses to a real collegiate level. The graduates of the Reserve Officers Training Corps will then constitute a more competent group of junior leaders than ever have been available to the reserve components of our Army.

It is obvious from the foregoing that if the program is to provide a reservoir of men adequately trained for the protection of the country, the training should be for one year, should be continuous, and should be conducted in army camps and training centers.

NATIONAL SECURITY REQUIRES MORE THAN UNIVERSAL MILITARY TRAINING

Military strength alone, however indispensable, is not all that is necessary for the security of the nation and the world. The military strength of a nation is but part of the larger provision it must make for its security.

The broadest and most fundamental basis of national security in a democracy is a people well-informed and well-intended. Of course, the War Department cannot and will not prescribe any set of principles whereby public opinion is fostered or influenced; its function will be limited to the release to the general public and dissemination to the army of such materials as are consistent with its mission.

The economic strength of the country, self-evidently, is a tremendous element in the security of the country. There must be a suitable organization to deal with our manpower and matériel resources, with provisions for industrial mobilization and for the continuance of scientific and technological research and development. These provisions will have their cost and will entail adjustments.

The cost of universal military training and of the other provisions necessary to the security of the country must be borne. This cost will constitute insurance against, or will reduce the cost of future wars. This is greatly to be preferred to the dangerous policy of the past, by which we have risked our nation and have incurred, during a few years of war, great costs because all considerations automatically become secondary to that of winning the final victory.



COMBAT EXPERIENCES

Now is the time to write us a story of your experiences in combat.

The lessons you learned are valuable to others, not only for fighting the Japs but also for future study.

Even though the war in Europe is over, the record of what happened there still is important—and will be.

Now that you have more time, why not write up how your unit fought, what it learned, and the mistakes it made?

Write it your own way. Include photos if possible.

Anything from 100 to 2,000 words.

Send it through your Public Relations Officer for "field clearance." Address it to: The Cavalry Journal, 1719 K St., N.W., Washington 6, D. C.

The same invitation, of course, is extended men in the Pacific theater.

What have you learned in combat that will help others?

Re-tire in Time

THE acrobat's life depends on "timing." So does the life of a tire. Stocks of combat tires can be maintained only by making *all* tires yield the fullest service of which they are capable, so that tire production facilities are kept as much as possible from being overburdened.

An important factor in maintaining the tire supply is putting new treads on tires, and that's where "timing" becomes so vital. In order to conserve manpower and save valuable time, it is essential that tires be sent in for new treads *at the right time*—neither too soon nor too late.

Reports from the field indicate that at present many of the tires which are sent in to the tire collection centers for new treads are removed from service *too soon*. A tire can, and should, be used as long as the tread is still raised slightly near the center. Any tires in this category which are sent into the tire collection centers must be returned to the field and reinstalled. Thus, all of the handling necessary for sending them in, inspecting and classifying them, and returning them to service, becomes wasted motion and effort. It puts an unnecessary strain on the already overburdened collection centers. Only when the treads wear smooth in the center are tires ready for a *face-lifting* job.

The number of tires which are removed from vehicles too late, when the rubber has worn down to the

cord body of the tires, also represents a serious condition, since the scarcity of tire carcasses is a more important factor in the present task of supplying tires than the scarcity of rubber for new treads. This is due not only to the shortage of manpower, but also to the fact that synthetic rubber is far less satisfactory for use in construction of heavy truck tire casings than it is for use in new treads. The natural rubber casing dissipates heat and withstands far more abuse than the synthetic one. Therefore, it is extremely important that casings, many of which still contain natural rubber, be preserved to the maximum degree. For the natural rubber shortage is a very real one.

Responsible personnel must become increasingly conscious of this condition and take the necessary steps to overcome it. Inspections must be regular and thorough. The practice of rotating tires to different wheel positions when treads cup, or wear irregularly, must be followed. Irregular wear on front tires may be due to improper wheel alignment—which should be checked and corrected. When cuts expose tire cords, tires must be removed immediately and sent in for reconditioning.

In almost every military situation success depends to a large extent on acting at the right time. "Too soon" and "too late" aren't good enough. So it is with the process of putting new treads on tires!



Preventative Maintenance

Tropicalization

THE Pacific Theater involves some new angles because heat, moisture and fungus growths will damage many types of equipment unless special attention is given to combating them. Information on "Tropicalization" of many items of equipment may be found in publications listed under "Moistureproofing" in the index to FM 21-6. Technical manuals, too, frequently give information on the subject. It is smart to find out as much as possible about it ahead of time, for moisture and fungus do their damage fast.

It might be thought from the sound of the word, that "Tropicalization" of equipment applies only to items used in tropical climates. This is not the case. The process is one that must be used on certain types of equipment in all climates, for it is a preventive service that protects material from damage caused by the two ever-present troublemakers—moisture and its co-partner, fungus growth.

Since armies must carry on in all kinds of weather,

in all places and at all times, their equipment is constantly being subjected to the ravages of moisture and fungi, and fungi and moisture have been known to cause breakdowns in a matter of hours.

Here are a few other suggestions:

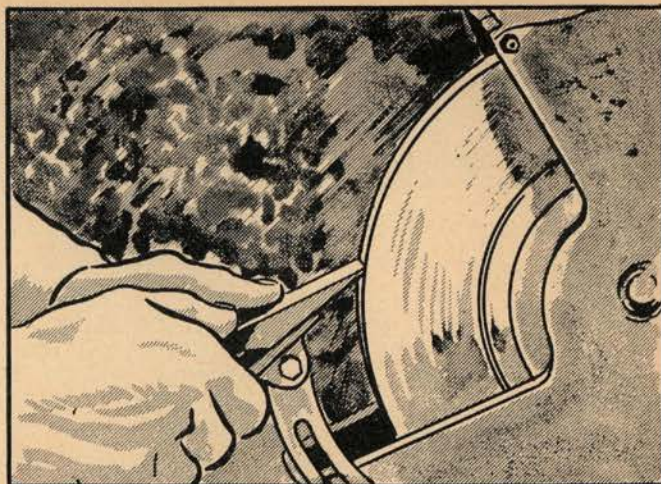
Keeping all vehicles in continuous operation is a duty faced most of the time by officers in charge of motorized units. It means preventive maintenance must be at peak efficiency, for only preventive maintenance—which avoids breakdowns by preventing them—can keep vehicles in continuous operation.

Wherever vehicles move together as a unit, maintenance discipline is vitally important, for everything must stop and start together. Therefore, if one vehicle breaks down, even for a minor defect, the whole unit may be delayed and the mission fail.

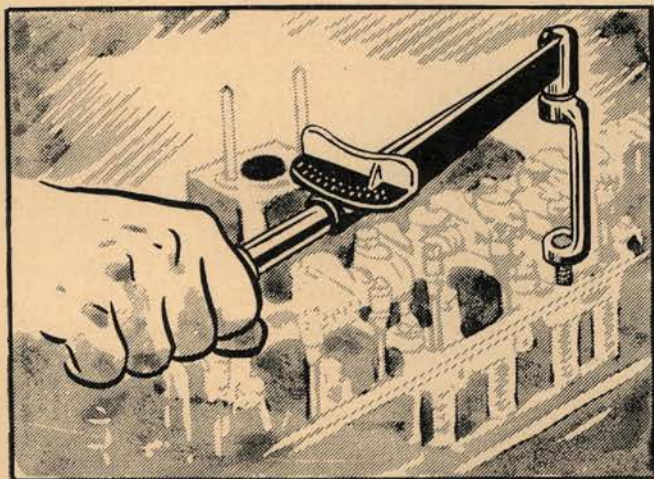
"U. S. A., Two, One, Seventeen" is not a quarterback's signal for an end run—it means Rifle Bore Cleaner. U.S.A., Two, One, Seventeen (2-117) puts weapons in shape and well-kept weapons win the yardage and victory.

Do's and Don'ts on care of Tools

You know tools are needed to keep cavalry equipment operating. But do you know the five important steps in tool care? Test yourself. Then check the answers.



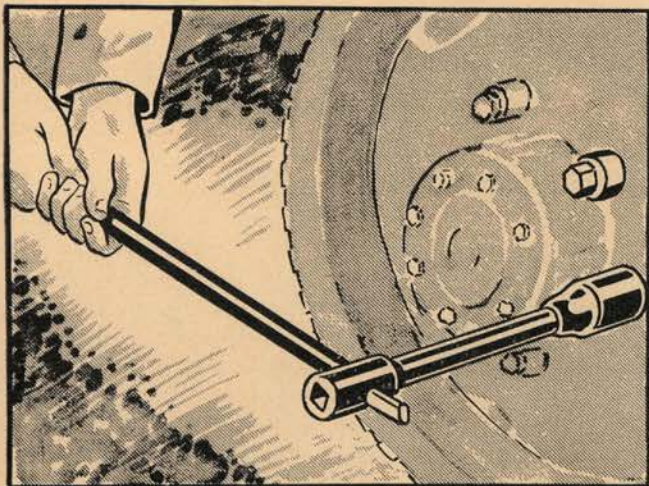
3. Keep tools in repair. A worn or damaged tool can be a liability. Keep cutting tools sharp, and keep the handles on hammers and the like tightened.



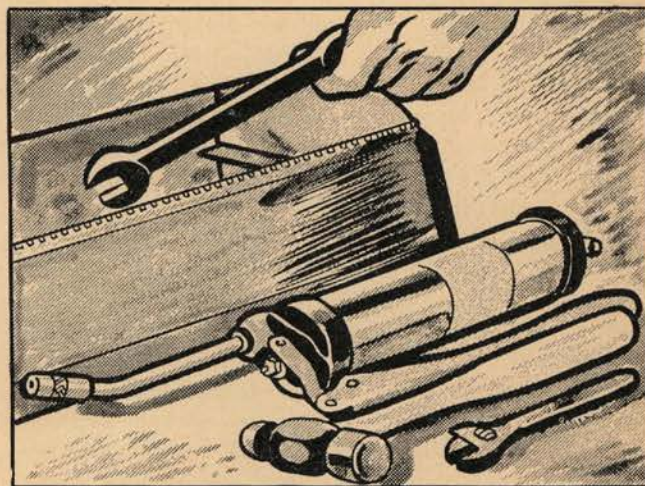
1. Use the **RIGHT** tool. Each tool is designed for a specific job. The wrong tool can result in personal injury, work damage, and tool breakage.



4. Keep tools clean and oiled. Dirty, grimy, rusty tools wear out faster and invite misuse. Apply a light coat of oil if necessary to prevent rust.



2. Use the tool **RIGHT**. Selecting the right tool is not enough. You've got to use the tool right. Be especially careful about using excessive force.



5. Put tools away. If tools are left lying around, they will become lost or stolen. This wastes time and tools, and may result in use of a wrong tool.

Book Reviews

THE MILITARY STAFF: ITS HISTORY AND DEVELOPMENT. By Lt. Colonel J. D. Hittle, U.S.M.C. The Military Service Publishing Co. \$2.00.

This book is unique because it is the first study in our military literature of the development of military staffs. It is specially important to professional officers in the American and British armies, because the intellectual and scientific organization of military staffs in these armies is a comparatively recent accomplishment. It is of particular interest to American officers because of the rapid changes and controversy incidental thereto that occurred in our army during the last 45 years.

It is a book which should be studied and consulted whenever in the future any proposed changes are being considered.

Aside from the personal views of the author, the book contains a lot of information of historical and current value that would be difficult for anyone to find without exhaustive research and exploration into many documents and books, which are not immediately at hand.

GENERAL H. S. HAWKINS.

✓ ✓ ✓

PISTOL AND REVOLVER SHOOTING. By Walter F. Roper. Macmillan. \$2.49.

PRINCIPLES OF FIREARMS. By Charles E. Balleisen. John Wiley & Sons. \$2.50.

PRACTICAL MARKSMANSHIP. By M. M. Johnson, Jr. William Morrow & Co. \$2.50.

Walter F. Roper is a mechanical engineer, specializing in the study of guns and ballistics. He has designed a handgun stock to fit the shooter's hand, and a self-locking micrometer sight for handguns. His book contains a history of small arms, the growth of shooting clubs, the old time experts and the guns they used. Each type of weapon has a special chapter, and there is a chapter on handgun stocks, and one on handgun sights. A section is devoted to instructions on shooting, a description of the rules, customs and methods of scoring, present-day records and ballistic data of ammunition.

Principles of Firearms has been written specifically for engineers and those requiring an up-to-date guide, with charts and diagrams, on engineering fundamentals essential for the accurate analysis, design, and construction of modern firearms. Its purpose, as stated in the preface is "to expound the concept that an automatic firearm is a piece of machinery operating in accordance with well-known laws of physics and hence capable of being analyzed and designed in accordance with common engineering practice."

In *Practical Marksmanship*, Captain Johnson adds another valuable contribution to the literature on firearms.

This book takes up where the military manuals leave off and endeavors to carry the reader through that period of confusion which comes when he leaves the rifle range, qualified in known distance marksmanship, and begins firing on field targets at unknown ranges.

In his introduction to Captain Johnson's book, Major General Julian C. Smith of the Marine Corps says: "The chapters on ballistics, sighting-in and adjusting for range give information not usually included in standard manuals. They describe methods that should prove valuable on occasion not only to the individual shooter, but to the commander of the rifle or machine-gun platoon who must bring effective fire upon the enemy in the ever-changing situations of modern battle."

✓ ✓ ✓

CHINA AMONG THE POWERS. By David Nelson Rowe. Harcourt, Brace & Co. \$2.75.

Dr. Rowe was born in Nanking and lived in China until he began his studies in International Law and Relations at Princeton. Subsequently he did postgraduate work at the University of Southern California and the University of Chicago, as well as at Harvard. In 1942 he returned to China for a short while.

He here presents a serious study of the facts of China's position as a world power: the strength and weakness of its geographical structure, its resources in men and materials, its social organization and economic life. He also suggests how Russia, the United States, and Great Britain can, over the next 25 years, help China to overcome her major problems and become strong enough to assume her proper rôle in far eastern affairs.

✓ ✓ ✓

THROUGH JAPANESE EYES. By Otto D. Tolischus. Reynal & Hitchcock. \$2.00.

The Japanese are considered by Occidentals to be inscrutable, as are most Asiatics. This belief is largely the result of a complete lack of interest in the history, culture, and customs of the Japanese people.

Mr. Tolischus has availed himself of the ample opportunity provided him as a foreign correspondent in Tokyo from 1939 to 1942 to study the mores and tenets productive of Japanese ideology. It is his opinion that most books attempting to explain the character of the Japanese are written from a western point of view and hence becloud rather than clarify the issues. His method of solving the enigma of the Japanese mind is to select portions from their own documents and writings—thus, *Through Japanese Eyes* is an effort to make the Japanese explain themselves. It contains much valuable material, but lack of an index makes specific reference impossible, and the brief extracts make choppy reading.

JAPANESE MILITARISM, ITS CAUSE AND CURE. By John M. Maki. Alfred A. Knopf. \$3.00.

"Our war against Japan has been long and costly in both men and treasure. Yet we still have not revealed clearly that we know what we are fighting for. . . . The lack of a clearly defined set of war aims against Japan has certainly not impaired the fighting efficiency of the armies and the naval and air forces that have been piling defeat after defeat on the Japanese enemy. But as the final defeat of Japan comes nearer and the problems of the peace loom larger, we must have a clearer conception of the nature of the ideas that we are fighting. . . . We shall not have won the war until the peace has been firmly established, and it can be so established only after the crushing of the ideas on which Japanese militarism and aggression are based."

With these statements Mr. Maki prefaces his book on the cause and cure of Japanese militarism.

It would be difficult to find a person more ably suited by birth and background to the difficult task of explaining the problem that faces the American people in the far east. Born of Japanese parents in Washington, Mr. Maki was adopted and reared by American foster-parents, and has spent most of his life studying and teaching far eastern affairs primarily as related to Japan.

Undoubtedly one of the best of the recent studies published on the problems of the Orient, this book is based on a scholar's knowledge, and includes informative summaries of the political and economic histories of Japan. It takes proper cognizance of the fact that the destruction of Japan's present ideology will create a vacuum which must be filled and gives concrete suggestions for the re-education of the people.

✓ ✓ ✓

THE GOVERNING OF MEN. By Alexander H. Leighton. Princeton Press. \$3.75.

Commander Leighton holds bachelor degrees from both Princeton and Cambridge, where he specialized in neurophysiology. After graduation from the Johns Hopkins Medical School, he entered the fields of psychiatry and social anthropology. Called to active duty with the Navy in 1941, he brought with him field experience with the Navaho Indians in the Southwest and the Eskimos in Alaska, and had become a consultant to the U. S. Office of Indian Affairs. This varied experience led to his assignment to the Japanese Relocation Center at Poston, Arizona, to "apply the methods of social science" to that troubled community.

The first part of *The Governing of Men* is a clinical account of the strike at Poston and the attitudes, tensions, and frustrations of both administrators and administered. The relocation camp afforded a remarkable opportunity to observe people under stress. In the second section of his book, drawn from other sources besides Poston, Commander Leighton presents general principles and recommendations.

This book can be recommended without reservation to officers facing problems of civil administration, citizens interested in minority groups and race relations in the United States, and students of public opinion and industrial relations.

The Military Staff

ITS HISTORY AND DEVELOPMENT

By LT. COLONEL J. D. HITTLE, U.S.M.C.
\$2.00

The first complete record (to 1944) of the development of the fundamental brain, bone and sinew of national military efficiency. Ranges in scope from staff beginnings in ancient times to current actualities in the United States, British, French, and German army establishments. No professional soldier, without the exhaustive information assembled by the author and written with a deft, scholarly pen, can obtain a grasp of how the staff progressively came into being and attained its present state of precise, effective functioning. Adequately fills a void in our nation's military bibliography.

Handbook to Army Regulations

By LIEUT. COLONEL WALTER SCZUDLO
Adjutant General's Department, A.U.S.
\$2.50

This book is a combined index, cross-reference guide, and digest of all Army Regulations, WD Circulars and Letters, and other directives in the general field of administration. It is complete, up-to-date, and authoritative. Here, in a single handy book, is the clear and quick answer to every question of procedure. Here, under alphabetical arrangement by subject, is the meat from all pertinent regulations. Over 300 information-packed pages.

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UP FRONT. By Bill Mauldin. Henry Holt. \$3.00.

Acknowledged as one of the outstanding cartoonists of this war, Bill Mauldin now proves himself a writer of no mean stature. The stern realism, unhesitating honesty and grim humor, born of a necessity to laugh rather than an inclination to mirth, mark this book as a milestone in war literature. To the civilian the text will bring a greater comprehension of the cartoons which profusely illustrate the book, and both will go far to create a deeper understanding of the things men don't talk about.

✓ ✓ ✓

THE PATTERN OF SOVIET POWER. By Edgar Snow. Random House. \$2.75.

Edgar Snow is familiar to many readers as the author of *Red Star Over China*, *Battle for Asia*, and the more recent best seller, *People On Our Side*.

Mr. Snow was in Stalingrad when the Germans were halted at the point of their deepest penetration into Russia. He traveled all over the Soviet Union and was one of the American correspondents permitted to visit Poland and the Eastern front. *The Pattern of Soviet Power* is, therefore, the result of serious study and the product of a keen analytical mind. It is definitely not the result of a 6-week observation trip, such as Mr. White engaged in, and from which he attempted to draw profound conclusions in his *Report on the Russians*. Hasty deductions, by men whose experience has been too brief and of insufficient depth to father real knowledge, are an affront to truth as well as a danger to future peace.

It is to be hoped that the American people will avail themselves of the erudite publications now available to acquire a broader and sounder knowledge of the accomplishments and aims, as well as the limitations of the U.S.S.R.

✓ ✓ ✓

MICKEY—THE HORSE THAT VOLUNTEERED. By Carl Glick. Whittlesey House. \$1.50.

Calling all daddies of 4- to 7-year-old boys—or girls for that matter! This delightful story of a strawberry roan who barged into the grey horse Troop "A" of the U. S. Cavalry, and in spite of his impetuosity, managed to stay in the army, will be just the thing for a birthday or Christmas gift.

✓ ✓ ✓

THE UNKNOWN MURDERER. By Theodor Reik. Prentice-Hall. \$3.00.

In 1915 Freud gave Theodor Reik the prize for the best paper on applied psychoanalysis, and throughout 30 years of association Freud considered him one of his most gifted followers.

Without jargon, Dr. Reik explains the contribution that psychoanalysis is making to criminology and wherein it should obviate miscarriages of justice occurring when deductions are made purely from logic or circumstantial evidence. Both crime and psychoanalysis are of considerable interest to many readers, and others than criminologists, lawyers and psychiatrists will find this information of interest.

THE WISDOM OF ISRAEL. Edited by Lewis Browne. Random House. \$3.95.

The man who wrote *This Believing World*, for the layman, the best obtainable book on comparative religions, is eminently suited, as writer and student, to edit this long overdue anthology of Jewish writings.

The Hebraic contributions to literature stretch back over 30 centuries. The ancient writings have become such an integral part of our lives that we too frequently forget that they are Hebraic. The modern works, if not translated, are lost to gentiles, and if in English are accepted without reference to the earlier contributions that have influenced them. Thus we fail to realize that from a literary viewpoint they are as interrelated as English, French and German writings, and extend over a far greater period of time.

To those who love the written word, and are sensitive to its profound influence on every phase of our culture, this anthology will offer an interesting and illuminative experience.

1 1 1

SHEPHERD'S EMPIRE. By Charles Wayland Towne and Edward Norris Wentworth. University of Oklahoma Press. \$3.50.

The hardships, the dramas, and the men involved in introducing this most dependent of domestic animals to the vast areas of the west are presented in *Shepherd's Empire*. It is made clear that without sheep these great reaches could have been conquered and successfully colonized. The whole of the sheep-raising industry from Texas and New Mexico to the islands off California is surveyed, and the personalities of the men behind the flocks, both the present and the past, are sketched vividly.

1 1 1

A. WOOLLCOTT. HIS LIFE AND HIS WORLD. By Samuel Hopkins Adams. Reynal & Hitchcock. \$3.50.

It would be impossible to attempt to explain as complex a personality as Alexander Woollcott. There are two courses open to his biographers: The creation of a monstrous character, fascinating in its improbability, poignant in its nobility, and unbelievably crass and vulgar in its showmanship; or a straight statement of what A. Woollcott did, what he said, and under what circumstances he said it.

Mr. Adams has perhaps wisely chosen the latter method for the first biography of this unique man. The approach produces a most interesting picture of the man and his time with the maximum of fact, rich in nuance. While some future biographer will undoubtedly write a more glamorous book, Mr. Adams will for some time remain the authoritative record of a most unusual life.

1 1 1

DAN SICKLES. By Edgcomb Pinchon. Doubleday, Doran. \$3.50.

The lurid escapades of this rather uncivilized minor major general do not make edifying reading. The author's style is a rare combination of outmoded clichés and a more modern staccato style, better adapted to driving serious points than assembling torrid adjectives.

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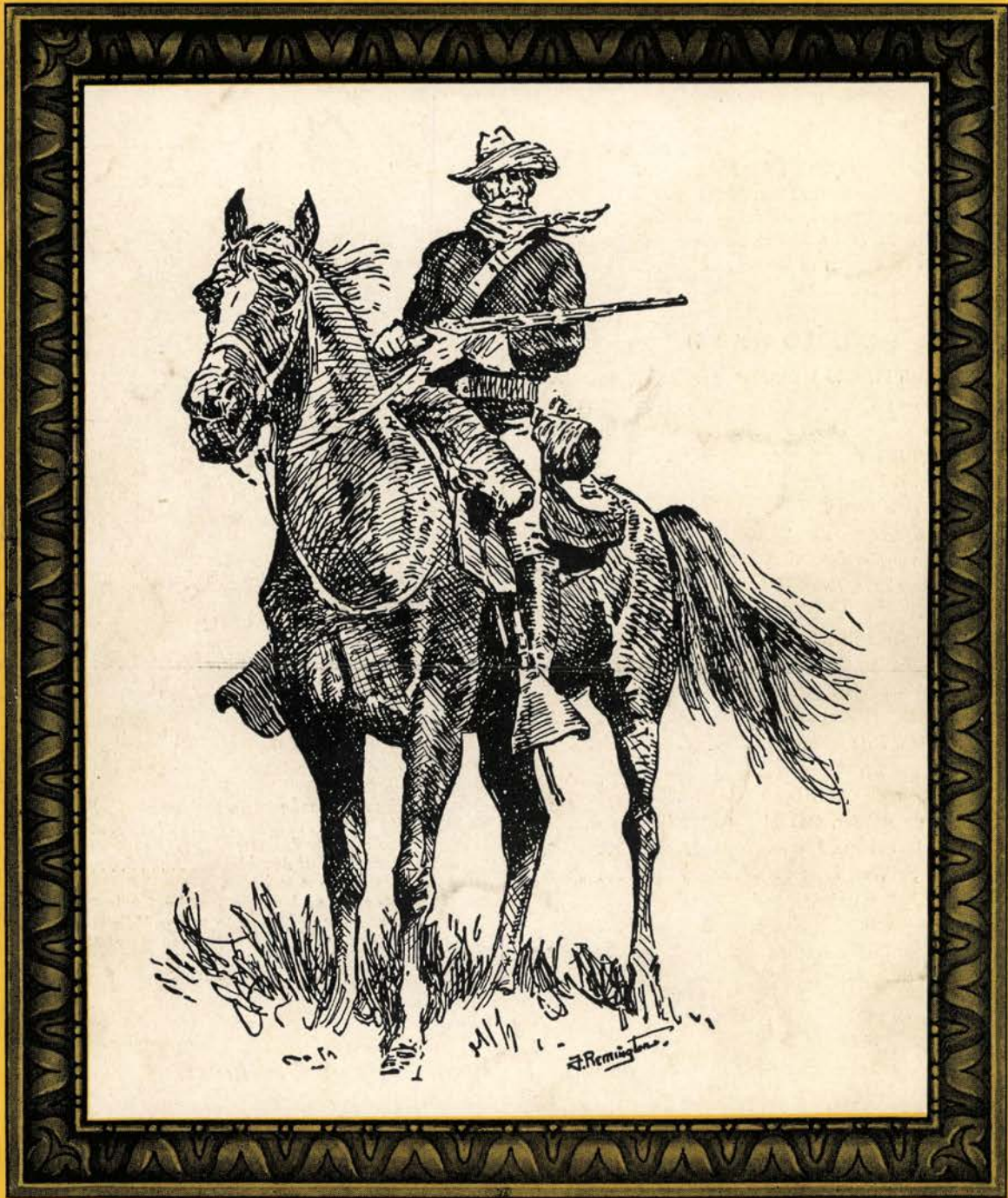
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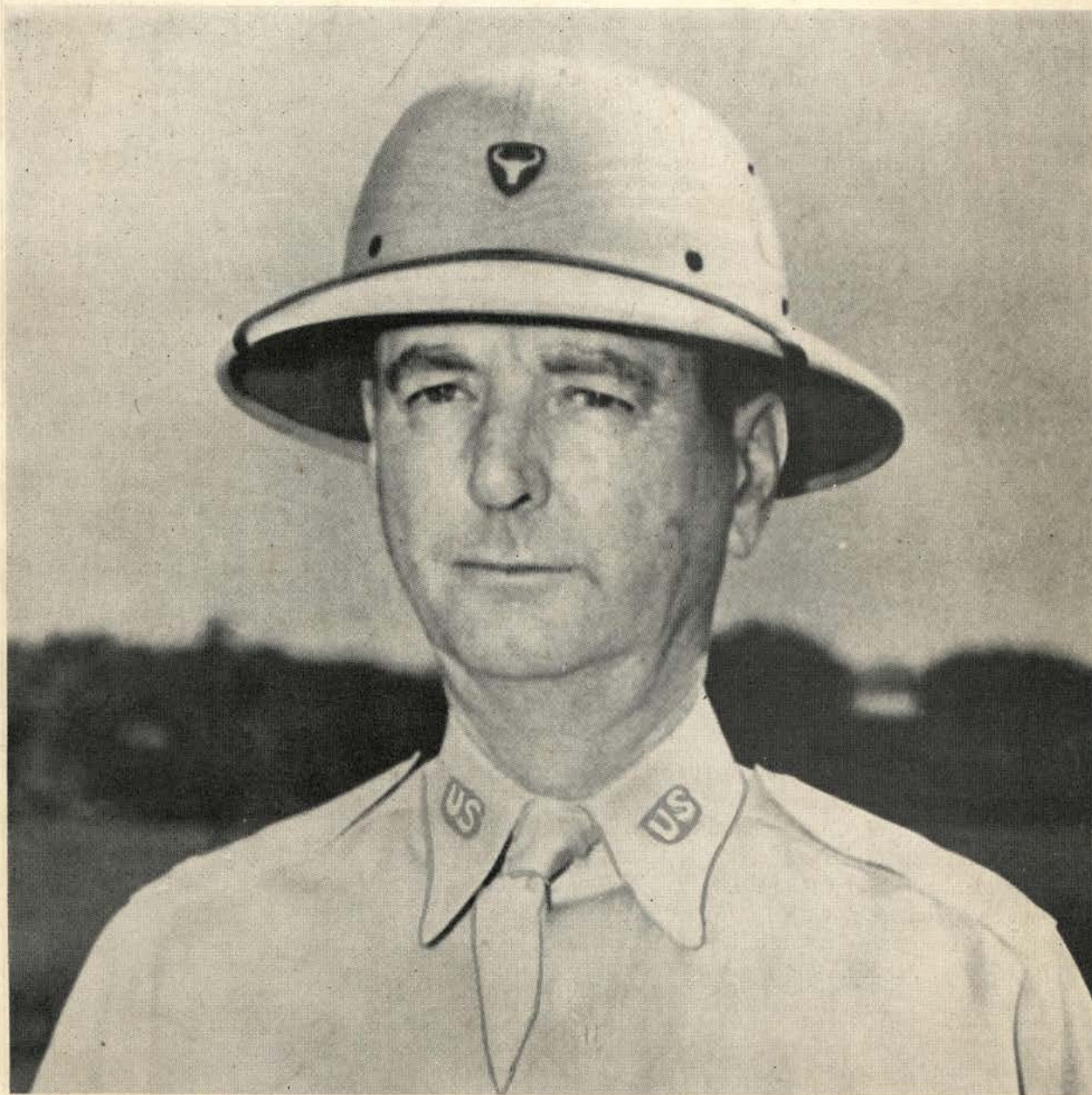
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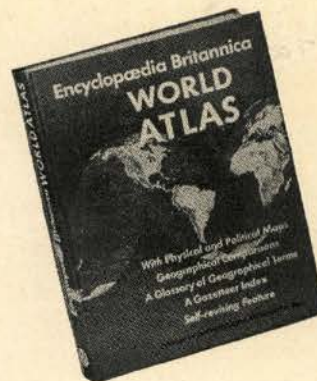
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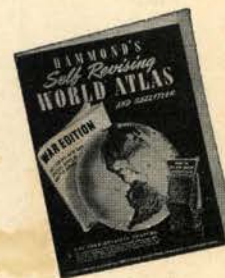
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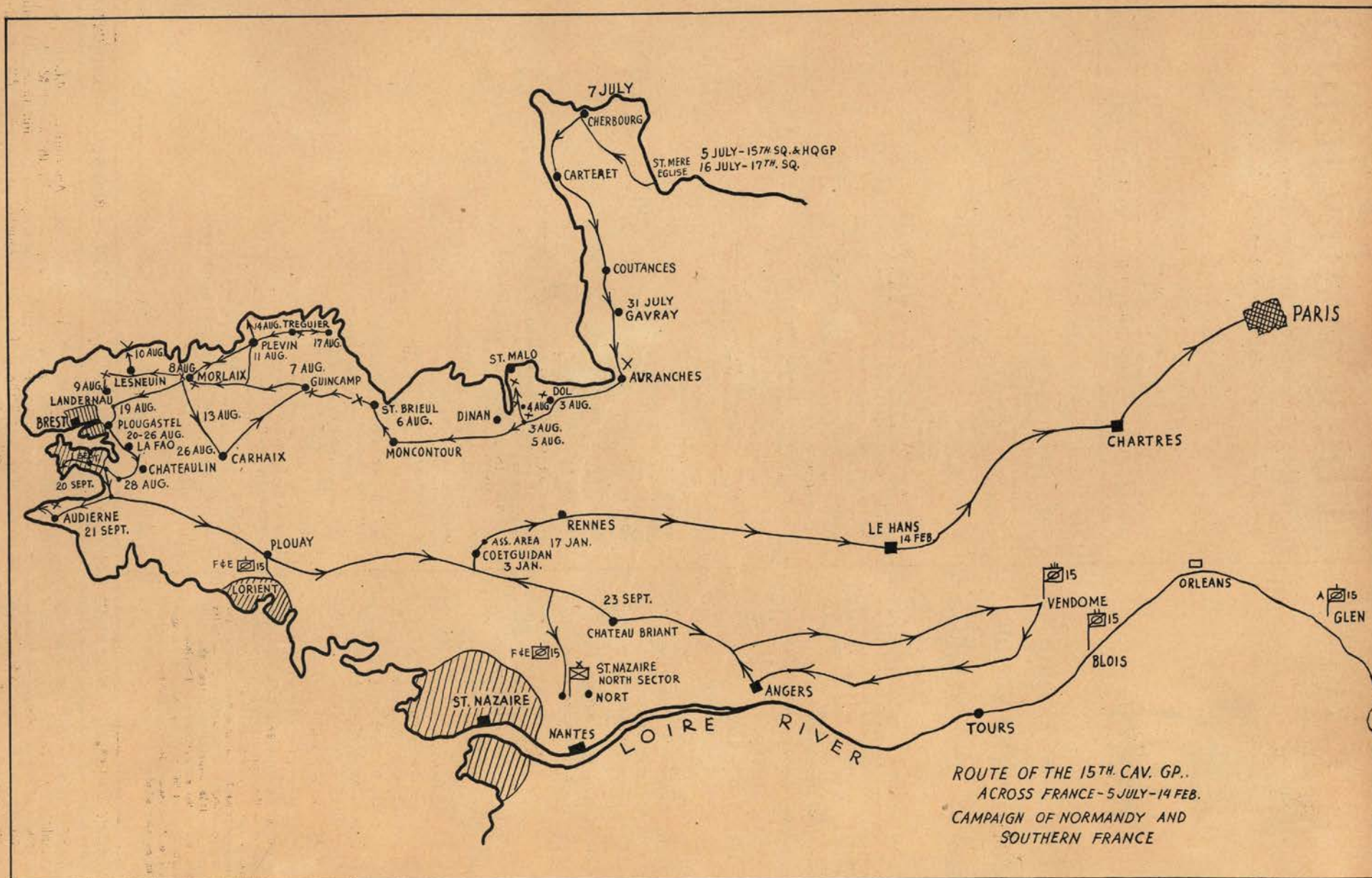
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15th CAVALRY GROUP

PART I

By August 1, 1944, the First United States Army had apparently broken through the German defenses in Normandy and pushed southward along the western coast of the peninsula. The Third United States Army was assigned the task of exploiting this break-through. The 15th Cavalry Group was part of the special task force assigned the mission of cutting across the northern part of the peninsula to secure the vital bridges along the railroad from Brest to Avranches. This is the first of a series of articles covering this action, written by officers of the 15th Cavalry Group, to be published in The Cavalry Journal.

An Ambush in Brittany

AS final plans were made for the break-through after the capture of the Cotentin Peninsula, one obvious problem was presented: this was the Brittany Peninsula. Since access to the planning and strategy of the high level staffs was not available, the problem is considered here from the view of the average officer who was engaged in the campaign.

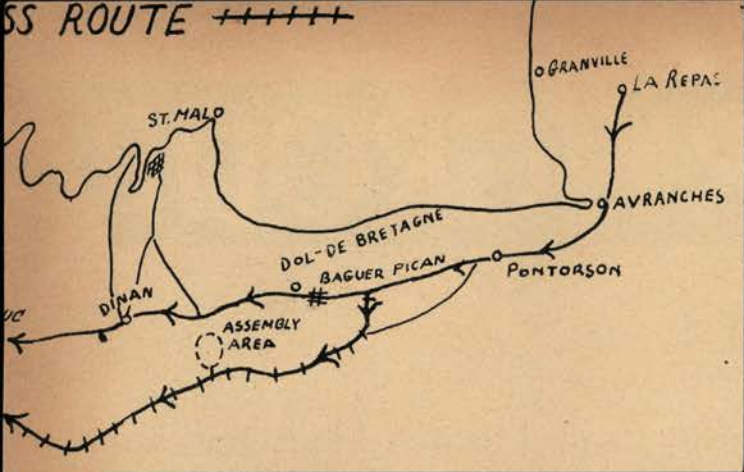
Unless another amphibious operation were to be conducted on the Brittany shores, upon breaking out from the Normandy Peninsula, some forces must fan out to the west as well as the east. The size of the forces would, of course, be determined by the strength of the enemy in the Brittany Peninsula, the state of his organization and defenses, the amount of mechanization, and other factors. Later information indicated a decrease in the German military effectiveness in the peninsula, as evidenced by the fact that the initial assault force consisted of only the VIII Corps, comprising the 4th Armored, the 6th Armored, and the 83d Infantry Divisions, and Task Force A.

Task Force A, highly mobile and strong in armament and armor, was conceived by General Patton, Commanding General, Third Army, only a few hours

before it was born. It was given to the VIII Corps, under General Middleton, who designated General Earnest as its commander. Its formation was undoubtedly the result of late information on the status of the enemy strength in Brittany, which indicated that the northern half of the peninsula was being drained of troops and armor proceeding rapidly to Brest. The one place still expected to be defended was St. Malo. Accordingly, it seemed a good gamble to try to cut the northern half of the peninsula with a comparatively small, highly mobile task force.

The 15th Cavalry Group was assigned to Task Force A on August 1, 1944. In addition to the 15th Group, the task force consisted of Headquarters, 6th Tank Destroyer Group; the 705th Tank Destroyer Battalion; C Company, 159th Combat Engineers; and an engineer Bailey Bridge company. The task force assembled at La Repas, about 20 kilometers north of Avranches, on August 2.

The mission given to Brigadier General Herbert Earnest (now Major General), was to proceed at the greatest possible speed to the vicinity of Brest, along the northernmost route through Avranches, Pontorson,



Dol-de-Bretagne, Dinan, St. Briec, Guingamp, and Morlaix, and drop off small guard detachments to remain at each town until they could be relieved by elements of the 83d Division. A later mission, assigned the afternoon of August 2, required that one troop be detached when the column reached a point south of St. Malo, to make a reconnaissance to determine the extent of defenses and enemy activity around the city. This troop was to rejoin the column upon completion of the mission.

Information from higher headquarters indicated that the 6th Armored Division was advancing on the same route that we were to follow as far as Dinan. After taking Dinan they would turn south and we could therefore expect the route to be clear to that point.

An assembly area midway between Dol and Dinan was to be used by the 6th Armored Division on August 2-3, and was designated as the assembly area for Task Force A for the night of August 3-4. The advance to the assembly area was to be made in one column, in the following order of march: 17th Cavalry Reconnaissance Squadron; Group Headquarters, 15th Cavalry Group; 14th Cavalry Reconnaissance Squadron; Headquarters TFA; 705th TD Battalion; Company C, 159th Engineers; Bailey Bridge Company and Trains; Reconnaissance Company, 705th TD Battalion. Upon reaching the assembly area, final orders were to be issued and troops deployed to advance on the first objective, the bridge at St. Briec.

The head of the column passed the IP at 0130, August 3. During the entire march the group commander rode near the head of the column, and led the advance. The order of march of Troop C, the lead troop, was as follows: 3d Platoon, 1st Platoon; Troop Headquarters, 2d Platoon; Troop E (assault guns).

Just north of Avranches the first enemy activity was encountered when we underwent considerable bombing and strafing by hostile planes. We suffered no losses, but a bomb crater in the middle of the road, plus extremely heavy traffic, held up the column for about an hour and a half. Finally Avranches was cleared and the rate of march gradually increased.

Orders received by the group commander had emphasized that speed was of the utmost importance. This was to be a race to Brest with stripped saddles. In view of that, and the delay at Avranches, coupled with the

fact that the route was considered clear, the Group CO pushed the column along at a speed between 35 and 40 miles per hour. At about 0620, feeling that this speed was excessive, the commanding officer of Troop C called for the leading platoon to slow down the column.

The leading platoon cleared Baguer-Pican, a tiny town about 4 kilometers east of Dol, from which the highway led a long hill flanked on each side by ditches and the usual hedgerows. At the bottom of the hill was a bend in the road with woods on either side. The point, with the group commander in the lead, rolled down the highway at a speed of 35 to 40 miles an hour and was followed by the remainder of the platoon, which kept about 50 yards between vehicles.

As they reached the wooded bend of the road at about 0630 they hit an ambush which apparently was composed of a heavily defended road block, AT guns, mortars and machine guns, and which had dismounted flankers on each side of the road for several hundred yards. The group commander's jeep was hit and burst into flames. The platoon leader was fatally wounded. Those men not killed in the first burst of fire jumped from their vehicles into the ditch. In the resulting confusion it was extremely difficult for the troop commander to regain control. Enemy machine-gun fire raked the column as far back as the Headquarters Platoon. Getting the vehicles off the road was impossible.

The only thing to do was to extricate Troop C, and try to recover the wounded, most of whom had made it to the ditches but were pinned down by fire. The assault guns moved to the crest of the hill and opened fire on the suspected enemy position with smoke and HE. Troop A, which followed Troop C in column, was ordered to cover Troop C while it pulled out and reorganized. The 3d Platoon was short all but three men. At 0900 orders came from task force headquarters to withdraw. The entire column would by-pass to the south on an alternate route.

The exact strength and composition of the enemy force was never determined. The group commander and 4 men were not recovered. It was later found that they had been wounded, captured, and held on the Island of Jersey until released in May 1945.

Later, we learned that the 6th Armored Division had turned off beyond Pontorson and taken a more southerly route. Had this information reached us in time, there would have been a different story to tell.

There is no new significant lesson to be pointed out from this action. It emphasizes strongly the vulnerability of a road-bound mechanized column to an ambush, and illustrates the necessity for a tactical march formation, even when it is believed that the route of advance is clear. Had Troop C been preceding the main body by a half a mile in the approved formation for an advance guard, there would have been enough warning to allow the squadron commander to dispose his squadron in an effective manner, and for the group commander to employ some reserves. It also brings out the fact that the place for the group commander is *not* up with the point corporal.

Group Supply Problems

by Major Glenn E. Font

ON August 1, 1944, the group received orders to gather up 6 days' emergency rations, gasoline and oil for 250 miles, as much ammunition as it could carry, and to pick up and attach "hedgerow plows" to 4 M5A1 light tanks in each tank company.

As sometimes happens, telephones would not work and radio to higher headquarters bogged down, so many Paul Revere rides took place during the night of August 1-2. Ammunition releases had to be obtained, road priorities had to be arranged for, and rations had to be trucked in from Omaha Beach prior to our rendezvous near Avranches with the units that were to make up Task Force A.

By working supply personnel of both squadrons night and day from August 1 through August 3, all necessary supplies were obtained and in readiness for the jump-off, scheduled for soon after midnight on August 3.

As the supply trains moved through Avranches shortly after the jump-off, the column was dive-bombed and strafed by a small ineffective group of enemy fighter-bombers, but there were no casualties.

The problem of re-supply came up the first night after the break-through. In our first engagement with the enemy at Dol, France, we had lost a number of vehicles, men and equipment. Replacements were needed immediately, as our MSR (main supply route) was stretching rapidly, and was none too safe to travel.

On the night of August 3-4 we ran our first supply train back through territory known to be infested with enemy troops who had been squeezed out on each side of the MSR during our speedy advance that day. To defend the train one jeep mounting a .50 caliber machine gun was used in the point, followed by one M8 armored car, and the supply trucks with a .50 caliber on every third truck. (We had not received all of our .50 caliber mounts at that time.) Near the middle of the train was a half-track with one .50 caliber and two

.30 caliber machine guns. The rear of the column was protected by an M8 armored car.

At Pontorson the trains were forced to split up because the various supply dumps were located at different points. The ammunition trucks went all the way back to Omaha Beach to pick up 76mm ammunition for the TDs attached to the task force; the replacement depot for personnel was at Granville; gas and oil was at another place; and replacement vehicles at still another.

After the trains reassembled in the vicinity of Pontorson and returned to the combined trains bivouac (TFA rear), the cavalry decided to run all future supply training during daylight hours to avoid the risk of night ambush and night strafing. The enemy air force was afraid to come up during the day when our air forces controlled the skies.

Supply began to function more or less normally, but day by day TFA was getting farther and farther away from the Third Army dumps. This caused more supply difficulties. Our trains had to go all the way back to the beaches for some of the supplies. During the time artillery ammunition was rationed, just prior to the fall of Brest, it was not uncommon for our ammunition trucks to travel a 500-mile round trip for certain types of artillery ammunition.

The situation was relieved somewhat when a small beachhead was established at St. Michel en Greve and several LSTs anchored with class I and III supplies. This shortened the supply lines for our most urgently needed items: type K and 10-in-1 rations, and gasoline.

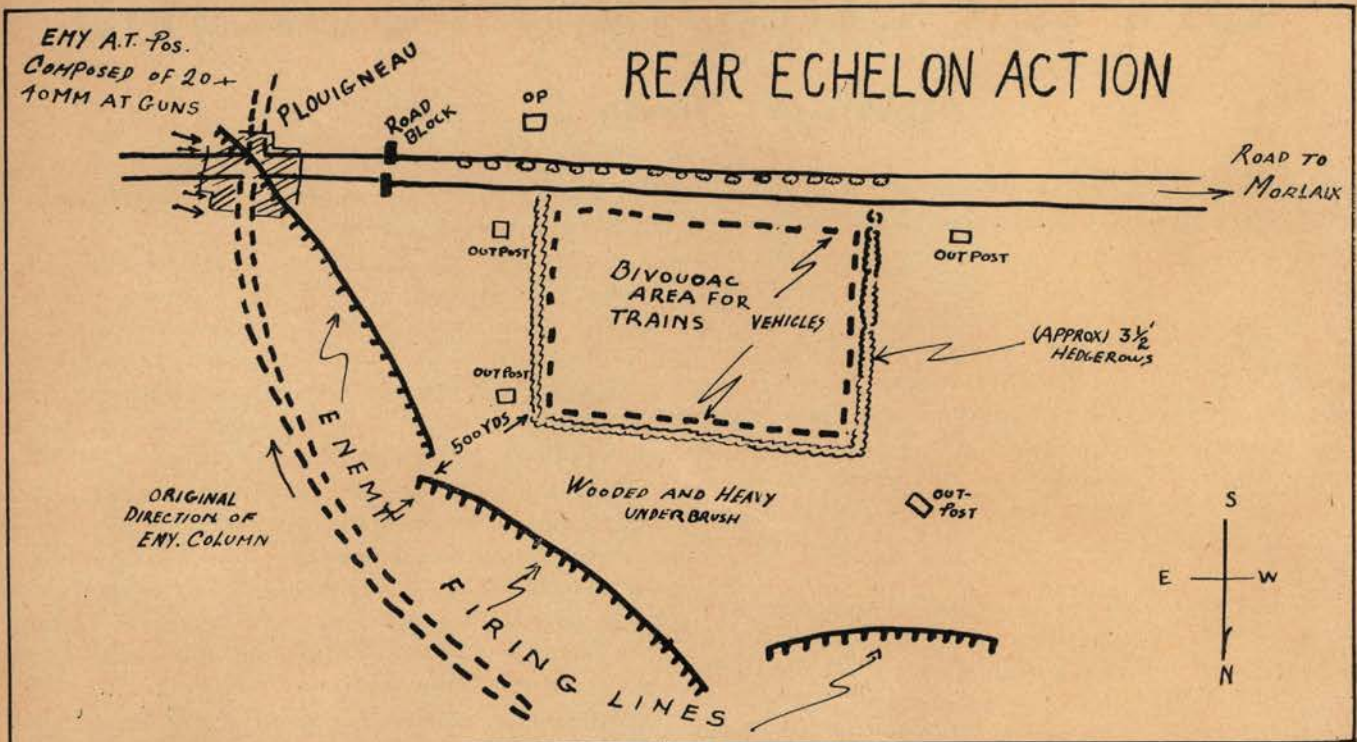
Although the supply was difficult, and nearly impossible at all times, the men were fed, the vehicles were filled, and throughout the operation weapons were never short of available ammunition in the 15th Cavalry Group and attached squadrons.

Trains Have to Fight Too

by Captain Clark R. Larson and Captain Frank C. Horton

WHEN we left Avranches, unit trains in Task Force A were combined to afford better protection from both air and ground attack. With no platoon or section from the combat element attached to our trains, it became necessary to furnish our own protection.

Care was taken to distribute the more heavily armed vehicles along the column, and put an adequate number of vehicles carrying antiaircraft weapons with the lead and tail vehicles. These consisted mainly of half-tracks, two light tanks, which were in each squadron



"A defensive firing line was set up around our area, covered wagon style . . . we returned the fire with all we had."

maintenance section, and three armored cars, which mounted .50 caliber guns. At that time very few of our trucks were equipped with ring mounts.

The first night, before we bivouacked near Epinac, an advance party left the train convoy ahead of time to pick out a suitable area. We continued this practice to make sure that the column could get off the road and go into bivouac under cover as soon as possible, in order to lessen the chances of an air attack upon a halted column. Immediately upon closing in the area, vehicles were camouflaged and security posts organized. We used the tanks, half-tracks and armored cars to establish outposts at strategic points so situated that all-around security would be provided. Crew members rotated the guard duty, but always remained in pairs. Local security was set up within the immediate vehicle area. This became SOP for our train security while in bivouac.

On the morning of August 9, we were bivouacked about 8 miles east of Morlaix, near Plouigneau. The 15th Cavalry Group trains had been detached from the rest of those belonging to the task force. About 0700 we were attacked by a German force moving south across a highway over which the task force had passed only the night before. Because of a heavy fog, we were at first unable to determine the strength and dispositions of the enemy force. Later it was found to consist of more than 200 men and light horse-drawn antitank weapons.

The attack began with harassing small-arms fire and an occasional mortar shell. Fearing that the enemy wanted our supplies more than they did us, our first interest was to save our vital gasoline, ammunition, and

rations. We immediately attempted to move out, but could not because both entrances to the bivouac area were covered by antitank fire.

A defensive firing line was set up around our area, covered wagon style, from which we returned the fire with everything we had. Headquarters was notified by radio, and we were told that help was on the way.

Lieutenant Hall of Troop B, 14th Squadron, brought his reconnaissance platoon through Morlaix and arrived during the fire fight. After reconnoitering he decided to attack by fire in an attempt to neutralize the enemy long enough for our train to evacuate the area. His attack was repulsed but confused the Germans, who switched some of their 20 and 40mm antitank weapons.

Captain Herman M. Marlow, CO of Headquarters Troop, 17th Cavalry Squadron, mounted an armored car and made a dash for the highway leading to Morlaix. He got through successfully and raced on to the outskirts of Morlaix where he contacted a tank platoon from F Company, 14th Cavalry. Details of the situation were given the platoon which informed headquarters of its anticipated actions, and then turned back and attacked full speed up the road, firing as it came.

It knocked out the antitank positions which had been set up at the cross road in Plouigneau, and with its tanks established a road block between us and the enemy. The addition of the tank fire power afforded us the opportunity to move out of the area and to rejoin the remainder of Task Force A trains, situated on the outskirts of Morlaix.

Seizing Strategic Installations

Anonymous

TASK FORCE A had an initial mission of securing key bridges along the Brest-Rennes railroad line, and a secondary mission of mopping up isolated enemy troops in the northern Brittany Peninsula. Without this rail line the port of Brest had little value, since if damaged, several of the bridges were of such length and construction as to require weeks to repair. The mission was ideal for cavalry since it required mobility, surprise, and strong shock action for quickly overcoming the anticipated resistance.

There were three bridges at St. Brieuc, two at Guincamp and three at Morlaix. The FFI already had taken St. Brieuc by the time Task Force A reached its outskirts on August 6, 1944, and all bridges were found intact. As in St. Brieuc, it was found that the Germans had fled Guincamp in great confusion without blowing the two small railroad bridges, and that the FFI was guarding them.

On the night of August 7 the 17th Squadron was given the mission of spearheading the drive on Morlaix, where the three railroad bridges were to be seized. General Earnest stressed the importance of taking the largest bridge intact. It was over a defile 250 feet deep and 200 yards wide. Because of the lack of proper construction equipment, destruction of this bridge would paralyze the Brest-Rennes railroad line indefinitely.

Since resistance so far had been scattered and disorganized, the squadron commander decided to attach to Troop A, which was to lead the squadron, one platoon of light tanks, one platoon of assault guns, and one platoon of men in half-tracks from Troop C for dismounted action. This gave the commanding officer of Troop A a powerful punch with which to overwhelm any road blocks.

The order of march was a reconnaissance platoon, a light tank platoon, troop command section, an assault gun platoon, the dismounted platoon in half-tracks, and the other two reconnaissance platoons.

At daylight August 8 Task Force A left its assembly area near Guincamp, France, and headed for Morlaix on Highway N12. At 0900, just east of Plouigneau, two 40mm guns were located under a railroad trestle, covering the highway. The point immediately pulled into defilade and opened fire. The tank platoon leader came forward and sized up the situation with the reconnaissance platoon leader. Since there were no guns larger than 40mm antitank, it was decided to run two tanks abreast down the road, assigning one to each gun. Six men were dismounted to cover the tanks. The two 40mm guns were quickly knocked out, and the remaining three tanks and the dismounted platoon in half-tracks continued the march.

Dismounted German troops were encountered immediately on the other side of the railroad trestle. The tanks moved up the road firing all guns, and within 5 minutes, more than 70 Germans had been taken prisoner. The tanks kept moving, and within two more minutes ran into the rear of an enemy column and began shooting it up. This column was reported to higher headquarters, which ordered the tanks to halt and display panels marking their location. A call was put in for planes, which arrived within half an hour and began strafing the enemy. At 1030 the column was ordered to advance, and although everyone was on the lookout for the enemy column, it was not contacted again.

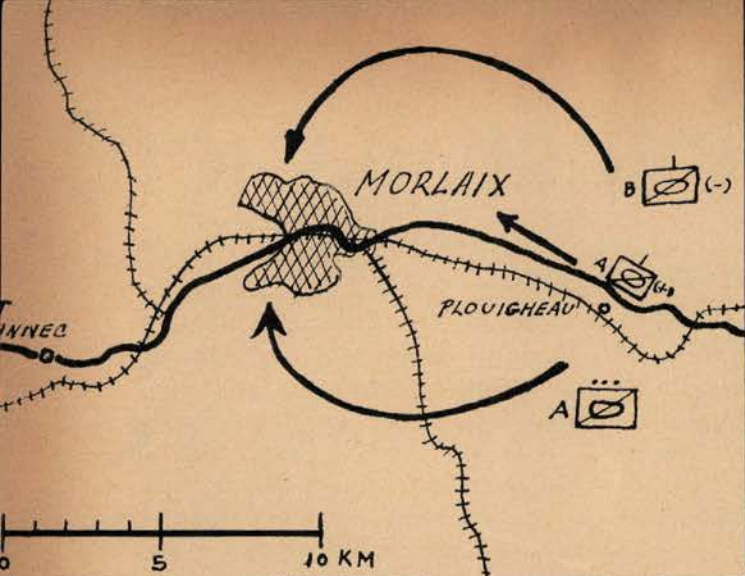
As Troop A passed through Plouigneau, the troop CO was ordered to try to get a platoon into Morlaix from the south along a road that ran parallel to and south of Highway N12. At the same time Troop B, less one platoon, was ordered to move by secondary roads and enter Morlaix from the north. Because of minefields and large antitank obstacles, however, neither Troop A nor Troop B was able to enter the town.

About noon, just as the lead bantam came in sight of the outskirts of Morlaix, it spotted a 20mm gun under a railroad trestle. The bantam opened fire, knocked the gun out, and set it on fire before the Germans could man it. Men of the two lead bantams dismounted and advanced slowly alongside an armored car. This time they spotted a 40mm gun under a second railroad trestle 200 yards down the highway. Just as the Germans were loading the 20mm gun, the armored car opened fire and knocked it out. At this time machine-gun and small-arms fire opened up and pinned down the dismounted men.

The CO of Troop A came forward and reconnoitered. Dismounting part of his 3d Platoon and Troop Headquarters, he had them set up in hedgerows about 200 yards on either side of the column. He then called forward the platoon of tanks and the dismounted platoon of Troop C.

The tanks moved down the road two abreast, followed by the dismounted platoon. They engaged the enemy in a chateau on the right side of the road and along the railroad embankment. The squadron commander realized that the enemy not only had been alerted but was in some strength, and that the bridge might be blown. He called the CO of the attached infantry company, ordered him to move to the railroad embankment and follow it until he reached the big railroad bridge, which was to be held at all costs.

Within 10 minutes the infantry company was moving down the road and by the time it reached the railroad



embankment, Troop A had captured over 270 enemy in and around the chateau and had knocked out the machine-gun positions along the railroad embankment.

Troop A reorganized immediately, mounted up, and moved into town. Sniper fire from buildings along the street caused men in the bantams to take cover, and the tanks were called forward to fire on the buildings. By

this time the enemy was surrendering so quickly and in such numbers that Troop A had all it could do to handle them.

The infantry company met but little opposition and soon had the bridge firmly secured. By 1500 all opposition had ceased and more than 600 Germans had been captured at a cost of two men wounded and no vehicles knocked out.

With a complete lack of information concerning the enemy, it was almost impossible to make a planned and coordinated attack. Our situation, however, was that the enemy troops were disorganized, had very little or no communication, and knew as little about the American forces as the Americans knew about them. This made it advisable for the lead troop to become a small task force, to enable it to knock out the enemy before he could become organized. This proved so satisfactory that it was made SOP for the entire Brittany Peninsula.

The lesson to remember, however, is that when moving against scattered enemy resistance and when neither side knows the whereabouts of the other, the head of the column should be loaded with a hard wallop, in order to overwhelm the enemy before he can organize any resistance.

Cavalry Secures a Beachhead

by Major W. E. Hudson

AT the base of the Normandy Peninsula enemy lines had been punctured and the Allied exploitation phase was in full progress. With advance elements in the vicinity of LeMans, the bulk of the Third Army forces were moving rapidly on the epic sweep through France toward Paris.

The 6th Armored Division, also under Third Army control, had swept westward from Avranches, plunging through the Brittany Peninsula to the outskirts of the port of Brest. The enemy lines, though penetrated, battered, and falling back, were still cohesive, and strong counterattacks were being pressed in the vicinity of Mortain with the ultimate objective of reaching Avranches. This would sever the supply lines of the break-through forces, rendering them immobile and subject to destruction. Should Avranches have been lost, the Allied counter move would have been the establishment of a supply line from some port or beachhead along the northern coast of the partially liberated Brittany Peninsula.

The 15th Cavalry Reconnaissance Squadron, part of Task Force A, which had been mopping up along the northern coast of the Brittany Peninsula since Aug-

ust 3, had just completed a successful day's work. During the morning Troop A, with a platoon of assault guns from Troop E, had completely surprised an enemy force in the vicinity of Plougerneau, taken over 300 prisoners, inflicted heavy casualties and captured many weapons. Other troops of the squadron, not as fortunate as Troop A, had spent the days sweeping their assigned zones. At 2000 the squadron was assembled in bivouac in the vicinity of Lesneven to re-gas and prepare for the following day's mission.

At 2230 on August 10, the commanding officer of 14th Cavalry Reconnaissance Squadron received orders to proceed to St. Michel-en-Greve and to secure the beach area and high ground against enemy attack by 1200, August 11. That afternoon, at least three cargo ships of LST class were scheduled to discharge their supplies across the beaches.

A map study disclosed that the shortest main route from Lesneven to the beach area was Lesneven-Landivisiau-St. Theogonnet-Morlaix-Lannieur-Plastin-St. Michel-en-Greve, a distance of some 70 kilometers. This route, however, would channel the entire squadron on one road, and it approached the beach area from

a flank. Should this access be blocked, valuable time would be consumed deploying and by-passing such an obstacle. Time had become precious, so an alternate was selected.

The squadron would proceed in column to Morlaix, then eastward along the Morlaix-Plougerneau-Belle-Isle-en-Terre highway. Upon reaching suitable secondary routes, south of the beach area, the securing forces would turn north along roughly parallel routes, and proceed in deployed formation to the objective. Three routes along secondary roads were selected for further map study; their pattern was desirable, one route leading to the left flank, one to the center, and the remaining route to the right flank.

A reconnaissance troop with an assault gun platoon attached was assigned to each route. Squadron headquarters, with the light tank company, was to follow the center route behind the reconnaissance force. Objective areas covering the commanding ground around the beaches were also allotted. The necessary order and instructions were issued to the assembled troop commanders at midnight, August 10, and at 0100, August 11, the squadron moved out.

During the initial hours of the road march, intense ground fog slowed the squadron to 5 to 8 miles an hour because of the poor visibility. Road guides had been posted from the leading elements and proved invaluable in preventing elements of the column from taking the wrong turns at critical points.

The over-all distance to the objective had been increased to between 85 and 90 kilometers by the selection of an alternate route. Morlaix was reached and passed in the first light of dawn. A few kilometers farther a halt was called to eat breakfast and receive last

minute instructions. The column moved out on the final phase at 0800.

Inasmuch as the turn-off points from the main east-west route were about three kilometers apart for each reconnaissance troop, the head of each troop column turned north at nearly the same moment, thus moving the squadron column into a line of troops in column formation with the squadron command element following the center troop. Because of the condition of the secondary roads, progress in this deployed formation was consistent but not rapid. Security teams put out by each flank troop were nevertheless hard put to maintain the pace being set by the main body.

Upon nearing the beach area reports of undefended road blocks were received, giving the first indication that the area was either free of enemy or that he had pulled his defense into a smaller ring. Extensive minefields were discovered, but again no enemy fire was received.

The reconnaissance troops searched for by-passes around mined road blocks, and through aggressive action the reports of "on objective" were soon forthcoming. No enemy were encountered although in addition to the minefields, road blocks and barbed wire entanglements, and heavy coastal guns in hillside pillboxes sited to cover the approaches to the beaches were discovered along with adequate numbers of tetrahedron type steel obstacles.

After securing the high ground and reconnoitering the immediate vicinity, including flanks, the cavalry mission was completed. That supplies were being unloaded across the beaches by 1600 on August 11th is sufficient testimony to the success of the operation.

(To Be Continued)

The story of the 15th Cavalry Group will be continued in the November-December, 1945 issue of *The Cavalry Journal* in a series of articles. Stories and authors in the series are as follows:

MECHANIZED CAVALRY IN DISMOUNTED ACTION	<i>by Major William R. Kraft</i>
MOPPING-UP AN ENEMY POCKET	<i>by Lt. Colonel Garrett J. Dobbins</i>
ASSAULT GUNS IN DEFENSIVE ACTIONS	<i>by Captain Edwin E. Lassen</i>
CAVALRY AND INFANTRY AT ST. MALO, <i>by Lt. Colonel Garrett J. Dobbins and Captain Thomas Fiori</i>	
RECONNAISSANCE OF AN ENEMY POSITION	<i>by Captain James N. McGuire</i>
THE 17TH SQUADRON HOLDS A RIVER LINE	<i>by Major Morton McD. Jones</i>
THE GROUP RELIEVES AN ARMORED DIVISION	<i>By Major Herman M. Marlow</i>
BRITISH-AMERICAN CONTACT	<i>Anonymous</i>
THE 15TH SQUADRON HOLDS A RIVER LINE	<i>by Major W. E. Hudson</i>
A NIGHT PATROL IN THE SIEGFRIED LINE	<i>by Captain Norman F. Rolston</i>

Mechanized Cavalry Group

AS the XIX Corps, spearheaded by the 113th (Red Horse) Cavalry Group, drove generally east through Belgium and into Holland, the first obstacles of one of the world's most formidable defense systems were encountered and outflanked. The Corps crossed the Maas River at Liege, Vise and Maastricht, then struck northeast to beyond Gulpen and Valkenburg, Holland, thence north to Sittard, Holland, and then east to Gilrath, Germany. In this area the long drive lost momentum. The first defenses of the Siegfried Line had been reached, and the left flank of the First U. S. Army was left uncovered. Thus the stage was set for the forth-coming rôle of the 113th Cavalry Group.

In one of the longest cavalry dashes in modern history, the Group had fought its way from the Seine River to Maastricht, a distance of 225 miles in 9 days. In conjunction with the 2d Armored Division and the 30th Infantry Division, it had cleared the area bounded by Maastricht, Valkenburg, Heerlen and Sittard, and elements of the Group had crossed the German border.

On September 19, the Group CP was at Hoogeruts. The Group then was comprised of the 113th Cavalry Reconnaissance Squadron, commanded by Lieutenant Colonel Allen D. Hulse, which was assembled southeast of Maastricht; also Company B, 82d Engineering (C) Battalion, less two platoons. Company A, of the 803d TD Battalion, was in Corps reserve. Four days earlier, the 125th Cavalry Reconnaissance Squadron, commanded by Lieutenant Colonel Anthony F. Kleitz, had been attached to the 30th Infantry Division to protect the division's right flank, and to maintain contact between it and the left unit of the VII Corps. For this assignment the squadron, less Troop B, had been reinforced by two platoons of engineers, and a TD company less one platoon.

MISSION

About midday, the Group commander received orders to relieve elements of the 2d Armored Division by moving north and taking over a portion of the Corps' left flank along the line Berg-Sittard-Gangelt, between the Maas River and the Holland and German border. (See sketch No. 1.) The Group was to be reinforced by a light tank battalion (less one company), an engineer combat battalion, and a company of TDs.

For this key defensive mission, with its wide frontage and terrain which favored the enemy, it was directed that maximum use be made of road blocks and mine fields.

PLAN

The Group commander's plan for executing the defense was as follows: Employed on the west would be the 113th Cavalry Reconnaissance Squadron (less Troop A and one platoon of Company F), and rein-

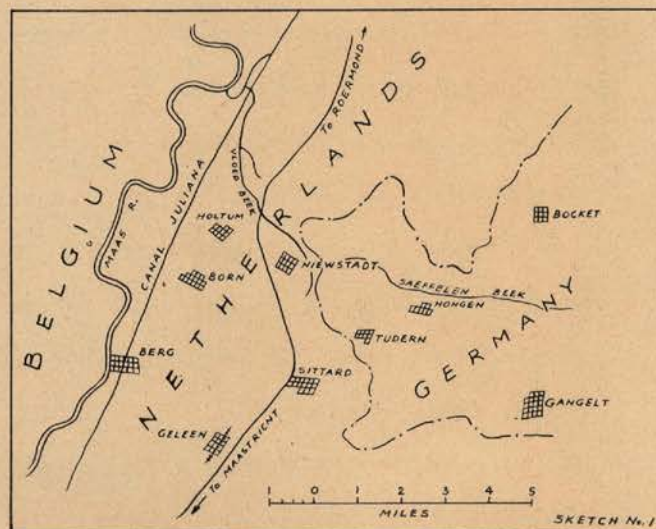
forced by a platoon of Company A of the 803d TD Battalion, and by Company B of the 246th Engineer Battalion. Employed on the east would be the 744th Light Tank Battalion, commanded by Lieutenant Colonel Richard J. Hunt (less two companies), and reinforced by Troop A, 113th Cavalry Reconnaissance Squadron; Company C, 702d TD Battalion, less one platoon; and by Company C, 246th Engineer (C) Battalion. The engineer company attached to each unit would be used as infantry, and engineering work would be the duty of the engineers in the Group reserve. Group reserve was comprised of the 246th Engineer (C) Battalion (less two companies); Company B, 82d Engineer (C) Battalion (less two platoons); one company of the 744th Light Tank Battalion, and one platoon of the 702d TD Battalion.

Orders were to dig in armored vehicles, dismount automatic weapons, establish mortar positions, and to prepare range cards for all fixed weapons. (See sketch No. 3.)

Considerable difficulty had been encountered in assembling such a conglomerated force, and darkness came before the relief was completed on the right. Fortunately, the 2d Armored Division elements were able to remain in position until well into the following morning. In addition the 92d Armored Field Artillery Battalion was ordered to support the Group for 8 days.

On September 20, engineers with bulldozers began to dig in the armored vehicles for hill defilade. Work was also begun to establish road blocks, mine fields, and other obstacles. Aggressive reconnaissance then was initiated to the north to establish contact with the enemy.

The following day, September 21, orders were received from the XIX Corps to extend the Group's sector



Map 1

p in Defense

CARDED

by 1st Lieutenant Robert M. Batley*

of responsibility to the east to include the town of Gangelt, Germany. Company G, 66th Armored Regiment, of the 2d Armored Division, and Company C, 234th Engineer (C) Battalion (which was mounted on tanks and had been trained to fight as infantry), were attached to the Group for defense of the extended sector.

In its new sector, the 113th Cavalry Group, reinforced, was defending more than 9 miles of the Corps' flank, thus causing wide intervals between strong points.

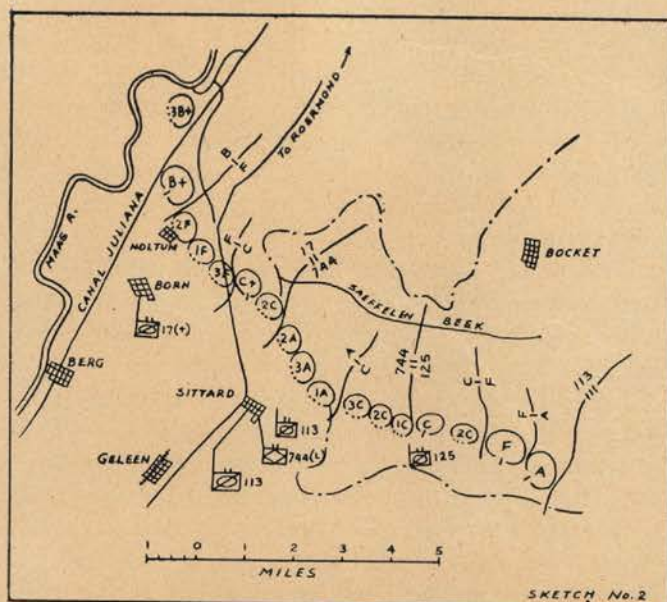
XIX Corps was preparing for the operation to breach the Siegfried Line, on September 29. As a diversionary effort, the 113th Group was ordered to assume an offensive attitude on September 28 with special emphasis on its left, along the Maas River toward Roermond. Prior to that time, the 246th Engineer (C) Battalion and Company A, 803d TD Battalion, were to be detached.

RECONNAISSANCE

Before the order was received, reconnaissance had shown Nieustadt was strongly held by the enemy, but that west of the town, the defense was lighter. East of it in Germany the enemy was disposed generally along the high ground north of Saeffeler Beek. Some indications of withdrawal had been noted on the west, although in general the enemy appeared to have considerable artillery support and to be capable of strong resistance.

The 744th Light Tank Battalion was assigned the main effort, and was reinforced by the remainder of the medium tank, and the mounted engineer companies.

*113th Cavalry Group (Mecz).



Map 2

The 113th Squadron simultaneously was to execute a mounted harassing action in its sector.

ATTACK

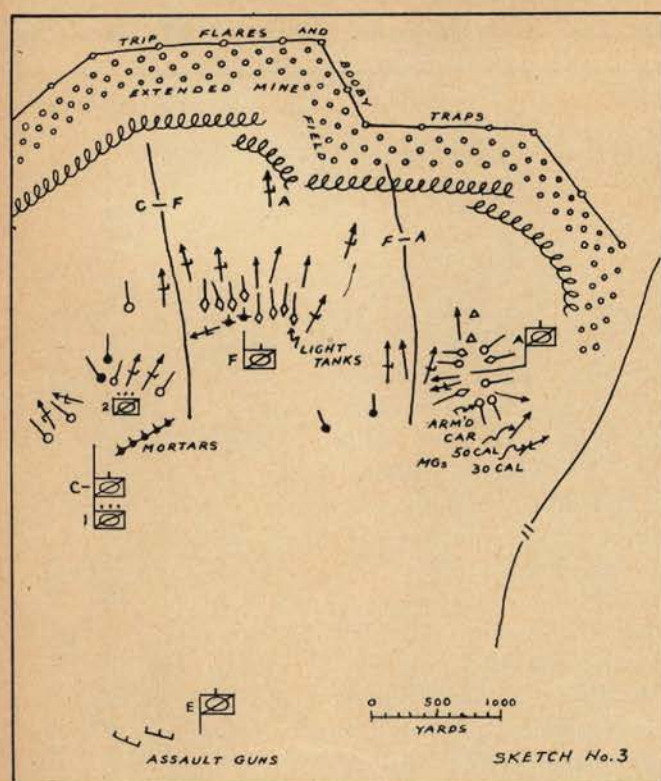
The attack opened as planned at 0700 hours, September 29 and progressed well to the left. Nieuwstadt was taken, and by night a line running generally along the Vloedbeek Canal had been established. By this time the 113th Squadron had forced a bridgehead over Saeffeler Beek, near Isenbruch, and was holding it in the face of heavy artillery, mortar, and small-arms fire. The following day the Group was attached to the 29th Infantry Division, for its general offensive October 2. It was planned to have the 113th Squadron enlarge its bridgehead, then wheel to the northeast; the 744th Tank Battalion to follow the 113th through the bridgehead, then attack north and northeast; the 125th Cavalry Reconnaissance Squadron was to rejoin the Group on September 30 to follow the 744th Tank Battalion, and then operate to the left of the Group, with its flank on the river. (Company C, 66th Armored Regiment, to be replaced by Company C, 747th Tank Battalion.)

The attack was launched early October 2 and was resumed again the next day. The 113th Squadron reached Saeffeler Beek, opposite the town of Havert, but the planned objectives could not be accomplished because of losses in personnel and vehicles. So on October 3, the general offensive effort of the division was discontinued. The following night the Group resumed the defense of its sector, extending 8 miles from Gangelt to Roosteren. (See Sketch No. 1.)

RETURN TO DEFENSE

The three units of the Group now were disposed abreast from the right in the following order: 113th Cavalry Reconnaissance Squadron, 744th Light Tank Battalion, and the 125th Cavalry Reconnaissance Squadron. One reconnaissance troop of the 113th Squadron was attached to the 744th Tank Battalion. The Group reserve consisted only of one platoon of tanks of Company F, 125th Squadron. Each unit was able initially to keep a small reserve of one platoon, but later it was slightly increased by regrouping. Artillery support was excellent, varying from two to 5 medium and light battalions. The assault guns of all three units proved invaluable in indirect fire rôles, especially since artillery ammunition was limited. Detailed defensive fires of all types were prepared; and extensive mine fields and wire obstacles were erected by supporting engineers. (See sketch No. 2.)

Aggressive patrolling was SOP, but because of the enemy's excellent observation this activity was limited to the hours of darkness. Much information concerning the strength and dispositions of the enemy was gained



Map 3

by patrolling and by the use of OPs during the day, and listening posts at night.

Early in November, the 17th Cavalry Reconnaissance Squadron, 15th Cavalry Group, was attached to the 113th Cavalry Group; and the arrival of the fourth unit made it possible for the Group commander to initiate rotation for troops. The 17th Squadron relieved the 125th Squadron which, after a week in reserve, relieved the 113th Squadron. Before the 744th Tank Battalion could be relieved, however, the Guards Armored Division of the 30th British Corps took over the sector, and November 12 the defensive mission of the 113th Cavalry Group came to an end.

COMMENTS

As a summary of the weeks of defense in the vital Sittard area, it is well to note, first, that a mechanized cavalry group, with reinforcement and support, was able to defend a 9½-mile line for 6 weeks; second, that the experience and ability of cavalymen in dismounted patrolling kept the enemy well back of his MLR, and all but nullified the efforts of his patrols.

The 113th Cavalry Group throughout this defensive action suffered comparatively few casualties, and through rotation, was able to effect maximum rehabilitation under field conditions.

The greatest need during this defensive action was for more ground troops—for use on patrols, for the protection of combat vehicles, and for other purposes.

Lastly, it was shown that in a situation of this kind the organic assault guns of the cavalry are indispensable when used in an indirect fire rôle

Yanks Met Cossacks in Historic Link-up*

(Sergeant Ed Cunningham, Yank staff correspondent was with the First Army to report the meeting of the First Army's 69th Division with the 58th Guards Division of Konev's First Ukrainian Army.)

A 28-MAN, 6-jeep patrol of 69th Division Yanks, under the command of First Lieutenant Albert Kotzebue of Houston, Texas, and his platoon sergeant, T/Sgt. Frederick Johnston of Bradford, Pennsylvania, and a Russian cavalry patrol made the first link-up between the Eastern and Western Fronts. The meeting took place on a hill outside the village of Zauwitz just before 1330 hours on April 25.

The jeeps roared up the hill smack into the middle of a group of hard-riding Cossacks who were patrolling the area in search of stray pockets of German resistance. Both units recognized each other so there was none of the confusion that attended later meetings.

The Cossacks detailed a Russian civilian to guide Lt. Kotzebue and his men to where the CG of the Russian division was waiting to greet them on the other side of the hill. Then they galloped off.

The American patrol crossed the Elbe in jeeps ferried on a platform raft and fell headlong into a lively Russian celebration.

A Russian major who spoke a few words of English set the tone of the celebration with a toast. "Today," he said, "we have the most happy day of our lives. The years 1941 and 1942 were a most difficult time. Germany was at Stalingrad. It was the most difficult time of our lives. At that time we do not think of our lives; we think of our country."

Major Fred Craig of Friendship, Tenn., and Second Lieutenant Thomas R. Howard of Mississippi, were in command of the second patrol to meet the Russians. They made contact at 1545 April 25 at Clanzchwitz with a column of Russian cavalry.

The Russians galloped across an open field to meet them, throwing their helmets in the air. Major Craig was ferried across the river and taken back to the Russian corps headquarters to meet the lieutenant general commanding.

The major and his men had two meals with the Russians, one at 1900 and one at 0930 the next morning. Once again there were toasts and mutual greetings. The Russians had several cameramen and correspondents on hand to record the meeting and seemed sorry we did not have any of our own. The general told the major he was sending a message direct to Stalin to inform him of the meeting. The Russians and Yanks fired each other's weapons and criticized them. Red Army men found our M1 too heavy for their taste but liked our carbine and .30 caliber machine guns.

*From *Yank*, June 1, 1945.

WE MET THE RUSSIANS

by Lt. Colonel Anthony F. Kleitz*

THE war was apparently over for the 125th Cavalry Squadron. It was to be relieved on April 28, 1945, from maintaining an active defense along the Elbe River, where, with the 83d Reconnaissance Troop attached, it had outposted and patrolled part of the west bank in the 83d (Thunderbolt) Infantry Division's sector.

The squadron's future rôle brightened early in the afternoon, however, when it was assigned the mission of contacting the Russians the next day.

Instructions were given by Major General Macon, commanding the 83d Infantry Division to "Contact the Russians with as few casualties as possible. Do not get into any big fights, and by-pass resistance which cannot be easily overcome. A limit of reconnaissance will be given."

Troop commanders were given their final instructions, which included a report on a German division assembly area near Zieko (see map); the latest Russian positions; and possible routes for the mission. Troop A, with a platoon of M24 light tanks and a platoon of M8 assault guns attached, was to follow the Red route, and by-pass to the north if necessary. Troop C, with similar attachments, was to use the White route, and by-pass to the south.

The squadron crossed the Elbe on April 29, and at 0700 Troop C, commanded by Captain Adolph C. Ploehn, left the last infantry outpost at Zerbst, and was on its way.

Troop A, commanded by Captain Samuel M. Lindsay, followed and moved on to Rossau. Leading the troop column was the 3d Platoon, commanded by Lieutenant Robert O. Bradley, followed by Lieutenant Gibson's platoon of tanks, the 2d Platoon, commanded by Lieutenant Jeremiah J. O'Donnell, a platoon of assault guns and troop headquarters. The assault guns were placed to give either indirect fire or "thicken" the direct fire of the tanks. The 1st Platoon of Troop A served as the rear guard, and if the column was held up, it was to start looking immediately for a by-pass to the north.

Troop A met no resistance until it neared Rossau, where a small enemy force was covering a mine field on the main road. The enemy withdrew after a sharp fire fight. The 1st Platoon, however, had already discovered a by-pass, and after marking the mines for squadron headquarters, which was using the route, the troop moved into Rossau. A brisk fight around the railroad station netted 200 German PWs, so a detail was left to guard them until squadron headquarters could take over.

Troop A then pushed on a mile east of Rossau, where it overran an Allied PW camp and liberated 800 French and British soldiers. Continuing east, it cap-

tured 200 prisoners, most of whom were Hungarians, and sent them back to the cage at Rossau.

The woods were becoming quite dense, and since the vehicles were canalized, Lieutenant Bradley dismounted as many men as possible and had them fan out ahead of the leading vehicle. This slowed down the column's speed to that of foot troops, but it reduced the possibility of an enemy ambush. The tactics paid dividends, because the leading platoon began to round up many Germans who had pulled off the road and were setting up defenses around the numerous *panzer-sperres*.

Shortly afterwards, the troop overtook a patrol of 10 Hitler Youths riding bicycles, each of whom carried two *panzerfausts*, or parts of a light machine gun. The impatient machine gunner in the lead peep commenced firing and the enemy took cover along the roadside, where a short fire fight ensued. Our fire was lifted, and under the protection of covering guns, the youths, two of whom were badly wounded, were rounded up.

The enemy was alerted by this action, and west of Klieken the leading platoons ran into heavy fire from machine guns and *panzerfausts*. Because of the dense woods only minimum fire could be brought on the enemy, and casualties were heavy on both sides. In a few minutes our casualties were three officers, three enlisted men, two tanks, and one peep. Wounded were recovered under a heavy cannister fire from the attached assault gun platoon.

The resistance was more active than any previously encountered, and it appeared to come from a sizable outpost force at Coswig. Troop A was therefore ordered to withdraw to Rossau, replace its tank platoon with a fresh one, and then move north and east, to by-pass the resistance believed to be at Klieken and Coswig.

Meanwhile, Company F, less 2 platoons, as part of squadron reserve, had cleaned out a large German military hospital and engineer training post on the north-east edge of Rossau. After several instances of determined enemy resistance, our tanks rounded up more than 600 PWs.

An SS captain who had two artificial legs was in charge of the hospital. He had locked himself in a room, but when the door was broken in he caused no trouble and asked only to be moved out before the arrival of the Russians. He remained in charge, however, while our troops moved on.

A German lieutenant was captured who stated that his tank and crew were at Thiessen and wished to surrender. He said, however, that between us and his tank were German soldiers who would not let Americans pass. This incident was climaxed the next day when

*Commanding 125th Cavalry Squadron.

one of our medical half-tracks took the wrong road in the dark, and ended up in Thiessen. It returned with a Panther tank and crew, and about 100 willing German PWs. The tank was full of ammunition and gas, and in excellent running condition except for one motor which missed occasionally. The Panther obviously had seen hard action—it was heavily scarred from battle, and rings on its gun barrel indicated a bag of 7 Allied tanks and 5 Allied antitank guns—a very fair score.

In the meantime Troop C had broken out of the bridgehead. The order of march was 1st Platoon in command of Lieutenant Bierman, the tanks, in command of Lieutenant Earl T. Zelle, and the 2d Platoon, led by Lieutenant Glenn R. Murphy. The assault guns and troop headquarters followed. The 3d Platoon, commanded by Lieutenant Charles E. Barrett, acted as rear guard.

Although capturing 25 prisoners en route, the troop encountered no resistance, and took Muhlsdorf without a fight.

Continuing on through heavily wooded terrain to the approaches of Streetz, where a civilian reported that a company of Germans was dug in, the 1st Platoon met small-arms fire from the left flank. It moved on the enemy positions, with tanks deployed in the fields, and the armored cars firing from the road. A dismounted section entered and cleared out the buildings. The 2d Platoon moved up and established road blocks at the road junction northeast of Streetz. At 0830 the town was cleared and 45 prisoners captured. By monitoring the radio, the troop kept posted on Troop A's fire fight in Rosslau.

Troop C (less the 2d Platoon, which remained at the road blocks) then moved on Muhlsdorf, where the 1st Platoon seized the Rossel River bridge, and captured 25 more prisoners. The 2d Platoon rejoined the troop a short time later and, with prisoners mounted on all available vehicles, moved south to contact Troop A at Rosslau, where a PW cage was being set up by squadron headquarters. It drew small-arms fire at Meinsdorf, so moved cross-country to by-pass the resistance. In

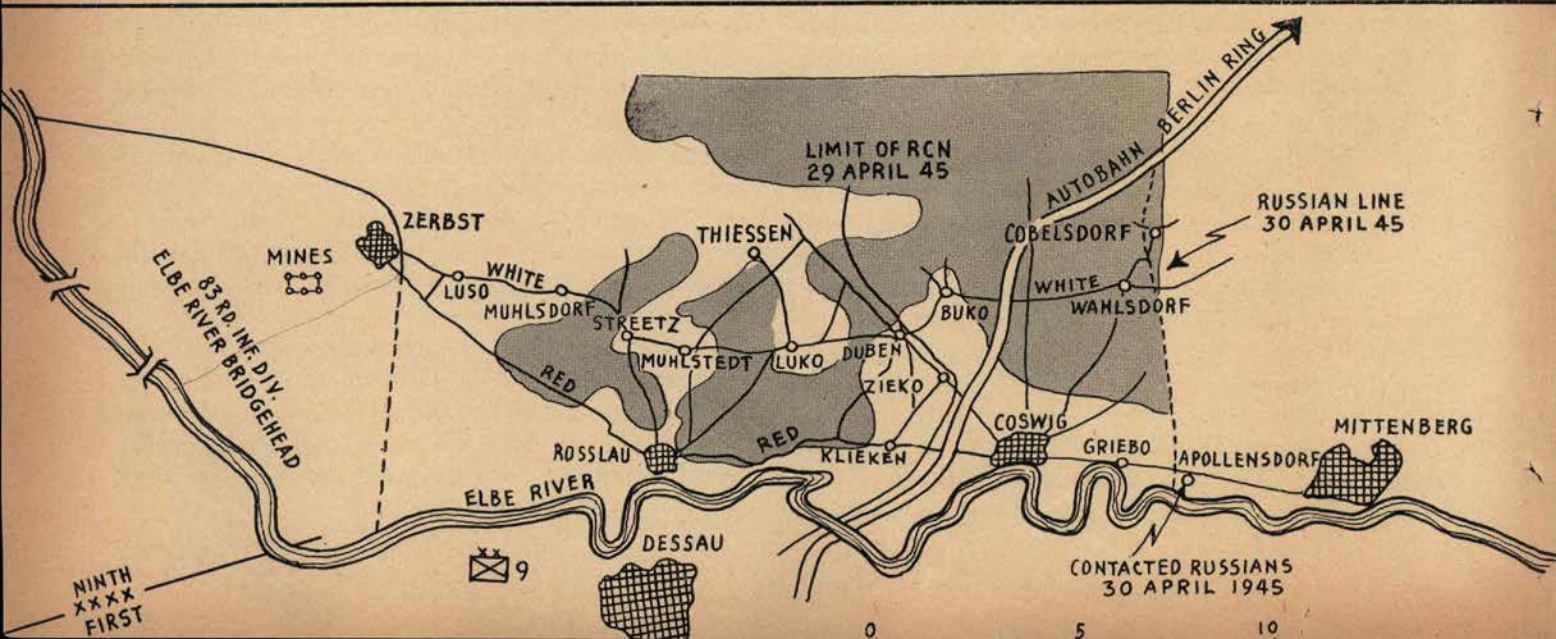
crossing through a wooded area 40 more prisoners were captured and left at Rosslau. The platoon then rejoined the troop, moved out again, and crossed the bridge toward Luko along a heavily wooded route.

After clearing the woods, the tanks again deployed and entered Luko from the northwest, as the 1st Platoon, continuing on its axis, entered from the west. Twenty-four prisoners, including an unknown number of enemy wounded, were taken. By 1500 Luko was cleared and the troop continued toward Duben, with tanks deployed on the right flank and the assault guns, with a supported platoon, on the left flank.

As the 1st Platoon reached the high ground west of Duben, it received small-arms fire. It observed several horse-drawn wagons, approximately 30 trucks, and other camouflaged equipment in the woods on the left flank. Armored cars were deployed to fire on targets and also to cover the wooded area. The tanks came forward to fire directly into the town, and the assault guns, on the left flank, moved to high ground north of town to cover the two main roads running east and southeast out of Duben, in order to prevent the enemy from gaining the high ground to the east. After an hour of fighting, enemy white flags went up in Duben, and a German officer came forward to surrender. Troop C immediately moved into the town and took 550 prisoners. The 1st Platoon outposted the two main roads out of Duben, and radioed back that the town was clear of enemy snipers.

The 2d Platoon then came up to relieve the 1st of its outposts, to guard captured prisoners, and to protect the troop's left rear flank. The troop was again reorganized in order to care for enemy casualties, and to replenish ammunition. The discovery of such enemy strength confirmed previously received G-2 information that this was the assembly area for what was believed to be the remnants of the Scharnhorst Division. These enemy units, facing the Russians, were surprised to discover such aggressive action as ours at their rear.

The 1st Platoon continued the march to Zieko to reconnoiter and outpost the autobahn (a German super



highway). Upon arrival at the outskirts of the town small-arms and indirect antitank fire was received from an enemy road block. The column deployed, with a tank platoon on the right flank, and the assault guns in platoon battery on the left. (The assault gun platoon was to cover the advance of the 1st and 3d Platoons by firing on the enemy road block. As soon as the dismounted elements of the 3d Platoon were 100 yards from the road block the fire was to be lifted 500 yards higher into the town.)

The 3d Platoon moved through Zieko dismounted, and the 1st Platoon outposted the town. Approximately 750 prisoners, 15 command vehicles and 14 supply vehicles were captured intact.

At this time a cub plane from the 83d Division Artillery reported that an enemy antitank gun was firing on our troops in Zieko from a position just east of the autobahn. A short time later the Germans started shelling the town and by 1700 the artillery fire was so heavy that Troop C was ordered to fall back and outpost Duben.

As soon as Troop A had been reorganized, a tank platoon from Company F was attached and the troop was ordered to move northeast to Buko, thence east toward the Coswig road. Should the road be clear, the troop was to pick up an engineer platoon in Ross-lau and reduce the road block west of Klieken, which had barred its progress earlier. SCR-610 receivers were issued to enable it to hear reports from the cub plane, and the troop left Duben for Buko.

Just east of Buko it captured the wagon trains of Battalion "Oest," composed of SS men. It was believed that they had formed part of the defenses of Berlin, and had been slightly displaced because of the Russian advance.

The troop moved on to the autobahn without encountering resistance, but found that all the overpasses to the south had been blown up and no good by-passes could be located. It therefore continued east on an old logging trail through some dense woods toward Wahlsdorf.

Reports by civilians and PWs indicated that the Russians were near by, so the town was outposted. Small patrols were sent out in an effort to get as close as possible to the Russian lines, send up green flares, the recognition signal previously agreed upon, and await an answering red flare from the Russians.

A patrol led by Lieutenant Solomon reached a point 500 yards west of Cobbelsdorf, but their signals were answered by heavy machine-gun and mortar fire, and Wahlsdorf received 25 rounds of artillery fire, so the troop was ordered to assemble in Coswig.

Troop C moved out of Duben at 0700, in the direction of Coswig on a mission of aggressive reconnaissance to contact the Russians. Rapidly passing through Zieko for the second time, 25 more prisoners were taken. At 0900, the autobahn was crossed, and Lieutenant Murphy reported seeing white flags ahead in

Coswig, a city with a population of about 40,000.

The leading platoon drew sniper fire as it neared the city, but went on through and established road blocks on the eastern approaches. The 3d Platoon cleared out the buildings on the axis of march, and by 1130 reported that the axis through Coswig was clear, and that the platoon was moving on Griebow to support the 2d Platoon.

The remainder of Troop C moved in and occupied Coswig, establishing security in all directions.

The 2d Platoon reached Griebow, took it without resistance, and continued toward Apollensdorf. The 3d Platoon came up to outpost the town, using its assault guns to cover the high ground to the northeast.

West of Apollensdorf, a civilian reported that the Russians had been in the town, so a green flare was immediately sent up. Once again the reply was made with small-arms and mortar fire.

The 3d Platoon, under Lieutenant Barrett, was sent around the right flank to attempt contact from that direction. At the same time a light tank with the loud-speaker, which had been used so successfully by the 2d Armored Division, was brought to the point where the small-arms fire had been received. Broadcasts were made in Russian and Polish, saying that we were Amerikanski and wished to contact them. Broadcasts were also made to the Germans in their own tongue, saying that the war was over, and for them to surrender before we really shot them up. This was repeated several times while our tanks fired into the woods. The opposing small-arms fire finally stopped, and soldiers were seen moving on a hill to the left front. Their uniforms were indistinguishable because of the distance. It was necessary to be cautious because the dug-in positions ahead might have booby traps and mines protecting them, and anyone dashing forward to meet the Russians could easily trip one off.

Just then the headquarters of Troop C received the following message: "Contact made. Signed Private Raymond Lombardi, Private Ralph V. Cabana, and Staff Sergeant Raymond T. Gard, 3d Platoon, Troop C, 1330." Everyone cheered and jumped in his peep to go to the point of contact.

The movement was held up while the squadron commander with many other joyous Americans, walked cautiously through the Russian mine field along the Russian line. They assured the Russkis that Amerikanskis were out in front. The Russian mines were then removed from the main road, and that part of Troop C still on the main road was instructed to come on down the road and meet the Russkis. The remainder of Troop C came forward in peeps.

Colonel Biddle, the group commander proceeded immediately to the contact point with Lt. Colonel Kleitz, the squadron commander, and greeted the Russians. It was found that the Russian unit was the 1st Battalion, 320th Infantry Regiment of the 121st Russian "Elite" Infantry Division.

FROM ESCHERHAUSEN

*by Captain Stuart J. Seborer**

ON April 17 we crossed the Weser River, in the sector occupied by the 2d Armored Division. The terrain to the east toward the Leine River was an area of long corridors, lined on either side with rangy ridges, some of which were 200 or more meters high. The corridors provided natural avenues of approach for the attacking forces. All we had to do was follow the east-west grid line straight toward Berlin!

The mission given the 113th Cavalry Reconnaissance Squadron by Lt. Colonel Allen D. Hulse, commander, was to advance rapidly in the assigned zone, engage and destroy all enemy forces of light and moderate strength, and to contain and by-pass all enemy forces that it could not destroy. Any heavy enemy forces met by our containing elements were to be taken over by the 329th Infantry Regiment, 83d Division, which was to follow us in trucks and on tanks.

The platoon leaders and sergeants assembled at the troop command post at Escherhausen at 1600, and marked zone boundaries on acetate mapboards.

Sergeant Fehseke, the 1st Platoon leader, was to lead off to the first fork out of the corridor we were in, which was 4½ kilometers down the road. Lieutenant Fenner would follow with the 3d Platoon and outpost Wickensen, the first town, after Sergeant Fehseke had cleared it. Troop headquarters was to follow, and Lieutenant Ross' 2d Platoon was to bring up the rear.

The 1st Platoon moved out at 1630 and met 20mm fire southeast of Escherhausen. Counterfire was laid down from .50 caliber machine guns, but as the enemy was in a wooded range on a hill it apparently was ineffective. Artillery was called for, and silenced the two or three 20mm enemy guns with 12 rounds.

As we waited on the road, 12 enemy planes flew over the column. The vehicles pulled off the road, and fired several .50 caliber bursts at them. We radioed the information back by SCR-508, and all eyes were sky-happy for the remainder of the afternoon. Two P-51s made a sudden appearance a half hour later, and we quickly displayed our special air panels. For the rest of the afternoon we watched them gracefully swooping down mothering our column.

The 1st Platoon cleared Wickensen, and encountered enemy machine-gun fire just beyond the town. Again there was difficulty in locating the enemy guns. Sergeant Fehseke's and Lieutenant Fenner's platoons were directed to clear out the resistance. The 1st Platoon sprayed fire on both sides of the road and advanced on

through, as headquarters and the 2d Platoon moved in to outpost the town and keep close to the leading platoon.

When the 1st Platoon reached a road fork leading into the two corridors comprising the troop's sector, one section went down the left fork and two down the right. The 3d Platoon moved up to the road junction, and was prepared to move in either direction. The first section of the 1st Platoon soon radioed back that one and a half kilometers down the left fork an overhead railroad bridge had been blown, and that it would require our attached engineer platoon about two hours to clear it. A dismounted party of 6 men was sent to investigate the bridge, which was on the outskirts of Lenne, and reported about 75 SS men with machine guns and panzerfausts around it.

After receiving orders from higher headquarters to change plans Colonel Hulse ordered the troop to continue developing the right flank corridor in order to provide security for the engineers who were to clear the north road, which Troop A was then to reconnoiter.

It was now dark, and Lieutenant Kilbane was sent up to expedite the advance from the road junction, and to use the SCR-508 in his armored car as a relay station. Since it was impossible for him to deploy his vehicles in the corridor's narrow defile, Sergeant Fehseke left his ¼-tons behind and moved in with his three armored cars. A squad had been attached from the 330th Infantry Regiment to provide dismounted security, and they moved up along either side of the road.

Machine-gun and rifle fire came from houses on both sides of the road. One of the men threw a hand grenade into what he thought was an open window. But the window was screened, and it bounced back, wounding him in the leg.

Our advance was now completely halted by panzerfaust and small-arms fire, and after a radio conversation regarding the situation, it was decided to bring artillery fire to bear on the Jerries. Lieutenant Kilbane directed the platoon to move back 200 yards and "Cohort" fired a problem. The 105mm's had a pulverizing effect, and after the barrage the 1st Platoon went forward and took Lenne without meeting resistance. When headquarters and the 2d Platoon moved in shortly thereafter, the town was burning from white phosphorus.

As the 1st Platoon moved through town it encountered machine-gun fire which it reduced with 37mm high explosive.

As the 3d Platoon advanced to establish a road block on high ground to the southwest, it ran into about 30

*Commanding Troop B, 113th Cavalry Reconnaissance Squadron (Mecz.).

SEN TO EINBECK --

Germans with panzerfausts. A ¼-ton was knocked out, but no casualties were suffered. The enemy was dispersed, and the road block set up.

The 1st Platoon rolled into Wangelnstedt without trouble, took 4 prisoners, and outposted the town. The 2d Platoon continued past the town and took Lithorst, where 20 prisoners were captured. Lieutenant Ross quickly began administrating the town by ordering the burgomeister to have all weapons turned in, and calling for any German soldiers still in the town to surrender.

While Lieutenant Ross was in the Mayor's office, the phone rang. The Mayor was directed to answer it, and one of our men who understood German listened in.

"Are there any Americans in your town yet?" the voice on the wire asked. The burgomeister was influenced to answer, "Nein." From the other end came the reply, "Well, they are coming. Be on the lookout for them. Heil Hitler!"

The 3d Platoon moved through the 2d Platoon toward Doitersen in the following order: armored car, machine gun ¼-ton, two armored cars, and mortar peeps. En route, it had just picked up two prisoners when an enemy gasoline truck was seen moving 1,500 yards away along a parallel road. It was set afire and knocked out by several long bursts of .50 caliber incendiary. The gunner had about 25 rounds left in the gun belt, and decided to expend it into a near-by haystack in order to reload with a new belt. The burst set the haystack ablaze. And out from behind it came 9 Jerries, shouting, "Kamerad, Kamerad!"

The 3d Platoon entered Doitersen, captured three Krauts, and outposted the town. Troop SOP was quickly put into effect—wires were cut, arms of all occupants turned in, and pistols equally distributed. It was about 1000 hours, and the men had a late but delicious breakfast of fresh eggs, which were contributed by the German residents.

Headquarters moved into Lithorst. As the first sergeant's ¼-ton turned a corner in the center of town it was confronted by 5 German "diehards" armed with at least two panzerfausts. One fired a rifle and another a panzerfaust at a range no greater than 20 yards. Both occupants piled out of the ¼-ton, which was hit and immediately began to burn. An SS captain 5 yards away suddenly rose and aimed his Luger at the sergeant's back. The troop commander's driver, who was racing around the corner, came to a sliding halt and fired a full clip from a .45 caliber Thompson submachine gun at the SS captain, who ran about 50 yards with at least five bullets in his chest before he fell dead. The others escaped. An armored car then sprayed

near-by doorways with .50 caliber machine-gun fire, and moved to the east edge of town to maintain guard.

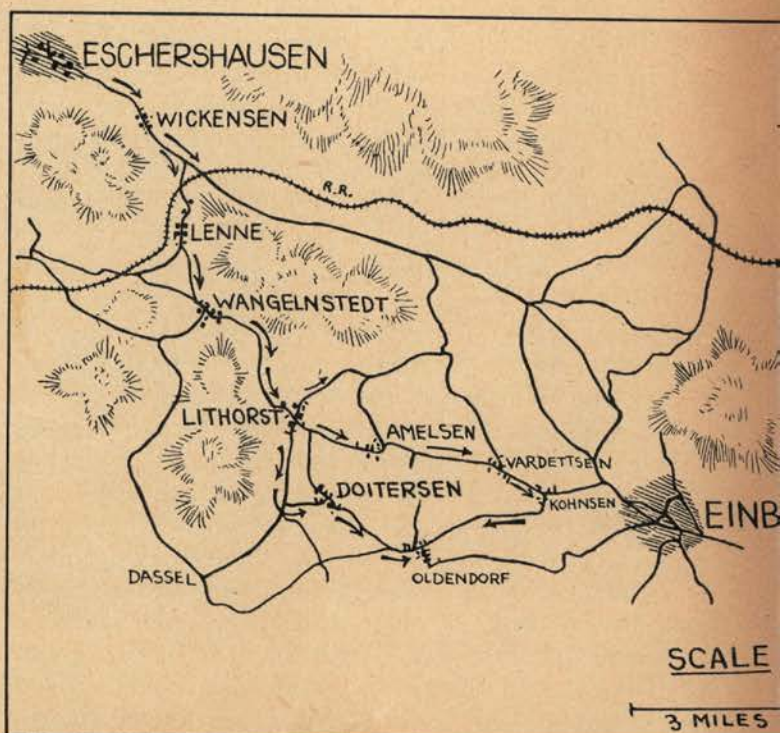
The 1st Platoon moved east into Amelsen, the next town, in the following order: two armored cars, two machine-gun peeps, one armored car, and three mortar peeps. Upon arrival it collected from residents several dozen rifles, pistols, shotguns, and various other weapons, all of which were found to be loaded.

The 2d Platoon moved in to occupy Vardettsen without meeting resistance. Several prisoners on the road stared at our armored cars, muttering that the Americans were not supposed to be within 40 kilometers.

A short time later, the 2d Platoon continued to Kohnsen; which it occupied and outposted without difficulty, and headquarters moved into Vardettsen so that it was more centrally located.

The 3d Platoon followed the 2d, taking the southwest bend in the road at Kohnsen. It was to provide south flank security by observation of activity at Oldendorf, where a battalion of enemy were reported bivouacked. En route, it overtook a horse-drawn five-wagon ammunition and supply train, took 27 prisoners off and blew up the train, which carried small-arms ammunition, panzerfausts and mines.

Our mission was completed. We maintained our security, and relaxed a bit after a continuous reconnaissance that in 36 hours had carried us from the Weser to the Leine. We slept well that night, and the next day we took Einbeck.



Help Wanted:

A Cavalry Rifle Troop

by

Captain Don W. Voorhies

3rd Cavalry Group

Comm

MORE MEN! How often that plea has been made. And with considerable justification, I think, when it has been voiced by cavalry commanders. Certainly, a cavalry reconnaissance squadron needs them badly for a number of reasons.

Combat employment in the European theater has not by any means been limited to reconnaissance. Cavalry has been used in offensive actions, pursuit, and delaying actions. It has been used to exploit breakthroughs; to seize and hold important terrain features; to defend river lines; to protect exposed flanks of divisions and corps, and to maintain contact between those organizations. And it has been this multiplicity of rôles that has pointed up the shortage of personnel.

This shortage has been most acute when attacking strong points, clearing towns or woods, organizing defensive positions, and employing tanks in the attack.

In actual practice, cavalry commanders frequently have found it necessary to operate with a sparsity of troops who are spread dangerously thin, and to send out tanks which have no protecting riflemen. Most emphatically, yes, more personnel was needed! It was needed as an organic part of a cavalry reconnaissance squadron because the temporary attachment of infantrymen on a short-time basis were unsatisfactory. Such troops were too often grudgingly assigned, and too often were unschooled in the tactics and technique of cavalry. Moreover, they were sometimes suspicious, distrusted their mission, and wondered if they were going to be put out in front to do all of the fighting for the unit to which they were attached. This precluded the well-coördinated teamwork that is desired. No, the much needed riflemen must be an *organic* part of the squadron.

The squadron should be given another troop—a Troop “D” of ever-ready, trained cavalrymen who would be completely loyal riflemen. They would be used to good advantage. In making such an addition, it is suggested that the troop could well be set up along the lines of existing armored infantry companies (less the antitank platoon), thereby taking full advantage of present, well thought-out, battle-tested tables of organization and equipment, much as was done when cavalry added the tank company organization from the armored force.

Some of the advantages from having such a troop of riflemen would be that, with these additional men, strong and effective task forces could be formed around Troop E and Company F. Or, if the situation indicated, the riflemen could be apportioned to each troop, thereby

making possible three powerful forces composed of one reconnaissance troop, one assault gun platoon, one tank platoon, and one rifle platoon. Such a force would be well-balanced, self-sufficient, and would possess tremendous striking and holding power. The rifle company at times could be used in entirety to hold ground, and to clear towns or woods. The ancient bugaboo of the river crossing would be capable of solution with an organic company of riflemen. The tank troop could, for a change, assault a town with riflemen on the deck, and thus keep off the panzerfaust fanatics.

Cavalry employment should be viewed in its *broadest* concept, and the squadron should be given the necessary additional personnel. Cavalry would then be *completely* ready to perform the wide variety of missions which are expected of it. It would perform them with the usual high degree of skill and thoroughness, but without the “calculated risk” that existed on ETO combat missions.

The 3d Cavalry, with its motto of “Brave Rifles,” has again proved its bravery—but found that it lacked the rifles.

Light Tanks in Pursuit*

by Major James W. Cocke, Cavalry

A typical action, which confronted many tank troop commanders in cavalry squadrons during the closing stages of the war in Germany, shows the utilization of speed, and shock action by light tanks against a disorganized enemy.

SITUATION

THE action began between Hagenbach and Huttenbach, Germany, when the 191st Tank Battalion, commanded by Lt. Colonel W. G. Dolvin, moved out in an advance that called for destruction of the enemy, retreating toward Huttenbach.

As the Germans withdrew they left a small covering force which offered small-arms fire as token resistance.

*(From the Battle Experience Report to Armored Section, Seventh Army, by Lt. Colonel W. G. Dolvin, Commanding Officer, 191st Tank Battalion.)

ts from Combat

Company D, comprised of light tanks, was ordered to send out a platoon as an advance guard, which was reinforced by a platoon from the 157th Infantry, of the 45th Division. The tank battalion was ordered to move in two columns.

THE ATTACK

To make possible the additional speed needed in such an operation, the 4th Platoon of Company D moved out with the infantry platoon mounted on the tanks. The infantry platoon commander was the only man mounted on the lead tank, because, as the first tank to encounter the enemy, it would have to bring its fire power to bear quickly.

The column advanced for some distance without meeting resistance, for the enemy was retreating in mass under pressure. As the tanks cautiously approached the first point where stiff resistance was expected, the infantry dismounted and proceeded along the flanks of the tank column. This precaution was unnecessary,

however, for the enemy already had evacuated the town.

The infantry remounted the tanks, and the advance was resumed to Hetzledorf at a rapid pace against only light scattered small-arms fire.

ENEMY COLUMN SIGHTED

As the unit rolled forward, the platoon leader made every effort to stay on high ground for better observation. Arriving on Hill 412, the commander of the lead tank observed an enemy convoy of motor and horse-drawn vehicles moving southward from Egoloffsteinenbuhl. The infantry dismounted and the light tank platoon immediately moved into line to fire at the convoy, only to find that it was out of range. Leaving the infantry in position, the tank platoon commander moved closer, and from line formation destroyed enemy vehicles and captured some prisoners. The infantry then came up to rejoin the tanks, and the attack was resumed without delay.

The column continued to the outskirts of Thuisbrunn where it met small-arms fire from an enemy delaying force. The infantry dismounted again and moved on either side of the column as it entered the town, routing the enemy from the cellars and houses from which they had been firing.

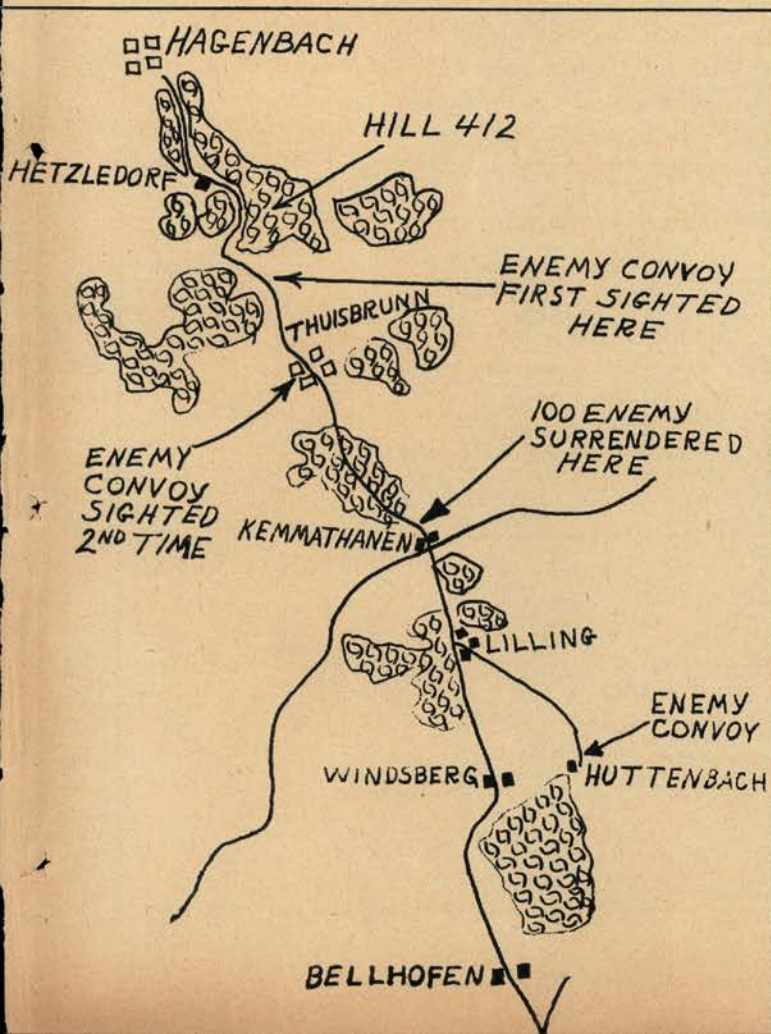
The pursuit continued, and the convoy was again caught north of Hohenschwarz. Here the same routine was followed: infantry dismounted while the tanks moved into line to bring the column under fire, and enemy vehicles were destroyed or set on fire. The main enemy column, however, continued moving south.

The infantry reorganized, mounted the tanks, and the advance continued to the high ground in the vicinity of Lilling, where the enemy convoy was again sighted. The platoon leader picked up speed, and maneuvered to flank Huttenbach from the west. At the same time the medium tank column, followed by the light tanks, moved through Windsburg in order to fire on the southern part of Huttenbach (see sketch).

The enemy convoy was taken under fire by both columns and almost completely destroyed. After the prisoners were rounded up, the tank columns reorganized and continued the attack to the south.

COMMENTS

In commenting on the action, Colonel Dolvin said: "When a column is making an attack on a fleeing enemy, a smaller force must precede the main body as



a covering force to protect the column from a surprise attack. Because of their mobility, light tanks are especially suited for this type work. Their mission is to contact the enemy and, destroy him if possible. The light tanks should precede the main force by from 300 to 500 yards, so that the latter can deploy whenever the covering force of tanks contact an enemy that they cannot handle.

"The light tank platoon leader must possess initiative and be tactically inclined. In this action, the platoon leader possessed the necessary qualifications; he selected a route along the high ground, to give him better observation of the enemy, and maintained contact with the retreating convoy at every opportunity.

ENEMY SITUATION

Little was known of how much resistance the enemy could offer, but reports indicated that they were trying to get back across the Elbe regardless of formation or orders. It was therefore believed that the mission could be accomplished faster and with less chance of casualties if the troop moved out fast with three platoons on line, instead of moving two platoons on line and holding one platoon in reserve. A point in favor of this was that the existing road net would enable one platoon to come to the aid of another without delay.

ORDER OF MOVEMENT

Troop A took the north sector and Troop C the south sector of the squadron zone. Troop A moved out with the 1st Platoon on the north, and the 2d Platoon and Troop Headquarters in the center route, which was to form the axis of communication and the evacuation route for all wounded and PWs. The 3d Platoon was on the south. Contact between A and C Troops was maintained by radio.

Attached to the troop was one platoon of light tanks from Company F and one platoon of assault guns from Troop E. The 1st and 2d Platoons had attached a section of tanks, and the 3d had a platoon of assault guns. The tank sections and assault guns were placed immediately behind the first armored car in each platoon so that they could rapidly act as a base of fire should heavy resistance be met.

EXECUTION OF THE MISSION

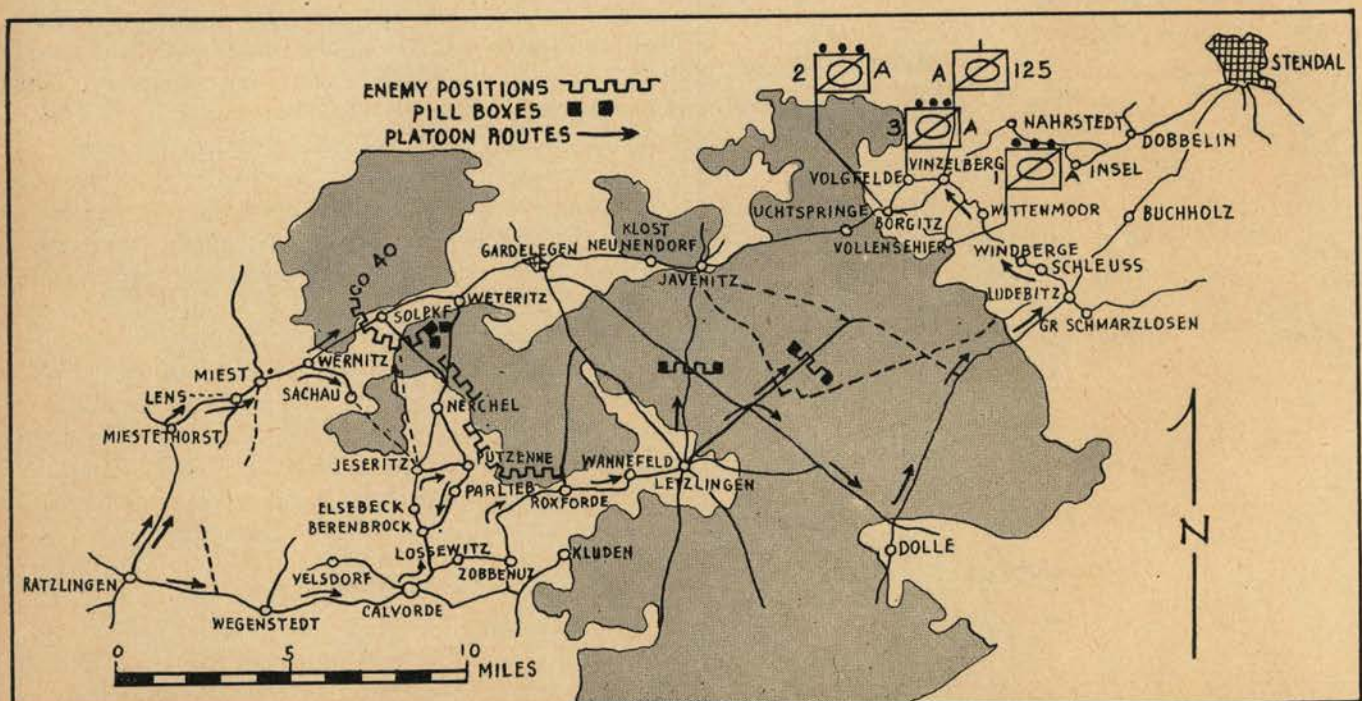
After leaving the assembly area, the three platoons met feeble resistance along their respective routes, but were moving so fast that the enemy was unable to set up a defense strong enough to stop them. At Ratzlingen

Zone Reconnaissance for the 30th Division

by Captain Samuel M. Lindsay*

THE 125th Cavalry Reconnaissance Squadron (Mecz), which had previously provided flank security, on April 12, 1945, was given the new mission of furnishing aggressive reconnaissance for the 30th Infantry Division as it advanced toward the Elbe River. Its mission was to destroy all enemy units of its own strength, to report and by-pass stronger enemy resistance, and upon reaching the Elbe River line to report all bridges and possible ferrying sites.

*Commanding Troop A, 125th Cavalry Reconnaissance Squadron (Mecz).



the enemy was setting up a rear guard to protect the withdrawal of approximately 1,000 troops. Our tanks and lead armored cars fanned out immediately, and dismounted personnel went forward quickly to disperse the enemy troops. In the pursuit that followed we captured nearly 1,000 PWs.

As darkness was near, and our PWs had become quite a problem, the troop was ordered to assemble in and outpost Ratzlingen for the night, and to continue the mission the next morning.

The next day the 1st Platoon ran into stubborn resistance near Solpke. The surrender of the enemy force was sought with the aid of a German civilian; however, even under the threat of an air strike, the enemy was determined to fight. The 2d Platoon then moved from its position at Sachau to help the 1st Platoon by bringing fire on the enemy's flank. Both platoons were stopped before they could reach Solpke. The 3d Platoon, meanwhile, had continued east, but hit an enemy strong point 1,000 yards northeast of Potzehne. These contacts made it evident that the enemy held a strong defensive line running southeast from Solpke and blocking all routes into Gardelegen. The troop maintained contact long enough to determine that the enemy strength amounted to a battalion. This was accomplished by dismounted patrols, captured PWs and our own recaptured PWs' statements.

Permission was obtained to use Troop C's route in order to by-pass this resistance, and on reaching Letzlingen, the platoons went back to their original routes. The 1st and 3d Platoons were halted once again by excellent enemy defensive positions, which included several pillboxes. The area proved to be an ordnance

proving ground whose troops were well equipped, knew the terrain perfectly, and were ready to meet our advance.

The troop's mission was altered, and instead of continuing on to the Elbe River it moved around the heavily wooded area and set up a series of road blocks on its northeastern edge. This cut the enemy's route of withdrawal and enabled other friendly troops to engage him on his front and close the trap. Three blocks were set up facing west to cut the enemy off completely. During the day two strong patrols from each platoon were sent into the woods where enemy contact was gained and maintained. In the following three days, 700 PWs were captured as they tried to get back across the Elbe. On the third day a patrol from the 3d Platoon, taking 85 PWs en route, contacted a unit from the 102d Infantry at Gardelegen which had been cleaning up pockets left behind by the 5th Armored Division on our north.

CONCLUSION

It is believed that the successful completion of the mission without loss of personnel or matériel was due to the following reasons:

1. Tanks and assault guns were kept well forward so that they could be brought into action as quickly as possible.
2. A prearranged plan on dismounted work eliminated confusion and delay.
3. A constant checking on platoon positions allowed help to be given to any position that was in trouble, with a minimum lapse of time.

COMBAT EXPERIENCES

Now is the time to write us a story of your experiences in combat.

The lessons you learned are valuable for future study.

Even though the war is over, the record of what happened still is important—and will be.

Now that you have more time, why not write up how your unit fought, what it learned, and the mistakes it made?

Write it your own way. Include photos if possible.

Anything from 100 to 2,000 words.

Send it through your Public Relations Officer for "field clearance." Address it to: The Cavalry Journal, 1719 K St., N.W., Washington 6, D. C.

What have you learned in combat that should go into the record?

THE military strategists said it could not be done. The experts claimed the tactics were wrong. But, notwithstanding, the march of the 84th Infantry Division from the Roer to the Rhine, in the closing days of February, 1945, will always rank as a brilliant achievement, rivalling Patton's dash across France last summer.

This is not a story of tactics, it is the tale of a typical rifle company that walked some 45 miles in 11 days, through hell and high water. It is the account of the doughboys of Company I, 335th Infantry Regiment, and begins late on the afternoon of February 23, in the battle-pocked town of Sölgvath, Germany, a few miles west of the Roer.

The boys knew that the big drive of the Ninth Army to the Rhine was on. They had rehearsed it and lived it for days before. Already the 102d Division was pouring across the Roer up ahead. The 84th's mission was to follow up, then make an end run and drive on through.

The full impact of what might happen did not dawn on the men of Company I until a few hours before they jumped off, when a chaplain from the 2d Battalion came down to where the 4th Platoon was sitting around a blazing fire.

"I'd like to say a few words of prayer with you men," he said quietly, and the men got up and followed him into the room of a wrecked German home. There among the debris, the chaplain prayed for the men, and they prayed with him.

A few minutes past 1600 Company I moved out, down the road to the Roer, with the slender figure of Captain Charles E. Phillips in the lead. The road was clogged with traffic—most of it moving toward the river. Spread out in single file on both sides of the road, the doughboys marched into the dusk, through Lindun, Germany, where only a few months before they had stormed the town and taken it. Passing familiar ground they moved to within sight of the Roer. Suddenly the horrible nightmarish scream of enemy rockets cut the air. Instinctively the men threw themselves into the ditches along the roadside.

The artillery threw up geysers of dirt about 100 yards away, cutting a checkerboard pattern across the field. Then it stopped, and the company moved ahead. On the outskirts of Linioch, where they made the crossing, the men dropped into foxholes and ate a cold K ration supper.

Company I crossed the Roer shortly after 1900 that night. There was nothing noteworthy about the crossing. They had to go by the bodies of fallen Americans to get there, and the dead still clutching their rifles pointed toward the opposite end of the river bank, lay peacefully along the footpath, where they had died that morning.

A sergeant stood at the end of the narrow footbridge and counted the men off as they sloshed across the bridge. Only two on the bridge at a time. It was dark, and one could hear the roar of the river below as he double timed it along the slippery planks to the other

From the Roer

This story was written by a member of the Med and sent to The Cavalry Journal by his brother later killed during fighting before Hannover in

side, where a main road ran sharply by the river bank.

It was nearly midnight when Company I dug its foxholes on the edge of Konigsrit. To the left was K Company and Company L was to the right. They strung out over about 400 yards of front—and M, the Heavy Weapons company, supported them from the rear. Lt. William Elinburg, 4th Platoon leader, took over a partially bombed-out chateau for his CP. The other platoons were located farther down the narrow road that paralleled the front. It was 2:00 a.m. and raining—8 miles that day, and across the Roer.

As they entered Houverath, Company I underwent the worst artillery bombardment the outfit had ever known—air bursts, railway guns, light and heavy artillery and mortars blanketed the line of march. A later report informed them that the entire divisional artillery for the 183d Volksgrenadier Division had been zeroed in on them. This same artillery was captured intact when its positions were overrun by the 2d Battalion.

Casualties mounted, and aid men organized stations in shattered buildings. Houverath was too hot to handle.

The major Company I milestone came on February 25th between the towns of Houverath and Golkrath, a distance of about 1,500 yards. Golkrath was a communications center for the Jerries. Companies I, K and L had to knock it out. Company I spearheaded through the center; K went to the right and L to the left.

Company I jumped off from Houverath at 10:15—right on schedule—into the worst hell that they had known. They did it without artillery or tank support. Lieutenant George A. McIntyre and his 2d Platoon spearheaded from the left. Lieutenant Harry Wilson led his 1st Platoon on the right. The Weapons Platoon was in the center, the 3d Platoon in reserve. They had to cover 1,500 yards over open, rolling terrain, perfect targets for Jerry.

German artillery poured down, but the doughboys were too fast. All but the 3d and 4th Platoons moved in under the artillery and ahead of it. Those men clawed holes and cursed, ran again, dropped, ran again and kept on. Nine minutes after they started, Lieutenant McIntyre's first elements, the 2d and 3d Squads, were inside Golkrath and Lieutenant Wilson's moved in a few minutes later. The field behind was littered with dead and wounded and a haze of artillery shell smoke covered the route, but the objective was taken.

All that day and night the Germans poured artillery into the town. Then, the next morning it was quiet, except for the rumble of our own heavy equipment as it

r to the Rhine

ical Department, Sergeant Chase Donaldson, r, James Donaldson. Sergeant Donaldson was the battle of the Weser River, on April 8, 1945.

massed inside the town. The siege was over, the back of the German defenses was broken in that sector, and from there to the Rhine it was a mad dash to chase the Germans.

Footsore, bedraggled, sloppy and unshaven, Captain Phillips' men plugged on, day after day. They fought at night and slept in captured houses till noon, then got out and walked 8 more miles. They walked from noon until dawn the next day, across and down the proud Hitler concrete highways.

They lived like kings one minute and shivered in foxholes the next. They yelled at German soldiers as they marched by, hands over their heads. Laggards were sped up by well-placed boots on their Teutonic tails. For a few glorious days they had all the captured bikes that they could use, then Division cracked down, and Company I went back to hoofing it.

Sometimes electric lights and telephones were still connected and working. One doughboy tried to put through a call to Brooklyn, another ate 14 eggs. Some carried their eggs with them. Others lugged sausages and onions, potatoes and hamburger sauce.

The night I Company stopped on the edge of the big German industrial city of Krefeld, the troops slept in houses. In one of them a dead American soldier lay at the entrance to the basement. A flashlight picked him out there on the floor. Kindly hands carried him away.

Six men piled into one room where there was a big double bed. There was not space for all of them on the bed, so some slept on the floor on the *hausfrau's* finest linens. At midnight German artillery struck the house and the boys in the bed scampered for the basement. Those on the floor scooped up their bedding and climbed on the bed, pulled the covers over their heads and went back to sleep. To hell with the artillery.

The company spent 6 hours in Krefeld next morning and the time passed without excitement. From Krefeld the company had to go north 10 miles and then east through Moers to the Rhine. In the farmhouses along the way the doughboys met Russian slave laborers, who ran out and kissed them.

But about those last miles to the Rhine. The company was gathered at Hell's corner in Moers. Two German self-propelled 88's, safe and well protected under a viaduct, blasted away at anything that moved on the corner. Tanks were knocked out and men killed. Company I went into the basements, waited, and cooked eggs in the cellars.

Shortly after dark the company got its orders to take the town of Boul. That meant a move of 5,000 yards. To get there Captain Phillips took his men 2,000 yards to the flank and behind the German lines. Ahead was L Company, to the left K Company. The whole 3d Battalion staged a combat patrol that night.

They moved out in the moonlight, down a road to a viaduct where two American tanks had been hit and were burning, creating an eerie half light. The men moved right past the burning vehicles, along a railroad embankment to the edge of a small lake. After the manner of commandos, the company crawled and scaled the sides of the lake ledge, within 20 yards of a German command post where 6 German officers were playing cards, and past German dugouts that still smoked. Once a German machine gunner who was nervous from the silence of the night and probably heard a twig snap, opened vicious fire. The tracers sped across the lake. Two men were wounded. It looked as if the company were surrounded. For an hour the men lay there, until their feet became numb from cold. Some were dead tired and fell asleep, the silence was punctuated now and then by a snore. Far across the Rhine they could hear the air raid sirens going in Duesberg and Dusseldorf, where the RAF was at work.

The doughboys finally moved along the lake shore and, taking care not to show themselves against the skyline, felt their way around the cliffs. An hour later the whole company had skirted the lake and reached the edge of Boul. Past Boul they marched, then stopped. Some of the men were scared. Their situation was precarious. The company was in a fair way to be cut off. Captain Phillips waited for new orders. Meanwhile the exhausted men lay down along the railroad embankment and, for the first time in 35 hours, slept.

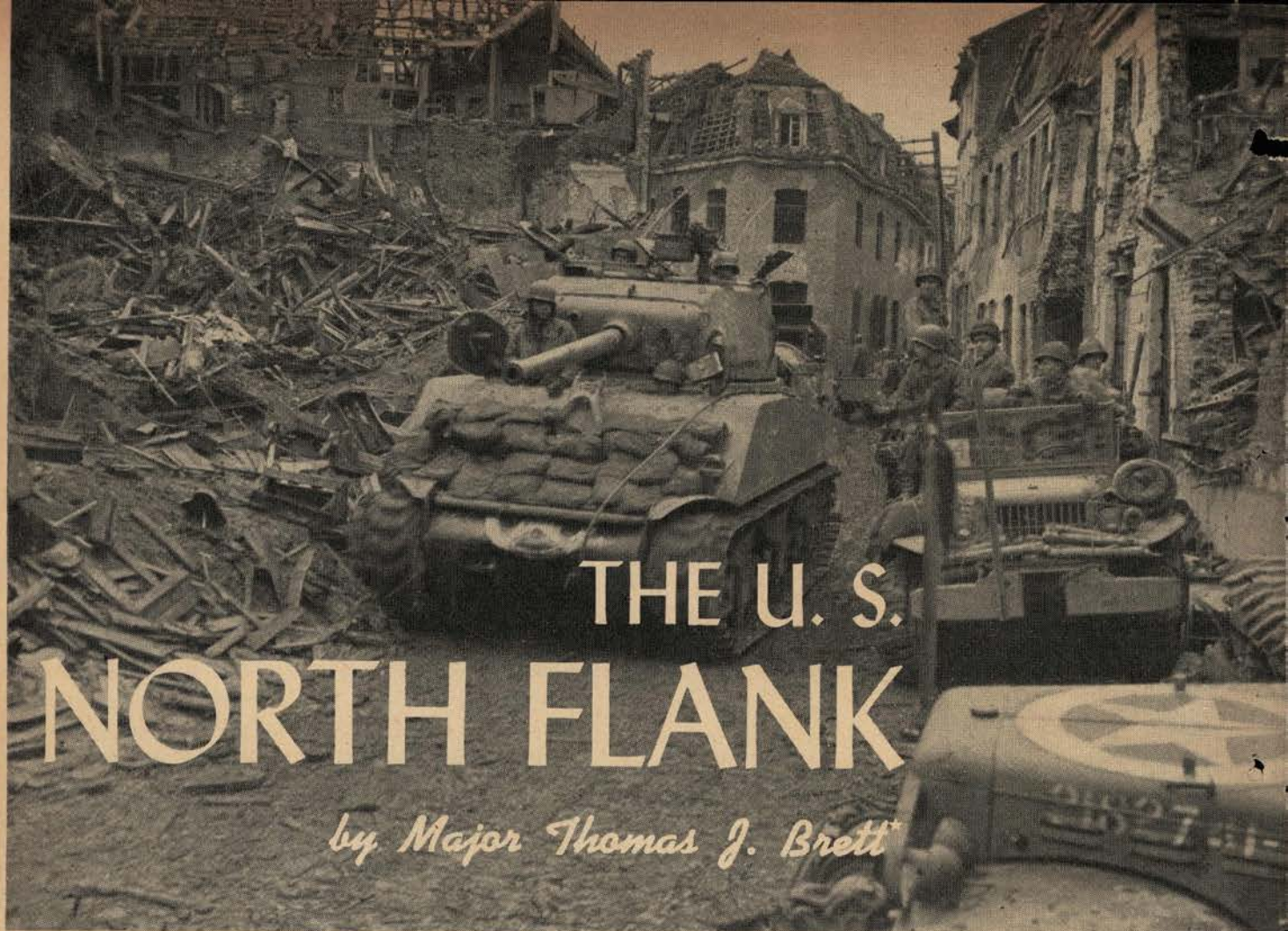
Then the orders came through and the company moved again, this time back to Boul. Captain Phillips set up his CP in a house near the railroad.

Here the last tragic action of the drive took place. The men were grouped around the CP, half awake, or sleeping in the gutter and on the sidewalk. In the early dawn somebody lit a cigarette. An instant later the whip and crash of 88 shells split the air. A self-propelled gun hidden down the very tracks along which they had just marched had spotted them. One man was killed.

By 6:00 a.m. the platoons had dug in, establishing a perimeter defense. Here they waited for a counter-attack which never came. Just before dawn they heard an explosion; the Germans had blown the Rhine bridge.

The morning light broke on a clear sky as the sun came up. The weary men looked from their holes with bloodshot eyes and nudged their sleeping companions. There it was, below and ahead about 400 yards, rippling away, clear as the Mississippi at St. Paul. There was the Rhine.

"Objective reached," Captain Phillips radioed back. As he did so the sound of American tanks and big guns came up the road. I Company was no longer behind the German lines.



Signal Corps Photo

American armor moves to a Roer River crossing at Linnich, Germany, as entrucked infantry await their turn.

THE open and vulnerable northern flank of the 9th Army was safeguarded by the 11th Cavalry Group from the Roer to the Rhine, then to the Weser, the Leine, and on to the Elbe.

Little was heard of this mission of the 11th Cavalry in the bigger picture comprising the "Battle of the Bulge," and in other actions which had their "mechanized heroes"; but the mission was accomplished with such success that a statement frequently made at XIII Corps Headquarters was: "We have the 1st Army on our right—and the 11th Cavalry Group on our left!"

The fulfillment of the mission occurred along the most northern flank of the U. S. forces, where a most critical open spot existed. The strategic plans of the British Army left our north flank under enemy control most of the time. From the Roer to the Rhine, the British were preoccupied with an attack far to the north, which later resulted in their joining us at the Rhine. But from the Rhine, the British drove northeast to Osnarbruck, Celle, Uelzen, and then to the north. This left large gaps of enemy-held territory between the two Allied forces.

The Group, therefore, had more than a single mission. It had to protect the north flank, and keep in

physical contact with the British on the left, and the infantry division on the right flank. It also became a separate spearhead that captured towns, cleared woods, and seized bridges across important canals and rivers.

The success of this campaign can be attributed to one principle: *Follow the book!* The Group was not supported, as were other units on similar missions, by a large task force of infantry, engineers, TDs, and armored field artillery. One company of SP TDs was attached at one time and one battalion of TDs at another. Neither did the Group use some unusual formation or idea to accomplish the mission. It employed a balanced combination of reconnaissance elements, assault guns and light tanks, deployed them according to their capabilities, and drove forward to its objective.

The 44th Cavalry Reconnaissance Squadron had seized the only bridge over the Leine River in the XIII Corps' sector. The enemy held near-by positions in strength. But instead of clamoring for field artillery, infantry and tanks to secure the bridgehead, the 36th Squadron was diverted from a march to the north. It advanced dismounted at night directly underneath the enemy guns and by daylight had neutralized all resistance, thus opening the way for the 84th Infantry Division's assault on Hannover from the flank and rear.

*S-3, 11th Cavalry Group (Mecz.).

During our advance from the Rhine to the Elbe, the group executive officer had been captured. The search was taken up by the 36th Squadron, which was preparing to halt for much-needed maintenance. The following account of an engagement during the search was made by one of the platoon leaders. It emphasized the value of sound instruction which leads, even under the heat of battle, to the quick employment of accepted tactical principles for overcoming enemy obstacles:

"Shells were observed falling in Langenhagen, north of Hannover, as we prepared to enter it. Troop C's 2d and 3d Platoons, led by dismounted parties, were sent forward and entered the town on roads from the south and west. Each platoon had two light M24 tanks attached. The 1st Platoon, and headquarters, which was supported by an assault gun platoon, were held in reserve on the outskirts of town.

"In the town, we found signs of an earlier fight. The Germans, however, had withdrawn to the east, leaving two 88's covering the route of our advance. As two assault guns of Troop A fired in an attempt to reduce them, Troop C sent a dismounted patrol north along the railroad to look for a by-pass around the 88's. The patrol, after following an unimproved road parallel to the proposed route for a mile, found it impassable, and returned.

"The two 88's had been knocked out in the meantime by 37mm fire from Troop A's armored cars, which killed two Germans and wounded others; the remainder were dispersed by fire from Troop E's assault guns.

"Our 3d Platoon moved past the wrecked 88's, and ran into a few dismounted Germans. Several were killed, and three were captured. The prisoners said that they were from a flak outfit 600 yards from the main road. The platoon leader after reconnoitering led a dismounted party to a large building overlooking the flak emplacement. He then brought armored cars and tanks into position behind stone buildings, and opened fire on the installations with .50 caliber machine guns, 37's and 75's. Several buildings were set on fire by tracers. Since the only fire that was returned for several minutes was from weapons no heavier than 20mm AA guns, the platoon leader brought up a tank and his armored car, and started moving in on the position. When the tank was about 200 yards from the road, however, and the M8 armored car had just started to move out from behind the building, an 88 fired a round which passed about 10 yards in front of the M8. The car immediately moved back behind the building, and signalled the tank to return. But the tank had found cover behind another building, and returned the fire, destroying a 20mm position.

"The platoon leader then radioed the tank to withdraw. This was successfully accomplished under a concentrated covering fire from all available weapons, including mortars. By this time, several 88's had been located by their flashes, and an effective fire was laid on them by two assault guns of Troop E, and our three

60mm mortars, which had been set up in battery. The firing was stopped at dark, and a dismounted platoon went forward and found the position abandoned. The toll from the mortars and howitzers was: four 88mm guns destroyed, four 88's abandoned in good condition; several 20mm guns destroyed, and five light machine guns abandoned.

"Our experience with the 88's has shown that they are a weapon to respect, but not to fear. We feel that we can beat them every time with indirect fire which is used in conjunction with direct fire, and by sending out a dismounted enveloping party."

Battle experiences reaffirm the essential soundness of the old principles found in the FM—hit hard, use the base of fire and enveloping force, move fast, and use expedients. (Our speed during the mission, for instance, was 23 miles per day.)

An illustration of one expedient was the method by which the 36th Squadron crossed the Niers Canal during the drive from the Roer to the Rhine. In this instance, the 84th and 102d Infantry Divisions of the Corps were piling into Suchteln and Viersen, and up against the Niers, over which all bridges had been blown. The 36th Squadron was ordered to extend its north screen from the canal to, and including, Kempen, which was to the east. Upon its arrival it made a reconnaissance for fords, but found none. The usual pro-

Abandoned bridge and assault boats on the Roer River following a surprise crossing by the U. S. Ninth Army.
Signal Corps Photo



cedure would have been to sit tight and wait for the engineers.

Instead, the squadron CO assembled more than 200 German civilians with wheelbarrows and shovels who filled in the gap in the bridge overnight. It wasn't a good bridge, but the Group crossed it the next morning and continued on its mission. The bridge later became one of the crossing sites for the Corps.

Because of our rapid advance and increasing distances, radio communication became correspondingly difficult, and radio contact with the Corps CP was interrupted at times. Contact was never completely lost, however, because Group headquarters did not rely solely on radio communication. In order to insure information getting through, it assembled a pool of liaison officers, and instructed them to keep moving, keep their eyes open, and to continuously exchange situations with the assigned headquarters. This made possible the preparation of a situation map at Group headquarters that was more up to date than any in the sector, and permitted information on both enemy and friendly troops to be furnished adjacent and higher commanders. The liaison officer carried an overlay of this amassed data on each trip he made to a headquarters.

An operation cannot be planned successfully unless all means are used to keep the commander and the troops posted on enemy information. Prompt but careful PW interrogation by experts under the supervision of the Group S-2 supplied us with much valuable information. We learned that the interrogator first should be briefed on the information that is desired, furnished with maps, and then left to his own method to secure the information. When a large number of prisoners were taken, a hasty "screening" revealed those most likely to give the information needed. They were segregated for a more careful interrogation.

Other intelligence sources were aerial photographs, and large scale maps on which enemy defenses had been over-printed or plotted. These were supplemented by information secured from scouts, and reconnaissance and combat patrols. Another vast amount of information came from exchanging periodic and patrol reports with units on each flank, to and including the battalion level. Harmful delay can be avoided by not waiting for the patrol reports of adjacent units to be processed through regimental, division and corps echelons. This information was exchanged while it still was useful by using messengers, or wire if the situation was static.

In furnishing subordinate units with the required maps, charts, overlays and aerial photos, the principle of anticipating their requirements and drawing supplies at every opportunity, prevents running out of necessary items at critical times. Constant contact with squadron S-2's keep them eager to secure and relay information.

All of the "know-how" for securing, evaluating, interpreting and disseminating information on the enemy also is in the book; and a situation where the book method, plus adaptability and common sense won't

work, is usually a situation where nothing will work.

A tremendous supply problem confronted us after we crossed the Roer River. The principles of supply as given in FM 100-10 were followed closely, and proved adequate for every normal situation. The advance of mechanized units, however, out-paced the reasonable range of supply sources. Therefore, the tactical mission dictated supply policy, and expedients again saved the day. Squadron truck companies, composed of organic transportation, captured and "requisitioned" trucks, drove hundreds of miles over congested roads to bring gas to our advancing troops. When supply points were 200 miles to the rear, only by a "liberal interpretation" of gas and ration allowances could we assure the necessary supplies. Instead of carrying two days' rations, the squadrons carried five; instead of 700 gas cans, one unit had 1,800.

Conclusions from the experiences of the mission are as follows:

(1) Cavalry squadrons can accomplish any cavalry mission, provided they employ the fundamental cavalry principles of speed and shock, and use properly the combinations of forces that are available within the squadron.

(2) The Group staff must set the pace for the Squadron staff; and likewise, the Squadron staff must be with the troops, leading them. General Patton's phrase "You can't get behind spaghetti and push it; you have to be out in front and pull it" is especially true in cavalry action.

(3) Staff work must be correlated. Effort must be made to keep *all* key staff members informed of all plans, operations, methods and expedients, so that the staff will function as a team but at the same time will discharge individual responsibility to the commander.

An improvised road block of an armored car and a jeep was established by the 36th Cavalry Squadron in the vicinity of Bromenzeln, Germany.

Signal Corps Photo





British Official Photo

RADAR★

PARTIAL lifting of the radar censorship ban makes it possible to reveal the importance of radar's part in the defeat of Germany.

Radar's first triumph was in the Battle of Britain. Without Britain's extensive operational radar system, the "Few" of Mr. Churchill's immortal tribute would have been too few to stem the massed attacks of the Luftwaffe. Radar alone made it possible for them to dispense with wasteful standing patrols and to intercept the enemy at the right time and place.

Two years before that, when Mr. Chamberlain flew to Munich, the British radar chain was already in operation. So, while the whole civilized world held its breath in the darkest days of 1940, Britain was secretly protected by a curtain of radar waves—hundreds of miles in extent—through which no aircraft could approach undetected. Not even the British public knew of its existence.

★British Information Service.

A predictor detachment of British servicewomen assigned to a battery of anti-aircraft guns passes the order to the guns' crew to fire. Radar provided the data which enabled the predictor to guide the guns onto invisible enemy planes over Britain during a night raid—one of many uses.

Its future, in peacetime applications, is one of almost fantastic potentialities.

The entire strategy of air defense has been changed by it.

For effective defense—as the Battle of Britain proved—it is not enough merely to detect approaching aircraft and to know their distance. Efficient fighter interception demands three-dimensional location of the enemy—distance and direction plus altitude, and an estimate of the numbers. Radar provided the answer to all three, and gave all the essential data to enable British air defense to win the Battle of Britain against great numerical odds.

After determining the position of an aircraft the first problem was how to make friendly aircraft continuously exhibit a difference from others in their "radio" responses. This was accomplished by giving coded alterations of the returned echoes. These devices are known under the generic term "I.F.F." (Identification, Friend or Foe).

HOW RADAR "SEES"

Radio detection and ranging, or "Radar" as it has become known, is the generic name for various radio techniques based on the use of radio echo.

To give a simple analogy, a person standing not far from a cliff can usually get an audible echo from the cliff by shouting toward it. The nearer the cliff, the shorter the time interval between the shout and the echo.

Radar works on a similar principle. But a radio wave is used instead of a sound wave or shout and the returning echo wave is picked up by a special radio receiver instead of the human ear.

The indicator used to display echoes returning from aircraft was the cathode ray tube, and many improvements were made in this device in the course of its transition from a delicate and expensive piece of apparatus of somewhat uncertain behavior and a short life to a precise instrument, some 50 times better in performance and costing as many shillings as its predecessor had cost pounds.

The earlier techniques of radio location involved a signal display in the form of a bright line across the face

Radar contributed more to victory than any other single development of World War II and, with the exception of the atomic bomb, was the most effective and sensational development.

of the cathode ray tube, the aircraft echoes being signalled by a V-shaped projection—a "blip"—above or below the line. The distance of this "blip" from one end of the line was an accurate measure of the distance of the aircraft causing the signal.

MOBILE RADAR

The large aerial system used for the coastal chain was not adapted to naval or military purposes. Higher frequencies (hence smaller aerial systems), however, made possible the development of compact equipment which could be mounted on the masts or superstructure of ships, in a mobile trailer, or on a searchlight.

The detection of hostile warships from aircraft, the warning of our ships of the approach of enemy aircraft, the defense of harbors and coasts against small enemy vessels, the feeding of gunnery data to predictors from radio location equipment, the control of searchlights by radio location so they could unmask with the certainty of illuminating the aircraft target immediately—all these (though later improved) were accomplished facts by the outbreak of war in September, 1939.

It was realized that if fighter aircraft could be made to carry a complete miniature radio location station, they could seek out and even fire on enemy aircraft on the darkest night or in a cloud. A windscreen was developed for mounting on the plane and on which the enemy echo indicated itself as a spot which grew "wings" as the enemy approached and moved up or down, to port or starboard—just as the appearance of the enemy itself would have done had it been visible.

On many occasions, successful interception was first marked by the appearance of the telltale green spot on the windscreen somewhere away from the fighter's line of flight. The pilot would make a rapid adjustment of

course and altitude to bring the spot ahead and centered. Then the spot would develop "wings" as the distance lessened. Finally, the real enemy would appear as a dark shape in the night sky, just where the green outline hovered.

A burst of fire from the fighter's guns, and a successful interception was almost certain.

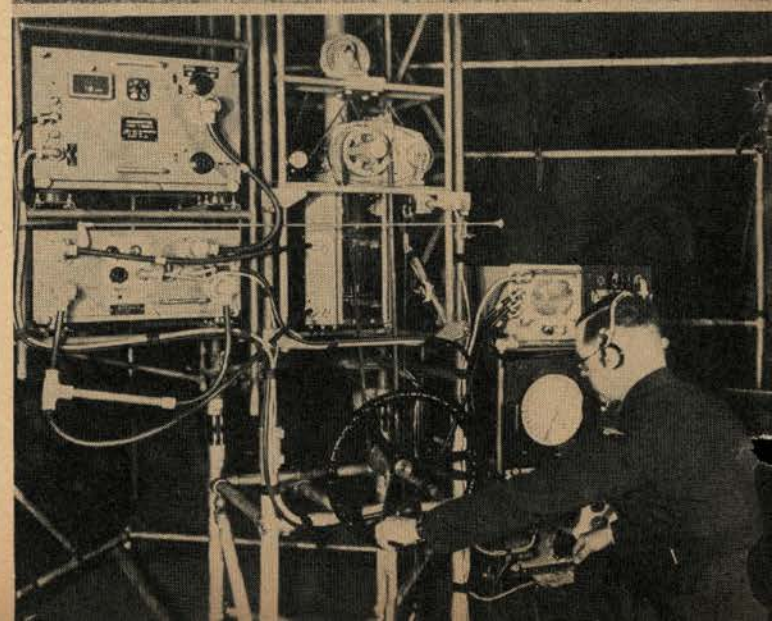
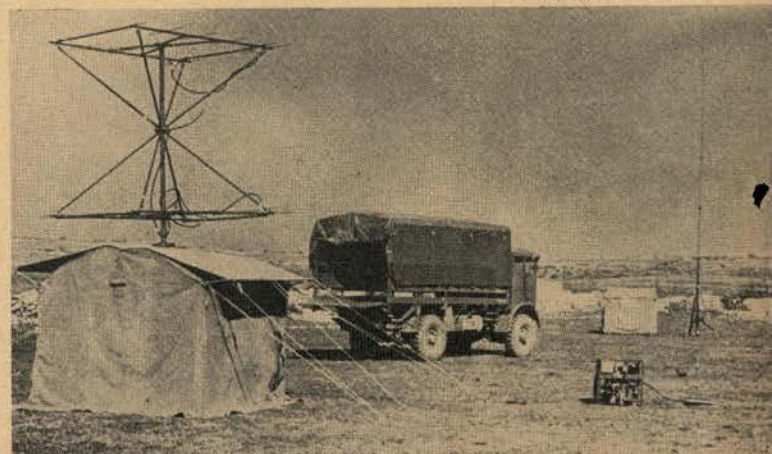
The toll of German bombers rapidly increased after radar was installed in night fighters. By early 1941, the first sets had been put in. In the whole of January of that year the number of enemy bombers which fell to the British night fighters was 4. The destruction of one bomber in a raid made headlines in those days. But, after dropping to three in February, the figure leapt to 24 in March, 52 in April and 102 in May. Then the attacks dwindled. Losses became so great before Hitler started his attack on Russia that the Luftwaffe could no longer afford them.

Other devices indicated the precise altitude of an aircraft above the surface of the ground and gave warning to ships of the proximity of mountains, icebergs or other vessels.

Others found towns for bombers on the darkest

Exterior and interior of a British radar warning station is shown. It was developed to meet the need for a highly mobile equipment which could be transported quickly to sites which could not be reached except by light units.

British Official Photo



RADAR NAVIGATOR*

An electronic navigator for ocean, lake and river ships, that will detect above-water obstacles such as other vessels, icebergs, land, lighthouses and buoys by radar, is under test on shipboard by the U. S. Maritime Commission.

It will detect these obstacles through darkness, fog and storm at distances up to 30 miles, depending on the size of the object.

The tests are being made on the SS American Mariner, training ship of the U. S. Maritime Service. Additional sets will be placed soon on other vessels.

*The Washington News.



British Official Photo

Gunnery radar in a cruiser. Operator turns the handle to align the radar echo with a marker and so to transmit the range automatically to the guns. A sample image has been painted on the screen for the purposes of reproduction.

cloudy night, and even displayed a moving map of harbor details, railway lines and similar features.

It became possible to project optically a map, aircraft indications and hand-written plots all together on a translucent screen. The dream of many commanders is realized in this—the power to sit in a room at headquarters and see all the movements of hostile and friendly aircraft displayed before them on a map.

The extraordinary and immediate success which followed the introduction of bombing with the aid of centimeter-wave radar deserves particular attention.

The sound strategic decision was to withhold the use of such devices until enough had been produced to make a succession of devastating attacks on Germany's great industrial centers. The premature loss of one such device to the enemy might have destroyed the element of surprise which made impossible the enemy's effective reply.

The proportion of bombs falling on worthwhile targets was greatly increased and other offensive and defensive functions of aircraft fitted with radiolocation devices were made much more effective.

Statistical analyses of operations show that an aircraft so fitted is worth at least five without these aids.

EXCHANGE OF DATA

After the United States entered the war, no war secret of Great Britain was withheld from her. The disclosure of all British progress in radar to date had been made to the United States in August, 1940.

Under the stimulus of war, the United States quickly built up a research organization and manufacturing facilities far larger than Britain's. Ingenuity in manufacturing methods, peculiarly American, enabled supplies of radar equipment to be made available to the Allied Forces in the great quantities needed for the successful assault on the Reich, and for the war in the Pacific.

The fact remains, however, that Britain put radar into operational use earlier and on a far greater scale than any other country in the world.

In both countries, prediction was often ahead of experiment. Experiment, too, frequently was ahead of production. The evolution of improvements progressed so rapidly that it was sometimes necessary temporarily to "freeze" development to permit large-scale production.

Although enemy countries followed in our footsteps, they never caught up with Allied developments, many of which must still remain secret.

RADAR—IN BRIEF

Radar solved problems of defense and attack, and in the air made possible the crippling of Germany by non-stop bombing.

Radar has been used during the war so that:

(1) RAF bombers could take off, navigate and return from mass saturation raids with minute accuracy, fixing positions on special gridded maps by aid of what are known as "Gee" signals from ground radar stations. This system changed the number of bombers that could be put over a target in an hour from 100 to 1000.

(2) Another system entirely self-contained in a bomber made it possible for the crew to "see," in miniature, by means of radar reflections from the ground, despite darkness or fog, outlines of a coast or town they were approaching.

(3) Perhaps the most fantastic installations of all enabled ground radar operators sitting in England to guide individual bombers to enemy positions, "see" when they were precisely over the targets and then signal for the bombs to be dropped. This method accounted for the deadly accuracy with which the big guns on the invasion coast were destroyed before D Day. It was also used against Essen and other Ruhr targets.

PICTURE ON A TUBE

Still more bombing aids were developed, and these met the need for accurate bombing at any range. A startling device was in use which enabled a navigator to see, on a cathode ray tube screen, a picture in glowing green spots and shadows comparable to a map of land, water and built-up areas over which he was flying,

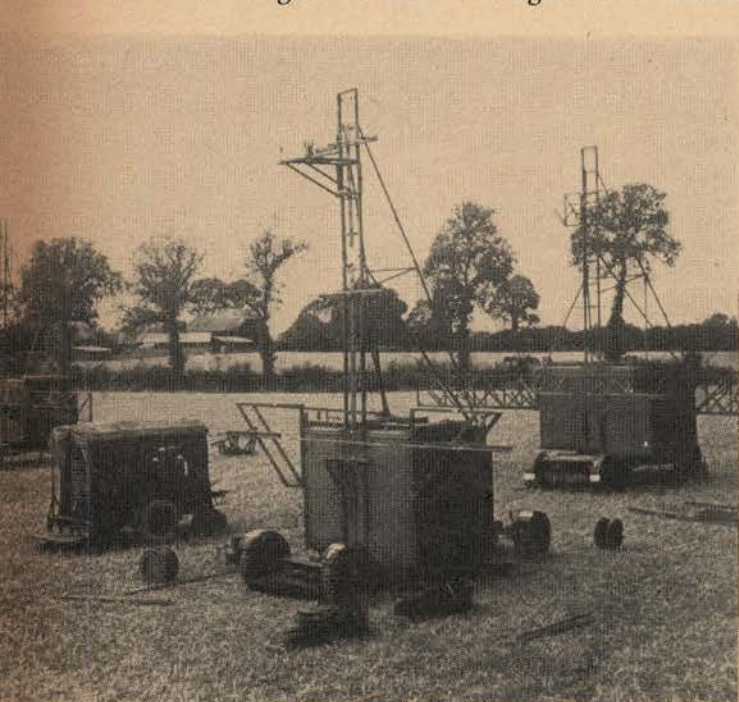
even in complete darkness. Using this set in July, 1943, Hamburg, in 4 successive raids by 2,630 aircraft, was three-quarters destroyed in damage greater than the total suffered by all the towns in the British Isles from German aerial bombing.

These were early sets, and the picture produced on the tube was not good enough to single out clearly various areas of a big target like Berlin. By November, however, a newer set was produced which showed extra detail and enabled the decisive Battle of Berlin to start.

As Germany crumbled under the weight of Allied bombs the question of invasion came to the fore. For the ultimate success of D Day, it was essential that the enemy's heavy guns along the Channel coast of France should be silenced. Forty of these were within range of the selected invasion route and it was necessary for the Bomber Command to silence them. In order not to reveal the area where the landing would take place, they had to attack heavy guns along the entire coast. On the night before D Day not one of these guns fired. They all had been silenced by bombs released from a height of over 20,000 feet by aircraft using signals from England.

Another radar story is of the "Rebecca-Eureka" combination, secret of the airborne force, which guided hundreds of parachutists and glider troops to their objectives on D Day. This was a development which grew out of the family of automatic beacons or radar "signposts" devised by scientists for such purposes as guiding the navigator of an aircraft searching for a friendly airfield or shipping convoy. Many of these radar beacons,

Radar equipment of a British Army mobile heavy anti-aircraft regiment is shown against the backdrop of an English farm. Receiver, generator are in the foreground, transmitters in background. Radar changed war's tactics.



British Official Photo

erected on the ground or aboard ship, worked only when a coded radar signal of the correct wave length reached them from the searching aircraft. "Eureka," which was the name of the beacon used by airborne troops, was dropped by parachute with the first wave. It was unpacked and assembled often under enemy fire. Later gliders carrying the other half of the equipment, called "Rebecca," could pick up the signals from "Eureka" and so make sure of arriving at the right spot. In other words "Eureka" marked the spot and "Rebecca" led the aircraft to it.

RADAR AT SEA

From the start of the war it was appreciated that the detection of surface submarines demanded some means other than Asdic. The radio location equipment designed for the detection of aircraft was found inadequate for this purpose, and the centimeter-wave equipment ultimately provided the decisive solution for the detection of submarines by air and surface ships.

Consider the achievement of finding on a pitch-black night, in an area of many square miles of sea, a piece of metal projecting from the water's surface for little more than the height of a man.

Naval radar has revolutionized warfare at sea. Perhaps the greatest tribute to it was made by Admiral Doenitz, then commander in chief of Germany's submarine fleet, when he made a speech at Weimar during a lull in the U-boat war.

"The enemy," he said, "has deprived the U-boat of its essential feature, the element of surprise, by means of radar. With these methods, he has conquered the U-boat menace. The scientists who have created radar have been called the saviours of their country. It is not superior strategy or tactics which gave him success in the U-boat war, but superiority in scientific research."

The British Admiralty considers that the application of radar to anti-U-boat warfare was the most important single factor in ensuring the defeat of the U-boat and consequently in winning the vital Battle of the Atlantic. The detection by radar of so small an object as a submarine periscope or conning tower in the water considerable distances away was thus one of the major events of the whole war.

In gunnery, radar meant that guns could effectively open fire at greater ranges and engage unseen targets, both surface ships and aircraft, with accurate ranges to within a few yards. The 26,000-ton *Scharnhorst*, sunk in 1943, was detected first by a British cruiser at a range of 17½ miles. Contact was lost for a time, but was reestablished by radar at 17 miles. Until the arrival of *H.M.S. Duke of York*, the *Scharnhorst* was shadowed by a destroyer force, which relied entirely on radar and kept outside visibility distance.

PLOTS SHELL'S FALL

It may be added, as a tribute to the sensitivity of these sets, that the actual fall of the shell can be plotted

by radar; the water thrown up by a falling shell gives a sizable "echo" which can be plotted in relation to the target. The whole system of "spotting" in gunnery can thus be taken over by radar, with a consequent elimination of guesswork and the errors and uncertainty of visual judgment.

Radar also proved of inestimable value in the assault landings in North Africa, Sicily, Italy and Northern France, where its efficiency for navigation assisted in the control of the enormous masses of shipping which arrived and assembled at the beachheads. On countless occasions radar solved problems of navigation and weather, and enabled assault forces to be put ashore at an exact spot exactly at the required time.

Radar saved many lives, too, in "air-sea rescue" operations; it has guided rescuers to airmen adrift in rubber dinghies or perched on the wreckage of their sinking planes.

RADIO NAVIGATION

At sea, in the air and even on land radio navigation is now possible with an accuracy which makes the finest achievements in stellar navigation seem grossly inaccurate by comparison. A ship's navigating officer is considered good if he can fix the position of a ship at sea by stellar or solar observation to within about a mile of her true position. An airplane can seldom rely on better position-finding by astronomical observation than within 10 miles of its true position.

Yet it is now possible by various devices to have a continuous indication of the position of a ship or airplane to within a few yards of its true place on the earth's surface. Indeed, no map or chart can be printed with sufficient accuracy or permanency to vie with the possible accuracy of the equipment.

GUN THAT AIMS SELF

One of radar's most uncanny developments—a gun which aims itself and follows a moving target automatically and unerringly—was the climax, in 1944, of the British Army's research into radar applications.

This British invention was incorporated into United States equipment and quantities were manufactured and shipped to Britain, just in time to shoot down 80 per cent of the flying bombs which were destroyed by antiaircraft batteries.

Other Army radar developments were coastal guns which, at 20 miles range in the dark without the aid of a human eye, have sunk 11 out of 18 German ships.

Artillery radar is now so accurate that its error is less than the ballistic error of the guns. This means that if the target is not hit "blind" with the first shot, it is the gun itself, or its charge, which is not quite accurate—not the aim.

Finally, it can be disclosed that a somewhat different—but related—technique gives the measure of the speed of an object relative to the observation station. This is so sensitive that a single infantryman wriggling along

the ground many yards away, or even a pebble kicked towards the equipment, will give a response. A tank, moving camouflaged and at night along a distant road, will stand out clearly from the background of fixed road and countryside.

Combat uses of radar still are being developed.

American Uses*

Without radar the Eighth Air Force never would have been set up in Europe; radar guaranteed enough control of the weather factor to justify building up this massive bombing organization. It hoodwinked the Japanese all over the Pacific during almost 4 years of fighting, made possible the spectacular naval victories around the Solomons and put the finger of destruction on almost every one of Japan's big fighting and merchant ships.

Aboard ship, radar's information is synchronized with fire-control mechanism to shoot up enemy vessels many miles away, targets never seen except on the radar "scope" or screen. When BTO radar equipment (bombing through overcast) is tied with the bombsight it does the same thing; drops the load on a target that's never visible, separated from the attacking plane by thousands of feet of clouds, darkness or smoke.

Radar goes under the water, too. An American submarine prowling the Pacific can pop its radar antenna out of the water, ascertain the range and speed of a Jap ship and let go its torpedoes. Can do it—and has, perhaps hundreds of times by now.

B-29s today are described as flying electronics plants, with every valuable phase of radar equipment worked into their compact sets. Radar helps them to bomb, to navigate, to keep formation. In addition, it warns them of the approach of enemy fighters, and when necessary can take them down through overcast and fog and land them safely on emergency fields the pilots have never seen, such as Iwo Jima.

General Claire Chennault's Liberators, flying out of China, piled up a colossal total of Jap shipping, thanks in large measure to radar.

Now, our scientists believe, we are miles ahead of the Japanese on radar. The margin was not so great in the battles around the Solomons but enough to account for a few sensations.

The cruiser *Boise*, going it on radar, fired 100 5- and 6-inch shells in 27 minutes, and sank three cruisers and three destroyers.

The cruiser *San Francisco* ran right through the middle of the Jap fleet at night, firing on both sides as she raced along. Confused Jap gunners started shooting at each other. Before it was over, 27 Jap vessels were sunk, mostly by one another's gunfire.

*George Counery, in *The Washington Post*.

General Hawkins' Notes

WELL, the war is over. Both the army and navy have won glorious victories and cooperated with each other in the most commendable way.

In consideration of the splendid success of our armies it would seem like carping criticism to pursue the subject of most of these *Notes* which for 8 years have been urging the maintenance and use of cavalry in our army. The high authorities in the army decided against this proposition and suppressed our cavalry at the outset of this war (except in the form of mechanized troops). As such, our cavalry regiments have engaged in field operations and battle against our enemies in the most gallant and efficient style. Cavalry officers detached to serve with other branches have distinguished themselves in a manner that justifies great pride and satisfaction in the hearts of all the old cavalymen who are retired or were too old to take part.

The fact that military successes in our army without the use of horse cavalry does not alter in the least my opinion that such cavalry in large numbers could have been used to great advantage in tactical operations which would have saved both time and losses. But it is all over now and there is little use in pursuing the subject, except for those academic discussions in the future which may interest military students and historians who

like to delve into the secrets of past wars and into the reasons which have actuated the leading personalities in their decisions and activities in the conduct of those wars.

The development of the atomic bomb in the very last phases of the war against Japan may so alter the whole subject of weapons and tactics that it may be useless to speculate now on these subjects. What the future holds forth, no man can tell. Perhaps war itself may become impossible without such utter devastation that the scientific answer to the question of how to stop war has already been found.

Under these considerations, it seems futile, at least at this time, to discuss military operations and tactics as we understood them before and during this last war. The object of these *Notes* has, therefore, disappeared. And it is perhaps time for me to offer a somewhat sad and grateful farewell to those who have in the past been patient and curious enough to read my contributions to *The CAVALRY JOURNAL* for what they may or may not have been worth.

To the Editors and staff of *The CAVALRY JOURNAL* I am very grateful for their help and patience shown me during the last 8 years. And so, this is a termination of the regular appearance of my *Notes*.



The CAVALRY JOURNAL,
September 18, 1945.

My dear General Hawkins:

It is with a sincere feeling of nostalgic regret that we publish your last regular contribution to *The CAVALRY JOURNAL*. I am sure that this feeling is shared by all of our readers who have followed your *Notes* in the past 8 years.

You can be justly proud of the inspiration you have been to the younger officers who have been so fortunate as to come under your guidance and leadership during your years of active service. You can also gain a great

deal of satisfaction in knowing that the ideals and wisdom you have attempted to impart to our cavalry officers through your writings have not been in vain. The responses to your *Notes* that have been received by *The CAVALRY JOURNAL* have attested to that.

We earnestly hope that although you do not find it possible to continue with your regular *Notes*, you will from time to time be able to give us a special article.

With best wishes from the staff and my own best personal regards, I am

Very sincerely,

EDWIN M. SUMNER,
Colonel, Cavalry,
Editor.

Editorial Comment

General Jonathan M. Wainwright

Citation

Citation, the Congressional Medal of Honor: "General Jonathan M. Wainwright, commanding United States Army Forces in the Philippines from 12 March to 7 May 1942, distinguished himself by intrepid and determined leadership against greatly superior enemy forces. At the repeated risk of life above and beyond the call of duty in his position, he frequented the firing line of his troops where his presence proved the example and incentive that helped make the gallant efforts of these men possible. The final stand of beleaguered Corregidor, for which he was in an important measure personally responsible, commanded the admiration of the nation's Allies. It reflected the high morale of American arms in the face of overwhelming odds. His courage and resolution were a vital inspiration to the then sorely pressed freedom-loving peoples of the world."

THE return home of General Wainwright has been characterized by an official and public welcome such as has never before been accorded a returning hero. But mere words are inadequate to express the feelings of all of us who knew him so well. The wisdom, strength, faith and courage displayed by him in military adversity and during the following years of imprisonment by the Japs is worthy of emulation by all Americans in the years to come. For THE CAVALRY JOURNAL and all of the multitude of his friends in the cavalry may we say "God Bless you, 'Skinny,' it is wonderful to have you back home."

Leadership*

by 2d Lieutenant Alvin J. Willink

MAN'S recorded history is a comparatively short one. Before he came, this old earth was dominated by animals whose instinct led them only to survive. He, however, was destined to rule. In these few thousand years of which he has made a record of events, we have seen nations rise and fall; we have seen success and failure; we have seen his weaknesses and his triumphs. In every age, man has been striving to improve his standard, but it has been the minority who have recognized abilities, who have made that something we call progress.

I like to think of Moses as a great human definition of this thing we have come to know as leadership. He had a passion for the interests of his people, under bondage and persecution of Egyptian pharaohs. Out of those

hundreds of thousands whose backs were bent under slavery, there was a man imbued with a sense of duty, for he recognized the worth of the individual.

He knew his thoughts, he shared his sorrows and privations; he held his confidence, and when he went before the pharaohs seeking deliverance for his people he was disregarding the personal issues at stake—his life—for the sake of his people. Then with cool and thoughtful actions and yet with resolution and determination Moses led his people to higher ground.

The world has seen others with those same qualities who chose to use them for personal gain, but the law of retribution has continued to work. Alexanders, Caesars, Napoleons and Hitlers have had their day. True, they were great men, but their ambitions led to oblivion.

From these thoughts, I believe we may briefly view those things which constitute leadership. Dictionaries tell us one thing; diplomats give us another; military men herald their ideas—all a little different, but all meeting on a common ground.

Foremost is character. Character has a beginning in the little habits and motives initiated in youth. Those habits grow and in the final integration with everything else a man is, there is character. Does he know the things that are right or wrong? Does he believe in them to the extent that they become honest convictions, radiating into the lives of all with whom he comes in contact? Does he win his way into the minds and hearts of men, seeking to understand their thoughts, their problems, their aspirations? Is he a friend who is true, who feels his responsibility in taking them into places of danger, facing everything bravely, not letting them down when the going is rough? Does he have pride in his men and does he recognize and praise their accomplishments? Character—it's first in leadership.

That man who leads must have intelligence—knowing more than he expects his subordinates to know, knowing what to do in an unexpected situation, where to employ what he has at his disposal.

In war, morale has great fluctuations. Here, too, is a component of leadership; for the man who establishes morale and keeps it stable has behind him men who are willing to follow at all events. When the going's tough, all will stand. "Where there's a will, there's a way." A leader will create that will to pull them in whatever direction he chooses.

The world has always needed its leaders to lift the less fortunate. At present we stress leadership in war, but look to a better day of peace. More than ever we are going to need men who can "take it and grin," for in them we have hope for the aspirations of a free people and of a better world.

*Prize-winning essay in O.C.S. class 79, graduated August 4 at The Armored School.

Letter to Drew Pearson

Chinese Combat Command
APO 280
c/o PM, N.Y., N.Y.

Dear Mr. Pearson:

I have just received a clipping written by you in a newspaper article dated 26 June 1945, which was sent me by a friend in the States. In this particular article you inferred criticism of the War Department for including in their appropriations several thousand dollars for the cavalry's horses. You further stated that not a single cavalry operation has been used in the entire war.

I then ask have you ever heard of the U. S. 26th Cavalry? They are the cavalymen who fought such a splendid delaying action on Bataan in the early days of the war. They used their horses very effectively from all reports. Probably Cavalryman Lieutenant General Jonathan M. Wainwright can give you more on the subject when he is released from the Japanese. That is one incident when there was an American cavalry operation in this war.

Animals, particularly mules, were used in the bitterly fought battles in the mountains of Italy and on some of the larger islands of the Pacific. Here in China today, animal transportation is one of the most important phases in army supply due to the terrain and lack of roads.

Both the Germans and the Russians used horses in both cavalry and artillery with great successes in various phases of the war. It is true that the Russians are surely busy with new war weapons and developing present ones, but I am sure that they are not neglecting their cavalry in the least.

I fought with the 124th Cavalry of the Mars Task Force during the campaigns to drive the Japs out of Northern and Central Burma. Here we found both our horses and mules indispensable. Here, our operations would have been impossible without them. For hundreds of miles we went through jungles and mountains where no vehicles of any sort could go, not even the Army's famous little "jeep." All of our heavy equipment and supplies were carried by American horses and mules. Horses transported portable surgical hospitals with equipment that saved many American lives. Without this animal transportation we could not have had that splendid medical support. Our successes were to a large extent due to the fact that we were able to get our forces and equipment, and keep them supplied, in areas and positions the Japs thought impossible because of terrain and weather conditions. We were able to be there with our equipment because of our animals. Without them it would have been hopeless. Thousands of American horses and mules were used in the Burma campaign.

Politics tend to always split ideas into a "pro and con" or "this versus that" attitude by those concerned; ex. a horse vs. tank. That is not the way those of us down in the companys and troops who depended with

our lives on our animals for success in battle look at it. It is quite evident that a horse cannot do what a tank can, but it too is evident to many of us that a tank or vehicle cannot replace a horse or mule. Actually tanks never replaced the horse, for they are used against new obstacles and weapons that the horse soldiers never opposed. Those fine points of maneuver and transportation over rugged terrain which the animal units have still stand. For it has been proven again that there are still places to go that the tanks can't go. In other words, animal units still have the same advantage over other units that they've always had.

Now, our attitude is not one to lower the ability and accomplishment of our airplanes, tanks, etc. We fully realize the magnitude of their part in the war, for only a mentally incapacitated person could fail to. But at the same time, realizing that animal-borne units play a very, very small minute part in modern war, we *do* realize that they play a definite part. A complicated machine has many cogs and wheels aiding in its operation, but it may be the wearing away of one little cog that causes it to cease functioning. True, the large parts play the great part in the mechanical operation, but that little cog still does its work. It is so small that you don't realize its value until you find yourself without it.

The use of animals in modern warfare doesn't seem to be quite understood by most people. There's the tendency to think that where airplanes, rockets, etc., start, the horse and mule end. That is not true, for we used bazookas, rockets, heavy mortars, and many other new weapons in our mounted outfits. And we couldn't have used them unless we had had our animals to transport them with. These weapons don't replace cavalry and mule infantry and artillery; they become a part of it just like they become a part of motor transported infantry, tanks, and air forces. Modern animal units are a far cry from the ones in years gone by. They develop new weapons, new tactics, and new uses just as other types of combat organizations do. And on top of that, we don't stop where the air corps starts. We work together. Our supplies were parachuted to us from planes which brought it to us from bases hundreds of miles away. Then our animals carried them to us and transported them wherever the tactical situation demanded. True, without those C-47's we could not have gotten our food and ammunition and other supplies but it is also true, that they would have been of no tactical value to us if we had not had the mules and horses to move them to where they could be employed against the enemy. It is also interesting to note that in certain operations, further coöperation between animal combat units and the air forces was obtained when hundreds of mules were flown to areas where needed by air transportation.

There are great numbers of officers of higher rank who could spend much time on this subject, but I, as are many other company grade officers, am interested in

it because we have actually seen the value of our animals in combat: We believe that it would certainly be a mistake for the army to forget animal units entirely. For in this war we have found in our own outfits on many occasions a crying need for men experienced and better trained in animal management, and the proper care of animals is a most important thing in animal units. We strongly believe that the postwar military plans should have in it better and improved training in animal management and employment of animal combat units. For mechanics are just as out of place in the cavalry as a veterinary technician in a tank battalion. Let's train them both, for we can't predict the future. Who knows what terrain we will fight on in the next one? It might be on terrain such as in Burma and Italy. There's no way of telling, for much of that type of country is in our own hemisphere. So, we feel we'd better stay prepared for *anything*.

In short, I am trying to say that a person cannot come to a conclusion that animals aren't needed in the future and weren't used in this war if he looks at the entire war. If he looks at the European campaigns only, maybe so. But please remember that American soldiers sweated up trails and mountains with mules and horses against the enemy, that American blood was spilled and American lives were lost in other places besides Europe. Men and officers of outfits such as Merrill's Marauders and the Mars Task Force can tell you of practical and valuable use of our animals in this war. By all means, cavalry, "jackass" infantry, and pack artillery should be considered in our postwar military plans. Don't you really agree?

I know that you are very busy, and that there is a great possibility that you shall never see this letter personally, but if you do, and your time permits, I would sincerely appreciate an answer.

Very sincerely yours,

BENJAMIN H. CARPENTER,
1st Lt., Cavalry.

✓ ✓ ✓

Let's Face the Facts

by Colonel Roy W. Cole, Jr., U. S. Cavalry

NOW that the war with Japan has ended, a group of young and vigorous cavalry officers who have earned their spurs in combat will return to the States, clamoring for new assignments. The majority will endeavor to secure a detail which will further reputations already well established in their chosen career. The degree of success open to these deserving officers depends on the prompt solution of a problem unique in the annals of the mounted arm. It is time to face the facts—the existence of the cavalry in all its name implies hangs by a very slender thread.

What are our officers doing today? Through the unavoidable exigencies of war, save for a few old faithfuls guarding the North Gate at Riley, they have been weaned away from the cavalry. They serve, in what

General Krueger proudly calls the "incomparable infantry" of the 1st Cavalry Division. They serve in the veteran mechanized reconnaissance squadrons and superb armored divisions now being redeployed after their European victory. Throughout the world they serve on staffs of all denominations, sizes, and descriptions, daily demonstrating the thoroughness of their training. Nowhere on the horizon does one see the nostalgic "low, thick cloud of dust" which, according to the "Tactics and Technique," means a mounted column. The cavalry of today, therefore, is that in name alone. Actually it is infantry, armor, and spare parts. In summation it appears that everything points to a gradual and inevitable strangulation of the arm. This, then, is the combination of circumstances which causes cavalrymen of staunch heart to shudder with dismay when asked, "What is going to happen to the cavalry?"

Nobody knows the answer, so it seems. As far as cavalry officers overseas can determine, their future careers are nebulous somethings engulfed in a universal and abysmal ignorance resulting not from apathy but from the lack of an announced policy.

Paramount is the all-important question of whether cavalry shall exist in name or in actuality. For detailed reasons too numerous to mention but inseparably integrated with tradition, accomplishment and combat necessity, it seems logical to assume that as long as we have an army, we will have a cavalry. Only its form seems in doubt. We should have cavalry because a branch and a way of life which produces leaders like Patton, Truscott and Mudge cannot be discounted without incomparable potential loss. We will have a cavalry because the battle-tried veteran officer of today is qualified as never before to assist in the recuperation of our arm after the War Department has performed the necessary surgery; because the accepted standards of the mounted arm over the years of our nation's wars have been equalled in valor and surpassed in versatility of our troopers of today. In the modern army to be maintained by our dynamic country after this war, should we not include the additional safeguard to our balanced ground force of a mounted arm? Should we not continue to maintain a cavalry component which like its associates will be second to none in personnel, arms, equipment and indoctrination?

It has been stated that cavalry is fighting as infantry or armor. Assume one is an officer of the regular establishment or one aspiring to a permanent commission, what do the coming years have in store? It is an established fact that one's combat record will largely determine the success or mediocrity of one's subsequent career. Should the cavalry retain its name but be absorbed by the armored force, hundreds of infantry-trained officers who have fought through the great battles of the Pacific war will be lost to the arm. Their combat experience will avail them little and should they remain faithful to the crossed sabers, except for certain staff-trained individuals or outstandingly su-

perior commanders, they will perforce be passed over and rightly so. It would appear that the dismounted cavalry officer with such a background may find his best opportunities with the infantry. Conversely, should our cavalry be doomed to fight dismounted, then the equally valuable services of our mechanized-trained officers will be lost to the branch and their sole salvation would be in the waiting arms of the armored force.

In this war, our cavalry officers have lived up to their heritage and in the next they inevitably will do the same. Do they not deserve to decide the trend of their future careers while the time is right rather than wait for an uncertain future to force the decision upon them? If we are to be infantrymen or tankers, tell us so we can make our plans and compose our souls. If there is a fighting chance for a fighting mounted branch, encourage us to the end that our experience and ideas can assist in its revitalization. Surely there are cavalrymen who in time of war prepare for peace that future wars will be victorious. Strengthened by an abiding faith in the future of cavalry and inspired by the challenging regimental motto "Suivez Moi," may they show us the way toward an enduring and successful career.

The Charge of Okinawa*

THROUGH the red, soupy swamps and the rice paddies came the Marines, not on foot or in tanks, but like Cossacks, booting their horses into the fray. Instead of swords they brandished flame throwers and charges of TNT. They rode through the northern reaches of the island in what historians may speak of as the Charge of Okinawa.

Mounted on native steeds commandeered from the countryside, the horsemen formed a highly mobile unit that in 7 days pushed remnants of retreating Japs 9 miles farther northward. They did it by flushing out caves and pillboxes with flame and dynamite. The horses made the work quicker, and more terrifying to the pedestrian enemy.

It was spectacular, and fun for the Marines, with one possible exception. One guy's horse enthusiastically took a 6-foot cliff in his stride. Down went the rider with an armful of explosives, his heart in his mouth. He came up unhurt, but that didn't stand much in the way of his getting back to the foot soldiers, posthaste.

Soviet Cavalry Against the Japs

Soviet Cavalry was on the move again during that nation's brief war against Japan. During the period of the week that Russia fought Japan press dispatches that told of the success of Soviet cavalry followed one another to the world's front pages.

Soviet cavalry, Mongolian cavalry, and Cossacks—previously so feared by the Germans—in coordinated attack with tanks, swept easily through the Manchurian Japanese army.

Excerpts from Soviet releases which told of the part played by cavalry follow:

Aug. 9 (AP)—The Red Army's Stalin tanks, infantry and massed cavalry rolled through numerous gates in Manchuria's defenses with sensational advances today, Moscow dispatches reported, and Tokyo announced the broadening of the Soviet attacks to Korea and Sakhalin Island. . . .

As waves of Russian infantry, tanks and cavalry, backed by massed artillery, battered into Manchuria from the east, west and north in a huge pincers operation against the Japanese Kwantung Army, Moscow reported swift initial gains. . . .

London, Aug. 10 (AP)—Using tactics proved in the war against Hitler, Generalissimo Joseph Stalin's armies made their deepest slash into Manchuria in the northwest.

Tanks and cavalry following infantrymen manning armored trains surged 93½ miles from the Russo-Manchurian border area north of Hulun (Dalai) Lake and captured the rail junction and five-way highway junction of Hulun (Hailar), Moscow's broadcast said.

From Hulun, the Russians battered another 12½ miles into the 2,660-foot-high foothills of the Great Khingan mountain range barring the path to the central Manchurian basin, and tearing out a total gain of 106 miles. . . .

Some 130 miles to the south, tanks and cavalry swept across the arid, almost waterless desert land east of Lake Bor and, pushing far beyond the Outer Mongolian border, again reached the foothills of the Great Khingan range.

. . . For 180 miles south of Foyuan, the Russians were battling across the eastern frontier of Manchuria in rapidly spreading fighting, spearheaded by big Stalin tanks and hard-riding Cossacks. . . .

Siberian horsemen and tank-tipped armored spearheads, breaking across the great Khingan mountain range with its 8,000-peaks, emerged on its eastern slopes at a number of unidentified places and plunged toward Harbin from the northwest. . . .

London, Aug. 12 (UP)—The Soviets last night revealed that their tanks and Mongol horsemen had advanced more than 120 miles across the waterless wastes of western Manchuria in the fourth and newest of their offensives in the 6-day-old war.

Bursting out of the Nomonhan area of Outer Mongolia, the column by-passed the heavily-fortified railhead at Wenchuan, cut the Korean-Mongolian railway at Solun and swept on another 60 miles through the railway city of Wangyehmiao, 220 miles west of Harbin.

The advance completely outflanked the Khingan mountain barrier and the ancient Manchurian Wall to the north. It also narrowed the gap between the eastern and western arms of the Soviet pincers on Manchuria to less than 400 miles.

*The Leatherneck.

THE ATOM

*The data for this story was obtained and compiled
by Evelyn S. Drayton, Book Editor*

Glossary

ATOM—One of the billions of almost inconceivably small "solar systems" of which the known elements of the universe are composed.

ATOMIC NUMBER—The number of excess nuclear positive charges or the number of planetary electrons of a unionized atom.

CYCLOTRON—Giant atom-smashing machine which scientists used for research.

ELECTRON—Negatively-charged particle which speeds in an orbit around the nucleus of an atom.

ISOTOPE—A variant of an element having identical chemical properties as the original element but atoms of different atomic weight.

MOLECULE—One or more atoms joined in chemical combination.

NEUTRON—Neutral particle found in the nucleus.

NUCLEUS—Center of the atom, containing one or more neutrons and one or more protons.

PROTON—The natural, elementary quantity of positive electricity when associated with a mass of atomic magnitude.

RADIOACTIVE—Capable of emitting spontaneously rays consisting (at least in part) of material particles traveling at high velocities.

URANIUM—A luminous white metal which comes from pitchblende and is found principally in Canada and Rhodesia.

URANIUM-235—Uranium atom having an atomic weight of 235.

URANIUM-238—Uranium atom with an atomic weight of 238—heaviest natural atom.

THE structure of the atom is best described by saying that it compares to our solar system, but in infinite miniature. The center, or sun, is the nucleus, around which revolve the planets, or electrons. The nucleus is composed of a conglomeration of tiny particles of two types: protons, which are positively charged; and neutrons, which are neutral. Thus all matter is made up of three things:

Electrons: negative charged, small weight.

Protons: same charge, 1840 times the electrons weight.

Neutrons: no electric charge about the same weight as protons.

These are bound together by tremendous energy supplied by the attraction between the protons in the nucleus and the electron planets.

Definite elements are known to be made of atoms which differ in the number of electrons. Thus, the hydrogen atom contains one electron, the iron atom contains 26, the lead 82. Going up the atomic scale adding one proton and a varying number of neutrons for each successive element we arrive at last at uranium. This heaviest element is invariably characterized by 92 protons and 146 neutrons, giving it a total of 238. Two other forms weighing 235 and 234 also occur in small quantities. These are called the three natural isotopes of uranium.

All known elements heavier than mercury have isotopes that are naturally radio-active. Their nuclei are so complicated that occasionally one will spontaneously simplify itself by shooting off a particle.

The atoms are so small that they run about 100,000,-

000 to the inch. The nucleus is a tiny speck 10,000 times smaller, but containing tremendous force, much greater than electrical force. The greater the atom the greater the force binding it together.

Scientists have chosen uranium for their experiments in atom-smashing because if one of the atoms of uranium is increased by one unit in the process of shooting with a neutron "bullet" it becomes unstable and smashes into two equal parts.

To smash an atom really means to produce a violent rearrangement in the tiny central nucleus. The difficulty of this becomes apparent when it is recognized that the atomic field contains a great deal of space, just as the solar system contains vast areas of space between its planets.

In order to smash an atom of uranium with a neutron bullet a motive power must be supplied the electrically negative neutron. This is sometimes provided by the use of the heavy hydrogen atom, which contains a nucleus in which a proton and a neutron are combined. When whirled in the cyclotron, or atom-smashing machine, the hydrogen atom hits the target—the uranium atom to be smashed—and the hydrogen nucleus breaks apart. The uranium nucleus, stimulated by the neutron bullet, may divide into two smaller nuclei of roughly equal parts. These fragments are not themselves stable, and quickly disintegrate to form still another nucleus. In fact, the whole series of transmutations generally follow the fission of uranium.

When the uranium atom is split in two parts and two lighter atoms are formed, they require less energy to hold together, the excess energy explodes and produces 200,000,000 electron volts. A far greater supply of energy than is required by the original projectile.

This apparently great amount of energy is by no means so tremendous when compared to the atomic universe. Unless the disintegration spreads to other atoms it cannot even be observed by the eye.

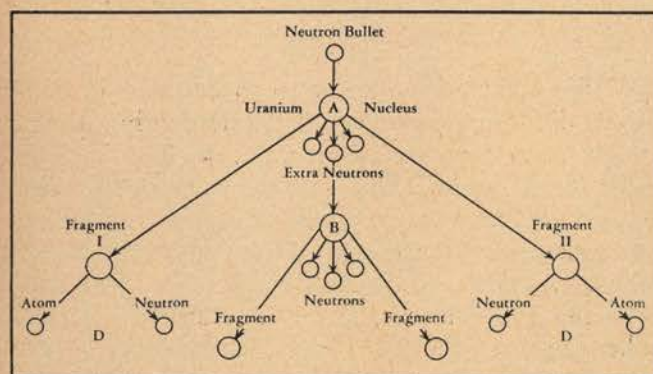


Diagram of the theoretical chain reaction for Uranium. The neutron bullet at the top splits the Uranium nucleus A into fragments I and II and in addition erupts three extra neutrons. One of the latter may hit another Uranium nucleus B, split it into similar fragments and neutrons C. Each of the first two fragments may break down into another atom plus neutron, as at D.

The neutron bullet must be slowed down to penetrate an atom of U235 and blast it. In order to produce a chain of disintegration the free neutrons must be slowed down from their usual pace in order that they may continue to strike and blast more atoms. This chain disintegration is necessary to produce the power required if atomic energy is to be productively useful.

Gamma rays emerge out of the blast that tears the uranium atom in two. These are powerful radiations that can tear electrons off of atoms and shatter them. This creates debris in the field of the atom and the chain of reactions is carried on by the countless neutrons being released from each split atom. In this process the neutrons are slowed and thus continue the process by striking atom after atom. In the course of these explosions a tremendous amount of energy is released.

Atomic energy, released through the splitting of atoms, differs radically from ordinary types of energy hitherto available to man in that it involves annihilation of matter. When an atom is split, part of its matter is converted into energy.

This is materially different from obtaining power by the use of a water wheel, or by coal or oil. In the case of the water wheel the water molecules taking part remain entirely unchanged. In the case of burning coal or oil a more intense process takes place. As the atoms of carbon, hydrogen, and oxygen are regrouped by combustion into new molecules forming new substance the atoms themselves remain unchanged—they are still carbon, hydrogen and oxygen. So far as can be measured none of them lose any part of their mass.

In the case of atomic energy, however, the atom itself completely changes its identity, and in this process of change it loses part of its mass, which is converted into energy. The amount of energy obtained is directly proportional to the amount of atomic mass destroyed.

According to current theory, it is the same energy stored in the atoms of the material universe that keep the sun radiating heat and light and the stars radiating their enormous quantities of light and heat for billions of years, instead of burning themselves out in periods measured only in thousands of years.

The sun is believed to obtain its energy through the partial destruction of its hydrogen, through a complex process in which the hydrogen is converted into helium. In this process 4 hydrogen atoms, each with an atomic mass of 1.008 (total, 4.032 atomic mass units), combine to form one helium atom, which has an atomic mass of 4.003. This represents a loss in mass on the part of the 4 hydrogen atoms of 0.029 atomic mass units, converted into pure energy. The amount of energy liberated in this process represents an actual loss of the sun's mass at the rate of 4,000,000 tons per second, a mere speck of dust in relation to the sun's total mass of two billion billion billion tons.

It is this power that scientists harnessed to develop the first atomic bomb. In this power there also appears the prospect of an ultimate flow of multiple benefits.

More Power for Cavalry

by Colonel Albert E. Phillips*

SOUND military strategists have always maintained that every increase in fire power and armament increased the power and value of cavalry. Even though planes and tanks were supposed to have sent the horse permanently to pasture, horse cavalry emerges from the war a strong, more powerful, more essential combat arm than ever. The strategists knew that planes could serve cavalry and cavalry could serve tanks. They also knew that planes were often grounded, and that there was a great deal of terrain which laughed at the internal combustion engine.

The modern motorized army called for horse cavalry, pack artillery and pack trains. The great war machine that rolled so rapidly to cut Sicily in two was halted for battle along the north coast road at Randazzo, temporarily stymied by a series of natural barriers, rugged mountains, precipitous ridges, gutted hills, and many rivers. The leaders of this army were, for the most part, cavalrymen—Patton, Truscott, and others—and they

knew that on the flanks, horse cavalry has a field of its own that cannot be supplanted.

In Italy, it was a matter of operating against the enemy's flank and rear in mountainous terrain where horse cavalry was the only combat force that could move faster off the roads than the retreating German infantry could move on them.

No single large-scale operation was undertaken on the Russian-German front without active participation of Russian cavalry.

As recently as August 9th the Moscow radio reported that in the war against Japan: "We will use the same successful tactics we used against the Germans. Russian tanks and cavalry are everywhere." With air power leading, the Russian tanks and cavalry overwhelmed Japanese cavalry and other forces.

U. S. horse cavalry is a force apart from European cavalry, including the Russian. We long ago discarded the saber for the M1 rifle and have always used the packsaddle for all weapons capable of being packed. It

*U. S. Cavalry, Retired.

With the development of the recoilless rifle, the power of cavalry can be further increased. Shown below is the 75mm "kickless" weapon: it is 82 inches in length, fires a 14-pound shell more than 4 miles and is used from a light tripod.

Official Photo, U. S. Army Ordnance Depot



was the world's most powerfully armed cavalry and with the development of recoilless rifles we can now further increase that power by artillery fire.

The 57 and 75mm recoilless rifles provide terrific fire power for their weight, and thus will create new opportunities for cavalry, particularly horse cavalry. These rifles put into the hands of the dismounted soldier the striking power of artillery. More important, they may be used against tanks, and in close-up assault positions against pillboxes and snipers as effectively as at the longer artillery ranges. The rifles are capable of being packed and may be moved over rugged terrain at the speed of cavalry instead of the marching rate of pack artillery.

The 57mm Model 18 is 61 inches long, fires a high explosive shell weighing nearly three pounds a distance of two miles, and may be fired from the three rifle positions or from the .30 caliber machine-gun tripod. This rifle weighs only 45 pounds.

The 75mm is 82 inches long, fires a 14 pound HE shell more than 4 miles and may be fired from a .30 caliber M.1917-A tripod. It weighs 110 pounds. This rifle can be easily transported on one horse by pack. Both rifles are extremely accurate. Telescopic sights are provided for both direct and indirect fire with the 75mm.

If we concede that the army of tomorrow must be organized for wide dispersion and high mobility, then the need for horse cavalry is definitely proven. In the European theater alone the natural obstacles to armor were many, not even considering the man-made obstacles of tank destroyers, bombs, guns, mines, traps, and other road blocks. Officers of mechanized cavalry regiments in that theater were among the first to urge the incorporation of horse cavalry "where mechanized cavalry could no longer move with ease, such as in wooded areas, in crossing fordable rivers, and in circumventing mine fields." The ability to climb, especially in muddy and rocky terrain, might be added. Whereas the 4-wheeled drive vehicle climbs on all 4 wheels, the horse pushes with his hindquarters, and pulls with his forequarters. The legs do not work in unison, it is push and pull as needed. Another phase of the horse's tractive

power is the ability to dig in and grip. As Kipling wrote:

"They send us along where the roads are,
But mostly we goes where they ain't,
We'd climb up the side of a signboard,
And trust to the stick o' the paint."

The fully integrated and self-contained division remains as the most adaptable unit in our army for a vast series of operations—a task force supreme—with infantry, cavalry, and artillery action and fire, to which the recoilless rifle is an invaluable addition.

For cooperation with mechanized cavalry, the horse elements should be lightly armed with rifles and light machine guns and, perhaps, with mortars and the 57mm recoilless rifle.

In the rage of conflict there is no team comparable to cavalry for knocking the enemy out of the hills, blocking him on the roads and striking at vital and critical points either alone, or in coordination with mechanized and armored units. There is also the typical cavalry tactic—the "in-and-out" actions, in which a relatively small force may inflict a series of damaging blows. If the enemy is without cavalry, all the more reason for us to have it. *We would not give up armored units because an enemy was not equipped with armor.*

With the assurance that we will never be less than first in the air and in armored strength, an adequate complement of horse cavalry will complete the trinity of the mobile arms. Instead of outmoding cavalry, planes and tanks have increased its value to a modern war machine.

If warfare has taught the cavalryman anything, it is that when the employment of cavalry is indicated and not used, there is a great loss of "time" resulting in heavier casualties.

From the great war of the machine age there emerges a composite military team, mechanized and horse for all the distinctive missions of cavalry, particularly those on the always critical flanks of friend and foe. With the advent of the recoilless weapons the cavalry has further improved toward its battle maxim fire power and mobility.

The 57mm recoilless rifle can be fired from the three rifle positions, and will shoot a three-pound shell two miles.

Official Photo, U. S. Army Ordnance Depot



The Recoilless Rifle

by Colonel Rene R. Studler*

TWO spectacular new weapons—the 57mm rifle, M18 and the 75mm rifle, M20—have been recently standardized by the Ordnance Department. These rifles make available to our soldiers, individually and in small groups, weapons of artillery striking power and range at weights permitting hand-carrying and, in the case of the M18, shoulder firing. Enthusiastically received by service boards even in early pilot-model form, and battle tested in both theaters of operation, the recoilless rifles are already respected veterans in the field of firearms.

Both standardized types of recoilless rifles operate on the same basic principle—counteracting the thrust given to the projectile by permitting the rearward escape of a portion of the expanding gases from the burning propellant charge instead of by the conventional recoil mechanism of standard artillery. The idea is not new—it has formed the basis of an extensive patent literature covering a period of over 25 years. Successful application of the principle has, however, required solution of many complex problems ranging from highly theoretical interior ballistic computations to equally involved work in mechanism design. The resulting weapons are simple, rugged, lightweight, and powerful. In each a hinged breech containing a trigger-operated sear, hammer, and firing-pin mechanism and provided with Venturi tubes for gas escape, opens into a chamber of considerably larger diameter than the complete round with which it is loaded. The round consists of a standard type artillery shell and a cartridge case of conventional shape. The shell has a pre-engraved rotating band which engages the rifling of the weapon's bore on loading, and the cartridge case, which contains the propellant powder and primer, is perforated to permit the escape of gas, on firing, to the enlarged chamber and thence through the Venturi tubes in the breech to the outside air. A waterproof paper lining protects the charge prior to firing and assists ignition by requiring a small pressure build-up within the case before rupturing. Rotation of the projectile is counteracted by proper alignment of the Venturi tubes, and replaceable metering elements in the breech of each weapon provide for corrections of such unbalance as develops due to wear during the life of the rifle.

The 57mm rifle, M18 weighs approximately 45 pounds. It is equipped with a telescopic sight and with iron sights, both calibrated in yards. A combination shoulder rest and bipod permits comfortable shoulder firing of the weapon in standing, sitting, or kneeling positions. An extendable front handle provides steadiness in these positions and, with the bipod, provides a 3-point support for prone firing. The trigger is correctly placed for convenient firing in all three positions and safeties prevent accidental discharge of the weapon. One of the safeties is placed at the side of the chamber and

must be operated by the loader before the trigger can be used to fire the piece—insuring the loader of an opportunity to avoid the blast zone. On firing, this danger zone spreads rearward from the breech with lethal intensity over a triangular area 50 feet to the rear. Ammunition in complete rounds weighs about 5 pounds per round, and is available in smoke, high explosive, and hollow-head antitank. These shells, matched for trajectory, weigh approximately 2¾ pounds and have a range of over two miles. Accuracy of this rifle is comparable to that of the .30 caliber M1.

The 75mm rifle, M20 is a 110-pound, 82-inch weapon which is normally fired from a standard machine-gun tripod. It is equipped with a telescopic direct fire sight and an artillery type panoramic indirect fire quadrant. Ammunition, in complete rounds, is assembled with standard 75mm artillery shell of weights averaging near 14 pounds. Rounds are loaded to match trajectories over the direct fire range and tables permit artillery type long range fire control. Maximum range for this weapon is over 4 miles and complete rounds average about 21 pounds in weight. Extreme accuracy is a feature of this rifle as well as of the M18, and it likewise produces, on firing, a triangular danger zone to the rear—approximately twice as large as that created by the smaller weapon. One safety prevents accidental firing of the piece—the size and arrangement of the rifle make a separate loader's safety unnecessary.

Both of these rifles were first employed tactically in the 17th Airborne Division's jump across the Rhine. The men who fought with and near these rifles in this operation developed a great affection and respect for them.

One 75mm rifle (with tripod and 8 rounds of ammunition) was hand-carried by a 5-man crew in support of an assault company during one day's advance in this operation.

Seven of the 8 rounds fired on this day were direct hits silencing fire from houses which constituted targets. The eighth round, fired at dusk, went through windows on opposite sides of a house without exploding.

Fifty-seven-millimeter rifles on this airborne operation immobilized three German MK IV Tanks with a total of 8 rounds at an average range of over 450 yards. A machine-gun nest was knocked out at 800 yards with one round and using iron sights on the same operation.

Later use of these rifles on Okinawa showed their value in positions inaccessible to standard artillery. One round from a 57mm rifle killed two Jap snipers in a dugout at 400 yards. At 1200 yards, 11 rounds from another 57mm rifle yielded 2 hits in each of two adjacent caves and effectively silenced artillery fire from these positions. Three direct hits from 7 rounds in a 5-foot x 2-foot cave opening at 1½ miles were chalked up by one 75mm rifle in this operation.

*Chief, Small-Arms Development Office, Chief of Ordnance Division.

Flying Animals Over the B

*by Colonel Ralph W. Mohri, U.C.**



A truck loading point for operations that saw 2,682 horses and mules flown over the Burma "Hump." Equipment and animals await a C47 which is coming in for a landing. The animals were used in terrain that beat the army jeep.

IT is doubtful whether any theater of operations has had the occasion to utilize aircraft for transporting horses and mules to the extent this type of transportation has been used in the India-Burma Theater. Ordinarily, trucks, railroads, and steamships constitute the usual carriers for these animals in connection with military operations. Not until the present war have military aircraft been employed for this purpose, but it is questionable whether many are aware of the fact.

This article describes the air shipment in the India-Burma Theater of 2,682 animals, that required more than 600 plane flights to accomplish. The shipments were conducted with remarkable success, the more remarkable because none of the personnel assigned to the project had had previous experience with this type of operation. Before proceeding with the details of the subject, however, a brief discussion of the situation that made the air shipments necessary will be presented.

TERRAIN THAT BEAT THE JEEP

Pack horses and mules were used extensively in the Burma campaigns of 1943, '44 and '45 by American, British and Chinese forces. This was not occasioned through lack of motors, but science has yet to produce a motorized surface vehicle capable of traversing the jungly, swampy, and mountainous terrain peculiar to northern and central Burma, where roads are conspicuous by their absence. Even the famous jeep met

its match in Burma. Therefore, combat forces were largely dependent upon pack animals for transporting supplies and equipment over the narrow jungle and mountain trails. Tactical authorities were free to admit that without them, the successes which marked the Allied campaigns in Burma would have been materially retarded or almost impossible to achieve. It is premature to disclose the exact number of horses and mules that were used, but these were considerable.

The Chinese forces operating in western and central China also relied on pack animals because of the scarcity of roads, as well as a lack of motor vehicles and fuel. One must refer to a topographical map to appreciate fully the rugged terrain that exists in this part of the world, and was included within the boundaries of the India-Burma and China Theaters.

In the latter part of 1944, Japanese forces in eastern China began a concerted drive to the west, threatening both American and Chinese installations in central China, and promising to nullify the usefulness of a number of air bases from which the USAAF had been operating. Simultaneously, Japanese resistance in Burma was swiftly crumbling before the combined efforts of American, British and Chinese troops, although complete repossession of the Burma road had not been obtained. Nevertheless, the situation in China had reached such a critical stage, that reinforcements were urgently required if the Japanese drive to the west was to be halted.

It was decided to withdraw several well trained and

*Hq. U.S.F. I.B.T.

Burma "Hump"

equipped Chinese organizations from the Burma operations to stem this advance, because the situation in Burma was considered to be so well in hand that such a withdrawal would not jeopardize our efforts there. However, the Burma road could not be utilized to effect a transfer of these troops to the China front, and marching them over the mountain trails to their destination was out of the question. The only practical solution was to fly the troops and their equipment to the scene of action.

PACK ANIMALS ESSENTIAL

Pack animals, suitable for carrying organizational loads and supplies were not available in China, and if the mobility and combat effectiveness of these troops were to be maintained, pack animals were essential. Thus a decision was made to fly the animals, which these organizations had been using in Burma, to the China front.

Up to this time, the India-Burma Theater had not employed aircraft to transport horses and mules, although our Air Force did assist in flying several hundred animals from India to Burma for use of the British Wingate expedition. The Wingate expedition was a long-range penetration project that was flown into central Burma via glider and plane in the spring of 1944; both the USAAF and the RAF participated in transporting the troops and their equipment. Unfortunately little information was available concerning the details of shipping animals, as these were handled entirely by the British. Our air crews merely flew the loaded planes. Consequently, shipping horses and mules by aircraft was something new as far as we were concerned, and there was no time to practice.

We realized that animals could not be dumped unceremoniously into the cargo compartments of the planes like so many sacks of mail. First of all, they would have to be flown hundreds of miles over the Burma "Hump" under the most hazardous flying conditions in the world. The "Hump" needs little introduction, having been widely publicized by the American press, which has vividly described its dangers. It meant that planes would have to fly at altitudes sometimes in excess of 20,000 feet to clear the peaks of the forbidding Himalayas or to get above weather that is almost a constant feature of the "Hump" the year around. It meant that planes would be subjected to frequent up and down drafts, or tossed about in the skies like a shingle in a Kansas cyclone. It meant that emergency landing fields were far apart, often too far for a plane in distress. The horses and mules would not be dead cargo, which could be lashed securely in place to prevent shifting, but chunks of living matter weighing between 700-1,100 pounds, if excited, capable of

seriously damaging the planes and endangering the lives of crew members.

LACK OF OXYGEN A HANDICAP?

There were other factors, too. What would happen in the event planes were forced to high altitudes where the air was so thin that crews and passengers always donned oxygen masks? Would the animals black out peaceably or thrash wildly about on a reduced oxygen intake? We did not know the answer to that either, although the animals were not expected to die. Would it be better to narcotize them before loading or would loss of coordination work to a disadvantage in rough weather? What was the best method of restraining the animals within the aircraft? All of these and more not mentioned, were factors that had to be considered.

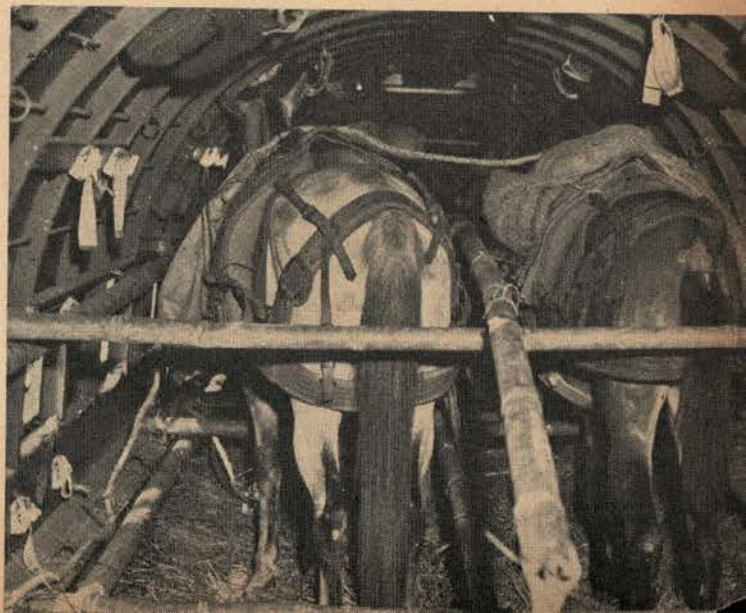
In December 1944, the first of two series of air shipments was begun. The theater veterinary service was called upon to supervise the project and make all arrangements for loading and restraining the animals within the planes. Major Lee T. Railsback, V. C., was the officer directly in charge, assisted by USF veterinary enlisted personnel from several organizations stationed in Burma.

Douglas C-47's were made available to ship horses and mules. It was found that the cargo compartments of these planes were adaptable to carrying 4 to 6 mature animals, together with an attendant for each and his personal equipment. Five days' rations for the attendants and 5 days' grain rations for the animals could also be carried. The number of animals and men loaded on each plane was governed by the weight. Pilots were willing to carry up to 6,500 pounds gross weight, which meant that 4 horses or mules weighing approximately 1,000 pounds each, or 6 weighing 600-700 pounds could be shipped in each plane.

PLANES SPECIALLY EQUIPPED

After flying the animals of the Wingate expedition, it was discovered that urine had seeped through the flooring of the planes, contacted the control cables

Plane is loaded with 4 animals. Two attendants are stationed between the first and second set of stalls. The animals did not mind the altitude, which was 14,000 feet.



which lie beneath, and corroded them. A complete overhaul of the cables was necessary to eliminate any possibility that the corrosion had affected their tensile strength. The time-consuming overhaul would have been unnecessary had the flooring been properly protected to prevent seepage. To accomplish this, water-proofed tarpaulins were laid the full length of the cargo compartments, and these covered with a heavy coconut matting on which loose hay was scattered to provide secure footing for the animals. A certain amount of damage to the aluminum floors of the planes resulted from the stamping of the shod animals, so that later heavy sheets of plywood were used to reinforce the floors before laying the tarpaulins.

Individual stalls were constructed in the cargo compartments from green bamboo, as illustrated, in the following manner:

1. The bucket seats of the plane were removed, and a pole 30 feet long was placed along each side of the cargo compartment, 17 inches above the level of the floor. The poles were securely fastened in place by wiring them to the rings normally used to fasten safety belts.

2. A 30-foot pole was placed along each side of the plane parallel to those mentioned in paragraph 1, and 20 inches above them. These were wired into the "D" rings immediately above the windows. ("D" rings are standard equipment on C-47's.)

3. Two feet in rear of the plane's radio compartment, the front of the first set of stalls was constructed by wiring cross bars of bamboo to each set of poles as described in paragraphs 1 and 2.

4. To form a partition between the stalls, poles 30 feet long were wired to each of the cross bars mentioned in paragraph 3. Then two animals were placed in the first set of stalls, and the stalls completed by placing cross bars closely behind them. These bars were secured in the same manner as the first set of cross bars described in paragraph 3. As soon as they were in position, the partition poles were wired on.

5. Eighteen inches in the rear of the first set of stalls, a second set was constructed in the same manner as the first. In case 6 animals were to be carried instead of 4, a third set of stalls was placed 18 inches in rear of the second set. The 18-inch spaces between stalls provided head and neck room for the animals, because the forward cross bars were placed close to their chests. It also provided a space for the attendants between the stalls, whose duty was to steady the animals by grasping their halters.

LOADING ANIMALS

The animals were loaded with stripped pack or riding saddles. Heavier animals were placed in the forward stalls to keep the center of the load as far forward as possible. They were restrained in their stalls as follows:

1. Halter shanks were passed over the top cross bar



Stalls for airborne animals in C47s were constructed, as seen in this photo, from bamboo poles. Two animals have already been loaded. Note hay on floor for secure footing.

in front of the animal and tied with a short shank into a forward safety belt ring on the side of the ship.

2. One end of a 15-foot, $\frac{3}{4}$ -inch manila rope was tied into a safety belt ring equidistant between the animal's head and tail, passed over the middle of the pack or riding saddles of a pair animals, and tied into a safety belt ring on the opposite side of the ship, as in photo on preceding page. These ropes were not drawn taut, but were loose enough to permit a slight movement of the animal, and tight enough to keep the animals from being thrown against the ceiling of the compartment in case of a sudden down draft. To a limited extent, they prevented the animals from being thrown into the side walls of the planes.

Rations and personal equipment was placed closely in rear of the last set of stalls. When hauling more than 4 animals, some pilots preferred to have the animal rations placed in front of the leading stalls to take the weight off the tail of the plane.

The animals were loaded into the planes from ramps and also from trucks. However, coaxing horses and mules up a steep ramp into the darkened plane compartment was too troublesome and the ramp methods were discarded early. Practically all planes were loaded by backing truck loads of animals to the doors of the planes, which permitted them to be led in on the same level.

Only a few 2½-ton 6 x 6 cargo trucks equipped with stock rack bodies were available for loading the planes. These same trucks with standard bodies worked just as

well, although the sides were much lower. In only one instance did an animal attempt to plunge over the side and have to be destroyed because of the incurable injury it sustained. These animals were hauled only a short distance from the point at which they were loaded into the trucks, to the plane.

1,582 HORSES FLY "THE HUMP"

In the first series of air shipments, 1,582 horses and mules were flown across the "Hump" to China. This project required 14 days to complete, an average of 113 animals per day. Major Railsback, who was responsible for making the necessary arrangements, loading of the planes and construction of the stalls, was assisted by 25 veterinary enlisted men who worked in crews of three to load the trucks, and crews of two to load the planes. Eight 2½-ton, 6 x 6 cargo trucks were used in the loading operations. The crews were able to load completely 25 to 28 planes in 1½ to 2 hours.

All animals were subjected to a careful physical examination prior to loading, and those found to be diseased, unserviceably sound, or gave indications of being unmanageable for safe flying were eliminated. Horses and mules were newly shod before shipping, because they had to be used immediately upon arrival at their destination. Plane crews were instructed in the proper method of destroying a horse or mule with a service pistol in case trouble was experienced in flight. In all the shipments only one animal had to be destroyed, because he developed an uncontrollable excitability while a plane was in midair, and threatened to damage it seriously.

In February, 1945, a second series of air shipments were made, in which 1,100 horses and mules were flown from Burma to China. In some of the later shipments, the stalls were constructed of plywood instead of bamboo poles. While these took longer to build, they afforded more protection to the sides of the planes.

Records indicate that only one plane out of all the shipments had to make an emergency landing when one of the animals broke loose from a stall, but no serious damage was done.

CONCLUSIONS

The following observations were made by the plane crews who flew the animals across the "Hump."

1. The horses and mules were very quiet after being airborne.
2. Between the altitudes of 14,000 to 20,000 feet, the animals appear sleepy, but do not become excitable as the higher altitudes are reached.
3. When up and down drafts were encountered over the "Hump," which raised or lowered the planes as much as 2,000 feet per minute, the animals rode better than expected.
4. When planes lose altitude, animals push forward in their stalls.

5. Only minor damage to the planes were reported from the entire operations.

The ground crews who loaded the planes, made the following comments:

1. The truck method of loading is much faster than any other, but skilled drivers should be used to prevent damaging the planes when backing up to the doorways.
2. It is very important not to underestimate the weights of animals to be loaded. An error in judgment may mean the loss of lives and equipment.
3. After a little experience, a crew can load a plane in 10-20 minutes.
4. Planes should take off as soon as the loading has been completed, and animals unloaded as soon as the planes have landed. Most planes arrived at their destination 2½ hours after taking off and were unloaded immediately. If animals are left standing in the planes for any appreciable length of time, they have a tendency to become nervous and may cause serious damage through stomping and kicking.

5. Animals can be successfully loaded at night.

The writer is in no position to venture an opinion as to the commercial possibilities of shipping animals by aircraft in the postwar period. It is difficult to conceive that aircraft will ever supplant the railroad as the most common method of moving livestock to market. However, experiences in the India-Burma Theater are believed to have proved satisfactorily that horses and mules can be shipped by plane, even at high altitudes and through inclement weather conditions, without difficulty. In addition, cargo planes may be easily fitted to carry animals without installing highly specialized equipment.

Loading by ramp without sides is not the approved way. Time is lost and damage may occur to near-by wing. Loading from a truck backed close to door is much preferred.



THE BURMA BOAT

General Frank Merrill, who commanded the famous Merrill's Marauders, stated: "I have made many boats from Phillips cargo saddles. This was our standard method of crossing rivers in Burma."



Highly useful in the combat zone of Burma for crossing rivers were boats like the one shown above, which were made from Phillips cargo packsaddles, rigging cover and ropes. The photograph was made at the Cavalry School, Ft. Riley.

A SERVICEABLE boat, which with practice should not take over 15 minutes to construct, can be made from Phillips saddles. Such a boat will support up to 2,500 pounds.

Instructions for making the boat will be found in the new FM 25-7, Pack Transportation, and are as follows:

1. Unload all saddles and cargo as near the water's edge as possible. All animals, at this time, should be swum across the stream.

2. Spread a rigging cover on the ground near the water. Place 5 packsaddles end to end with their footrests on the edge of the cover, and centered so that there will be an equal length of cover at either end. The saddles are lashed firmly together by a lair rope which is looped through the arches, and then are rolled over as one unit to the center of the canvas.

3. The footrests now are tied together with a lair rope, looping together all adjacent footrests.

4. The rigging cover is lifted until it fits snugly around the outside of the saddle, and the ends are folded and placed across the end saddles.

5. The cover is bunched at each footrest and secured in place with a loop in the lair rope. This completes half of the boat; the other half is constructed in the same manner.

6. Both halves are placed side by side in the water and fastened together by looping a rope around their adjacent footrests.

7. A lifting bar, or a strong pole, is placed under the folded canvas on the saddles at each end of the boat. The center bar is lashed securely to the center footrests with one end of a lair rope; the rope now is run to one end of the bar where it is used to secure the bar to the footrest; the rope then is passed under the boat to the opposite end of the bar, which again is secured to the footrest.

8. The excess canvas at each end of the boat now is folded back over the saddle pads to provide protection. This completes the boat.

It will support up to 2,500 pounds. With a load of 2,000 pounds, the freeboard will be 6 inches; with a load of 1,500 pounds it will be 12 inches.



British Official Photo

British tanks and infantry of the 19th Division move through the outskirts of Mandalay for the main attack. In the campaign that cleared central Burma of the Japanese, troops from Britain, India, West and East Africa, China and America were coördinated in warfare which was fought under the utmost difficulty. Mandalay fell in just 12 days.

VICTORY IN BURMA

The Full Story

THE importance of the victorious campaign in Burma was to some extent obscured by the huge scale of events in Europe. Yet Burma was itself an operation of great magnitude, with features of outstanding interest to all students of war. As for its results, the utter defeat of the Japanese armies in this part of southeastern Asia, the almost total recovery of Burma, and the conquest of Rangoon, have strategic consequences of weighty significance for the Japanese war as a whole.

The terrain over which the decisive battles were fought affords an astonishing contrast to that in the western theater. The main frontal zone of operations extended from the coast of Arakan in the Bay of Bengal to Northern Assam, a distance of 700 miles. Save only in the narrow coastal belt, the whole country was wretchedly supplied with communications on the British side. Any advance had to be made across country over razor-edged ridges 10,000 feet high, through dense tropical forests and pest-ridden jungle, and over great rivers. In the words of the supreme commander, Lord Louis Mountbatten, the campaign was a logistical nightmare. Moreover, malaria and other tropical diseases were as dangerous as the Jap himself, though it should

*by Major Lewis Hastings**

Over razor-edged ridges, 10,000 feet high, through dense tropical forests and pest-ridden jungle, across great rivers, by land and by air, moved the men of Britain's Fourteenth Army to play their part in the first great conquest over the Japanese.

be borne in mind that British prophylactic measures almost completely negated the disastrous results ensuing from tropical diseases. Between May and October, the monsoon period, the rainfall is one of the heaviest in the world. This climatic peculiarity as well as the topography naturally influenced the planning and conduct of the campaign.

The ground forces engaged on either side during the final stages of the offensive were approximately equal. The strategical weakness of the Allied position for an offensive in these conditions was balanced by an over-

*Well-known British radio commentator.

whelming superiority in the air. It was Britain's use of air power on a hitherto unprecedented scale for transport and supply as well as for offensive action that gave this campaign its unique character.

A striking feature on the Allied side was the composition of the forces engaged. It was truly an Allied team. The over-all command was British; and British, Indian, West African, East African and Chinese troops were employed. The American General Stilwell commanded a force of Chinese and Americans on the northern flank; Americans flew alongside their British comrades in the air. A high proportion of the infantry belonged to the magnificent fighting races of India: there were battalions of Gurkhas from Nepal, historic friends and allies of the British, there were African troops, and some formations of Burmese. Perfect integration of this brotherhood of arms was gained under Mountbatten's supreme command.

There is no doubt that the week ending December 7, 1941, will be forever remembered in history. That was the week which saw the Hitlerite hordes routed in front of Moscow, and that was the week also which saw, far away in the Pacific, the Japanese attack on the American fleet at Pearl Harbor.

Whatever furies of retribution the Japanese allies of Hitler evoked by this treacherous onslaught, there is no doubt that the immediate consequences were disastrous to the Allies. Both the Americans and the British were caught lamentably unprepared. The American fleet was crippled for months. The only two British battleships

To provision troops in forward areas, a great highway was hacked from the Chin hills, Imphal-Tiddim area, and along which the picture shown was taken. Supply-lorries are crossing a pontoon bridge in forward fighting area.

British Official Photo



in the Far East were sunk by air attack, the Philippines and the rich Dutch archipelago were overrun, Singapore fell, and through Malaya and Indo-China the Japanese converged on Burma. Before the victoriously advancing Japanese columns there were scarcely more than a couple of brigades of British troops, together with a small Chinese force under Stilwell in the solitudes of Northern Assam.

Then came the fall of Rangoon, the great port of the Indian Ocean. That was a heavy blow, for with Rangoon the lifeline to China was lost, the famous Burma Road, only land route for supply to the hard-pressed armies of Chiang Kai-shek. But under the leadership of General Sir Harold Alexander, the great commander who was later to win resounding victories in the Mediterranean, the small Allied forces made a masterly retreat through forest and jungle, inflicting heavy losses on the enemy. The Japanese halted at the mountain barrier across the Chindwin, and the breaking of the monsoon put a temporary end to operations.

In the campaigning season that followed during the late autumn of 1942 and the spring of 1943, operations were on a relatively small scale. The pressure on British resources was growing everywhere on sea and land and in the air—the campaign in the Mediterranean and the preparations for the assault on Europe were making heavy demands on manpower and materials. Yet it was the Allied command that took the offensive in Burma in 1945, and Britain was slowly regaining the initiative. Between December and March, 1943, the British attacked in Arakan. The campaign was, on the whole, inconclusive, but Japanese plans for invading India along the coastal belt were stultified, and many enemy troops were contained and destroyed.

During the same period, another operation of an entirely different character occurred in the central part of the front. A small force of British, Gurkha, Indian and Burmese troops, trained and commanded by the late Major General Wingate, penetrated across the Chindwin river deep into enemy territory. In the course of a few months, this force traversed over 300 miles of jungle in the Japanese rear, blew up bridges and railways and killed many Japanese. In terms of damage done the total accomplishment had perhaps no more than a nuisance value, but as a pattern for the future and, as a vindication of Wingate's special technique, this brilliant exploit far more than justified itself. It proved among other things that British and Indian soldiers, given the necessary training and equipment, could easily outclass the Japanese in jungle warfare. But above all it showed that it was possible to keep a force supplied and on the move, even when completely cut off from its base, by the use of air transport alone.

By the summer of 1943, it had at last become possible to contemplate a serious attempt to crush the enemy in Burma. The basic plan of the operation was drawn up at the Quebec Conference in August. It was then decided not only to develop the existing air route from

India to China but to break the blockade of China effectively by reestablishing road connections with Rangoon. The supreme command of all the forces engaged by sea, land and air was entrusted to Admiral Lord Louis Mountbatten. The military problem involved was one which clearly called for amphibious operation, in which Mountbatten was expert. But the means were lacking. The necessary technical equipment, assault boats and landing craft had to be concentrated for the grand assault on Europe, first in the Mediterranean and later in the English Channel. In consequence, the weight of the attack in Burma had to be borne by land forces together with the air arm.

On the Allied left flank General Stilwell's Chinese and Americans were to make their way from the Ledo railhead over the mountains to Burma proper. With them went a force of American and British engineers whose task was to drive an all-weather road through the rugged country between Ledo and Myitkyina and so eventually link up with the existing Burma Road into China. On the right or southern part of the line, the XV Corps were to resume a forward march down Arakan, with the object of bringing a concentration of Japanese troops in this area, and to occupy the high ground. More distant objectives were the port of Akyab and, ultimately, the Irrawaddy.

The main forces of the British Fourteenth Army were disposed in the center, west of the Chindwin, covering the widely separated key points of Tiddim, Imphal and Kohima. It will be seen that the land communication of all these forces had a dangerous dependence on the single line of railway from Calcutta through Dimapur to Ledo. In general the supply lines by road and rail also had the strategic disadvantage of being roughly parallel to the front, and in the neighborhood of Kohima, not out of reach of a determined enemy thrust. As events proved, it was clear that the Japanese were fully aware of this position.

At the turn of the year the offensive began with movements on both flanks. Stilwell's troops on the left began to make their way over the mountains. By the end of March they had entered the Mogaung valley on the road to Myitkyina. Down in the south, Indian divisions forced their way from the coastal flank to the eastern side of the Mayu range, the barrier between the maritime plain and the great valley of the Irrawaddy. A strong counteroffensive by the Japanese succeeded in cutting off part of the two divisions on the eastern side, but the isolated group, again entirely supplied from the air, held out stubbornly. Reinforcements attacked, and the Japanese enveloping force was itself surrounded and was almost completely destroyed. By May, the important high ground was in British hands, but with the coming of the monsoon in this most unhealthy tract of country, the southern front became temporarily stabilized.

While this operation was in progress, a more dramatic enterprise was undertaken to hustle the Japanese. Wingate's long-range experiment of the previous year was repeated on a much more ambitious scale. A whole



British division was transported almost entirely by air to the rear of the Japanese Chindwin front, astride their main communications between Myitkyina and Mandalay. By parachute and glider, something like 12,000 men were landed, complete with mules, equipment and even steam rollers, on a site chosen by Wingate in his previous expedition. The landing was a rough experience and a good many gliders were smashed. But the Japanese were taken utterly by surprise, and Wingate's force immediately began a work of competent destruction in the general direction of Myitkyina.

The brilliant General Wingate himself was unfortunately killed in an air accident, but his airborne force continued to operate with increasing success against desperate but uncoordinated resistance. During March and April all the various units engaged in this complicated northern operation pressed harder and harder on the enemy. By the middle of May, Chinese and United States troops captured the important airfield near Myitkyina after an exhausting 20-day march through the jungle. The British airborne troops fought their way to Indaw and Bhamo, and Myitkyina itself was invested in June.

These events in the north and south of the line were soon eclipsed in importance by what happened in the center—on the main Assam front. Hereabouts the British Fourteenth Army, consisting of British and Indian Divisions, had planned to strike forward in the Tiddim area and to divert Japanese attention from General Stilwell's advance on the Myitkyina road.

But early in the spring Lt. General Sir William Slim, the army commander, learned that the Japanese them-

selves were preparing a large-scale offensive against Assam and India. He took an immediate decision to withdrawn his advanced Corps toward Imphal, in order to shorten his communications, and prepared to fight the battle in that area. This decision was justified, as the Japanese counterattack was even more powerful and determined than was at first expected.

On March 16, several divisions of General Mutaguchi's army crossed the Chindwin river and swept forward on a broad front. These enemy troops carried exceptionally light equipment, and their prospects of supply, if the operations were protracted, were meager. Their intention was to capture Imphal and Kohima by a surprise stroke, and provision themselves on British supply dumps. Then they planned to cut the communications to Stilwell's forces, to capture the airfields and bases from which supplies were being flown to China, and to invade India. The plan was risky, but it was a bold and determined one, and the objectives were of the highest strategic importance.

In its early stages the Japanese assault was successful. Kohima was enveloped and the garrison cut off from all land communications. The roads were cut between Kohima and Imphal and between Imphal and Tiddim. The bitterest fighting of the campaign then took place, much of it at close quarters. Once again, however, when the Jap radio was shouting victory in every transmission, air transport proved the key to the situation. Two complete divisions were flown up all the way from Arakan, and aid was brought to the garrisons at Imphal and Kohima. Japanese aircraft were wiped out of the skies, and Allied air squadrons battered the enemy formations and supply lines right back to Rangoon.

General Mataguchi ordered a last Japanese assault on Imphal. In his order of the day he told his troops: "The fate of the Empire depends on this battle. Imphal will be taken at all costs." The Japanese attacked again and again with even more than their customary fanaticism, but their assaults withered against a superb defense. The Kohima hills were stormed, Kohima was relieved, and soon the whole Allied force in Assam passed to the offensive.

By this time the monsoon had begun, but General Slim realized the plight of the Japanese Army, short of supplies and entangled in the mountains. He ordered that the advance was to proceed through all conditions. So the pursuit began, through the monstrous growth of the jungle and over torrents raging with the heavy rains. Daring penetrations were made into the Jap rear, and on the ground and in the air, the Japanese were cornered and harried and remorselessly destroyed right down to the Chindwin valley.

In the north, the same unrelenting pressure was maintained by the converging columns of Stilwell's Chinese and the British Airborne Division. Mogaung was captured, and, in the autumn, Myikyina, the enemy key point, which was situated in northern

Burma, fell before an attack by the northern command.

The Fourteenth Army, having smashed the Japanese offensive and finally eliminated the threat to India, now struck eastward across the mountains toward the Burma plain. In January, the elements of a great converging movement on Mandalay became discernible—the Fourteenth Army, consisting of the IV and XXXIII Corps, down the Chindwin, and the northern force southward along the Irrawaddy.

Kalewa, the last Japanese stronghold on the left bank of the Chindwin, was captured by the East African Division. Two days later they crossed the river in the darkness and established a bridgehead. By the middle of February, the XXXIII Corps was over the Chindwin and contact was made with the northern force. Ahead of the Fourteenth Army now was the Irrawaddy, the chosen Japanese barrier line of defense and one of Asia's great rivers, more than 4 times the width of the Rhine. The first bridgehead was made 60 miles north of Mandalay. A few days later, another crossing was forced about 40 miles west of the town.

For 6 days and nights, the Japanese renewed their attempts to drive the British troops back, with nothing to show for it but murderous losses. Still another crossing was made, and soon the whole XXXIII Corps were

Air supply was highly important to Wingate's raiding column which had penetrated 170 miles behind Jap lines. Supplies are shown being dropped to clearing in jungle.

British Official Photo



firmly on the east bank of the river. Early in March, the assault began. By February 8, the Allies were in the outskirts, but the Japanese still held out desperately in Fort Dufferin, the great walled and moated square in the heart of the city. But on February 20, the end came. Mandalay, the capital of Burma, the great Japanese base in the campaign, was once again British.

In the meantime, General Sir William Slim, looking still farther ahead, had prepared a formidable surprise for the Japanese. Between Mandalay and Rangoon, the essential port of the Indian Ocean, ran the main channel of enemy communication. There was the railway, and a vital stretch of the famous Burma Road, main supply route for China. That was now the objective. The IV Corps of the Fourteenth Army, which in February had been concentrated away to the northwest, was secretly marched down to Pakokku on a bend of the Irrawaddy far south of Mandalay. Once again, a passage was forced and an armored column was immediately rushed to seize Meiktila on the railway, 90 miles away. An airborne column was flown in to their support, Meiktila was held, and all Japanese communications were ruptured between Mandalay and Rangoon. The Japanese retreating from Mandalay, and those still engaged with the northern force, were cut off from the south.

All through March, the decisive battle for central Burma went on inside this trap. The enemy fought furiously to recapture the airstrips seized by the IV Corps and to break through the iron ring at Meiktila. Their struggles were in vain, and the work of extermination went on steadily. Now the time had arrived to strike the blow for Rangoon. The main thrust was allotted to the IV Corps. This Corps had been reorganized for the purpose on the novel basis of one airborne and two motorized brigades to the division. Supplies were by air alone, and, from all points of view, this striking force must have been one of the swiftest and most flexible formations in military history.

There was reason for speed; the monsoon was again due in May. While the weather remained dry, the terrain in the Irrawaddy valley was suitable for mechanized transport; but, once the heavy rains set in, the armored columns would soon be bogged down and the supply situation would change to the advantage of the Japanese. Nothing therefore was left to chance. The XXXIII Corps was switched from its position south of Mandalay across to the right flank of the southward advance to deal with the Japanese forces in the direction of Prome. At the same time, another shock was prepared in the Arakan. Under the direct command of Lord Louis Mountbatten, a combined sea, land and air attack was planned to take the Japanese in the rear at the sea approaches to Rangoon. The whole of the forces thus deployed for the final action were exclusively dependent for all their manifold requirements upon air transport. For the first time in war, a whole army was to be provisioned and munitioned by this means alone.



Indian Official Photo

With chutes open and hanging in trees, an airborne supply "dump" is being assembled in the Burma jungle for troops which out-paced any other means of replenishing needs.

The total weight of supplies discharged from the air during the ensuing weeks reached the unprecedented figure of 2,000 tons a day.

The renewed offensive was started by the IV Corps along the direct southern route. It swept forward at lightning pace. Divisions and brigades leap-frogged over one another and the forward thrusts were greatly accelerated by the use of airborne units. In three weeks, the corps covered 300 miles, scattering the Japs before them, and, by the beginning of May, they had closed in on the northern side of the great port. Then, exactly synchronized, the combined operation was launched from the south on both sides of the Irrawaddy estuary. The timing was perfect, and the jaws closed on the Japanese. Rangoon, the great strategic prize of the whole campaign, was captured on May 3. The monsoon as well as the enemy had been beaten on the post.

There was still some mopping up to do in the less accessible parts of southern Burma, but victory was in effect complete and all the main objectives had been gained. The Japanese had sustained the greatest land defeat in their history. Since the campaign opened in March, over 100,000 Japanese dead had been actually counted by the Allies, and multitudes of others had met their end unseen in the dense jungles of the vast battlefield. Practically the whole of the guns, vehicles, tanks and equipment destined for the ambitious invasion of India had been captured.

SOVIET CAVALRY*

by Captain Sergei N. Kournakoff

OUTSTANDING characteristics of the Soviet conduct of the war are flexibility and freedom from dogma. The dogmas of innovation that would have sent certain military arms to the scrap heap as obsolescent were no more gently treated than the dogmas of tradition that would have hampered full mechanization.

As described earlier the Soviet answer to the question "horse or motor" was "horse *and* motor." But the Soviet decision on this military issue was not as some commentators concluded, a concession to the "Cossack cavalry tradition."

It was a decision based on studies which indicated continuing uses and new potentialities for cavalry in modern war. This cavalry was, of course, not like the old *but was rearmed* with modern weapons and *integrated into the pattern of operations of mechanized war*.

The present organizational structure of the Soviet cavalry division is probably not radically different from that outlined in the latest Soviet cavalry manual available here, that of 1933. The 1933 division consisted of 4 horse regiments, 20 squadrons, and 4 batteries of small guns; one artillery regiment made up of 6 batteries of field guns; a mechanized unit made up of three squadrons and operating small tank and tractor-drawn equipment; a signal unit made up of two squadrons; and a squadron of engineers. The division was further equipped with 48 *tachankas* or horse-drawn, heavy machine guns, and other auxiliary units. The total complement was 3,701 men, 3,533 horses, and 42 tanks and armored cars.

Allowing for a large part of the total mounted strength being held for eventualities in the Far East we may assume that about 30 divisions, or up to 100,000 mounted troopers, have been operating against the Germans. As has already been made clear the cavalry's arms are not confined to the traditional saber and carbine. They include light tanks, armored cars, and artillery; and a liberal supply of automatic weapons. Every 8 men of a cavalry squadron have either a light machine gun or a grenade thrower. The cavalry are trained, of course, to dismount and operate as infantry.

Germans themselves testified to Russian cavalry superiority in the First World War. For example the German World War cavalry officer von Poseck, in his book, *The German Cavalry in Lithuania and Kurland in 1915*, wrote:

"In about three-quarters of an hour Cossacks ap-

peared, reconnoitering carefully, taking advantage of every fold of the ground. I must admit that I clearly saw how much our cavalry could learn from these sons of the steppes. Three squadrons of them had already accumulated when I opened fire. In less than three minutes they had vanished behind some kind of cover which I could not even see."

The Soviet cavalry superiority however is not due to any race factor. It is due to environmental condition of which the Soviet High Command has made shrewd use. Germany lacks the wide plains needed to evolve a nation of horsemen. Good as German horse-show teams have been they have been men of exceptional training, whereas the Cossacks, the Kalmyks, the Kirghiz, and other nationalities are full-time horsemen, herdsman, born to the saddle and with centuries of experience and horse lore behind them. Much of the Civil War experience on which the Red Army founded and tested itself was a series of cavalry engagements. It further developed Soviet cavalry experience.

All this Soviet cavalry was put brilliantly to the service of their country in the present war. It is clear that where the motor cannot forage for itself the horse can, on grass; that while the motor announces itself with blast and rumble the horseman can make as silent an approach as required; that as long as there is terrain which at all times, or under certain conditions, a horse can traverse, but a motorized vehicle cannot, the cavalry maintains its value.

Especially in the winter campaigns the cavalry has maintained its traditional rôle of a maneuvering shock force, in which, it has been assumed, the moto-mechanized force had superseded it. For this function it is very well equipped with modern arms, including even antitank and antiaircraft artillery. Launched against foot soldiers, these modern centaurs, galloping, shouting, slashing and with terrifying advantages of height, mass, and speed, have again and again scattered infantry formations.

In the First World War a Siberian Cossack Brigade, in December, 1914, operating on the Turkish front, made a 70-mile march through snow in 30 hours, capping off this exhausting march with such a difficult accomplishment as the storming of the fortified city of Ardahan. On the same front, operating before Erzerum in the winter of 1915-16, through mountain snow over three-feet deep, and in temperatures of 40 below, the Russian cavalry won brilliant successes. In 1919 Budyonny deliberately led his cavalry, in a blizzard, against two White cavalry corps, surprised them

*From *Russia's Fighting Forces* by Captain Sergei N. Kournakoff, International Pub.

and routed them. In March, 1921, the Eighteenth Red Cavalry Division driving through the Caucasus, forced the Godher Pass, hitherto considered impassable except in full summer, by a stratagem of great ingenuity. The *burkhas* (felt capes) of the entire division were laid out on the trail like a carpet. The horses were led over them. And the passage of the horses so solidly packed down the snow that it was possible to move artillery over it.

In the Timoshenko offensive north of the Sea of Azov we heard of Soviet cavalry divisions leading the advance with tanks and attack planes.

Two examples, albeit of a negative character, will show how cavalry and tanks can supplement each other and neutralize each other's shortcomings. On November 18, 1931, meeting the attack of the Second Japanese Infantry Division on Tsitsihar, in Manchuria, the 54th Chinese Cavalry Regiment covertly turned the Japanese flank and reached the enemy's rear. But this action of the Chinese cavalry took place at a slow tempo, because of the uninterrupted though weak fire-resistance of the Japanese rear establishments. The suddenness of cavalry action was neutralized and the Japanese command had sufficient time to take countermeasures and use its last reserve—aviation, which saved the situation for them. Supporting tank action would have given the Chinese the victory.

On October 29, 1936, the tanks of the Spanish Republican Army crossed the Rebel trenches, attacked the enemy reserves at Seseni and, having penetrated the enemy lines to a depth of 6 to 7 miles, scattered one and a half battalions of Rebel infantry. But the crews of the tanks were not able to take a single prisoner. They could have secured what they had won had they had cavalry support.

The large Soviet cavalry formations, utilizing both horse and motor, are proving a decisive factor in the successful development and conclusion of an operation. Their best use is deployment on the flanks or in rapid operations where the enemy front has been breached, as was done by Timoshenko's cavalry in the Rostov offensive. Cavalry can also be used to screen one's own concentrations and regroupings, and as a mobile reserve for closing up a break-through of one's own front.

To be successful the cavalry must be invisible, fast, highly active, and determined. The numerical and qualitative growth of military aviation forces cavalry to move mostly at night, especially in winter when leafless trees do not conceal, and snow exposes everything moving on it. In daytime cavalry marches off the roads in broken formation, squadron by squadron, or even troop by troop. Nevertheless it must also preserve its unity or face destruction piecemeal by enemy attack, and it must be constantly on the alert against enemy mobile formations, and aviation. For that reason the major part of its mechanized weapons must be kept with the main body. It is clear that the tank forces and squadrons of armored cars which form a part of a Soviet

cavalry formation must be especially trained.

A meeting-engagement of a cavalry division may assume many forms. For example, where the division meets a mobile enemy—cavalry, moto-mechanized troops, or even a mixed detachment—the commander must avoid complicated plans and wide maneuvers, but must try, through the energetic action of his covering troops (in this case his vanguard), to freeze the enemy maneuver and to assure advantageous conditions for the entry of his main body of troops into battle. Having picked the direction of the main blow, he will send the tanks and the mounted regiments of his main striking force there, supported, of course, by a great part of his artillery. The main thing at this juncture is to act quickly in deploying and seizing the initiative. Therefore, a tank maneuver, when the battle wagons are first rushed to support the vanguard and then called back to act with the main striking force, would be disadvantageous. The same would be the case if the tanks were sent out on their own to attack the flanks of the enemy on the march.

In meeting enemy infantry the commander will try to prevent the deployment of the enemy by attacking him on the march, if possible from several directions simultaneously. In an attack against an enemy put on the defensive, such as Timoshenko's cavalry attack against von Kleist, the cavalry commander first of all tries to find an open enemy flank. If successful he dispatches all available tanks, two or three mounted regiments, and most of his artillery to turn the enemy's open flank, *i.e.*, for a blow at the enemy flank and rear. In such a case a small force of mounted troops with some artillery is left in front of the enemy as a holding force, or a "pivot of maneuver." If the enemy's flanks are not open or accessible and a break-through is attempted, the tanks have to open the way for the cavalry. Depending on circumstances, the tanks will be either under the direct orders of the commander of the cavalry division, although in close coöperation with the regiments of the first attacking echelon, or will be subordinated to the regimental commander who will allot them their objectives. But the divisional commander will not fail to give all his tanks the time and place of assembly in order to have them all at hand.

Larger cavalry formations, cavalry corps, and even cavalry armies, may, and most probably will, have special tank units distributed, not among the cavalry divisions of the formation, but at the direct command of the senior cavalry general officer. Such special tank formations usually act in the vanguard of the cavalry divisions, delivering the main blow, along the main operative direction.

Such were the broad tactical outlines which governed the combined action of Soviet cavalry and tanks against the right wing of Field Marshal von Rundstedt's armies near the Sea of Azov, where Timoshenko apparently sent a whole cavalry army, 6 or more divisions, against the Germans.

Mongolian Cavalry^{*}

by Major V. Petrov

Once again in this war, horse cavalry has proven its worth. This time the Mongolian Cavalry attacked Japanese communications in Inner Manchuria over terrain impassable for vehicles, and intercepted the retreat of the Japanese forces.



THE operations of Marshal Choibalsan's Mongolian Army in the Far East deserve special attention as some of the most extensive operative maneuvers carried out by large cavalry and mechanized units during the war. These operations are all the more interesting since they show the superior quality of the Mongolian Army, which includes cavalry units.

While one body of Soviet troops struck from the direction of Great Khingan, stormed the enemy's mountain strongholds and then descended to the central Manchurian valley, another body consisting of Mongolian cavalry and mechanized units dealt a sudden blow from the south in the general direction of Kalgan with the aim of emerging on Lyaodun Bay. The purpose of this blow is clear. Japanese communications linking Manchuria with the northern province of China were being severed.

The enemy had not anticipated a serious blow from the direction of the barren Chahar steppes. The Mongolian cavalry, however, struck precisely from here, from the north, after having surmounted the endless sands, salt marshes and roadless terrain of Inner Mongolia. This maneuver over the steppes and the blows which then descended upon the enemy's strongholds, mainly on the Dolon Nor, upset the plans of the Japanese command, preventing them from establishing stable defenses. Their attempts to check the advance of the cavalry by counterattacks north of Kalgan availed them nothing.

In this phase of the operations the Mongolian cavalry displayed great skill of maneuver under difficult meteorological conditions, and on terrain decidedly unfavorable for the movement of large bodies of troops. The wastelands traveled by the Mongolian cavalry are nearly devoid of inhabited places. Orientation, too, is extremely difficult here. Since the maneuver encompassed large territories, units advanced in separate directions. Great skill, orientation and the guidance of troops as a whole

were required to maintain correct directions and emerge accurately at respective destinations. This skill was fully displayed by the Mongolian troops.

One must emphasize that the cavalry of Marshal Choibalsan showed remarkable ability to adjust themselves to the widely varied battle conditions. Unfolding operations, they entered the hilly terrain where much depended on the flexible tactics of small units, the struggle for various roads, maneuvers for by-passing the enemy's strongholds, etc. The cavalry squadrons of the Mongolian Army, *together with light tanks and armored cars*, coped very well with their tasks on new terrain. They intercepted the enemy's retreat, and moving swiftly through the hinterland, seized important junctions and command posts. Such were the developments at the approaches to the large town of Jhehe. Having stormed this city, Marshal Choibalsan's units pressed on toward Lyaodun Bay without checking their stride.

The Mongolians are natural riders and are in their element in the vast steppes. This adaptability unquestionably facilitated the success of the large-scale cavalry maneuvers. The fondness for horses has passed from generation to generation of Mongolians. Accustomed to the saddle from early childhood, they are invariably excellent cavalymen, and their endurance on the march is beyond compare.

The necessary qualities for the prolonged and forced marches are acquired by the Mongolian youths before they join the Army. The following is characteristic: a *tsirik* (a soldier of the Mongolian Army) was ordered to deliver a parcel from Kobdo to Ulan Bator quickly, and he made the trip both ways in nine days. In that period he traveled 2,600 kilometers. A ride of 600 to 700 kilometers in a single week is nothing extraordinary for the Mongolian cavalryman. Changing horses en route, he is nearly always mounted on a relatively fresh animal. As a rule each *tsirik* possesses two horses; he rides on one and the other follows. He is thus able to change horses at will.

^{*}Information Bulletin, Embassy of USSR.

A Remount Depot in Italy

by Lieutenant Colonel Kenneth F. Lafayette*

DURING the four and a half months from October 1, 1944, to February 15, 1945, the 6742d QM Remount Depot (Ovhd) was charged with the function of supplying the Fifth Army in Italy with horse and mule units capable of performing the heavy task of packing supplies quickly and regularly.

As it began its assignment, half of the original strength of the unit was sent to France and redesignated, leaving this unit with an approximate strength of 50 enlisted men and 10 officers.

It was the functional mission of this unit to furnish original T/O strength of horses and mules to the 15 pack troops and miscellaneous mounted units with the Fifth Army, in addition to maintaining a replacement stock of 10 per cent a month and a 30 per cent reserve. Circumstances, however, greatly changed that.

Difficulties were many. All functions were performed in adverse weather, and in the face of irregular movement schedules for animals. The operation also was conducted without the normal guidance of a War Department T/O and E, or the benefit of experiences of predecessors. It was necessary for the unit to develop its own organization, system and solutions for the problems encountered.

On one occasion it processed 1,300 mules and 45 horses for 5 new pack troops in less than a month, and then successfully held the animals for an unanticipated extra 45 days because of a delay in the activation of units of the Fifth Army.

During the four and a half months, the unit procured, processed and maintained a daily average of 1,304 animals, with an average of more than 1,600 animals during the last month and a half of the period.

For the assignment, the depot operated two remount stations, at which were employed both Italian military and civilian personnel.

An idea of what a unit under similar circumstances is up against may be obtained from the following list of tasks that were performed and services that were furnished by the 6742d QM Remount Depot (Ovhd):

One of the functional operations included remount and veterinary care of animals—such as branding, feeding, watering, shoeing, conditioning, malleining, worming and hospitalization of sick and wounded.

The depot performed post maintenance of utilities, providing water supply lines, fences, feeding troughs and racks, sheds, stables, and roads.

It loaded and unloaded animals awaiting shipment,

and those to be shipped between the rear and forward stations by truck and rail; unloaded animals from ships from the United States and France, and then shipped these animals from the port areas to the nearest remount station.

The unit provided a system of chutes, pens, and ramps to facilitate loading and unloading of animals transported by truck, and made the necessary segregation of the stock. It furnished an escort for animals shipped between the stations.

It accepted and cared for animals from Fifth Army veterinary hospitals and evacuated them to a general veterinary hospital. Duties also included keeping horse and mule service records, and records of all animals received and issued; and also the performance of the normal administrative details which are inherent to a headquarters of battalion level, with organizations of the company echelon.

In addition, personnel of the 6742d QM Depot furnished escorts for animals from France when horses were procured for the 10th Mountain Division, and for all animals procured from the British.

Another big function was to furnish both officers and enlisted men to the Fifth Army to organize, work, and supervise remount activities, and to assist the quartermaster in the procurement of hay when it was hard to find.

New personnel was trained in remount functions for the 2610th QM Remount Depot (Ovhd), and regular instruction classes held while the organic operations of the unit were continued. This latter performance was an example of many of the non-routine duties performed.

Following is a statistical breakdown of daily average animal strength, Morning Report strength of the unit, and Italian military and civilian strengths for the period:

Month	Animal Strength	M/R Strength	US-ITI	Italian Civilian
October	763	56	191	24
November . .	933	60	231	42
December . .	1,494	59	258	51
January	1,605	60	254	52
February				
1 to 15 . . .	1,726	57	254	78

Because the highest traditions of the service were reflected in the performance of such duties, the 6742d QM Remount Depot was awarded the Meritorious Service Unit Plaque.

*Hqs. Peninsular Base Section, Office of the QM, APO 782, NY.

SERGEANT MIYOSHI!*

Any similarity between the character depicted in this story and a living Japanese soldier is purely intentional. Sergeant Miyoshi Toshio was a little guy whose big aim in life was to kill you. He spent the better part of the past 10 years learning how. He is a facsimile of the Japanese GI. He is no superman, but he is no dumb ape either. It will be worth your while to know him, how he thinks and acts, and what he was taught to do in battle. Our struggle with Japan is not finished until all former Japanese soldiers have been re-educated to the American way of life just as thoroughly as they were once indoctrinated by their leaders who thirsted for world conquest.

EARLY TRAINING

MIYOSHI TOSHIO could hardly remember a time when he was not preparing to be a soldier. At the age of 6 he was sent to school to start the education that practically every Japanese kid gets. It was not school as we know it, but more like a juvenile OCS. His teachers always talked about the "divine mission" of the Japanese boy to die for his country and emperor, and that Nippon was destined to rule the world. He was indoctrinated with the belief that the Japanese army was invincible and that the Japanese soldier would never surrender. Miyoshi learned the virtue of *Chugi* (loyalty) and the slogan, *Nippon Seishin* (Japanese spirit).

His formal military training started when he was 8, in his third year of school. The teacher put the class through dismounted drill a couple of hours a day. Later on he was given an undersized rifle so that he could practice the manual of arms.

When Miyoshi finished primary school, at the age of 12, he got a chance to go to middle school. At 14 he was on his way toward being a tough, fanatical soldier boy, and his whole life was regimented and centered on unquestioning obedience. His mind was as rigidly trained as his body.

He never read anything but the carefully designed school texts, strictly censored books, and an occasional tightly controlled newspaper.

He never heard or read a single word of criticism of his emperor, his government, or his army.

When Miyoshi was 20 years old he appeared before an army examining board and his card was stamped *Genekihei* (active service).

Arriving in a training camp of the Kanazawa Divisional District, Miyoshi was handed a uniform with collar tab bearing the single star of the *Nitohei*, or private, and assigned to infantry.

The first important formation was the presentation of rifles. The band played, flags flew and the regimental commander made a speech telling the recruits that the rifles they were receiving were symbolically the same as the samurai sword of the ancient Japanese warrior.

From January to May, Miyoshi trained with a squad

in bayonet drill and target practice. Sometimes they went out on a 5-day march, bivouacking every night in temperature close to zero.

In June and July Miyoshi, now wearing the two stars of an *Ittohei*, or Pfc., was training in platoon and company formation. They were marching 20 miles a day and the going was rough, but no one dared complain or show weakness.

From August to November his group was employed in battalion and regimental training. They were in the field most of the time doing combat firing, marching 25 miles a day, practicing swimming with packs, and finally going out on fall maneuvers. Here Miyoshi did very well.

One of the lessons he learned in maneuvers was that "Soldiers of Nippon never retreat. Whatever the cost, we attack."

His squad was artful at camouflage. They knew how to use foliage and mud to blend into the surroundings, and learned how to be snipers by sitting in trees for hours at a time, almost motionless. They were complimented on clever infiltration, made a good record on reconnaissance, and sketched everything that they saw, from mountains to cows.

In firing problems Miyoshi's squad moved with speed and excellent discipline. Tight control was maintained. Miyoshi had little trouble understanding the orders he received; attack plans were usually simple, involving frontal assaults or envelopments.

They marched as much as 75 miles with full pack and went without food for two and three days at a time to get used to hunger and fatigue. A considerable amount of their work was done at night.

Much emphasis was given to morale during the first year's training. Miyoshi was lectured almost daily on the duties of a soldier. Every few months he listened to a reading of the Emperor Meiji's "Imperial Rescript to Soldiers," stressing the 5 principles of military ethics—loyalty, courtesy, courage, truthfulness and frugality.

COMBAT

After graduating from NCO school, Miyoshi was promoted to *Gochō* (corporal) and was sent to China to join his division. It was a standard triangular division with an authorized strength of 20,000, comprising three infantry regiments, one regiment each of artillery,

*Prepared under direction of Asst. Chief of Staff, G-2, Hq., Fourth Army, Fort Sam Houston, Texas.

cavalry, engineers, a transport regiment and the usual service troops.

Miyoshi learned after a few months of combat that this business of the soldier being a gentleman was all right back home, but once you got away from Japan, it was different. You lived off the population and grabbed whatever you could.

If Japanese soldiers were brutal in their dealings with the population, they were tough on each other, too. Corporal Miyoshi was told that he would be considered weak by fellow NCOs if he did not beat his men. He could order his inferior to do such menial work as washing his laundry, making his bed, and polishing his shoes.

A short time after he joined his division, it left China and landed at Rabaul, New Britain. Here the men were issued additional supplies of jungle equipment, including camouflage clothing, tree saws, lightweight uniforms, and mosquito headnets.

JUNGLE FIGHTING

Miyoshi's regiment then headed north into the jungle. Australians were the enemy in this area, and for the first time he was going to fight against white troops.

Miyoshi's baptism of fire on New Britain came when he led his squad in a night attack. He checked his men for camouflage. Their faces were daubed with mud, foliage was twined in the camouflage nets on their helmets, and all wore sneaker-like *tabi*.

Their plan was to approach through the jungle at a point where the Australians would not expect them because of the difficult terrain. The squad left at dusk and moved silently through the heavy underbrush. It was heavy going, but there were no complaints, for the men had been trained for it. When they approached the enemy position, the squad slowed down and redoubled precautions to get through undetected.

Miyoshi's squad was on the right flank of the Australian bivouac. By hand signals the corporal directed the men to advance individually. They moved slowly around the Australian outguards, and waited until midnight. Then the attack was opened by a small force in the center which charged headlong, screaming and yelling. The Australians were taken by surprise, but nevertheless quickly organized and began laying down a curtain of fire. The flanking squads, including Miyoshi's then went into action. They succeeded in almost encircling the Australians, inflicted heavy casualties and finally forced them to withdraw.

During the next three months the regiment continued advancing steadily through the jungle. Miyoshi's tactics became almost second nature. His squad was part of the advance guard. When it made contact with the enemy, it immediately deployed, then tried to infiltrate the enemy position. If this was impossible, it held its positions and engaged the enemy, knowing that help would soon come up from the rear.



Miyoshi lost more than half his squad during the first three months of fighting. His captain, however, only complimented him on the bravery of his men, assured the survivors that the dead were destined for a cozy place in heaven and arranged ceremonious cremations of the honored corpses.

As the troops penetrated further into the jungle, the supply situation became more difficult. They had to subsist on what could be found in the jungle, supplemented by dehydrated and canned rations. They were able to get along, because they had been well-schooled in how to live off the country. When they came upon a native village, all the cattle were seized, and if there were any objections the natives were shot and their huts set afire.

An Australian, captured by Miyoshi's squad, was taken to the platoon leader, who knew some English. The prisoner was uncoöperative; he even refused to bow, and declined to answer questions, even though menaced with a pistol. So Miyoshi was given the honor of slapping the prisoner, and then cutting him to pieces with a bayonet.

NEW GUINEA

In March, 1943, the division sailed for New Guinea—closer to the prized goal of Australia and control of the entire South Pacific. Miyoshi's excitement was enhanced by a promotion to *Gunsō* (sergeant). He

was told he had earned it because he had never flinched in battle. Not one man of his original squad was left.

His captain contrasted his bravery with the cowardice of another corporal who had withdrawn his squad when faced by a murderous cross fire. This corporal, at the captain's "suggestion," later went into the jungle and set off a hand grenade against his belly.

The division landed at Lae, on New Guinea's eastern coast, and went into action against Australian and American forces. It was tough fighting, the enemy was stronger, and more battle-wise, and had artillery with an apparently limitless supply of ammunition. (Miyoshi's officers did not seem quite so confident.)

Attacks were becoming increasingly expensive, but there still were plenty of tricks to use. The infantry would creep close to the American artillery barrage to avoid getting hit, and then slip back when the firing stopped. The mortar platoon behind Miyoshi's unit would often fire beyond an American barrage into their advancing troops, then stop firing when the American fire had ceased. The object was to deceive the American infantry into thinking that it was being fired upon by its own artillery. Greater emphasis was put on night infiltration and flank attacks.

BANZAI!

There was still expensive frontal attacks, and suicidal *banzai* charges. Miyoshi and his men sometimes would drink a lot of *sake* before a charge because, despite the knowledge that there was no greater glory than to die

for the emperor, they were a bit nervous. Many a Jap never lived to suffer a hangover.

Finally Miyoshi's platoon had to dig in. Snipers were placed at bends in jungle trails, along ridges and in ravines, and booby traps were set to hold up the advancing Allied units. Once Miyoshi had his men drag a dead American soldier close to the Japanese lines and prop him up. When some Americans came to "rescue" their buddy, Miyoshi mowed them down with machine guns.

One of Miyoshi's squads was assigned to booby-trap everything possible, including swords, dead bodies, and even tree stumps.

One night the customary counterattack was ordered on the Americans. It started in the usual manner with the shooting of fireworks, tracer bullets, and much screaming and yelling. The company then charged against the same position it had unsuccessfully attacked for three days.

It now had become a matter of "face" to take this position. The charge went in with no variation in the tactics that so far had been ineffectual. With blood-curdling yells of "*Banzai*" Miyoshi led his bayonet-armed squad across the field.

Suddenly Miyoshi felt a sharp, burning pain in his stomach, and he fell to the ground. He laid there debating whether to take his life or risk the dishonor of capture. Finally he decided that he was too weak from loss of blood to take his life now. . . . Maybe later. . . .

After a half-hour he was dragged back into the Japanese lines and given first aid.

His division had been virtually destroyed, and the remnants were withdrawn to Wewak, where Miyoshi was put on a hospital ship bound for Palau.

MIYOSHI G-2'S THE AMERICANS

In the Palau hospital, he was quizzed by an intelligence officer who was interested in American combat tactics.

"In the first place," Miyoshi answered, "they always have a tremendous amount of machinery and artillery, and they know how to use it. They construct roads and communication networks rapidly.

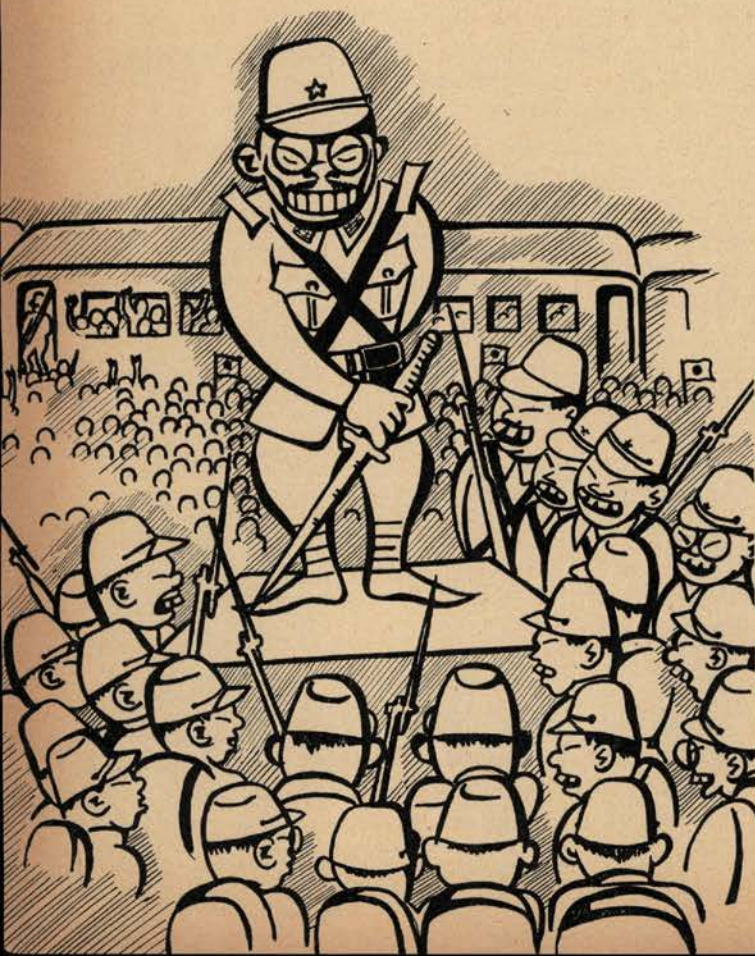
"Their artillery is extremely accurate. They move fast, and have a great deal of fire power. They are daring on the offensive, but they don't waste men."

"What are some of their weaknesses?" the officer asked.

"I would say their greatest weakness is carelessness," Miyoshi answered. "They talk loudly and even smoke during an engagement. Once we attacked an American bivouac and found their rifles stacked.

"They are suckers for some of our ruses. Since they always hunt souvenirs, we booby-trap swords, pistols, and other objects and scatter them around on the ground.

"Infiltration of their positions is usually easy because of the gaps between their positions.



"The American soldier likes comfort, and it is easy to approach his position during a rainstorm, when he will lie low in a foxhole and seek the cover of his poncho.

"They are trigger-happy, and fire at the least noise. We often locate their positions by making noises which tempt them into shooting."

After 6 months in the hospital, Miyoshi was assigned to a replacement outfit going to the Philippines.

He arrived on Leyte in September, 1944, for duty with a veteran infantry division. Tactics seemed to have changed. His unit was digging-in like mad, building bunkers, pillboxes and trenches. Such defensive preparations were new to the sergeant, who had been indoctrinated with the concept of an invading and marauding Japanese army.

DEFENSE OF LEYTE

At an NCO meeting the colonel gave an idea of what lay ahead.

"The Americans undoubtedly will try to land in the Philippines. Some of you come from fighting in the southern regions, but here you will not throw away manpower needlessly. We can't afford it any more.

"We will take the offensive wherever possible, but only when there is a chance of success. Concentrate all your energies upon preparing defenses. Camouflage will be inspected, and leaders deficient in concealing their positions will be heavily punished."

The division constructed defenses in the Ormoc Valley. Foxholes were shaped like inverted boots, with a firing position in the "toe," and a shelter from artillery fire in the "heel." Many artillery pieces were emplaced in front of deep caves in order to protect the gunners. Firing positions were mutually supporting and well camouflaged.

"NO WITHDRAWAL"

One day a formation of United States carrier-based bombers gave the island a going over. Miyoshi heard that the main target had been an airfield. After that air raids came with increasing frequency.

The Americans obviously were preparing to attack Leyte and, with customary Yankee disregard of material cost, were expending tons of explosive on the softening-up prelude.

This phase reached its climax when a naval task force appeared off the coast and shook Leyte for days with explosions. Fuel stores burned, and the air was constantly full of the roar of bombing and strafing planes.

Miyoshi and his men spent a lot of time in their caves.

One day word came that the Americans had established a beachhead and were pushing north toward the valley.

"There will be no withdrawal from Leyte," the colonel said. "Everything depends on how you defend your positions. We will await their arrival here in Ormoc Valley."

Miyoshi's unit went into positions on high ground south of the village of Pinapogan. The machine-gun



squad was moved to an emplacement on the forward slope of the first of a series of ridges in the valley. Smoking was not allowed, and talking or moving around was held to a minimum.

Night came without a sign of the Americans. Perhaps they had been held up and wiped out before they could reach Ormoc Valley. Perhaps, but Miyoshi did not sleep that night.

Early the next day an observer reported movement ahead. Soon the foliage moved and an American scout appeared. Miyoshi raised a warning finger to hold fire.

The scout passed within 30 yards of the bunker without seeing it. Other advance American elements passed, and still the machine guns held their fire.

Soon a larger formation began coming up. This was what the defenders had been waiting for. When the main body came within range, Miyoshi's squad opened fire. Almost simultaneously dozens of other machine guns began to stutter, and mortars in the rear opened up.

Many Americans fell and the rest sought cover. The two forward companies were isolated and pinned down for two hours, unable to receive supplies or evacuate their wounded. Sergeant Miyoshi hoped the entire enemy battalion would be wiped out, but near nightfall the remainder of the American regiment pushed through, and extricated the remnants of the two companies.

In the ensuing days the Americans brought up reserves. Miyoshi's squad clung tenaciously to its position. When artillery or mortar fire fell they left their

weapons and moved back by a previously prepared trail to a protected reverse slope. When the American fire ceased they returned to their original positions.

Instead of the hysterical counterattacks or *banzai* charges that Miyoshi had known in New Guinea, his company would wait until dusk, and then launch counterattacks. They were supported by automatic weapons and mortars to prevent the Americans from consolidating their positions.

BUSY NIGHTS

These were busy nights. One night Sergeant Miyoshi would cut telephone wires behind the American lines, then wait to ambush linesmen who came to repair them. Another night he would be out with a party of snipers, who, instead of operating singly from trees, now worked on the ground in groups of threes or fours. They had instructions to shoot at foot troops, especially litter bearers and aid men. Vehicles were not to be fired on.

One day, as Miyoshi and his squad manned their machine-gun nest, an American squad stole close to their position, and before they knew what had hit them, the Japs were enveloped in a fiery inferno.

Miyoshi recognized what it was—the dreaded Yankee flame thrower. He clambered out of his hole, his clothes aflame, and ran screaming for cover. He had not run 25 feet when a submachine gun rattled. The bullets kicked up the leaves around his feet, and he felt a sharp pain in his thigh as he stumbled and fell. He rolled over and over to smother the flames, and tried to drag himself away. But the effort was too much, so he had to lay still and feign death.



He heard the footsteps of three or 4 men coming toward him. He twisted his head to look and slowly reached for his pistol. Suddenly he lost consciousness.

CAPTURE

When Miyoshi came to he was on a litter in an American first-aid tent. He was naked, except for a bandage around his thigh, dressings on his burns, and a cardboard tag around his neck. He was surprised that his wounds had been dressed, but concluded that his captors were trying to keep him alive so they could torture him.

One of the American soldiers, noticing that his eyes were open, called a lieutenant, who questioned him in Japanese. At first he did not answer, because no one had ever told him how to act if captured. He had been taught *not* to be captured, and he was afraid.

The lieutenant repeated the question several times, "*Anatano nama-aiwa nandeska?*" "What is your name?" But Miyoshi refused to answer.

The lieutenant kept on talking quietly. "You know that you can never return to your country because you are disgraced. Your only chance is to coöperate with us."

It seemed to make sense. His family and friends would consider him dishonored.

"My name is Miyoshi Toshio," he said slowly.

After he had spoken, it was easier. The lieutenant looked pleased. Perhaps, Miyoshi thought, he could save himself from torture. He gave his rank, and the number of his unit.

He was given food and water, and even a cigarette. He talked more freely now, telling what he knew of his unit's positions and arms.

Later he and 4 other prisoners were sent to the rear to a prisoner inclosure. One night one of the prisoners who understood English whispered to Miyoshi: "The guards are saying that we are to be sent to America."

Miyoshi's eyes widened with dread as everything he had been taught about American barbarity flooded through his mind.

He lay awake thinking of nothing but escape. A sudden hysteria seized him. He tossed aside his mosquito net, wriggled to the barbed-wire fence, and worked his way under it. He then got up and started running. Suddenly there was a shout, a light flashed on his back, then a spurt of bullets, and Miyoshi folded up.

So died Sergeant Miyoshi Toshio, a victim of his own fanatical fear and hatred of Americans. He is the symbol of millions whose lives were dedicated to the cause of Japanese imperialism. This is the enemy whom we have defeated in battle. But our task is not finished! We must now devote unceasing and untiring effort to reforming the millions of Japanese symbolized by Sergeant Miyoshi Toshio. Equally important, we must insure that in the future the Japanese people never again are controlled and sacrificed by leaders dreaming of world domination.

THE SLANT-EYED VIEWPOINT

(EDITOR'S NOTE: The following expressions of opinion by a Japanese soldier represent only the thoughts of an individual. However, it can well be assumed to be identical with the ideas held by many other Japs. The facts are authentic but for obvious reasons the source of this article must remain undisclosed. The subject is of absorbing interest at this time.)



IT was interesting to note that during the initial phase of the conversation with this Jap soldier, he resorted to stock textbook phrases. This was particularly true when talking on subjects on Japanese ideology. He used the stock phrases, not because he believed them, but because these were the things he was expected to say.

After he had taken part in a certain amount of discussion, he spoke more freely and became quite realistic. It is felt that his statements were sincere and were the result of his own thinking rather than an attempt to please the person to whom the statements were made.

Because of his family background, his education and training, he was questioned in detail by an American to determine what his reactions were.

Asked first about the U. S. propaganda leaflets and the *Parachute News*, he expressed his admiration for their usage of the Japanese language and the timely quality of the subject matter. He had not actually had any occasion to read the *Parachute News* at all thoroughly since, as he put it, he had been about to, but had been interrupted and had disposed of the paper in such a way that it would give a definite impression to his observers as to what he thought of it. He did state that he had discussed the paper with enlisted men, and had noticed that their reaction had been favorable—though he himself had told his juniors from time to time that propaganda leaflets were false.

As the discussion of Japan's present position continued, he was brought up to date on the actual conditions in Okinawa and Saipan. He believed that both islands had been lost, but only after all of the inhabitants had been killed.

He had been convinced for some time, he stated, not that Japan had lost the war, but that the United States had won it; he said his phraseology was based on the

extreme reluctance of the average Japanese to use the word "defeat" when speaking of themselves.

He accepted the fact that U. S. landings would be made on the homeland of Japan as they had been on the other islands, and stated that the problems encountered during landing operations in the South and Southwest Pacific would not be met on the Japanese islands because there was too much to defend. He did not think that the people would actively resist American operations there, but that they would take to the hills, because they had been taught to fear the Americans. Final victory would be America's primarily because the U. S. knew how to fight a modern war and the Japanese did not.

The initial reaction of the Japanese people to Allied occupation would depend entirely, he said, on how soon the people would be allowed to return to their farms, and when jobs would be available for others. The above statement was made only after he had asked how things had worked out on Saipan and Okinawa; he stated that civilian reaction there would, without any doubt, be indicative of what it would be in the islands of Japan. He said that, though these islands were not actually a part of Japan itself, the people were basically Japanese with the same sort of education and the same ideals.

His statements regarding the postwar period and the reestablishment of some sort of government in Japan were nothing less than radical, particularly when viewed in the light of his earlier statements.

His terminology when speaking of the Emperor was informal. There was none of the traditional bowing and scraping when his name was mentioned.

He stressed the fact that he had not had much of a classical education, knew little of the theory of govern-

men either in Japan or in other countries. That, he said, was a subject only the surface of which he had touched.

He claimed to have developed his present conclusions while in the army, and stated that his thoughts had really not crystallized until he had finally had a chance to present them to someone else; and that the first occasion to so present them was this conversation with an American. There was more thinking to be done on the subject, he concluded, more for him to learn about other people—and there was always the necessity of determining in what way his theories could be put into practical form. He expressed his intense desire to help in some way in making the sort of Japan he felt should exist.

Japan, he continued, had been wrong in entering any sort of a war with the rest of the world, but, contrary to what other opinions might be, the basic causes of the war and those on whom the blame should rest should not be charged against the army or the navy; they ranked only in second and third place. Japan's ideology, her concepts of religion and her relation with the rest of the world with respect to her contention that the Japanese were the chosen race—all of these, represented by the position the Emperor occupied in the minds of the Japanese—were the basic flaw in the make-up of the Japanese people. They themselves were to blame, for they had never permitted themselves to emerge from the ideology of ancient days. Japan's concepts of deity represented by her numerous gods, and ultimately, the Emperor himself, were founded in myths, none of which had any practical basis for actuality at all. He explained carefully that the Japanese gods and her innumerable spirits were the mark of an uncivilized mind, the substitution of superstition for a civilized, and rational thinking.

What had made him first realize that Japan has no place in the world of today was the extreme emphasis placed on *seishin*, (spirit as opposed to materialism).

Being of a more practical nature, and having been trained to know and understand the power of machinery, he claimed he had detected the fallacy in the sort of reasoning which put the strength of a man's spirit above the potential power of machinery. This realization had naturally led to a close scrutiny of Japan's mythology and those concepts which were based on it. He regarded the Emperor ideology in the same light as he had come to regard *seishin*, and the people of Japan as the machinery whose power might some day be used.

There was only one conclusion which satisfied him; the power of the army and the navy had to go, but, even before this could be done, the Emperor and all he stood for would have to be wiped out completely. His death would mean the end of Japan's feudal thinking; the people would come to the realization that something had been wrong with their beliefs and, with a great deal of direction and careful education, they could be taught the ways of the modern world. No per-

son who had ever been identified with the government of prewar Japan, no matter how liberal his ideas may have been, could be permitted to hold any position, for that would provide some connection with the old Japan. The break would have to be complete and clean.

He was asked how one would go about getting rid of the Emperor. The answer was that he would have to die. This, he admitted, would lead to certain complications as the Japanese could never assassinate him, and a deliberate attempt on our part after occupation might rouse the Japanese people to complete madness. His only solution was that "it would certainly be convenient if he were to be killed by a bomb."

He placed the thought groups of Japan into three general categories:

1. The relatively uneducated farmers.
2. The semi-educated skilled workers.
3. The technical men, and those who could be classed as scholars.

Businessmen he placed in the middle group, excepting, of course, heads of such families as Mitsubishi, Mitsui and the like. Present-day diplomats and other statesmen he placed in the third group.

The hope of Japan, he thought, rested with the skilled workers who had more in common with the people of other nations than had any other class of people in Japan. The farmers he relegated to the position of an unthinking group which could only be led, and he charged the highly educated with the crime of leading them for their own advantage. He felt strongly that those of the middle group would share his views, giving as his basis for opinion the fact that the majority of them had backgrounds similar to his own, and that almost all of them had experienced the same shock on their initial contact with reality. These, he said, were the practical men, used only to achieve results through the application of natural laws. Their minds were not involved in the dreamy, poetic fallacies represented by "cherry-blossoms and tears"; they would welcome a "materialistic" land and would be the first to cast off the "spiritualistic fantasy of outmoded Japanese thought."

Japanese reaction to a new government—if completely handled for the initial period of adjustment by the Americans without the assistance of any Japanese—would be favorable, since all they desired was a chance to live and to forget that there ever had been a war. Control should not be difficult during the initial period of readjustment if it were handled by the Americans alone, without the interference of any Japanese. It would be necessary to keep them entirely out of the government until the people themselves all knew, and were strongly behind their new government, their new ideals and their new way of life.

He concluded his discussion with the words, "The country of Japan is a thing of the past and must go, but the people of Japan are not lost, they are only on the verge of maturity."

SPITFIRE TANKS

by 1st Lieutenant Charles H. Hainfeld, CWS

MECHANIZED flame throwers are the close combat weapons of tanks that are effective in destroying or neutralizing enemy personnel in field fortifications, pillboxes, bunkers, dug-in positions, and in buildings where ordinary tank weapons cannot be used effectively. The flame either destroys enemy troops within its range or, because of its awesome demoralizing effect, drives them out into the field of small-arms fire. The flame thrower primarily is an offensive weapon. Its tactical mission is limited by its brief duration of fire, limited range and length of time required for preparation.

Mechanized flame throwers have several times the fuel capacity of portable flame throwers, and are capable of engaging several successive targets with a single filling of their fuel and pressure containers. They can be used on more distant missions, have somewhat longer range and can move close into the target because the tank armor affords protection.

FLAME-THROWER RANGES

The effective range of thickened fuel is 50 to 70 yards while liquid fuel (oils and blends) has an effective range of from 25 to 30 yards. These distances are ap-

proximate and are affected by the wind velocity and direction, the nozzle diameter of the flame gun, and the viscosity of the fuel.

The searching character of the flame results from the fact that flame and radiant heat will envelop a target. This gives the flame thrower an effectiveness even when fired at targets which are around the corners of buildings or emplacements. Against closed targets such as buildings and fortifications, the flame thrower produces casualties by materially reducing the oxygen content of the air, by producing carbon monoxide, and rapidly increasing the temperature. The enemy thus is forced at the same instant to protect himself from suffocation and burning.

When the flame thrower is substituted for the bow machine gun, its traverse is limited to that of the gun. This restricts the operation of the flame thrower to a small angle of traverse, and if targets are to engage outside the limits of the traverse, the tank must be moved. The substitution of the flame gun also reduces the fire power of the tank by one machine gun. The flame gun, however, is not a permanent replacement for the bow machine gun, and the two can be interchanged in approximately one minute.

The main armament of a flame thrower fires thickened fuel with rod effect in a demonstration. Range is to 70 yards.



MAXIMUM RESULTS

To achieve maximum results, the flame thrower should be fired at point-blank range or as close as possible to the target. Accuracy is achieved in this way and almost all the fuel is effective, since little is burned in the air. Conservation of fuel is an important factor which must be considered constantly by the flame-thrower operator. The type of target will determine the length and number of bursts necessary for its destruction or neutralization. The short duration of fire makes it imperative that only the minimum amount of fuel be used when firing on a target.

USE AGAINST FOXHOLES

Against troops in foxholes that cannot be directly engaged, the greatest effect will be obtained by firing a burst a few yards in front of the hole. This allows the flame to roll and billow in. Another effective method is to fire with maximum elevation so that burning particles will drop down *into* the foxhole. Against pillboxes, fire should be directed *against* embrasures, because the flame will seek it way into the interior. The dispersion of the flame is great enough to destroy or neutralize any personnel within a considerable distance of the burst. Fear of being burned alive will cause personnel to run from emplacements rather than dig into them. Regular tank weapons and small-arms fire, rather than flame throwers, should then be used for their destruction.

The flame thrower should not be fired into a strong head wind or across a strong cross wind, especially when liquid fuel is used. Direction and velocity of the wind must be taken into consideration when firing because at or near maximum range, cross winds will deflect, break up, and disperse the flame.

MISSION

The mission of the flame thrower mounted in tanks is the destruction of enemy personnel who cannot be attacked effectively with other weapons. The flame-throwing tank is part of the mutually supporting infantry-tank team. Because of its limited fuel supply it is not used promiscuously against suspected enemy positions. It should be used against targets that have definitely been located. The mechanized flame thrower augments and supplements the flat trajectory fire of the tanks. It is an anti-personnel weapon of limited range particularly adapted to clear the way for friendly foot troops, and for use in mopping-up operations. It serves as an auxiliary weapon in the tank and does not alter the tactical employment of tanks as prescribed by War Department doctrine.

For effective use against fortifications without anti-tank guns, the flame thrower must maneuver to within close range. To achieve this, all antitank weapons *supporting* the fortification must be destroyed. This operation requires close coordination with the infantry which makes the reconnaissance and guides the tank to the target. The flame is then directed against the openings of pillboxes and bunkers to destroy the personnel within

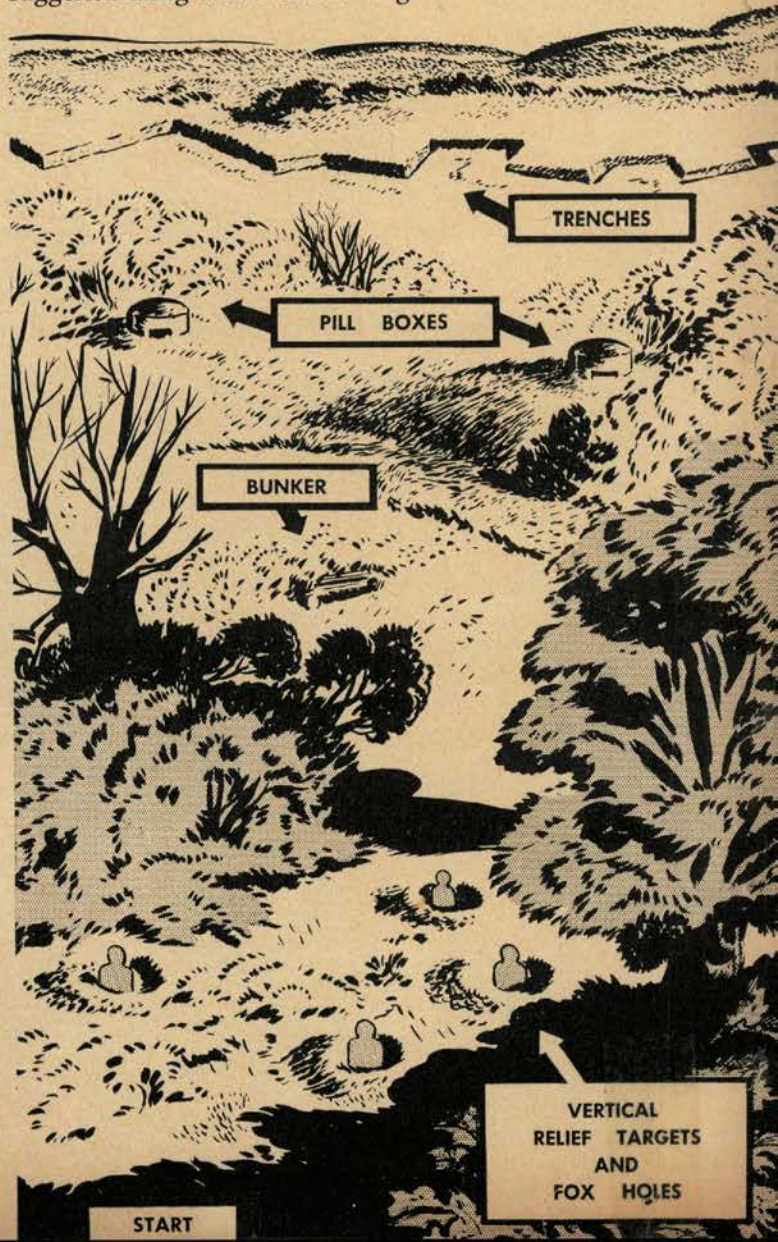
and allow the infantry or engineers to advance on the fortification.

When fortifications are defended with large caliber flat trajectory weapons, and are mutually supporting, it is impossible for a tank to close within the effective range of its flame thrower. The weapons of such fortifications are first destroyed by tank and artillery fire, after which the flame thrower closes in and destroys the enemy personnel.

TRAINING OPERATORS

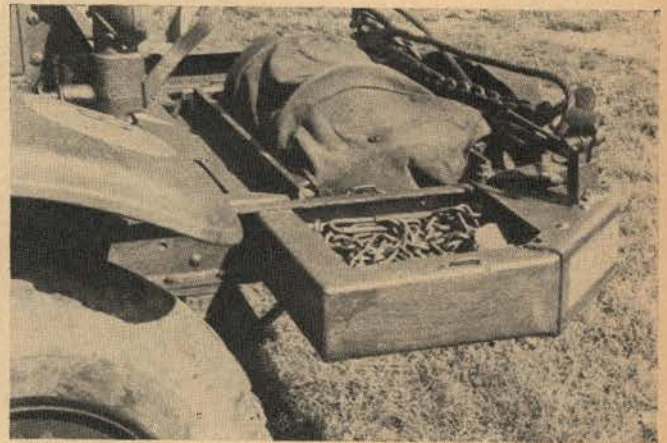
One member of the tank crew, usually the assistant driver, is assigned as the flame-thrower operator. In the bow replacement model the gunner operates the flame thrower in the main armament unit, but all members of the tank crew are thoroughly trained in the functioning, maintenance and use of the flame thrower. In addition, each member should be able to mount and dismount the flame thrower, prepare the fuel, and refill the fuel and pressure containers. Training in the flame-thrower crew is undertaken after completion of combat practice firing of the other tank weapons.

Suggested firing course for training flame-thrower crews.



Armored Command Post

*by Captain Charles Gillett**



Upper left: The re-designed M3 as it appeared after fitted to combat needs, in which it served efficiently. Features are an armor-plated top, and electric lights. *Upper right:* Chains and tools were carried in bumper. *Lower left:* Seated in the mobile CP, a crewman follows action on one of the two radios. Note ducts overhead of air-conditioning unit with which it was equipped. It controlled 70 tanks.

ingly called "The Monster"—was ready for action at all times.

Compactness was stressed. Seats for the CP workers were made from mortar ammunition boxes and were cushioned on top. Supplies and papers were kept inside the boxes, thus utilizing all available space. Operations were charted on an adjustable table.

An important feature of the "rolling CP" was a separate power-driven generator that charged the batteries and overcame the excessive drain by the two radios, which kept communications functioning efficiently. On the move, the steel-girded half-track maintained its rôle as the nerve center for more than 70 roaming tanks. When "The Monster" was halted, lines were run to the companies and a telephone hooked up promptly inside the vehicle.

The air inside the half-track was kept fresh by the use of two motor-driven blowers. Maximum illumination was provided by 4 adjustable light globes against a white-painted interior. A canvas partition separated the driver from the glare of lights in the operations section and enabled him to operate efficiently. No light escaped to the outside to endanger blackout security.

The exterior of "The Monster" also came in for modifications. Records and supplies were carried in waterproofed boxes on the rear. Above these boxes, racks were built to hold the crewmen's bedrolls. A vise for emergency use was welded on the front bumper, and inside the bumper a place was provided for chains and tools.

AFTER many months of combat it was conclusively proven that the M3 half-track, as issued, was not an ideal command post car in fast-moving operations. The 2d Tank Battalion maintenance crew, under command of Captain Nicholas Hayden, went to work on suggestions for re-designing the M3, which were made by our battalion S-3, Major Philip J. Baird.

To a conventional M3, the tankmen added an armor-plated top and many other gadgets which evolved a half-track that permitted ultra-smooth operations during the 2d Battalion's drive into central Germany.

Skeptics were astonished by the half-track's operation in combat. Whether it was at a halt or on the march, the re-designed battalion command post—jok-

*9th Armored Division.

Fiery Calling



M47 100-pound jellied gasoline bombs fall from bomb bay doors on enemy target at Bremen, Germany, 1944. The M47 is 45 inches long and 8 inches in diameter. Dropped singly, it breaks upon impact and throws chunks of fire 40 feet, which adhere to and burn all objects.

FIRE is a menace as well as a boon. According to mythology, Prometheus, thumbing a lift from Minerva, obtained a light from the sun chariot and brought the gift of fire down to man. But whatever the manner in which it was first obtained, mankind since has put fire to wartime as well as peacetime pursuits.

ANCIENT USE

The incendiary arrow is one of man's oldest weapons. Alexander the Great, in a letter to Aristotle, reported "terrific flashes of flame" showered on his army in India. Xtessias recounted how the Hindus used a particular oil to ignite enemy targets. About 360 B.C. the Trojan king, Aeneas, resorted to fire bombs made from pitch, sulfur, tow, resinous wood, or other highly inflammable substances which were placed in pots and hurled from the walls of besieged cities upon attackers below. The Romans later catapulted iron-latticework bombs, which were about two feet in diameter, and were filled with blazing materials. Catapults also fired huge incendiary arrows, the heads of which consisted of a perforated tube containing tow, resin and petroleum that was ignited just before release.

Impetus to the use of incendiaries came with the introduction of "Greek Fire," said to have been invented by the Syrian, Callinicus, about 600 A.D., although there is evidence that like compositions were used in the fourth century A.D. The exact formula for Greek Fire has never been satisfactorily established, although it is known to have contained pitch, resin and pe-

troleum, as well as quick-lime and sulfur. The material composing it ignited when the quick-lime, upon contact with water, generated sufficient heat to ignite the oil which fired the other combustibles. The resultant vapors caused explosions which spread the flames. Troops of the Byzantine Empire made such effective use of Greek Fire against the Saracens that it saved that empire from foreign domination for nearly a thousand years.

In early times animals, and even birds, were used to carry fire to the enemy. The Bible says that Samson caught 300 foxes, tied firebands on them, and caused the burning of fields and vineyards of the Philistines. In medieval days covered wooden rams were augmented by projecting containers of blazing matter, and floating fire balls were launched against shipping and water battlements. Cavalrymen sometimes fashioned torch-like gadgets to their lances to burn fields and buildings. An embryo "Molotov cocktail" was the chief weapon of a special troop of soldiers called "Naphthyns" (naphtha pot flingers) in the armies of the Caliph of Bagdad in the 12th century.

USE IN LATER WARS

The effectiveness of early incendiaries was lessened by the development of firearms, which caused armies to engage at greater distances, and by the substitution of earthworks for battlements. This invited attention to incendiaries fired by artillery. During the War Between the States, 30 especially made incendiary cannon balls were dropped into Charleston under cover of darkness, causing General Beauregard to protest to General Gilmore, the Federal assault commander.

Although the French in 1878 and the Germans early developed an incendiary artillery shell, such shells were not used to any extent until World War I. The first incendiary munitions employed in that conflict were directed against observation balloons. At the close of 1915, however, improved types of incendiary shells were used by both sides. These soon were followed by incendiary grenades, mortar shells and projector bombs.

The first use of incendiaries by aircraft occurred during the Zeppelin raid on London in 1915 during which one airship dropped 90 such bombs. Subsequent development of the long-range bomber spurred interest in the aerial incendiary. German planes rained many fire bombs in their "blitz" on London in 1940. The world knows how the United Nations retaliated.

USE AGAINST JAPAN

Because of the different nature of targets, however, the fire that rained from the sky on Europe was insignificant as compared with that which fell on Japan. In fact, it can be said that this—one of man's oldest weap-

Cards *by Lieutenant Colonel George O. Gillingham**

ons—was highly instrumental in putting the Rising Sun into reverse.

The Japanese have a traditional dread of flame. Their flimsy construction has suffered much from conflagrations started by volcanic, earthquake and other causes. In consequence, fire weapons such as incendiary bombs, flame throwers, and white phosphorus shell and grenades were "naturals" in our Pacific offensive.

Aerial missiles not only helped to overcome resistance along the road to Tokyo but were markedly terrifying as well as destructive when used on the homeland. It remained for the atomic bomb to clinch what the fiery calling cards had prepared.

If Nippon had prolonged the inevitable, the fire-drenching it had received would have taken on astronomical proportions. In the current fiscal year, for example, the Chemical Warfare Service was scheduled to furnish fire missiles equivalent to the total tonnage of all kinds of air bombs (high explosive included) which were dropped by the Army Air Forces in all theaters last year. CWS to date has produced some 250,000,000 incendiary bombs, of which 66,000,000 were supplied to the British.

Since 1941 the CWS has had the responsibility of providing all types of incendiary material used by the armed forces, to the inclusion of the Navy and Marine Corps as well as the Army air and ground forces. Such production in the closing days of the conflict became the major class activity of CWS as measured by dollar volume.

During the early days of the war, aerial fire bombs accounted for less than 5 per cent of AAF bomb loads. When the war ended in Europe, this figure had jumped to 9 per cent. This ratio did not take a tremendous jump until the offensive concentrated on the Pacific. It remained for the all-incendiary raids on the Japanese homeland to underscore the effect of fire from the sky on native construction. In June, the proportion of incendiaries to high explosive dropped by the air forces had reached nearly 50 per cent.

INCENDIARY BOMB TYPES

Thanks to planning and industrialization, fire bombs were being produced in quantity within a few weeks after the sneak attack on Pearl Harbor. The initial fire bombs used by American airmen were of the magnesium variety, adapted from British and German types. For the first air raid on Tokyo, in April, 1942, however, the CWS produced a special 4-pound thermate bomb.

But styles in bombs also change, and most of the incendiaries subsequently used were wholly developed by the CWS technical staff in cooperation with Ameri-

can scientists and research groups under the auspices of the National Defense Research Committee of the Office of Scientific Research and Development. These include bombs of magnesium, thermate, phosphorus and oil compositions. They range in size from 4-pound "firesticks" to 1100-pound "factory-burners." Those in use in the last stages of the war in order of their size were:

The M50—a 4-pound hexagonal magnesium body, 21 inches long, filled with thermate and first fire mix. It is dropped in clusters, and burns from 5 to 10 minutes. Chunks of molten magnesium from its casing may be hurled as far as 50 feet. The uninitiated have a tendency to confuse "thermate" with "thermit." The two terms are not synonymous. "Thermit," consisting of aluminum granular and iron oxide scale, is commonly used in welding steel rails. "Thermate," on the other hand, is a mixture of thermit, powdered aluminum, barium nitrate and petroleum oil.

The M69—a 6-pound hexagonal steel pipe, 19 inches long, which works like a miniature flame thrower, expelling flame 75 yards from its tail. It is dropped in clusters. It contains a cheesecloth sock filled with about three pounds of jellied gas of the same type used in flame throwers. It looks like gelatin and is obtained by mixing a special thickening compound known as "fire roe" with 80-octane motor vehicle gasoline. Gobs of flaming jelly are thrown against walls and under eaves, where they stick and burn up to 10 minutes. Folded in the tail of each bomb are streamers which break free to slow its descent and prevent it from smashing to pieces when it lands, yet providing sufficient force to enable it to pierce tile, slate, wood, composition shingle or galvanized iron roofs.

The M74—a 10-pound tubular affair, 19 inches long which regurgitates Pyrogel, or synthetic lava. Also known as "Goop," this mixture includes jellied gasoline made with "Compound X," another thickener, consisting of magnesium powder, liquid asphalt and oil ingredients. The resulting jelly is whitish in color and vaguely resembles stringy cold cream. It thus combines the good features of thickened gasoline which can reach into corners, and of magnesium, which concentrates a white-hot flame on the target. A piston-like operation hurls gobs of this blazing goo a distance of 25 yards. At one end of the bomb is a collapsible metal tail which helps to hold the bomb on its course. It is dropped in clusters.

The M47—is a 100-pound jellied gas bomb with the same filling as the M69 bomb. Resembling a huge panatella cigar, it is 45 inches long and 8 inches in diameter. It is dropped singly. Thin walled, it breaks open upon impact and scatters chunks of fire as far as 40 feet, which adhere to and burn objects upon contact.

*CWS, Chief, Information Branch.

The M76—is a 500-pound bomb filled with "Goop," the same mixture used in the M74 bomb, which spatters over the target like volcanic lava. This bomb preceded the M74. The term "Goop" was applied to it in the development process. "Goop" is a slang word used in laboratory work to denote a sticky mess. The rubbery-like mixture used in both the M74 and M76 has a sticky, pasty consistency. The bomb is dropped singly, and was used by British Mosquitoes in 1944 to get a building at The Hague where the Nazis had stored records about to be used against the Dutch underground.

TANK-SIZE INCENDIARIES

In addition, there are fuel tanks which are dropped from planes to spew large quantities of blazing thickened gasoline. These streamlined containers, in effect, are airplane fuel tanks put to an incendiary purpose. The idea is said to have originated in late 1942 when an Army airman, having released all his bombs, followed up with his fuel tank, which exploded on the deck of an enemy warship in the Mediterranean. The 500-pound tank holds 75 gallons of the fire gel; the 725-pound tank, 110 gallons; the 1100-pound tank (10 feet long and 28 inches in diameter), 165 gallons. The latter can splash fire over an area the size of a football field. Naturally, because of their size, these jettisonable tanks are dropped separately.

Fire bombs can be aimed with the precision of demolition bombs. The smaller bombs are dropped in clusters which break open at a designated altitude, usually 2,000 to 5,000 feet, and release the individual "fire-sticks" to pin-point the target. Improved "aimable" clusters are equipped with a nose and a tail to insure greater accuracy in their initial release from the bomb bay.

CWS INCENDIARY BOMBS AT A GLANCE

BOMB, type	WEIGHT, pounds	FILLING, incendiary	CLUSTER, type	NUMBER, bombs in cluster
M50	4	Magnesium, thermate	M6	34
			*M17	110
			M7	128
M69	6	Jellied gasoline	M12	14
			*M19-M21	38
			M13	60
M74	10	Goop	*E48	38
M47	100	Jellied gasoline	Dropped singly	
M76	500	Goop	Dropped singly	
Jetti- sonable tanks	500	Jellied gasoline (75 gal.)	Dropped singly	
	725	Jellied gasoline (110 gal.)		
	1110	Jellied gasoline (165 gal.)		

*Aimable clusters

Incendiaries on Tokyo*

MORE than 100,000 Japanese were burned to death in a single Superfortress incendiary-bomb attack on Tokyo last March 10, former Danish Minister to Tokyo, Dr. Lars P. Tillitse, reported.

Tillitse's account of the raid—the first such neutral account of the devastating bombings of the Japanese capital—was given in a radio address.

"I shall never forget the attack," Tillitse said. "Incendiaries were scattered all over the city and a gale swept the fire from house to house.

"From my window I looked into the roaring, flickering flames that devoured houses and trees and everything in their way. That night more than 100,000 Japanese were burned to death."

The raid described by the former Danish Minister was the twelfth Superfortress attack of the war against Tokyo. It was made by 300 B29s which dropped 2,300 tons of incendiary bombs, the biggest raid launched against the Japanese capital up to that time.

The bombs were dropped over a 10-square-mile area of the city shortly after midnight, but a gale then sweeping the Japanese capital fanned the flames through the center of the city until 17 square miles were burned out. A report from the Twentieth Bomber Command said that two B29s were lost.

Tillitse lived in Tokyo up to last May 25. His country broke off diplomatic relations with Japan on May 23 and on the 25th he left the city to join his family and await repatriation. That night the Superfortresses struck again.

Tillitse described the May 25 attack as "one of the most terrific on Tokyo." His house was burned to the ground by the flames, set off by 700,000 incendiary bombs included in the bomb total of 4,500 tons unleashed by 550 planes.

"When, later on, I stood on the place where my house had been, I could not see a single undamaged house," he said. "There were hardly any ruins—only ashes."

The May 25 attack lasted 105 minutes and burned out an additional 3.2 square miles for a total of 35.9 square miles destroyed in the city.

Later raids destroyed 110.8 miles in the Tokyo area and 56.3 square miles in the capital proper.

Tillitse said that intelligent Japanese knew after the American conquest of Saipan that they had lost the war.

*The Washington Post.

Armored Forces

by Colonel Conrad H. Lanza



Official Photo, U. S. Army Ordnance Depot

The latest American heavy tank, bearing the revered name, General Pershing, was used in the final battles in Germany.

IN 1939, the German armored troops in Poland were a material factor in the success of that short war. Based on the lessons of that campaign, the employment of armored forces by the Germans in France during 1940, was a turning point in the use of armor. German armor penetrated the Allied front in masses and kept driving forward, either turning or piercing all resistance encountered.

The necessity of having armored troops to operate as independent combat units is now established. The number of armored troops has steadily increased. Exact figures are not yet available, but by 1945, armored divisions on the east and west German fronts amounted to perhaps 30 per cent of the total divisions in line. This percentage would undoubtedly have been greater if sufficient time and means had been available.

EMPLOYMENT OF ARMORED TROOPS

Armor's greatest success in the current war was in open country, on the great plains of Russia, north of the central mountain masses in Europe; and in north Africa, where a contributing factor was the absence of fences, walls and ditches. Close and rugged country, such as the forests and swamps of north Russia, and the mountains and hills of Italy and the Balkans, limited the use of armor.

With the development of amphibious vehicles, water is no longer a serious obstacle, and can be easily crossed in open country provided the banks are negotiable. Weather, however, may affect the use of armor when continuous rains turn dry terrain into deep mud, as in the Philippines and Burma.

The German victories of 1940 in France, and of 1941 and 1942 in Russia, could not have been secured without the presence and the successful employment of armor. The alternate German and Allied victories in North Africa between 1941 and 1943 were dependent on armor. The victories of the Russians from 1942 to 1945, and of the western Allies in 1944 and 1945, could not have been won without the large armored forces at their disposal.

Conversely, the German victory in the Balkans in 1941, and the Allied victories in Sicily and Italy during 1943, 1944 and 1945 were not due to armor. Those campaigns could have been won without armor, and in fact only limited armored forces were utilized.

COMBAT

The major combat rôles for armored forces are: the penetration; the turning movement; tanks *versus* tanks. *The Penetration.* Penetration is habitually preceded by artillery preparation—with or without an air strike. Armor alone has not as yet been able to fight its way through an appropriately defended position. Since the Spanish war, and throughout World War II, a path completely through the hostile position has had to be blasted by the artillery for the armor to pass through.

The width of the front to be blasted varies, but is usually from one to two miles. Depth is limited by the nature of the defenses, the artillery range, and the mission. The time required depends on the number and kinds of targets within or close to the area, and the gun range.

The Russians have been particularly successful in

artillery preparations designed to blast out gaps. As many as 400 pieces of 4-inch caliber, or over, per kilometer front have been used, and every target was plotted. This kind of artillery preparation requires coordination, fire control, strong artillery and plenty of ammunition.

In 1945, in the January break-through in Poland, the Russians were confronted with a series of enemy positions at such distances from one another that their artillery had to displace forward on successive days.

The mission of armored forces in breaking through may be to turn to right and/or left and roll up the enemy's lines, as at El Alamein. It may be to separate an enemy front and envelop one wing, as in Belgium in 1940, or it may advance deep into the enemy's rear areas, as the American break-through in Normandy in 1944.

As long as the artillery can furnish supporting fire without changing position, it covers the flanks and front of the armor passing through the gap. When the armor arrives beyond the range of artillery, it depends upon its own batteries and the air force for fire support.

It is customary, but not absolutely essential, to closely follow up the break-through with armored or motorized infantry to hold the gap open and protect the route to the forward armor. This infantry is equipped with medium and heavy artillery for rapidly reducing enemy road blocks and centers of resistance which interfere with the line of supply.

The most effective maneuver of the break-through has been to gain ground to envelop what had been the enemy's front. This may involve an attack from the enemy's rear, or holding a defensive position or a combination of both.

Such maneuvers have caused a revival of the ancient rules of contravallation and circumvallation. At Stalin-grad in late 1942, Russian armor penetrating the German lines isolated the German spearhead. Lines of contravallation were then formed to prevent the besieged from breaking out, and lines of circumvallation to prevent relief forces from breaking in. At Dunkerque in June, 1940, a similar situation had been brought about by the previous German armored penetration.

In early April, 1945, American armor, which had broken through the German front north and south of the Ruhr, encircled an enemy force which exceeded 300,000 men.

The next most effective mission is to destroy the hostile supplies and communications. North Africa saw raids of this nature, as did France in August, 1945.

Penetrations at night by armored forces appeared late in this war and their success appears to rest upon mass employment. On the night of 15/16 April, 1945, the 1st White Russian Group attacked westward from its Oder River bridgehead toward Berlin on a front of about 30 miles. The artillery preparation was fired by a number of guns, equivalent to over one gun to every

2½ yards' front. The accompanying air strike employed about 4,500 planes. Four thousand tanks were used in the attack, and the front was illuminated by massed searchlights. There were about 5 times as many guns as tanks.

Turning Movements. Turning movements by armor are practicable where the enemy does not have a continuous front, as occurred from time to time in north Africa. It may follow a penetration, when an enemy wing has been isolated; or against reserves in enemy rear areas.

Where fronts are continuous, as was the rule in Europe, turning movements take place only after a front has been pierced and open country in rear of the enemy's main positions has been reached. The American campaigns of 1944 in France and April, 1945, in Germany were illustrative of this. Here armored troops were able to exert a decisive effect on the progress of the campaign by destroying supplies, interrupting communications and capturing isolated and detached organizations.

Tanks vs. Tanks. In north Africa, and also in Russia during 1941 and 1942, extensive tank battles occurred, but by 1945, tank vs. tank battles had all but disappeared. By this time, when tanks met tanks, both sides took cover, either in prepared pits or behind ridges or other available shelter.

Tanks fighting from fixed positions, natural or artificial, are really advanced armored artillery in direct or indirect firing positions. Tanks so engaged reproduce in technique the ancient artillery duel which was standard practice as a necessary precedent to an infantry assault. Neutralizing the hostile artillery was the classic commencement to a battle.

THE ADVANCE

After a penetration or turning movement by armored forces, an advance in hostile territory is required. Terrain is the major factor. In mountains or dense forests, armor is limited to narrow lines of advance where constant attack may be required. In open country armor has its greatest possibilities, because it can advance by either road or across country.

Armored troops require air reconnaissance and air cover. In the open country of north Europe, reconnaissance in clear weather was no problem. It ascertained whether enemy forces were posted between towns and woods, and sometimes could determine if the latter were held or not. Positive information of the absence of the enemy enabled armor to move speedily and without undue fatigue.

Armored vehicles on the advance are vulnerable to air attack, and here air cover is a necessity. The mission is not only to fight off hostile planes and to conduct reconnaissance, but particularly to locate, attack, and delay enemy intercepting forces.

Defended towns, woods, or other localities are at

times detached centers of resistance operating as road blocks. If possible, road blocks are not attacked by armor. Following supporting troops are charged with opening and maintaining lines of communication to the forward armor. Detached enemy field troops are dealt with according to their tactical importance. They can seldom be ignored but may temporarily be by-passed.

Armored force commanders may have a choice as to whether to attack or avoid intercepting enemy forces. This will depend upon the mission and the probability of success, based upon air reports as to apparent enemy strengths. Fixed defenses can be by-passed at will, but intercept troops cannot ordinarily be by-passed. When a battle is evidently approaching, regardless of whether it is brought on voluntarily or involuntarily, armored troops usually have some choice of terrain. But advance notice of the size, course and speed of enemy intercept troops is needed to make a decision whether to advance and encounter, stand and receive, or retire and defend.

Armored troops operating in enemy rear areas may be supplied with gasoline, oil, ammunition, food and essential supplies, either by capture or by air. In the early stages of the current war, capture was the usual method, but as the war progressed, dumps in rear areas were more strongly defended. Therefore hostile troops breaking in could not take them without attacking. This caused delay and often interfered with the mission.

With improvement of air transportation the capturing of supplies for forward troops should usually not be necessary. Forward armor can be relieved from seeking and securing supplies in a hostile land. Air supply presupposes air superiority, or air operation ability. If the enemy has air superiority, air supply cannot be counted upon. In December, 1942, Russian local air superiority near Stalingrad prevented air supply not only to the besieged, but to armored forces seeking to relieve them.

DEFENSE VS. ARMORED FORCES

It is impracticable to prevent occasional penetrations of a front by hostile armor, and turning movements by enemy armor must be considered as a possibility. Two methods have been tried to oppose penetrating armor.

The defensive method is to hold and defend critical points in rear areas with an all around defense. Dumps, depots, bridges and important railroad and road junctions thus defended prevent hostile armor that might break through from obtaining any supplies outside of the defended dumps.

The offensive method is to meet armor with armor by holding the armor in readiness to attack and intercept the hostile troops.

A combination of the two methods may be practicable and advantageous. The defensive method alone has failed to work. It was tried by the Germans in the later phases of the Stalingrad campaign. Russian armor by-passed defended places and left them to be dealt with

by the troops which followed. Employing particularly large forces of artillery, Russian troops rapidly isolated and reduced enemy centers, and kept their forward armor supplied by ground transportation supplementing captured supplies.

Armored forces to head off hostile armor penetrating a front was tried by the Russians in 1941 without much success. They did better in 1942, and improved as the war went on. In principle, intercept armor is held far enough back to be independent of the fate of front-line battles. If hostile armor should break through, the intercept armor is advised by air reconnaissance or other means. It then proceeds to intercept and bring the enemy to a halt, while other available troops close around the intruders and endeavor to encircle them.

This maneuver requires high tactical efficiency but if properly executed may lead to annihilation of the enemy.

Intercept armor replaces the old *reserve* that was held in rear of the front to reinforce threatened sectors. The speed with which modern warfare now moves prevents the use of local reserves in time to be effective against troops dashing through a gap, unless it happens to be near the penetrated positions.

A combination of defensive and offensive protection affords the best defensive. Centers of resistance should deny access to gasoline, oil and supplies to an enemy breaking in.

TYPES OF ARMORED VEHICLES

Experience has indicated that the size and type of traction of armored vehicles should vary with the theater of operation. Tanks suitable for debarking from landing craft over sand beaches and dunes may not be the best type for open terrain. Climate too must be considered—excessive cold as in Russian winters, or heat as in the Sahara desert, require special modifications of armored vehicles.

Mountain areas do not preclude the use of armor, but the quantity and types that can be employed is limited. The Italians developed special types of tanks and armored vehicles appropriate to their country. Such tanks were small and could travel along steep slopes. They worked well in Spain and in Ethiopia where the enemy had no effective antitank weapons, but the tank capable of operating in mountains was not very effective for maneuvering under fire against antitank guns.

While speed is an important factor in tanks, and may enable armor to avoid action in desert country, alone it is insufficient to avoid or force an engagement where movement is restricted by defiles under enemy fire or control.

The tendency of the current war has been to increase not only the number of armored troops, but also the size of tanks, and the caliber and quantity of the armored artillery. The end in this direction is not in sight. It seems probable that larger tanks and armored guns will soon be available.

Bridge Laying by Armor

*by Major John North**

The "Avre," a new British engine of war, is the most versatile fighting vehicle to be found among the armies of the world. It performed a spectacular rôle on the Western Front.

KNOwn as The Armored Vehicle, Royal Engineers, or Avre, the British armored assault vehicle is a multi-purpose weapon which attunes itself perfectly to the rôle of both the sapper and the Royal Engineers, whose duty is to breach fortifications.

Its specialized equipment makes it possible for engineers to build bridges under a protection of armor, and for sappers to get close to a strongly defended position with the greatest possible weight of explosives.

Part of such a unique accomplishment is possible because of the highly accurate, and specialized bomb-throwing mortar mounted in the turret called a "petard," which also is a British invention. When it was realized that several rounds from the petard could breach 10-foot concrete walls, the possibilities of the Avre in "fluid" warfare were recognized. This was demonstrated on D Day and for some time afterwards, when it fulfilled its original function by breaching the

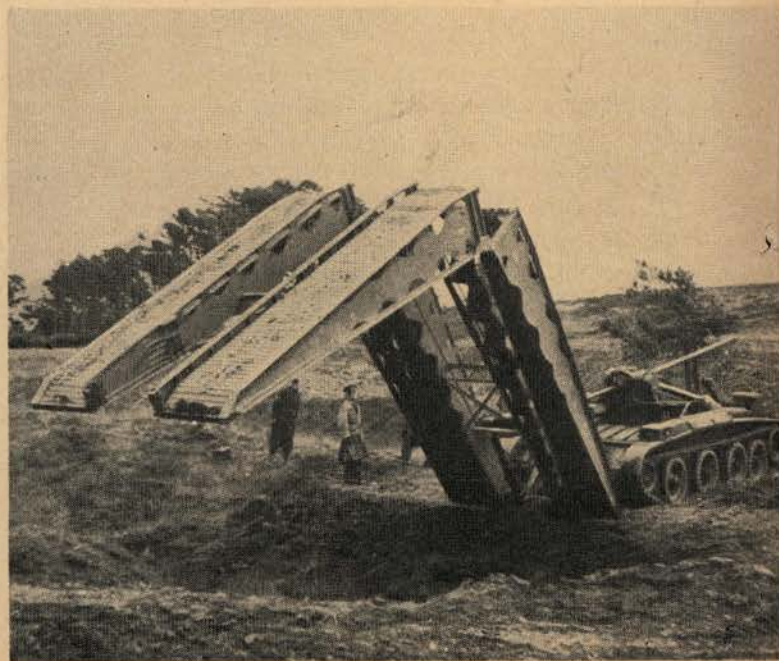
German defenses along the Normandy coast line, and at La Havre, Boulogne and Calais. Here it was found that even though the Avre's only antipersonnel weapon was a Bren gun, its crew could destroy, sometimes single-handed, enemy 88mm guns, lock gates, and village strong points. The sapper in the Avre, however, did not depend entirely on the use of the petard for such work, but carried explosive charges known as "beehives," which could be placed in the old-fashioned way.

Further versatility was given the vehicle through its basic design. Although built from a Churchill tank, it carries no tank armament. This space is used for additional specialized equipment which made possible the performance of its many battlefield functions. Although the crew of an Avre is thus in the position of a golfer who selects a particular club for a particular shot, it is as a bridge-layer that it excels and is able to speed up the advance of the infantry and armor.

In addition to its armor and weight-carrying capacity,

British tanks which could carry and lay their own bridges played an important part in France's liberation. Below is shown a "Scissors" bridge as mounted on a Valentine tank.

The method of unfolding the "Scissors" bridge as carried by tank in the photo to left, and laying it across a hole to form a bridge is shown below. Four types were in use.



British Official Photos

it has mechanical power, which is of no less importance. It can push and it can pull; and it is itself mobile.

As examples of its mechanical performance it can carry a 30-foot box girder bridge on its nose and drop it over an antitank ditch, or, to make itself less conspicuous to the enemy, it can tow the bridge to the site; it can push across a river a 60-foot "Skid Bailey" bridge; and can also tow to any site an 80-foot "Mobile Bailey."

The tank bridge of the Avre must not be considered a substitute for the conventional Bailey, however, but rather as a device for use in critical situations during which a few moments' halt in an assault's momentum may well delay success by days.

A typical picture of the Avre bridge-layer in action is provided by the story of the launching of a tank bridge during the British drive on the Maas. During the attack on Venraij, a meandering stream was found to be far wider than had been anticipated. This made a crossing with fascines impossible. While supporting guns fired smoke and high explosives, an Avre carrying a tank bridge trundled forward to the stream through 500 yards of heavy fire. At the stream a large crater was found which made it necessary to bridge a combined distance of 40 feet. Mines prevented the sergeant in the Avre from moving to either side, but he successfully placed the bridge across both crater and stream. The apparatus that fixed the near end of the bridge then jammed, and the sergeant dismounted and lifted one of his crew on his shoulders to release it. This bridge furnished the division's only crossing for the first 24 hours, and remained in use for two days.

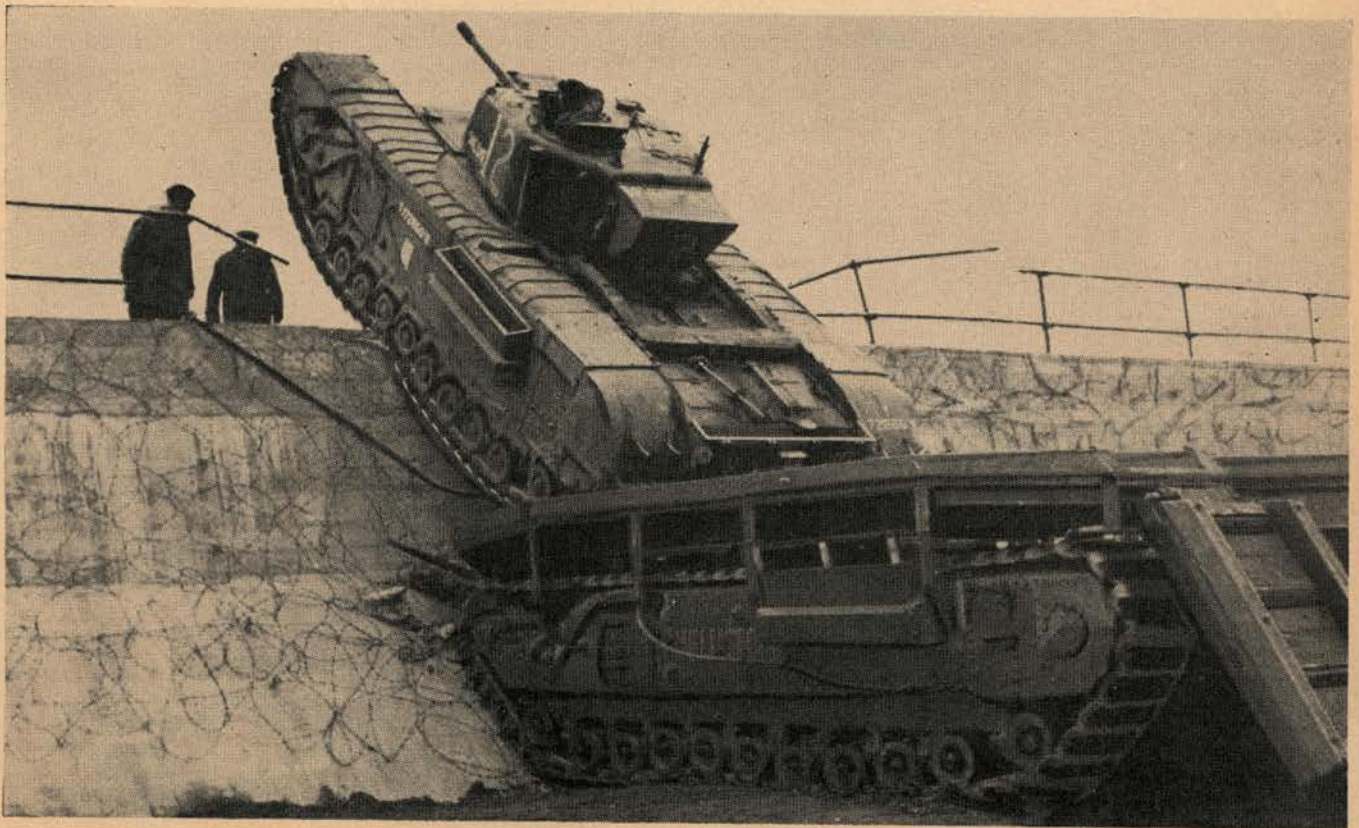
A bright future awaits the development of the idea



British Official Photos
Above, a "Churchill" bridge-layer has in 10 minutes completed the bridging of an antitank ditch in Holland. Over the bridge goes a combat tank while others wait in rear.

behind this armored vehicle, for it gives the British Royal Engineers mobility, which is only another word for ubiquity. Despite the intensity of modern fire power, it takes them to the forefront of the battle, and thereby foreshadows the sappers of the future.

An "Ark" bridging tank has formed a ramp against a sea wall, which is successfully scaled by another tank.



THE "CHALLENGER" — — HEAVY CRUISER TANK

*by Major R. W. Murland**

THROUGHOUT the Allied war with Germany, the conflict between gun and armor has been the dominating factor in tank design on both sides. The progress of this conflict was rarely reported in the day-to-day news bulletins and communiques, but it is no longer a secret that the German Army had a lead in gun development, of which they took every advantage. British guns improved steadily, however, and their superiority was established when the 17-pounder made its successful and timely appearance in the Tunisian campaign.

British operational plans had always envisaged the fast cruiser-tank as one of the most important weapons, and by 1942 the Cromwell tank was already a reality as part of Britain's long-term preparations for the invasion of Western Europe. The Tunisian campaign showed that a cruiser-tank with the new 17-pounder gun would be of the greatest value, and steps were accordingly taken to adapt the existing Cromwell design as quickly as possible to accommodate the new gun.

Stated baldly, it sounds simple to "adapt the Cromwell design to the new gun." In fact, the adaptation presented innumerable problems to the designers; it is only necessary to recall the very considerable differences in length, weight, and size of ammunition between the 75mm gun of the Cromwell and the 17-pounder, to realize the magnitude of the problems involved. The Challenger represents the practical solution of these problems.

The installation of a bigger gun must, in general, mean a bigger turret and, most important of all, a bigger turret ring. The ease with which the crew can load the gun and handle its ammunition inside the turret is dependent mainly on the available space; this space in turn depends largely on that key dimension the diameter of the turret ring. An increase in the turret ring diameter must itself mean increasing the over-all dimensions of the tank, and it will therefore be realized that "adapting the Cromwell design to the new gun" involved fundamental departures from that design.

The over-all dimensions of the Challenger are: 23 feet 8½ inches long (excluding the gun), 10 feet wide, and 9 feet 4 inches high. The total weight is 32 tons, or 4 tons heavier than the Cromwell. This increase in weight has not involved any reduction in speed, which is slightly in excess of 30 miles per hour. The power unit is the 600-horsepower Rolls-Royce "Meteor" engine.

The armament consists of a 17-pounder gun and a .30 inch Browning machine gun mounted co-axially with it in the turret which has all-around traverse and is power driven. Forty-eight rounds of ammunition for the 17-pounder are carried together with 3,750 rounds for the Browning machine gun, and there is a crew of 5: driver, commander, gunner, loader, and wireless-operator, the 4 last being accommodated in the turret.

In appearance, the Challenger shows obvious signs of its Cromwell parentage, though there is no likelihood of their being confused. The three characteristic recognition features of the Challenger are the long 17-pounder gun, 6 large road wheels on each side, and the distinctive high turret.

The Christie type of high-speed suspension, for long a noticeable feature of British cruiser tanks, has been retained with the addition of one suspension unit on each side. These additional suspension units not only increase the over-all length of the tank, but they also increase the "steering ratio" (i.e. the ratio of track length on the ground to width between track centers). From purely theoretical considerations this might seem to involve some greater difficulty in steering the tank; in practice, however, the same Merritt-Brown controlled differential steering system as is used on the Cromwell has proved entirely satisfactory, and no difficulties have been experienced in steering.

In the design or adaptation of any tank, it is axiomatic that new advantages can only be obtained at a price. Briefly, it may be said that the price paid for the 17-pounder gun in the Challenger has been an increase of 14 inches in the over-all height, and the sacrifice of a machine gun which might otherwise have been mounted in the front of the hull. It may be noted, incidentally, that the space necessary for this hull machine gun and its gunner has been employed for ammunition stowage. The over-all length and width have also been slightly increased, but these increases are of minor significance from the tactical or "user" standpoint.

The Challenger was first used in action in 1944 in the operations for the Allied liberation of Europe, and it is standard equipment in British Armored Regiments where it is used in conjunction with its elder brother, the Cromwell. The excellent armor-piercing performance of the 17-pounder gun makes the Challenger an ideal weapon for dealing with enemy armored vehicles, and it may well be described as the "tank destroying" element in the armored regiments.

*5th Royal Inniskilling Dragoons.

Chronology of World War II*

1939

- Sept. 1—Germany invades Poland, annexes Danzig.
- Sept. 3—Britain and France declare war on Germany.
- Sept. 4—Fighting begins in front of Maginot Line.
- Sept. 17—Russian troops strike into Eastern Poland.

1940

- Apr. 9—Germany invades Norway and Denmark.
- May 28—Belgium surrenders.
- May 29—400,000 British escape at Dunkerque.
- June 3—Germans bomb Paris.
- June 10—Italy declares war on Britain and France.
- June 14—Germans enter Paris.
- June 17—France surrenders.
- Aug. 4—German air force begins heavy attack on Britain.
- Aug. 31—RAF bombs heart of Berlin for first time.

1941

- Jan. 10—Germany and Russia sign friendship pact.
- May 20—Germans attack Crete in first airborne action.
- June 22—Germany, Italy and Romania declare war on Russia.
- July 24—Japs enter French Indo-China.
- Dec. 7—Japanese attack Pearl Harbor.
- Dec. 8—U. S. declares war. Japs attack Midway.
- Dec. 10—Japanese land in Philippines.
- Dec. 11—Germany and Italy declare war on U. S.
- Dec. 12—Guam occupied.
- Dec. 24—Wake falls after 14-day defense.

1942

- Jan. 2—Japanese occupy Manila.
- Jan. 14—First ship is torpedoed off Atlantic coast.
- Jan. 26—First American troops arrive in Ireland.
- Mar. 9—Japs overrun Java. Rangoon falls.
- Apr. 9—Fighting ends on Bataan.
- Apr. 18—Doolittle bombers raid Tokyo.
- May 4—Japs lose Coral Sea battle.
- May 6—Corregidor falls.
- June 12—Japanese land in Aleutians.
- July 4—U. S. flyers first bomb Western Europe.
- Aug. 7—Americans land on Guadalcanal.
- Nov. 8—Americans and British invade North Africa.

1943

- Jan. 18—Reds break siege of Stalingrad.
- Mar. 1—Japs defeated in Battle of Bismarck Sea.
- May 30—Japs on Attu wiped out.
- July 10—Allies invade Sicily.
- July 25—Mussolini resigns; Badoglio become Prime Minister.
- Aug. 17—Conquest of Sicily completed.
- Sept. 8—Italy surrenders unconditionally.
- Oct. 13—Italy declares war on Germany.

- Nov. 1—Americans land on Bougainville.
- Nov. 21—U. S. forces land on Tarawa.

1944

- Jan. 2—Allies land behind Nazi lines at Anzio.
- Feb. 17—Americans land on Eniwetok.
- Apr. 21—Yanks establish New Guinea beachhead.
- May 14—Gigantic Allies aerial offensive against Europe completes 29 consecutive days before interrupted by bad weather.
- May 18—Cassino falls.
- June 4—Allies take Rome.
- June 6—Allies invade Normandy.
- June 11—Yanks smash third of way across Norman Peninsula on 50-mile front.
- June 14—Yanks land on Saipan.
- June 16—First robot bombs strike Britain.
- June 18—Russians crack Mannerheim line.
- June 27—Americans capture Cherbourg.
- July 7—B-29s bomb Japan.
- July 18—Americans take St. Lô, France.
- Aug. 15—Allies invade South France.
- Aug. 23—Romania ends war against Allies; fights Germany.
- Sept. 11—U. S. forces invade Germany.
- Oct. 6—Yanks crush Siegfried defenses.
- Oct. 19—MacArthur invades Philippines.
- Oct. 29—Second battle of Philippine Sea, a crushing defeat for Japanese.
- Nov. 16—Eisenhower opens mass drive on Germany.
- Nov. 24—Super Forts bomb Tokyo.
- Dec. 20—Von Rundstedt breaches Allied lines with 13 Nazi divisions, smashes toward Liege.
- Dec. 22—Patton strikes at southern flank of "Bulge."

1945

- Jan. 15—Germans in full retreat from the "Bulge."
- Feb. 19—Yanks invade Iwo Jima.
- Feb. 24—Manila liberated.
- Mar. 8—Yanks smash across Rhine on captured bridge at Remagen.
- Apr. 2—New U. S. 10th Army lands on Okinawa.
- Apr. 12—President Roosevelt dies; Harry S. Truman becomes 33d President of the United States.
- Apr. 21—Russians enter Berlin.
- Apr. 26—U. S. First Army and Ukranian First Army meet at Torgau, cutting Germany in half.
- Apr. 28—Mussolini shot to death by Italian Partisans.
- May 4—Germany surrenders Denmark, Holland and all Northern Germany.
- Aug. 5—First atomic bomb dropped on Hiroshima.
- Aug. 8—Russia declares war on Japan.
- Aug. 9—Second atomic bomb dropped on Nagasaki.
- Aug. 14—Japan accepts Potsdam peace terms.
- Aug. 30—General MacArthur and 400,000 troops land in Japan.

*The Washington Evening Star.

Book Reviews

OLD LEATHERFACE OF THE FLYING TIGERS.
By Keith Ayling. Bobbs, Merrill. \$2.50.

Keith Ayling, pilot and veteran of World War I, as well as an eminent writer on aviation, is well suited to the job of presenting to the world the unusual personality of General Claire Chennault. It is, however, possible to regret that Mr. Ayling did not hold his biography up for a few months. In the light of recent events the reader must inevitably feel that much more might, and probably should, be told.

Known to the Chinese people as "Old Leatherface," friend, benefactor and protector, Major General Chennault stands in this country as the man responsible for the success and fame of the Flying Tigers. His early life as farm boy, woodsman, schoolteacher would not appear to be the usual beginning for an adventurer in the Orient. However, his job as YMCA physical education instructor led to the army in the last war where he received his commission and flight training. He developed into more than a stunt and test pilot—he wrote about aviation with vision, a believer in the future of fighters and bombers, a planner for the future of military aviation. The reader is tempted to seek for the shadow of Billy Mitchell, and sure enough, it is there.

The story of General Chennault's opportunity to put his theory of combat tactics into practice is particularly interesting. He realized that he must explore and exhaust the possibilities of each pilot and each plane in order to accomplish the impossible.

A gifted leader, he earned the respect of his men, a respect which could not have been commanded. This is a remarkable story of an extraordinary man who did a phenomenal job, and it will not be the only such story to come out of this war.

✓ ✓ ✓

PSYCHOLOGY FOR THE ARMED SERVICES. By
The National Research Council. The Infantry Journal.
\$3.00.

It undoubtedly is true that the more men understand of the reasons for behavior, the more readily they can master their emotions and control their reactions. *Psychology for the Armed Services* is one of the most reasonable treatises on the subject that has been published in some time.

For too many years psychology has been used as an excuse for man's derelictions instead of being made to fulfill its purpose of so explaining normal reactions that man could understand and master himself and have no need for vindications.

While this book is primarily written for the armed services, it has much of interest to any sane, thinking man who wishes to master his life rather than allow it to master him.

AN INTERNATIONAL BILL OF THE RIGHTS OF
MAN. By H. Lauterpacht. Columbia University Press.
\$3.00.

At a time when a great portion of the world is desperately seeking an equitable way of life for all men, it is well to review history's past efforts to codify and insure the rights of man. It is also essential that definite proposals of a practical nature be outlined, in order that man may read and judge their workability.

Mr. Lauterpacht, Whewell Professor of International Law at Cambridge, has detailed a proposal for the formulation and enforcement of an international bill of rights. He leaves no stone unturned in stating the case for establishing an instrument creating legal rights and obligations among states as regards fundamental human rights. He surveys the written expression of these rights from the time of the Greeks to the present, argues the legal and philosophical bases for codifying them, and finally, presents a proposed *International Bill of the Rights of Man*, article by article. His discussion of the practicality of such a bill, and possible modifications, concludes the study.

There are inevitably many points that will cause debate, and some portions of the bill demand further clarification. This is as it should be, for a book that does not provoke healthy discussion is hardly worth the writing, and Mr. Lauterpacht is to be thanked for presenting such a well-formulated study to instigate thoughtful consideration of the points involved.

✓ ✓ ✓

FIRST ENCOUNTER. By John Dos Passos. Philosophical Library. \$2.00.

This narrative deals with the lives of front-line soldiers of 1918, as seen through the eyes of an ambulance driver. Short snatches of days, experiences simply stated, combine to produce an experience rather than a consecutive story.

More truly than many of the more profound studies comparing conditions of the two wars, this little book will impress the reader with the futility of nations' present methods of solving problems, and the unquenchable hope that keeps mankind struggling against the perennial injustices of the world, from generation to generation.

Unlike his previous books, this narrative is definitely philosophical and in several paragraphs his characters speak profoundly in simple language the thoughts that men are thinking today as they did in 1918: "We must stop the economic war, the war for existence of man against man. That will be the first step in the long climb to civilization. They must cooperate, they must learn that it is saner and more advantageous to help one another than to hinder one another in the great war against nature."

✓ ✓ ✓

ATOMIC ENERGY FOR MILITARY PURPOSES. By
H. D. Smyth. Princeton University Press. Cloth \$2.50;
Paper \$1.25.

Received too late for review in this issue.

THE MERCHANT MARINE AND WORLD FRONTIERS. By Robert Earle Anderson. Cornell Maritime Press. \$3.00.

"The by-products of war are sometimes of greater importance in their effect upon the welfare of a country or of the world than are the direct objectives for which a war is fought."

One of the by-products of this war is our greatly increased Merchant Marine. The exigencies of this war necessarily drove us to create a large shipbuilding industry and resulted in an enormous production not only of warships, but merchant ships for transporting the essentials of war to our own troops and our Allies.

We are now faced with the serious problem as to whether our Merchant Marine is to be a national asset—opening a new objective and wider field to American trade—or just an expensive surplus of the war to be discarded as unsalvageable.

Too few citizens are aware of the important factors involved in this problem. With a great portion of our country land-bound with the exception of rivers, we are not entirely conscious of the advantages to be gained by maintaining our Merchant Marine at its built-up strength.

Mr. Anderson has written a thoroughly comprehensible book, covering the background and problems of American shipping, and pointing out the future advantages, if our opportunities are not allowed to slip through our fingers.

It would be well at this time for Americans interested in their nation's advancement to read this volume, and remember the lessons of history—in which every powerful nation has been judged in accordance with the number of its ships that sailed the 7 seas.

1 1 1

TIME BOMB. By E. A. Piller. Arco Publishing Co. \$2.00.

One of several books published in recent months to expose the fascist elements in this country, *Time Bomb* adds little to the already open records of race hating groups in America. It is important only in that it reiterates the records of those who are sowing dissentious seeds in our nation, in the hope that each reiteration will waken more of the indifferent among us whose weak hands hold the balance between democracy and fascism.

One notable addition to this book is a list of organizations throughout the nation that are fighting to uphold the traditions of democracy in the United States—the right of all men to "life, liberty, and the pursuit of happiness."

1 1 1

CARTOONS FOR FIGHTERS. Edited by Sgt. Frank Brandt. Fighting Forces Series. Infantry Journal. 25¢.

This is a collection of over 350 cartoons and gags used by the Armed Forces to ease the task of learning the tactics of modern warfare. They are not only amusing now, but in future years will serve as an entertaining reminder of days past. Readers of *THE CAVALRY JOURNAL* will find some familiar cartoons among those selected for publication from the military magazines.

An Official Report to the American People

Atomic Energy for Military Purposes

By

H. D. SMYTH

Consultant, Manhattan Engineer District

(Prepared at the Request of

Major General L. R. Groves, U. S. Army)

From the Foreword by General Groves . . .

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"All pertinent scientific information which can be released to the public at this time without violating the needs of national security is contained in this volume. . . ."

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* * *

Reveries Upon the Art of War

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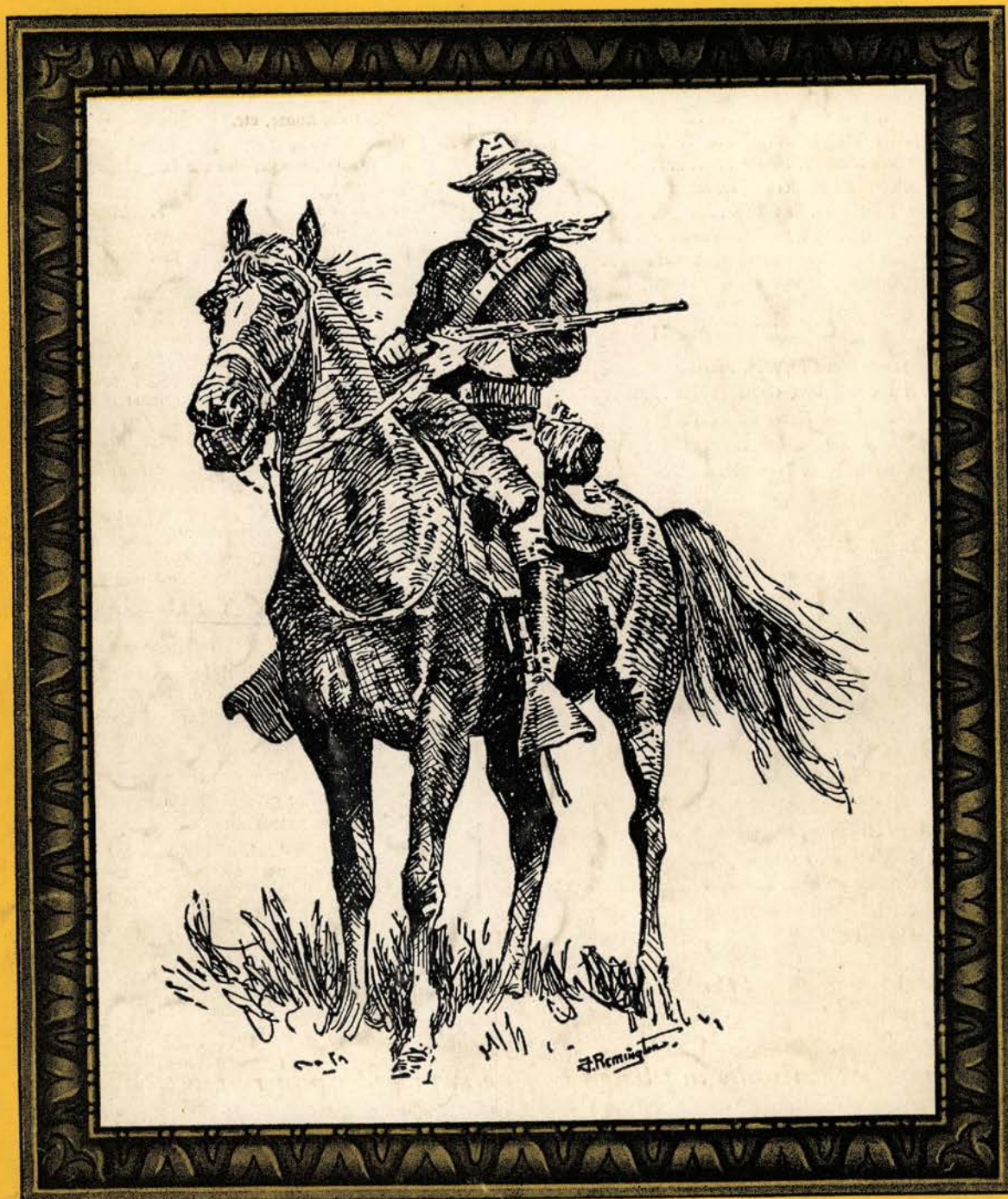
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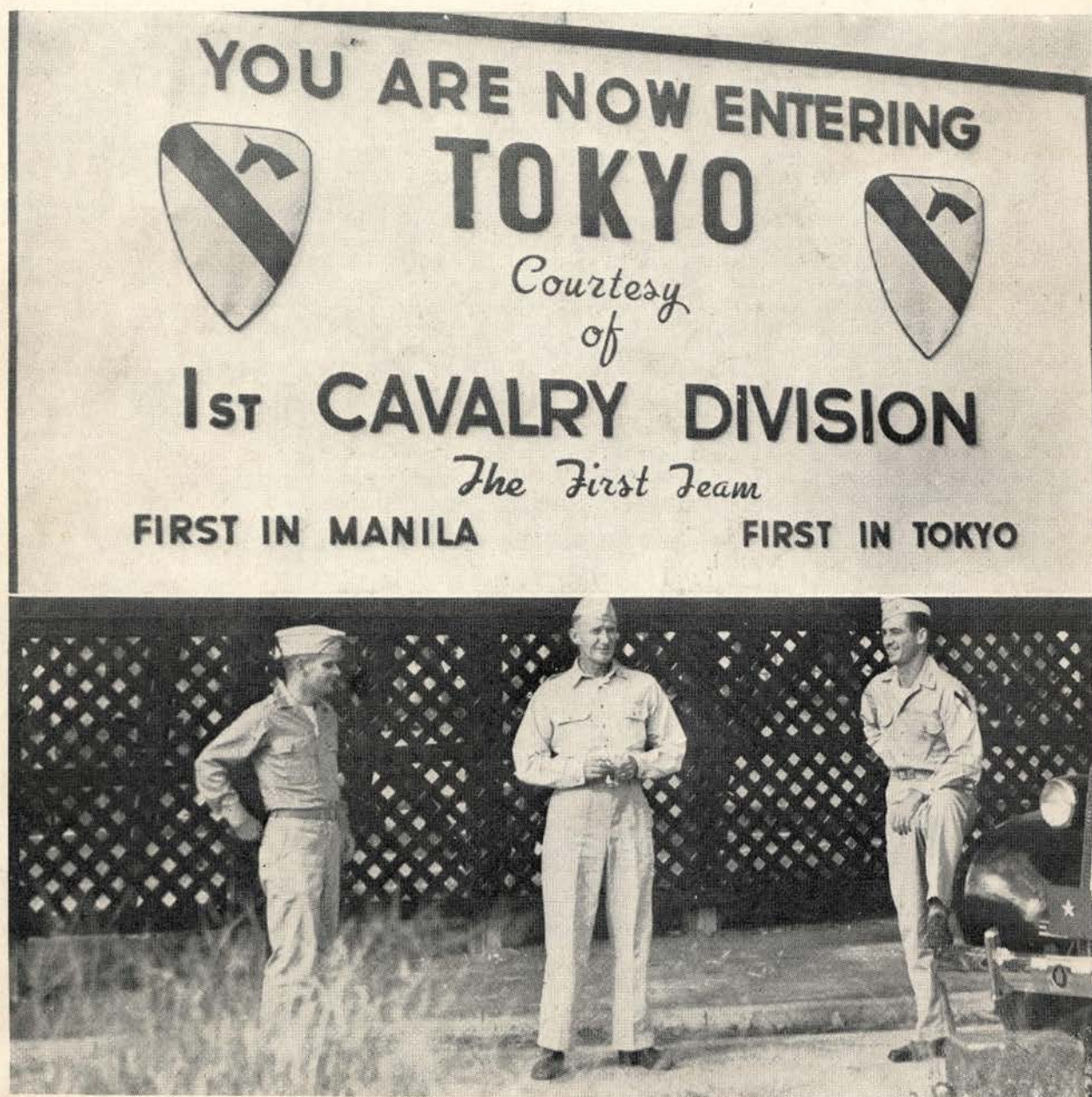
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NOVEMBER-DECEMBER, 1945

The Cavalry Journal Plans to Reissue Chamberlin's Books on Horsemanship



THE CAVALRY JOURNAL is negotiating for the publication rights of the two classical books on horsemanship by the late General Harry D. Chamberlin, which have been out of print for some time: *Riding and Schooling Horses*, and *Training Hunters, Jumpers, and Hacks*.

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But don't forget: our plans to republish these books will depend entirely on the reception our readers give the idea, so write us at once.



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1st Cavalry

From A Report of the 1st Cavalry Division

7th Cavalry advances toward San Jose, Leyte, P. I., October 24, 1944.



Signal Corps Photo

THE 1st Cavalry Division sailed in convoy from the Admiralty Islands at 1530 hours on October 12, 1944 en route to the target area of Leyte, Philippine Islands. Conferences were held aboard ship to acquaint the men with the situation and the landing plan. All officers and enlisted men were informed in general of the over-all plan, and in great detail concerning the plan as related to platoons, troops, squadrons, regiments, etc.

The convoy arrived opposite White Beach at 0800, October 20. The naval bombardment and air attack on the hostile shore had been in progress since daylight. Troops began to debark at 0900 from ships to the LCP and LCM landing crafts, and at 0930 all were at the line of departure, ready to start ashore.

With waves of troops separated by 5-minute intervals, the regiments landed in column of squadrons, the 7th Cavalry over White Beach 1, the 12th Cavalry over White Beach 2, and 5th Cavalry over White Beach 3. The 8th Cavalry, division reserve, followed the 7th Cavalry. The division artillery landed over, and north of, White Beach 1.

The first wave started ashore at 1000. Succeeding waves followed in scheduled order and the landing was accomplished successfully against but little opposition.

At 1400 a temporary CP for the division was set up 100 yards inland, opposite the center of White Beach 2. The division commander came ashore at that time, and assembled the brigade commanders, separate unit commanders and his staff for a short conference. Reports were made by the commanders and staff officers on the progress and the situation at that time. At 1520, the division CP was established at San Ricardo (S. Jose).

By 1700 all field artillery units had landed and were in position ready to support the attack. The 82d Field

Artillery Battalion was in direct support of the 5th Cavalry; the 99th Field Artillery Battalion in support of the 7th Cavalry; the 271st Field Artillery Battalion in support of the 12th Cavalry. The 61st Field Artillery Battalion was in general support with a special mission of counterbattery, prepared for direct support of the 8th Cavalry when that regiment was committed.

Leading elements of regiments reached Route 1 at about 1700 hours. The peninsula on which the Tacloban air strip is located was taken, and in general the A Day missions were accomplished. All ships were unloaded by 1900 hours. The landing over the beach was very difficult because landing craft were unable to get near enough ashore to clear the deep water. Most troops and vehicles landed in water 4 to 5½ feet deep, which resulted in drowning out practically all vehicles. Those that would run towed others ashore.

There was no road of consequence along the shore, and bulldozers and blades began at once clearing a path, which eventually became a road. Units dug in for the night. No important action took place before morning.

At 0800, October 21, the attack jumped off. One troop of the 7th Cavalry was left to hold the peninsula on which the Tacloban air strip is located, and the remainder of the regiment pushed forward to capture Tacloban. By 1200 tanks attached to the division were in Tacloban and the city was practically in our hands. Progress was slowed down considerably during the afternoon by stiffened enemy resistance.

The 5th Cavalry could not contact the 24th Infantry Division, and some apprehension was felt concerning a possible gap in the line. At 0700, October 22, the division commander personally contacted the commanding officer of the 24th Division's regiment which was on our right. It was found that the regiment's

Division in the Leyte Campaign

CARDED

advance was being held up by enemy resistance, and that a gap of about 2,000 yards existed between the left flank of the 1st Cavalry Division and the right flank of the 24th Infantry Division. This had been caused by a 2,000-yard advance of the 5th Cavalry beyond the 34th Infantry, which was the right flank regiment of the 24th Infantry Division.

The commanding officer of the 34th Infantry reported that he was cut off from his division by a salient which had been driven between his regiment and the regiment on his left. Arrangements were made for the 8th Cavalry to close the gap between his right flank and the left flank of the 5th Cavalry. This was accomplished by 1200.

The division CP was moved to Tacloban at 0730 hours, and at 1000 hours a division order was issued for the continuation of the attack.

During the day of October 23, it was learned that enemy troops on the island of Leyte were largely made up of 16th Division units, commanded by General Makino. The 1st Cavalry Division was opposed by the 20th Japanese Infantry. A G-2 estimate at this time indicated 20,000 enemy troops on the island.

At 1000 hours the commanding general of X Corps directed that the 1st Brigade pass to direct control of the X Corps and remain in its position. The 8th Cavalry was to be moved to the vicinity of Tacloban to join its brigade and start its advance to the north. By dark, leading elements of the 2d Brigade had reached the Diit River.

On October 24 at 0700 the 1st Squadron, 7th Cavalry, started an over-water movement, by LCMs and LCIs escorted by gunboats, up the San Juanico Strait to Babatngon. Japanese aircraft attacked the convoy as it left the dock at Tacloban and two Navy enlisted men were killed. No further attacks were made, and the landing was unopposed. During the day the 8th Cavalry moved north to Urban on the east coast of Leyte on the San Juanico Strait, and Troop C crossed to LaPax on the west coast of the island of Samar.

Two LCIs and a Navy gunboat remained overnight at Babatngon. On the morning of October 25 at about 0800 enemy aircraft attacked Babatngon. The Navy gunboat was damaged and had to be beached to prevent its sinking. One LCI was practically cut in two, and the other was damaged. In San Juanico Strait near Tacloban enemy airplanes attacked an LCM, killing three enlisted men and wounding two officers and three enlisted men.

The principal part of October 25 was spent in patrolling. During October 26, 27, 28 and 29 there was little change in the situation and vigorous patrolling continued. By dark on the 29th leading elements had

reached the line Barugo-San Miguel-Cavite. During these four days the division was subjected to almost constant enemy air attacks. Casualties were light and little damage was done.

A typhoon passed over the area occupied by the division during the evening of October 29. Practically all tentage was blown down, and heavy rains made roads impassable, which slowed operations considerably.

During October 30-31, the forward units advanced to the west of the Barugo-San Miguel-Cavite Road, which made it possible to move the advanced CP of the division to Santa Rosa on the afternoon of the 31st.

At this time the 34th Infantry had advanced to the west along the Palo-Cavite-Saro-Carigara Road to within 5 miles of Carigara. The X Corps directed the 1st Cavalry Division and the 34th Infantry to attack Carigara at 0800 hours, November 2. Guerrilla reports indicated that Carigara was garrisoned by from 1,000 to 2,000 Japanese troops. *Reconnaissance to verify this was not made.* As a result, a corps attack was made against a position which was not occupied by enemy troops. The attack jumped off as ordered, and the troops entered Carigara without an enemy shot being fired. No enemy soldiers, dead or alive, were found in the town. Enemy aviation, however, continued to attack several times each day.

On November 3, the 24th Infantry Division started to move to Carigara and by dark on the 4th had completed the movement. Troops of the 1st Cavalry Division took over the Carigara-Jaro Road, and units were moved into position to continue the offensive. The 24th Infantry Division was advancing west from Carigara to Pinamapoan.

By this time all units had reverted to division control. The 24th Infantry Division was to advance south along the Pinamapoan-Ormoc Road, while the 1st Cavalry Division advanced west to the same road over the hill mass. This phase required from November 9 to December 22 for completion; enemy resistance was continuous.

The terrain between the Carigara-Jaro Road and the Pinamapoan-Ormoc Road was most difficult. It consisted largely of a series of knife-edged ridges, and the hillsides were so steep that it was necessary to crawl up most of them. The Japanese had taken advantage of this terrain and had dug in on successive ridges. In order to get them out it was necessary to concentrate mortar and artillery fire on their positions. Artillery support became increasingly difficult as the troops pushed farther into the hills. Since it was impossible to move the field artillery beyond the foothills, because of the absence of roads, ranges up to 12,000 yards had to be used to provide support during the last stages of this action.



Signal Corps Photo

Veterans of the 1st Cavalry Division, on a mopping-up mission one hundred yards beyond the beachhead. In the background an enemy shellburst raises a white cloud of smoke.

Enemy artillery caused some difficulty and since the cavalry division has no organic 155mm howitzers, corps artillery support had to be provided. Corps artillery also furnished general support to compensate for the division's lack of medium artillery.

On November 14 the 112th Regimental Combat Team (Cavalry) was attached to the division and elements of this regiment were put into the line on the division's right flank.

Supply and evacuation were most difficult. Continuous rain made all roads leading west from the Carigara-Jaro Road impassable. Buffaloes, LVT M4, were brought in and used to transport supplies across the rice paddies to the foothills, into which a trail was cut over which tractors could pull one-ton trailers for an additional three miles. At that point a supply base, rest camp, and a portable surgical hospital were established, and from there forward native carriers transported all food, ammunition, and medical supplies and evacuated the sick and wounded. During the latter part of the action it required 24 carriers 12 hours to transport a litter patient from the front line to the supply base. Two thousand natives were employed for approximately 5 weeks. The trails were too steep and the terrain too rugged for even a pack train to have been practicable. Air drop was used quite successfully in supplying rations during the last three weeks.

Enemy resistance broke on the Ormoc Road at about 1500 hours on December 22. The 77th Infantry Division had landed at Ormoc and advanced north on the Ormoc Road; the 32d Infantry Division, after replacing the 24th Infantry Division at Pinamapoan, had advanced south 8 miles from Pinamapoan; and the 1st Cavalry Division had crossed the hill mass and reached

the Ormoc Road between Capulan and Kanaga. An advance to the west began at once.

While this operation was under way, the 2d Brigade less the 7th Cavalry, advanced on the Island of Samar to Wright and thence to Catabologan. In conjunction with the guerrillas, Samar was brought under control.

On December 27 troops of the division reached the west coast of Leyte near Abijac. Their remaining activity consisted of mopping up and clearing out small bodies of the enemy. Orders then were issued to assemble the division in the vicinity of Tunga for reorganization, reequipment and preparations for future operations.

COMMENTS

In training for combat the greatest emphasis should be placed on physical conditioning, scouting and patrolling, and the work of small units, troops, and platoons, which do most of the fighting.

Organization: In general the organization of the division is satisfactory. However, the consensus of opinion from the commanding general of the division down to squadron commanders was that the following changes would be desirable:

1. Increase the rifle squad to 12 enlisted men. The total increase per regiment would be 218.
2. Increase the P & D Platoon to 52 enlisted men.
3. Increase the regimental medical detachment by 10 enlisted men.
4. Increase the MP Platoon to a troop of the same strength as the rifle troop.
5. Reactivate the pack troop of the QM Squadron. A start had been made to do this, but a complete

reactivation with equipment is urgently needed. The T/O and T/E are now in the division tables. Pack horses are recommended rather than mules.

6. Add an assistant to JAGD Section.

Equipment: The following changes were recommended by squadron, regimental, and brigade commanders and were concurred in by the division commander:

1. Replace the .50 caliber machine gun in the regimental weapons troop with the .30 caliber water-cooled machine gun. Jungle fighting affords but little opportunity for the .50 caliber. The weight of the gun, its tripod and the ammunition do not justify its inclusion in the T/E. The .30 caliber water-cooled machine gun, however, can be used effectively.
2. Replace the 75mm howitzer in the 99th Field Artillery Battalion with the 155mm howitzer. The division needs medium artillery for general support. As it is now equipped this is lacking. The 105mm howitzer does not have sufficient striking power and is not capable of giving the necessary counterbattery, interdiction and harassing fires. The division commander and the division artillery commander both feel that this is a most necessary change.
3. Add sufficient 2½-ton, long-bodied, 6x6 trucks to provide one for each rifle troop, two for each weapons troop, and one to each squadron and regimental headquarters. The commanders of all echelons, from the division commander down, believe this to be most essential.

Supply: The division must be trained and ready to use ground, water, and air facilities for supply. Operations such as Leyte will require all three, and after the operation starts it is too late to train.

The supply problem was acute. Air drop made it possible to get supplies to troops who were so isolated that all other means, including native carrier, were inadequate. Air-ground coordination in this method of supply was very difficult. The jungles' thickness prevents the use of panels. Smoke is undependable. Map coordinates are unreliable, and worthless. The only satisfactory method was to fly an observer, who knew where the troops were, over the troops in the field artillery liaison plane. After seeing what the terrain looked like from the air and picking out a spot to make his drop, this same observer returned and flew in the plane which was to make the air drop. He then could direct the crew of the air-drop plane. Native carriers were employed where necessary and were most helpful.

Tanks: Tanks were rarely used. However, they were valuable in the capture of Tacloban shortly after landing, and in clearing the Ormoc Road as the operations ended. Our experience was that the medium tanks could go any place the light tanks could.

Information: Information received from natives and guerrillas was erratic, and usually greatly exaggerated.

Scouts and patrols were most dependable.

It was practically impossible to capture a Japanese soldier. He would commit suicide by hand grenade or gun regardless of anything done to prevent it. Most prisoners were unconscious when taken. On regaining consciousness they would talk, but whether or not they were telling the truth was considered problematical.

Signal Corps Photo

A joint Yank-Filipino squad from the 1st Collecting Troop, 1st Cavalry Division, taking a patient down a steep slope in the mountains north of Leyte.



Brief Regimental History 26th Cavalry^{*}

World War II—Bataan

From the Diaries of Major H. J. Fleeger

EDITOR'S NOTE: The following account of the actions of the 26th Cavalry was taken from the diary of the late Lieutenant Colonel Fleeger. We are grateful to his wife, Mrs. Louise M. Fleeger, who so kindly gave us permission to print it.

This account was written from memory while the author was in prison camp. All regimental records were lost, destroyed, or captured during the campaigns. He was later killed in action when the Japanese prison ship on which he was being transferred to another prison, was torpedoed.

December 8, 1941. Fort Stotsenburg, P. I. 26th Cavalry (less Troops F and G) was in garrison. Troop F on D. S. Nichols Field, Rizal, P. I., Troops B and C on a reconnaissance mission to Baler and Dingalan Bays. Troop G rejoined later on withdrawal into Bataan.

6:00 A.M. radio reported Pearl Harbor bombed.

9:00 A.M. Regiment (less Troops F and G) and rear echelon Regimental Headquarters moved to previously selected concealed bivouac about 2 kilometers north of Stotsenburg along the Bamban River. Troop F was directed by radio to march at once to Stotsenburg.

December 8-12. Troop F rejoined. Regiment attached to North Luzon Force and held in reserve.

December 9-10. 2d Squadron (less Troop C) with one platoon tanks, one battery SPM, and one section scout cars—all commanded by Major Trapnell—moved to Cabiao, east of Mt. Arayat. Mission—to find and destroy large enemy parachute force reported by civilians to have landed near Cabiao.

No enemy encountered. First Squadron established counterreconnaissance screen from Mabalacat to Angeles inclusive. No enemy encountered. Both squadrons ordered to return to Stotsenburg and to concealed bivouac in Baluca village area.

About December 11. Regimental area on post heavily bombed. Casualties—2 enlisted men killed and about 40 animals dead or wounded at shoeing shops. Two sections scout cars, commanded by Lieutenant Cunningham, with extra ammunition, dispatched to Cagayan Valley, to be attached to infantry force operating

there. Departure effected during bombing at regimental area. About December 12, regiment less detachments moved to Pampang to avoid daily heavy bombings of Stotsenburg.

December 13. Marched to Bamban and joined North Luzon Force Headquarters under General Wainwright.

December 14. At Bamban, shoeing and preparing to march north.

December 15. Marched to Gerona.

December 16. Marched to Rozales. Enemy information still meager. Landings reported at Vigan and Aparri.

December 17-19. In bivouac at Rosales.

December 20. Troop C dismounted and sent by bus to Bontoc, Mt. Province, to prevent enemy from occupying Bontoc area. (Troop C never rejoined, and its operations will have to be reported separately by Captain Praeger, troop commander.)

December 21. Marched to Pozorrubio in position of readiness and attached to 11th Division. General Brougher, commanding.

December 22. Regiment (less detachments) ordered by commanding general 11th Division to march on Damortis in order to prevent enemy advance south of the line Damortis—Camp One (Initially regiment had been ordered to Rosario in position of readiness and had marched at 3:00 A.M.).

Information indicated enemy landings in strength in Agoon area north of Damortis. During the morning of the 22d, attached to 71st Division, General Salleck, commanding, and given mission outlined above. In addition, directed to cover right flank of North Luzon Forces. Contact established at Damortis and scout car section with enemy tanks, infantry and bicyclists, entered Damortis from Agoon. About 75 transports were unloading troops. The resulting battle of Damortis was first major engagement of the battle of Lingayen Bay.

Regiment delayed astride the main road and during the afternoon was forced back to position about 3 kilometers west of Rosario. At 5:30 P.M. regiment was ordered to withdraw to Bued River line, and occupy position near Agat. Enemy attack was launched as the regiment started its withdrawal—and right flank was enveloped by about two companies of enemy infantry.

^{*}See Major Whitehead's article in the May-June, 1944, issue of THE CAVALRY JOURNAL.

This map shows the Iloilo Strait region, including the provinces of Aklan, Iloilo, and Negros Occidental. Key locations include:

- Iloilo Strait:** The body of water separating the Iloilo Peninsula from Negros Occidental.
- Iloilo Peninsula:** The landmass on the left, featuring cities like Iloilo, Bacolod, and Zamboanga.
- Negros Occidental:** The landmass on the right, featuring cities like Iloilo, Bacolod, and Zamboanga.
- Major Cities and Towns:** Iloilo, Bacolod, Zamboanga, Iloilo, Bacolod, Zamboanga, Iloilo, Bacolod, Zamboanga.
- Water Bodies:** Iloilo Strait, Iloilo Bay, Iloilo Bay, Iloilo Bay.
- Landmasses:** Iloilo Peninsula, Iloilo Strait, Iloilo Strait.

two casualties in breaking contact. The regiment was again placed in 71st Division Reserve and arrived exhausted, hungry, and considerably depleted, all records were lost, but battle casualties from Damortis to include Tayug were estimated at roughly one-third of effective regimental strength in officers, enlisted men, animals, and equipment, killed, wounded, or missing in action.

December 26. Regiment was ordered to Mexico for reorganization and rest. Marched night of December 26 about 25 miles to Munos and bivouacked. Still in front of the division front lines.

December 27. Ordered and marched to San Isidro about 25 miles—also still in front of the division front lines. The division withdrawal during this phase, by bus, was so rapid as to leave the 26th Cavalry behind.

December 28. Regiment was ordered and marched to Mexico, finally behind our lines. Troop G rejoined, relieved of its mission of maintaining observation at Baler and Dingalan Bay.

December 29. Reorganization interrupted and regiment ordered and marched to Porac, and placed in North Luzon Force reserve.

December 30. Moved to San Jose and attached to 21st Division, General Capinpin commanding. Remained at San Jose covering left flank of 21st Division until January 3—only patrol activity.

January 4. Division withdrew to river line through Dampe covered by 26th Cavalry (Note: it was on march to Porac 30 miles—cold rain—that I made the trip in reconnaissance car to Stots. to destroy all secret maps).

January 5. 11th and 21st Divisions, already preceded by all other Luzon forces, withdrew into Bataan, a well timed force withdrawal through the bottleneck at Layoc JC bridge. 26th Cavalry covered and was last element to cross before bridge was blown. Our troops occupied first delaying position through Kulis. 26th Cavalry arrived at Kulis at about one A.M., January 6, and moved at once to concealed bivouac on left flank of 31st Infantry. U. S. Army, left unit of holding troops on the Kulis position.

Regiment suffered heavily all day under air directed artillery bombardment, about 25 animal casualties. Reconnaissance by patrols and staff continued during day to left flank and front and late P.M. regiment moved to bivouac area about two kilometers further west. During night contact with left flank of 31st Infantry was lost because 71st Infantry fired on our patrols and prevented contact.

January 7. At 2:30 A.M. encoded radio message was received from commanding officer 31st Infantry which could not be decoded because code key had been changed January 6 and 26th Cavalry not notified of change. Patrol reports indicated imminent withdrawal of 31st Infantry. The scout car section was sent out by the only available motor route, that through the position of the 31st Infantry. At 4:30 A.M. section was am-

bushed with loss of three of the 4 cars, and all regimental records, diary, etc. Also standards and colors. Regiment was out of all contact with any friendly forces and behind enemy lines with no apparent exit. Regiment marched more or less continuously over very rugged mountain terrain, scorching all trails—without food or forage, to arrive on left flank of Abucay position noon of January 10. Regimental S-4 arrived in the afternoon with food and forage. Regiment was badly exhausted. All animals very weary and in need of shoeing.

January 11-12. Regiment marched to bivouac at Bagac in First Philippine Corps Reserve. The regiment remained at Bagac about two weeks. From this bivouac normal reserve functions were performed. These included a counterattack at Muron by Troop E, and one at KM Post 168 by Troop G, both against enemy troops which had infiltrated through lines of the 1st Philippine Division (eventually surrounded and forced to withdraw). Casualties were suffered in both engagements including First Lieutenants Ethan R. Cunningham and Clifford Hardwicke, Jr., killed.

January 25-26. Regiment covered the withdrawal of 1st Philippine Division (two battalions Philippine constabulary were attached to regiment for the mission). 1st Philippine Division withdrew, after suffering heavy losses, to the reserve battle position in Bataan along the Orion Bagac line. Upon completion of this mission the regiment was again placed in I Corps Reserve in bivouac along Trail 9 where it remained until moved to Bobo Point in support of Corps and Army troops against enemy landings, at and near Agloloma and Quinauan Points.

The regiment was employed only for patrol activities. A few days later the regiment was moved to bivouac on Trail 17 and prepared for counterattacks against the enemy penetration in the Tuol pocket but was not committed in this action. During this reconnaissance and training period Troop F was ordered to and destroyed an enemy force which had escaped from the Agloloma battle and was making its way north through the mountains in an attempt to join enemy forces north of the M.L.R. Captain Paul H. Wrinkle and one enlisted man were killed.

Upon change of command in I Philippine Corps (General Wainwright assumed command of all Philippine forces), the regiment was ordered to Bobo Point and attached to Luzon Force Reserve, remaining at Bobo Point until April 4.

Training and reconnaissance for counterattacks along the beaches or on the front of the I Corps were constant during this period but there was no action. Night of April 4-5 the regiment moved to junction of Trails 7 and 9 and prepared to counterattack possible penetrations on right flank of I Corps sector, from left of II Corps Sector which had already been penetrated by the enemy in force. Troop B with two sections scout cars attached, all commanded by M. [redacted]eger, squadron

commander, moved to the corps boundary but no action developed. Night of April 6-7 the regiment moved by bus via Mariveles to a position on Trail 10 in the II Corps area just in rear of the Corps M.L.R. On arrival at about 4 A.M. the entire II Corps was in retreat. Regiment was attached to the 31st Division, which consisted of the commanding general (Bluemel) and his staff, all troops being dispersed.

April 7 the regiment fought delaying actions along Trails 2, 12, and 18, in conjunction with remnants of the 31st Infantry, U.S.A., 57th Infantry (P.S.), and 14th Engs. (P.S.) to arrive at a final position on Trail 20 just south of the Alangan river and west of Lamao at daylight of April 8. The actions of the day were more or less continuous, characterized by pressure from the enemy ground troops in force—constantly supported by light and medium (105) artillery, and dive bomber attacks.

Early April 8, a thin line was established behind the Alangan river, with remnants of the following units in order from left to right—14th Engs. (P.S.), 26th Cavalry (P.S.), 31st Infantry U.S.A., 57th Infantry (P.S.), 803d Engs. and Provisional Air Corps Regiment. The terrain was rugged, the time limited, and large gaps existed all along the front. General Bluemel had been given command of the entire force and employed the regimental staff, 26th Cavalry, as his command group. Communications had entirely broken down. Early morning of April 8, the enemy, supported by artillery, tanks, and dive bombers, attacked the left sectors. (Major William E. Chandler was shot and taken prisoner in this action. He was released after the Jap capitulation.) The line crumbled and the right flank of the 26th Cavalry was enveloped. Withdrawal down Trail 20 was directed and the regiment moved south, delaying en route, until after dark.

During the night of April 8-9 surrender was ordered by Luzon Force, and during the morning of April 9 all echelons surrendered to the nearest enemy elements. At this time Regimental Headquarters and Headquarters

Troop included only one section of scout cars and a few troopers, 1st Squadron included only remnants of Troop A, and 2d Squadron only remnants of Troop E-F, Troops B, C, and M.G. having disintegrated, become lost, or casualties.

ADDITIONAL DATA

1. No records are available but total losses 26th Cavalry are estimated as follows: officers, over one-half, about 20 killed or missing in action; enlisted men, about 80 per cent killed or missing in action; animals and equipment all lost.

2. Regiment was mounted until about January 16, when animals were sent from Bagac bivouac to corral at KP 167 near Mariveles. As food shortage became acute, all animals were slaughtered for consumption by troops. After January 16 the regiment was employed as infantry. This was necessitated by the mountainous terrain of Bataan and by enemy control of the air.

3. Reorganizations were numerous, and about 200 additional men were recruited during the war to replace battle losses. Original strength 789. First reorganization started at Tayug, during withdrawal from north Luzon. M.G. Troop was combined with Troop B (M.G. Troop having lost heavily—only about 3 of its heavy machine guns remaining). At Porac, Troop B was organized into a motorized force, with buses, trucks, sedans, and Bren gun carriers drawn from the Manila pool. In Bataan, Troops E and F were combined and Bren carriers assigned to each troop and to squadron headquarters. No machine-gun troop and regiment was without animals, using buses for transportation. Finally in March 1942, a new machine-gun troop was formed, using all of the Bren carriers and some of the scout cars. The regiment then consisting of Regimental Headquarters and Headquarters Troop, with about 6 scout cars remaining of 13, 1st Squadron with Troops A and B present, Troop C on detached mission at Bontoc—2d Squadron made up of Troop E-F and Troop G, and machine-gun troop with Bren carriers.



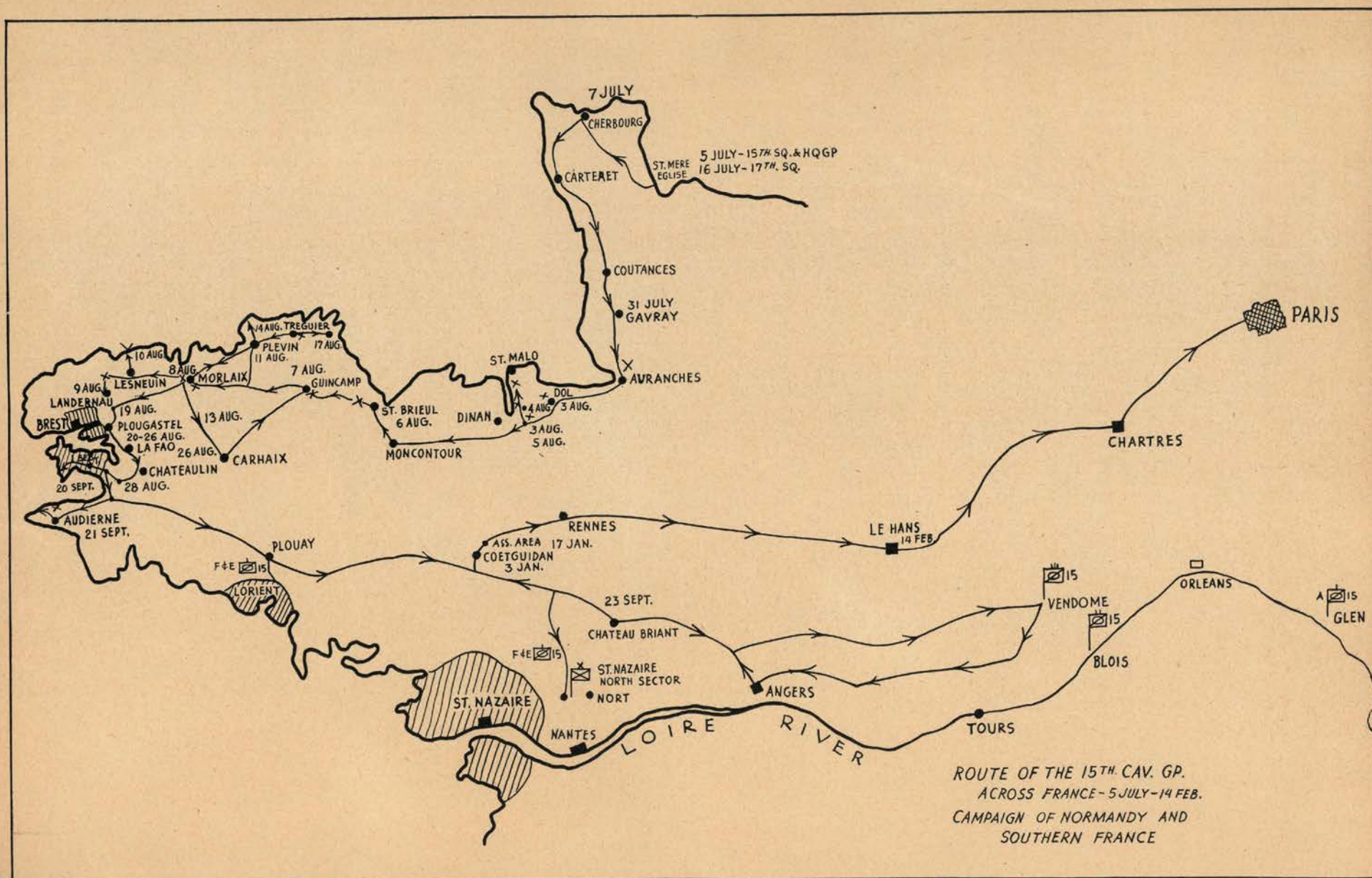
The Vanquished Speak

Here on this sun scorched hill we laid us down,
In silence deep as is the silence of defeat,
Upon our wasted brow you placed no laurel crown,
But neither did you sound the trumpet for retreat.
Mourn not for us, for here defeat and victory are one,
We cannot feel humanity's insidious harm,
The strife with famine, pain and pestilence are done,
Our compromise with death laid by that mortal storm.
Though chastened, well we know our mission is not dead,

Nor are the dreams we dreamed of victory in vain.
For lo, dawn in the east—the night is fled
Before an August day which will be ours again
At we here, dear comrades, on this foreign hill,

This alien clay made somehow richer by our dust.
Provides us with a transitory couch, until the
Loving hills of home enfold us in maternal trust.
We rest, assured brave hearts across the sea will not forget,
The humble sacrifice we laid on freedom's sacred shrine,
And hold that righteousness will be triumphant yet,
That o'er the earth again His star of peace will shine.

Above poem was written by 1st Lieutenant Fred W. Koenig, U. S. Army, in Prison Camp at O'Donnell, P.I., and dedicated to those prisoners who died there.



15th CAVALRY GROUP

PART II

Cavalry in Dismounted Action

by Major William R. Kraft

AFTER covering nearly 500 combat miles in operations on the Brittany Peninsula during the period August 1 to 27, 1944, the 15th Cavalry Group went into a dismounted phase on the Crozon Peninsula from August 27 to September 15. During this period many mistakes were made and many lessons learned which helped prepare the group for later participation in the Rhineland and Central Europe Campaigns.

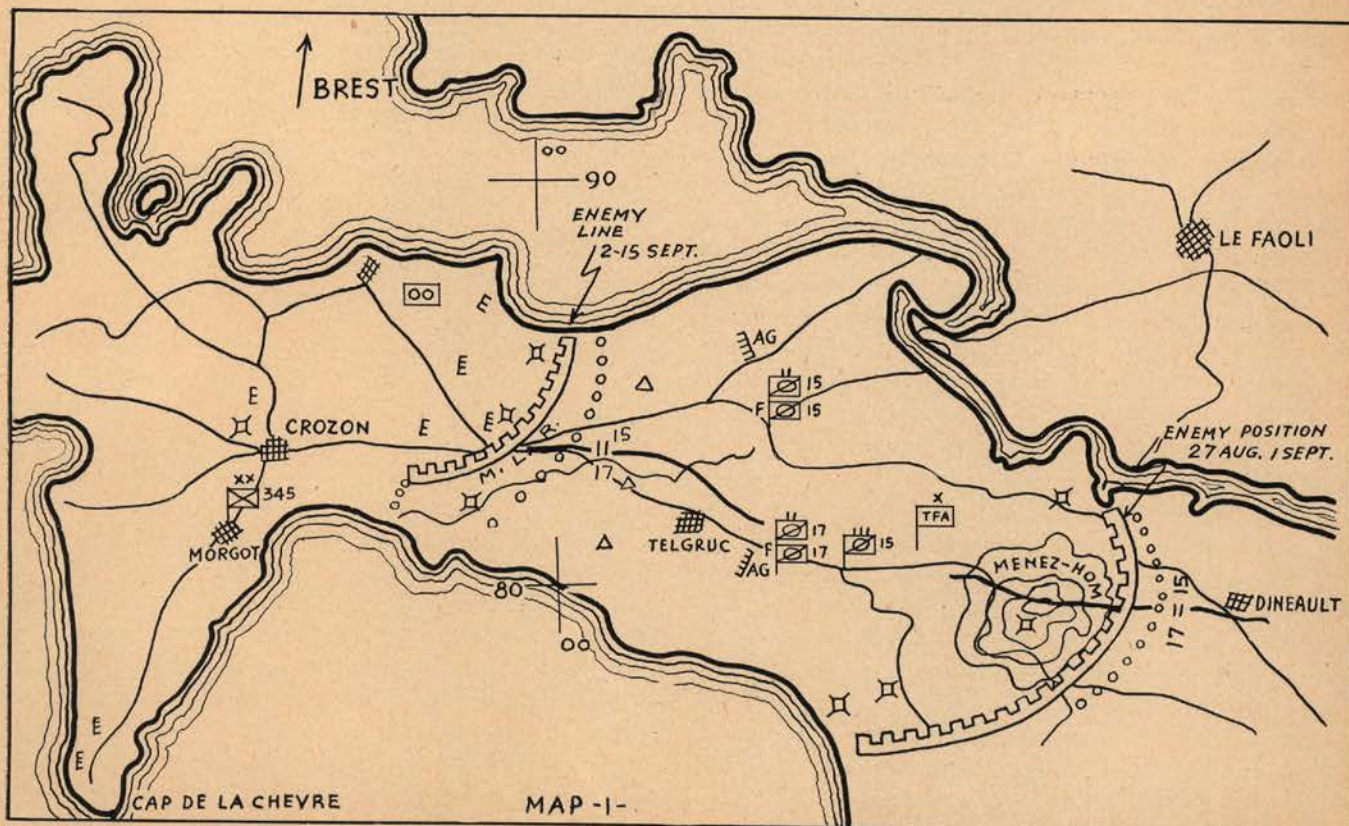
BACKGROUND

Despite the swift advance of the 6th Armored Division across Brittany in the first days of August, the end of the month saw the Brest area still tenaciously held by approximately 40,000 Germans under Lt. General Ramcke, of Cassino fame. Ramcke's force consisted of his own 2d Paratroop Division, entrenched

around Brest proper, and the 343d Infantry Division, under General von Rausch, which held the vital Crozon Peninsula to the south. Both divisions were considerably reinforced by fortress troops, Russian labor battalions, and German administrative personnel.

The American VIII Corps, under then Major General Troy Middleton, consisting of the 2d, 8th and 29th Infantry Divisions, had assembled during the fourth week in August for the assault on Brest. Task Force A, Brigadier General Herbert L. Earnest, commanding, of which the 15th Cavalry Group was the largest part, helped protect the corps' concentration by reconnaissance to the south and west.

On August 27, the corps' operation being well under way, Task Force A was sent into the Crozon Peninsula from the east with the mission to push as far westward



as possible, and when strong resistance was met to contain and prevent any German escape from the Brest area through this Peninsula. The mounted phase of this operation was very short, since the first enemy defensive line (see map) was encountered and developed on the first day. From then until September 15 the task force fought dismounted except for a brief push to the Germans' second defensive line. This occurred after the first line had collapsed on September 1 and 2, because of the surrender of a considerable number of Russian labor battalions which had held the flank north of the promontory "Menez-Hom."

EXECUTION

The containing screen was set up with two squadrons on line. A field artillery battery was attached to each squadron for direct support while the 705th Tank Destroyer Battalion (S.P. M-18) and the 35th Engineer Battalion gave general support to the whole group. The squadrons employed two reconnaissance troops in line with the 3d Reconnaissance Troop and the tank company in reserve. The assault guns were placed in a battery position to execute defensive or harassing fires on call from the reconnaissance troops.

The nature of the terrain precluded the use of vehicles of any type in the forward area of the screen. Thus, mutually supporting strong points were set up along the front with dismounted automatic weapons. Daily patrols from each troop felt out the enemy positions and searched for indications of any offensive intentions.

For their part, the Germans held both defensive lines with two battalions reinforced by an abnormal amount of automatic weapons, light AAA guns and AT guns. During the whole operation the enemy showed little if any desire for offensive action but defended stubbornly—bringing heavy fire on our patrols and flatly repulsing one attempt at a reconnaissance in force of his position by a combat group consisting of Troop A of the 15th Squadron, supported by tanks, assault guns, and M18 TD's. The task force thus successfully executed its mission until relieved by the 8th Division on September 15. The division attacked the same day and 6 days later resistance on Crozon Peninsula ceased.

CRITIQUE

The most important lessons gained on Crozon were learned in the patrolling aspect of the operation. Outstanding faults which came to light were as follows:

1. A patrol was wasted if not given a definite mission. Patrols sent out to go forward until they "drew fire" did just that and brought back no information of value.
2. Anything over 12 men was too large for a reconnaissance patrol.
3. Some patrols returned under hostile observation directly to their static positions, thus bringing down accurate mortar and artillery fire on that position.
4. Patrols used the same routes day after day and

were ordered by higher headquarters to reconnoiter the same strong points more often than was actually necessary.

5. Individual members of patrols failed to cover each other. Too often when a patrol was forced to withdraw under fire it was every man for himself.

6. Patrol members were too prone to immediately return hostile fire, thus giving away the patrol's position and often its strength. At the first reception of enemy fire the reconnaissance patrol should seek cover and perform proper maximum reconnaissance in all directions to avert an ambush.

Communication both with the patrols and between strong points presented considerable difficulty until wire was used and 536 radios were obtained, which greatly increased the effectiveness of the patrolling. FOs were taken along, and in this manner observed fire was brought down upon hostile outposts, and strong points were located. All patrols were on the same channel and thus gave support to each other many times in emergencies.

GENERAL COMMENTS

1. It was found that in offensive capabilities a cavalry reconnaissance troop cannot be compared with an infantry company. There are far too few men, no automatic rifles and not nearly enough M1 rifles. Defensively, however, a reconnaissance troop can hold more of a front than is normally assigned to an infantry company, because of the preponderance of automatic weapons in the troop.

2. The mechanized cavalryman has no standard pack and is thus hampered in dismounted work by clumsy loads of rations, ammunition, blankets and other essential items.

3. Because of the lack of marmite cans in the T/E, central cooking in the troops was in many cases impossible. Men in the strong points did their own cooking, which was less efficient and less healthful than the other method.

CONCLUSIONS

It was felt by all who participated in this action that certain changes in T/O and E and in precombat training should be made to more properly equip a mechanized cavalry unit for extended dismounted action.

In training more stress on basic principles of patrolling should be given. Men also should be indoctrinated in the proper preparation of range cards used in manning defensive positions.

As for equipment, items such as 536 radios, wire, telephones and switchboards must be added to supplement the normal communications set-up. Rifles should replace many carbines and some sub-machine guns in T/O positions.

It is not believed that any of these additions or changes will impair the combat efficiency of the mechanized cavalry while mounted.

Reconnoitering An Enemy Position

by Captain James M. McGuire

ON January 12, 1945, the 17th Cavalry Reconnaissance Squadron was given the mission of holding the Roer River line at Linnich, Germany. The squadron front formed an arc on the east, northeast and north sides of Linnich. Some of our observation posts were no more than 50 yards from the enemy positions across the river, and were manned 24 hours a day. At this time only limited patrolling was attempted across the Roer as the enemy was well entrenched on the opposite bank with the area heavily mined, and it was felt that such activity could furnish little additional information.

Most of the squadron patrolling was to the north and northeast of Linnich, where the enemy still held ground on the west bank of the river. Our outposts at the northern outskirts of Linnich could see many enemy entrenchments, but could detect no movement in the area. Although the ground was covered with snow, and our OPs could not detect paths or footprints near the entrenchments, noises at night led us to believe that some of them were occupied.

Higher headquarters decided that if the entrenchments were not occupied by the enemy it would be to our advantage to move up and occupy them. A series of patrols was run through the area and it was established that some of the entrenchments were occupied only temporarily during certain hours. It was our job to find out what the hours were in order to determine the most opportune time for our elements to seize the entrenchments.

In accordance with this plan, on the night of January 14, a 6-man reconnaissance patrol was sent to reconnoiter the entrenchments. Prior to the patrol's departure, supporting artillery laid harassing fire on the objective, and arrangements were made for fire to be placed on known enemy positions that were likely to observe the patrol's movements. This fire was to continue until the patrol returned.

In the afternoon members of the patrol were selected and taken to the observation post nearest their objective. There they remained for a number of hours to study the terrain over which they would work and, in addition, they were supplied with aerial photos of the area for study. This enabled them to pick their route of advance.

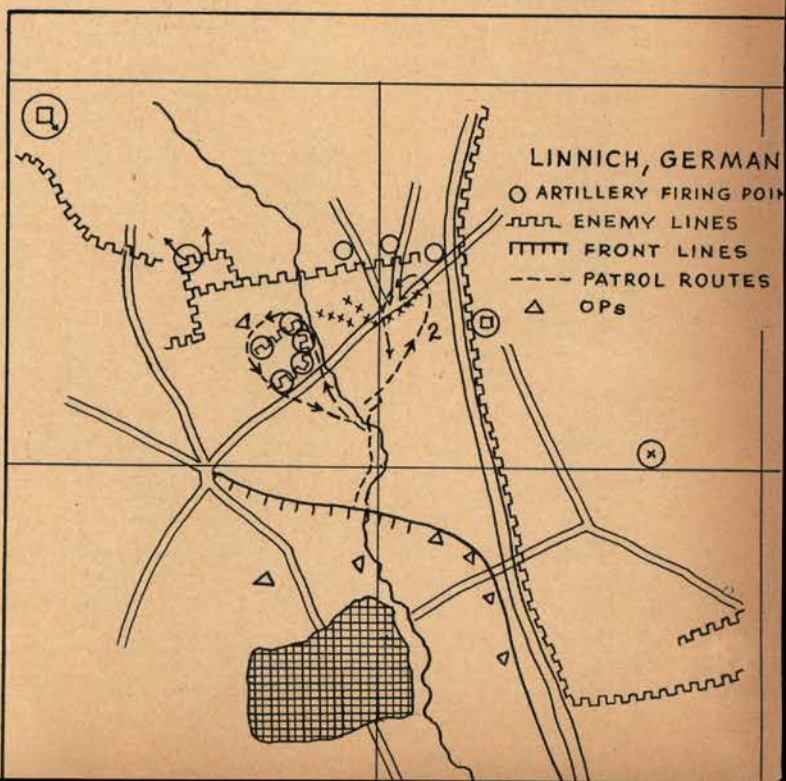
The patrol reported to the S-2 for a final check of equipment at 2100. All articles of identification were removed and unnecessary items of equipment were discarded. Snow capes were provided for camouflage against the snow-covered ground. The patrol was furnished with two 536 radios, one of which was to be left with the outpost from which they departed on the mission. In addition, a W130 telephone wire was laid to connect the squadron CP with the outpost that was to be in communication with the patrol. Sound power

phones were set up for use between the outpost and the S-2. With this means of direct communication, S-2 would be able to keep in touch with the patrol at all times.

This proved to be a very satisfactory means of communication. Patrols working prior to this time had attempted to maintain direct contact with S-2 by SCR 536, which was found unsatisfactory because of its short range.

At 2115, the patrol moved from the squadron CP to the jump-off point, and at 2130 moved out toward the objective. Artillery fire was lifted from the objective and placed on known targets in its vicinity. This gave the patrol maximum protection and eliminated enemy interference.

Upon reaching the entrenchment and finding it unoccupied, the patrol reported to the S-2 and were told that their mission was complete and were told to return to the CP. As the patrol started to withdraw it heard enemy activity from a near-by bridge, and reported it to the S-2. The patrol was ordered to reconnoiter, and moved to within 100 yards of the bridge, where it remained in observation for about 30 minutes. Poor visibility prevented observation of the nature of the enemy activity, but it could be determined by the sound that he was repairing the bridge, which had been slightly damaged. The patrol withdrew a short distance and called for an artillery concentration on the bridge. The fire came in, then lifted, and, since no further activity was noted, the patrol returned to the command post for interrogation by the squadron S-2.



The above-described method of patrolling was found to be more successful than any other attempted. To summarize, its success was dependent upon:

1. Close coordination with the artillery.
2. A thorough "preview" study during daylight hours of the terrain, which enabled members of the patrol to pick out beforehand covered and concealed routes of approach to afford the maximum amount of protection, and eliminated the necessity of carrying maps and aerial photos.
3. The proper selection of weapons. A 6-man reconnaissance patrol normally was armed with two carbines, one of which was equipped with a grenade launcher, two M1 rifles, one Thompson sub-machine gun and one Browning automatic rifle. Helmets, rifle belts, and unnecessary equipment were left behind. Each member of the patrol was required to carry grenades, half of

which were fragmentation and half white phosphorus.

4. A detailed briefing on the mission.

5. The use of the SCR 536 radio and sound power telephone as the best answer to successful patrolling.

Assured that everything was being done to aid them to perform their mission, the patrols gained materially in confidence.

After the patrol action described above, our units moved forward and occupied the enemy entrenchments without loss. Thorough patrolling had enabled us to pin-point all positions which were being held 24 hours a day and those held only during certain hours. Thus, we were able to determine the most opportune time to seize the objective with a minimum risk, only two men were injured, from a booby trap left in one of the dug-outs in which the enemy had sought cover from mortar fire.

Seizing and Holding a River Line

by Major Morton McD. Jones

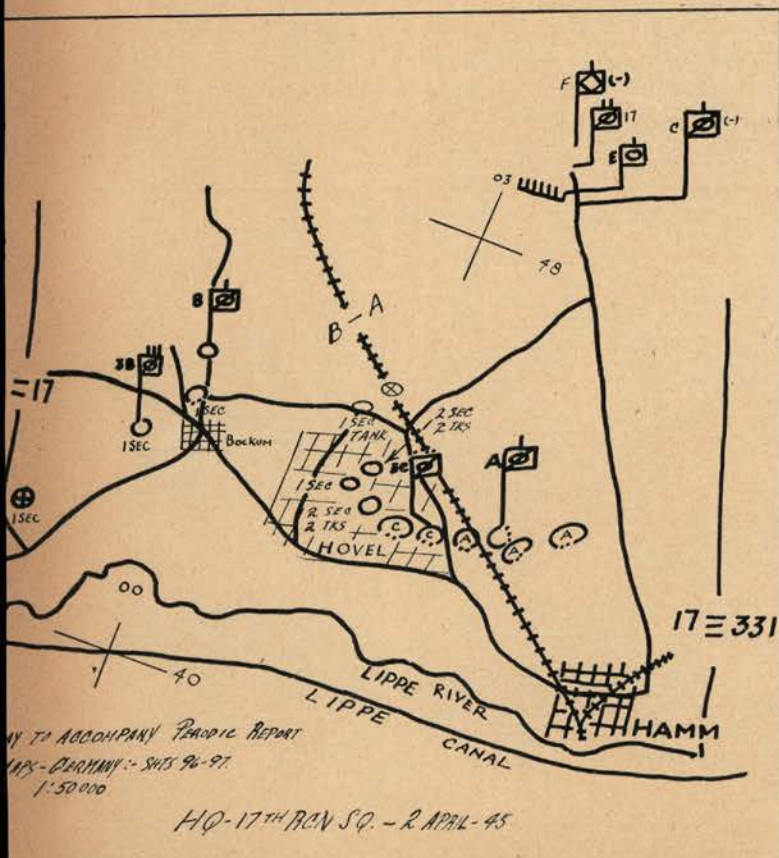
DURING the last of March, 1945, the XIX Corps completed its crossing of the Rhine River and began rapidly advancing east toward the Elbe River.

The lightning advance by which the Corps penetrated deeply into enemy territory left numerous organized enemy forces on both flanks.

On March 31, the 17th Cavalry Reconnaissance Squadron was given the primary mission of seizing and holding all crossings over the Lippe River which were in its assigned zone, near Hamm. If the crossings were found intact, the squadron was to reconnoiter south of the Lippe River and Canal. Its secondary mission was to establish a counter-reconnaissance screen along the north bank of the Lippe River, and to prevent infiltration by the German military or civilian population.

Approximately 300,000 enemy troops were trapped in the Ruhr pocket south of the Lippe River. Still organized, they constituted the major elements of 20 divisions, and were capable of attacking across the Lippe River to relieve the pressure steadily being brought to bear on them by elements of the U. S. Third and Ninth Armies. Several units of the 116th Panzer Division were scattered around the area south of the Lippe River and southeast of the city of Hamm. On two occasions German forces made a coordinated tank and infantry attack on the 83d Division bridgehead at Hamm, but both attacks were driven back by our artillery. Had the German units succeeded in establishing a bridgehead over the river, they could have disrupted the main supply route of the Corps, and until mopped up, would have caused a great deal of confusion in our rear area.

The squadron left on the mission from its assembly area in Sudkirchen, Germany, on the evening of



March 31. It advanced east in an approach march formation to its assigned zone, and then turned south toward the Lippe River. The squadron zone was divided into two sectors, with Troop C on the right and Troop A on the left. Troop A, plus one platoon of Company F and one FO from Troop E, and Troop C, plus one platoon of Company F and one FO from Troop E, cleared the assembly area near Sudkirchen en route to assigned sectors. Troop B, less two sections and one platoon of Company F, was in squadron reserve. Two sections of Troop B were attached to 15th Cavalry Group for the remainder of the operation. The squadron CP took a position in rear of Troop B and in the center of squadron zone. Troop E was the last squadron element to move, and went into battery position near the squadron CP, where it began plotting defensive fires and prepared to register them at daylight in order to support the squadron front.

Troop A reported that it had contacted civilians who said an estimated enemy infantry battalion was in Bockum. Five PWs taken by Troop A reported many German soldiers and a tank in the town of Hovel. Both reports were confirmed later. It was decided that in view of the extreme darkness, the heavy road blocks encountered, and the lack of enemy information, Troop A should form a screen on the northern outskirts of these towns, and at daylight move in and reconnoiter Hovel and Bockum in force.

Troop C reported that the center span was blown on the bridge at Werne. At 010010, the 1st Platoon of Troop C established a screen along the Lippe River in its sector, and by 010115 the entire troop had established a screen along its entire front. At 010115, the 1st Platoon became engaged in a fire fight while attempting to contact the 15th Cavalry Squadron on our right. The enemy withdrew and contact was established at 010130.

The east boundary of the squadron had been pushed over to include the area north of Hamm, and the fol-

lowing morning at 010535 Troop B was given the mission of relieving Troop A in its sector. Troop B, reinforced by one platoon of Company F, moved into the Troop A area at 010615, and pushed reconnaissance toward Bockum from the west.

When relieved by Troop B, Troop A extended to the east to the new squadron boundary. At daylight on April 1, Troop A sent one platoon, reinforced by a tank platoon, into Hovel from the east, and pushed reconnaissance toward Bockum from the west. During the day, while Troops A and B were attempting to make contact in Bockum, they captured 465 prisoners and four 88mm and two 20mm antiaircraft guns.

On the morning of April 1, in order to get a greater range on targets south of the Lippe River, Troop E moved to a battery position in the vicinity of Horst, and fired on enemy mortar and dug-in infantry positions south of the Lippe River. The forward observers for the assault guns had established OPs in the mines at Werne and Bockum, and in the power plant at Stockum. This resulted in an excellent adjustment of fire.

This operation showed that many changes in boundaries such as those which occurred for the squadron during the first 36 hours of operation, make it almost impossible to complete any work begun on fixed defensive positions.

It was also learned that with the new M24 light tank in the tank company, the M8 assault guns can be used in battery for indirect fire and for the support of the entire squadron front. The 75mm gun, mounted on the M24 light tank, can furnish all the necessary direct fire needed for the reconnaissance troop in this type of work.

It was found that requiring a mechanized cavalry unit to make a reconnaissance of enemy territory in total darkness is highly impractical. In the darkness large enemy elements may be by-passed. This is not only dangerous to our own forces, but creates a false sense of security for units that are being screened.

CARDED



Cavalry and Infantry at St. Malo

by Lieutenant Colonel G. J. Dobbins and Captain Thomas Fiori

ON the morning of August 3, the 17th Cavalry Reconnaissance Squadron moved from bivouac below Miniac, France, to reconnoiter by force a route to St. Malo, and to determine in what strength the enemy held the town.

Troop A was in the lead, followed by Company F, Troop E, and Squadron Headquarters. Proceeding

south from its bivouac, the squadron swung northeast and moved into the village of Pianfour, where Troop A encountered about 50 enemy who were dug in at a crossroad and prepared to hold their positions. The troop dismounted and supporting tanks were brought forward. The 1st Platoon maneuvered to the right and overran the enemy positions, while the dismounted men

following closely behind cleaned out houses and enemy emplacements. At the same time Troop E, which had come up on the right, shelled the rear of the town, thus cutting off the enemy's only line of retreat. The engagement, which was over in 20 minutes, resulted in enemy losses of 38 killed and 3 captured to our loss of one killed and none wounded.

Company F now took the lead, and the reconnaissance troops fanned out right and left on the roads leading to Chateau Neuf. Upon reaching the crossroads at La Salle, Company F met elements of the 15th Cavalry Reconnaissance Squadron which had moved north from Miniac, and were engaged with the enemy.

The town's two main approaches were protected by an antitank ditch, swamps, and a road block which was made of steel girders sunk in concrete, and well covered by fire. Lieutenant Dwan of Troop A, 15th Cavalry Reconnaissance Squadron, came into our positions with the remnants of a patrol of 8 men which had advanced through the swamp into town. The patrol had been forced to fight its way out, but Lieutenant Dwan was able to supply an excellent sketch of the town and the enemy's positions.

Since it was getting late, it was decided that the squadron would remain in position during the night. A battalion of the 83d Infantry Division had now moved up, and everyone dug in to wait for morning. Our positions were shelled throughout the night by 88's and long-range guns from St. Malo. To protect themselves

from the fire, the men dug foxholes under the vehicles and thus avoided unnecessary casualties from the air bursts.

Early the next morning, the TD's maneuvered into a position from which direct fire could be brought on the town and their first few rounds knocked out the antitank gun covering the main road block. Observing this, General Earnest sent the engineers forward to mount the tanks which took them to the road block and provided covering fire as the men used demolitions in an unsuccessful attempt to destroy the block. The tanks stayed in position and covered a tank destroyer which was sent up and fired point-blank at the girders. This also failed. The tanks and tank destroyer returned to our positions, and it was decided to try the medium tank retriever. The retriever was brought down to the road block under cover of a tank platoon. It succeeded in breaking through the weakened girders, and the supporting tank platoon pushed through the break and helped the infantry clear the town, which was under a heavy barrage from the retreating enemy.

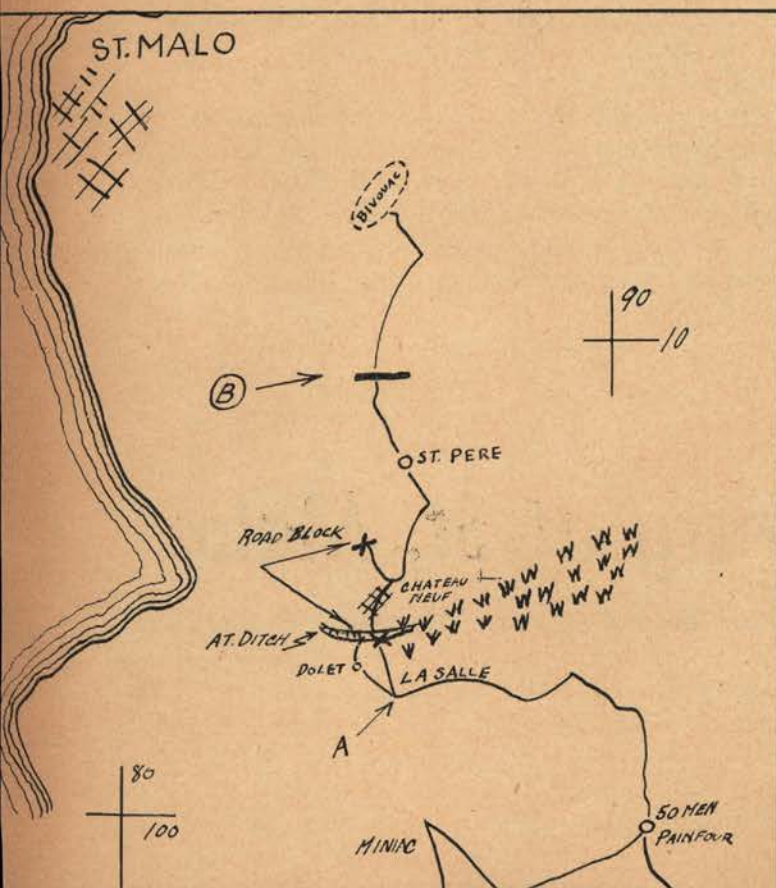
Meanwhile the 2d Tank Platoon proceeded to Dolet in an attempt to help the infantry enter the town from the other flank. The tanks were stopped by a tank ditch, but from this position supported the infantry until it had reached town and contacted the 3d Platoon which was inside.

At this point Company F was detached from squadron control, and sent forward with a battalion from the 83d Division. Advance elements of the 3d Platoon pushed into St. Pere, and then fanned out to take up positions on all approaches to the town while the doughboys were mopping up. The tanks destroyed a captured jeep which contained several SS men, and also captured a load of 75mm ammunition which the enemy was attempting to bring through town.

The 1st Platoon and the infantry point now took the lead and moved to the next main crossroad, where the platoon split, and a section went down each side road. The infantry flanks, which were skirmishing with small detachments of the enemy on both the right and left, were given sufficient support to enable them to take approximately 50 prisoners.

To maintain a continued forward movement, the 3d Platoon immediately leapfrogged into the lead, and stayed there with the point until the bivouac area was reached. During the entire operation the infantry commander who was in the lead kept in touch with the tank platoon leader, and was in constant contact with his point and flanks by means of walkie-talkie (511) radios, and could immediately send out tank support whenever and wherever it was needed.

That night it was decided that a siege would be necessary to reduce the bastion of St. Malo, so the cavalry tanks were detached and sent back to their parent squadron, which proceeded west the next day in the direction of Brest.



Mopping Up An Enemy Pocket

by Lieutenant Colonel Garret J. Dobbins

THE 15th Cavalry Reconnaissance Squadron was given the mission of cleaning out about 300 to 400 Germans who were being contained by the French in a pocket near the fort of Andierne, Dourarnenez Peninsula, France.

Attached to each of the two reconnaissance troops that were to lead the squadron's advance was a company of tank destroyers of the 705th TD Battalion. One company of the 149th Combat Engineer Battalion remained with squadron reserve. The 17th Cavalry Reconnaissance Squadron of the 15th Cavalry Group and the remainder of the 705th TD Battalion were to furnish support.

When the mission was received on September 21, 1944, Troop C, with assault guns attached, proceeded to the vicinity of Plouhinc. Here it was to establish a screen which would prevent the enemy from moving southeast during the night or the next day when the action was to take place in Andierne. The rest of the squadron and attached TDs bivouacked near Plonevez-Porzay, and prepared for the next day's mission.

In order to approach Andierne from two different directions, the squadron and attachments moved toward Pont Croix in a single column. Troops A and B moved out first with assault guns and TDs attached. They were followed by squadron headquarters, with tanks and engineers in reserve, then by Group Headquarters, and the 17th Squadron.

Upon reaching Pont Croix, Troop A and attachments took one route; Troop B plus attachments, and squadron headquarters took another. The 17th Squadron continued along Troop A's route to the end of the peninsula, then turned south to make a wide sweeping reconnaissance to the outskirts of Andierne, where it was available to support the 15th Squadron if the need arose.

The first contact with the enemy was made by Troop A when it met a small outpost which withdrew when fired upon. The troop continued its reconnaissance, and established an OP in a church from which it could observe the enemy fort in Andierne. TDs and assault guns moved into position, and opened fire. In the meantime Troop B had continued to the city limits where it contacted friendly French units by whom they were informed of the approximate location of the Germans' fortified positions in the southwest part of town.

En route to the position Troop B came under sniper fire, and found that mines were buried in the street. As a platoon of tanks from Company F furnished cover, the engineers removed the mines, and the platoon cleaned out an enemy strong point of one 20mm gun which was protected by emplaced machine guns. During this time, the TDs and assault guns from the north in Troop A's sector continued to blast the main fortified positions.

Shortly thereafter, Troop B began to receive occasional prisoners, all of whom were questioned at once by S-2. It was ascertained that a great many more Germans desired to surrender, and so squadron headquarters ordered all TDs and assault guns to cease firing until further notice.

Troop A from the north, and Troop B from the southeast now went forward against an occasional shot from the enemy. Troop C was moved from across the river to fill the gap. This made it impossible for the enemy to take any other action than to surrender.

The remainder of the action included mopping-up, assembling, and processing prisoners, which was an immediate necessity, because of the strong feeling against them by the French. Approximately 350 prisoners were taken by the squadron during the action.

CONCLUSION

The following conclusions were drawn from this action:

1. It was necessary to keep an exceptional control over personnel, since large caliber guns were used at close ranges and safety margins were reduced to a minimum.
2. Constant communication is required between all units so that they may know not only what the situation is at all times, but upon a moment's notice, know what is expected of them.
3. An aggressive follow-through action must be achieved to prevent the enemy from getting set before the final assault is begun. Often a display of strength will assist even though the situation does not always afford an employment of all arms.
4. Commanders up to and including the squadron CO, must be well forward with communication units, so that they may comprehend the flow of the action, and be able to direct it physically, as well as by radio.

**For an important announcement, please see
the back of the front cover of this issue.**

LITTLE CANNALAE

by Major Thomas J. Brett*

THE battle of Klotze Forest, as fought by elements of the XIII Corps, was not a turning point in the dash of the Allied forces toward the Elbe River, nor did it have any tactical or strategical effect on the outcome of the battle of Europe. It occurred after all units had reached the Elbe, and the order had been given not to continue the eastward movement. But it was the last dying gasp of an enemy combat unit which was following its higher commander's ultimatum to fight until destroyed.

Major General (now Lieutenant General) A. C. Gillem, Jr., XIII Corps Commander, stated in a critique issued one hour after the enemy had been mopped up, that the battle of Klotze Forest proved to be the most outstanding tactical victory over the enemy that he had witnessed in the European Theater of Operations. The Germans had gained a position that was a threat to all the corps' rear installations and the corps CP. The enemy was contained, driven into an impossible position, flattened by an immense and accurate volume of corps artillery fire, and finally captured or killed to a man.

*Executive Officer, 11th Cavalry Group.

Troops of the XIII Corps were in position as shown on Plate I. While they were cleaning up woods, villages, and cities along the river bank, infantry reconnaissance units were attempting to reach the Russians by infiltrating through the mass of Germans on the east side of the Elbe. A wary eye was kept on the British, who were meeting stiff resistance north of Uelzen from the formidable Von Clausewitz Panzer Division. Cavalry patrols, from their screen along the northern flank of the Ninth Army, continually contacted various enemy mechanized units. Small but furious actions between U. S. Cavalry and German Panzers occurred daily during the middle of April.

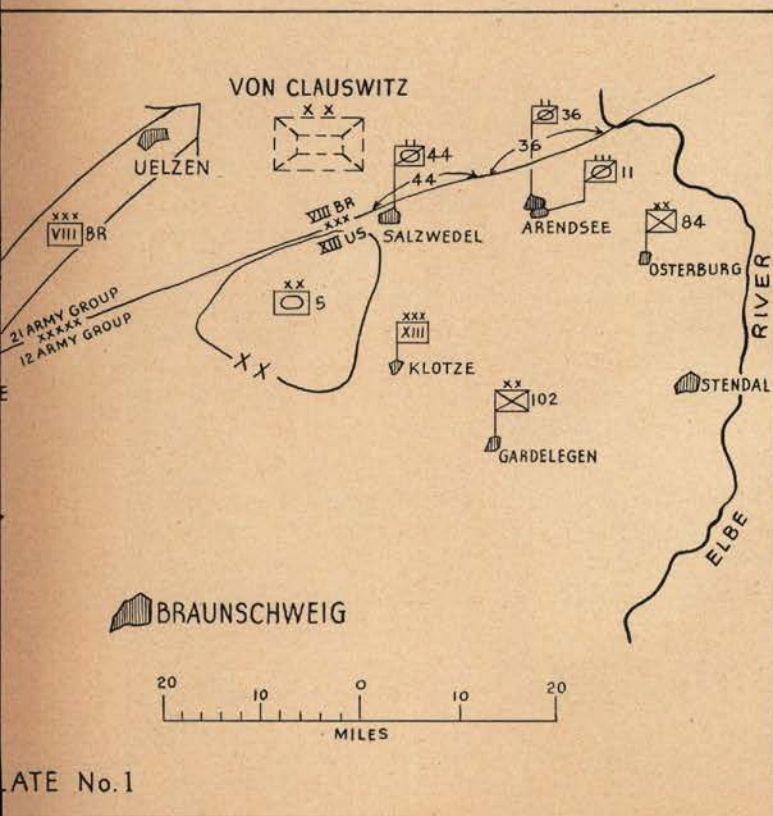
ENEMY SWEEP

The 5th Armored Division had been alerted on the night of April 18-19 to move to the north and join the British. The 5th's sector was to be taken over by the 11th Cavalry Group. To coordinate this movement the CO and S-3 of the 11th Cavalry Group came to the corps CP on April 19. While they were there word came that a heavy combat group of enemy mechanization had swept west and then south of the 5th Armored Division. This had cut the corps' two main supply routes, swallowed up road blocks, and outposts, had resulted in the capture of supply trucks and many staff officers, and, in general, was causing confusion in the rear.

Reports trickling into corps on the routes used by the enemy were generally accurate, but those concerning the size of the enemy force were conflicting. The enemy strength was being estimated at anywhere from 500 vehicles and 2,000 men to 100 vehicles and 500 men. Later interrogation proved that the enemy group, a part of the Von Clausewitz Division, was comprised of approximately 800 men and 100 armored and thin-skinned vehicles.

The Von Clausewitz Division had been broken up into three such battle groups. This was the Viking Group, commanded by a Major Wallenberg, and also known as the Wallenberg Group by interrogated PWs. It was later found that their mission was to cut the lines of communication of the Ninth U. S. Army, cause as much confusion as possible, and to continue south to a rendezvous in the Hartz Mountains.

The Wallenberg Group moved directly toward the corps CP, and when 4 kilometers from the town of Klotze, turned east into the Klotze Forest. (See Plate II.) General Gillem ordered the 11th Cavalry Group



Commander, Colonel A. A. Frierson, to immediately contact the enemy, and keep contact with him to determine his strength, dispositions, and direction of movement.

SCREEN IS ESTABLISHED

The 36th Cavalry Reconnaissance Squadron could not be relieved from the northern flank until the following day. The 44th Cavalry Reconnaissance Squadron, however, had been alerted to relieve the 5th Armored Division and only a message was necessary to start it for Klotze Forest. As it moved out, the squadron commander, Lt. Colonel Ralph L. Foster, raced ahead to the corps CP for instructions. Here he was ordered to throw a screen around the Klotze Forest, and initiate reconnaissance into it to determine the exact position of the enemy. The 44th had left Salzwedel at 0755, and by 1130 the screen had been established, a CP installed, and reconnaissance parties were beginning their movement into the woods. (See Plate III.)

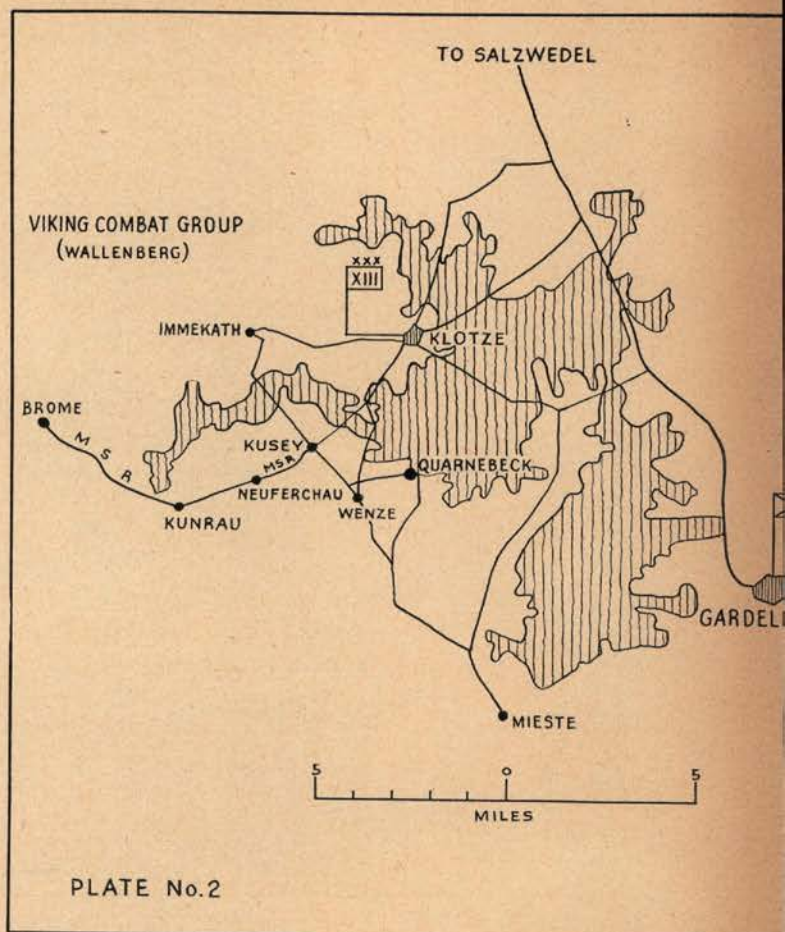
Meanwhile the 11th Cavalry Group CP, which had been hastily set up with pad, pencil, and road map, in the Corps CP, was moved from Arendsee to Neuferchau.

The original plan was for the cavalry to hold the enemy in the woods while one battalion of the 102d Infantry Division, which arrived motorized during the afternoon, was to attack from the northwest. One 105mm battalion was to be in support. The plan, however, was thrown out during the night of April 19-20, when reconnaissance showed that the enemy was well dug-in and camouflaged. Liaison planes flew continually over the area where the enemy was reported by ground units without seeing a trace of them. More than a battalion would have been required to defeat such a combat group in this terrain. Had the attack started as planned, the town of Klotze, containing all the corps installations, would have been left open to an attack with only a weak cavalry screen to oppose it.

NEW PLAN FORMULATED

The new plan called for reinforcing the cavalry screen, because the enemy was expected to make a break for the south at any moment. He had had a few hours rest and an opportunity to refuel from the American vehicles picked up en route to his present position.

The 36th Cavalry moved from its northern screen on the morning of the 20th, joined the 44th, and took over the north and western half of the perimeter. The 654th Tank Destroyer Battalion had moved in during the night of the 19th-20th, and reinforced the 44th on the south and southwestern edge, from which position the TD commander could use fire and movement if the enemy attempted a break-through. The 771st TD Battalion was also attached to the cavalry group, and, although one company was already with the 36th and 44th Squadrons, the remainder of the battalion could not arrive until the morning of the 21st. The 175th In-

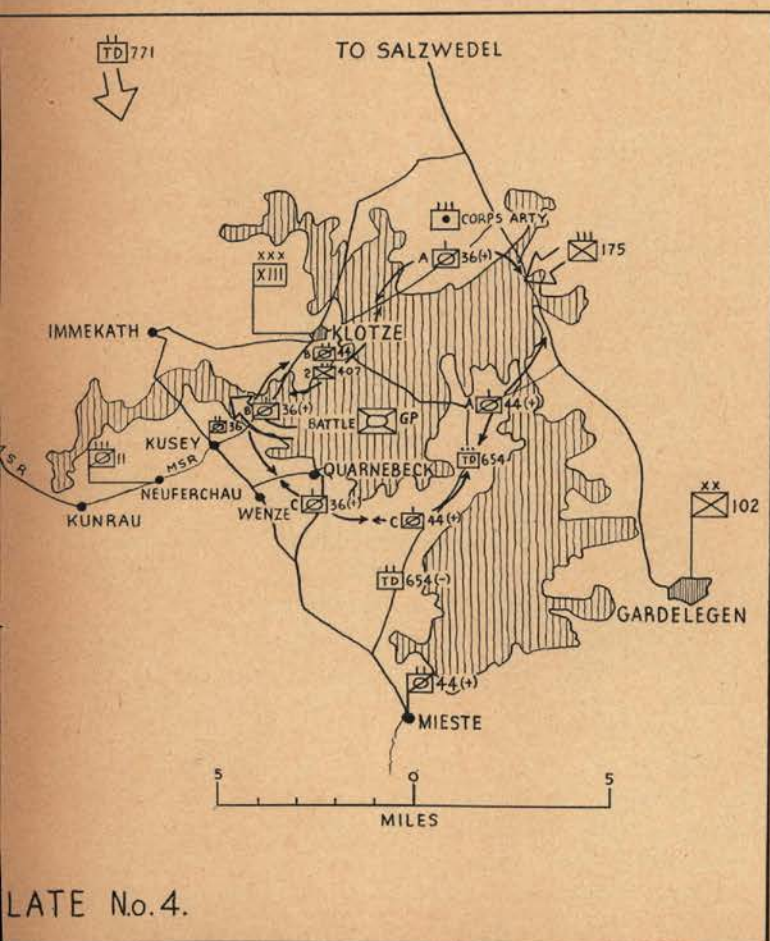
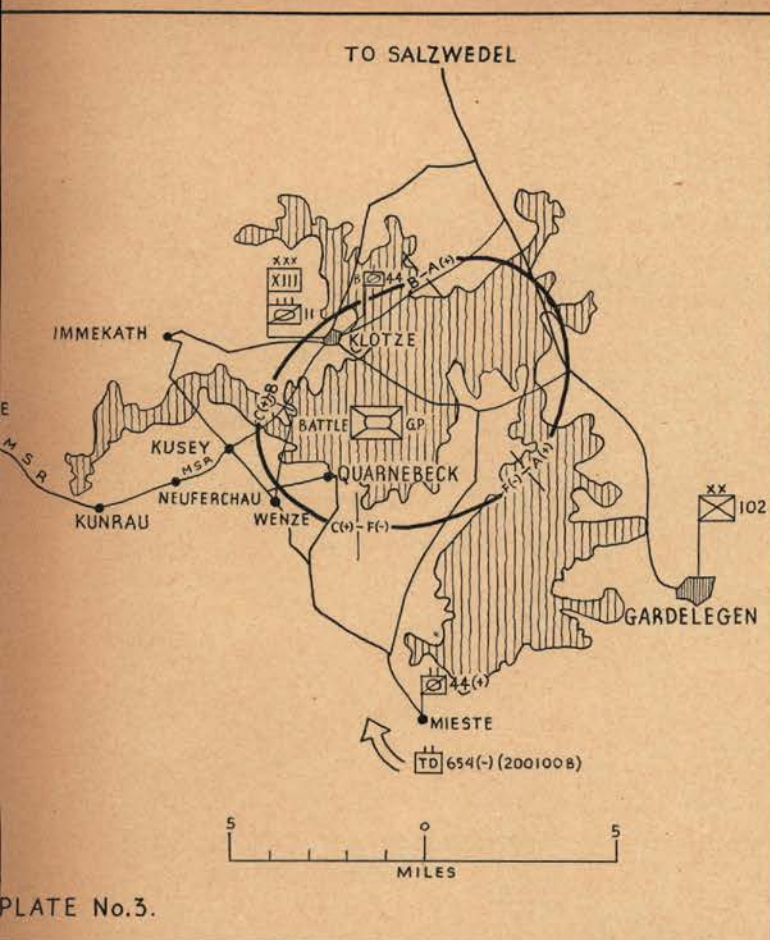


fantry Regiment was diverted from the 29th Division, which was moving north to join the British Second Army, but likewise would not be in a position to attack before the morning of the 21st. Corps' artillery, comprising 4 medium and heavy artillery battalions, was placed in position to support the attack from north of the Klotze Forest. (See Plate IV.)

The attack was to begin at 0900 on April 21, after a heavy concentration of fire on the portion of the woods believed to be occupied by the enemy. The cavalry, reinforced with TDs, would remain on the fringes of the forest to pick up any enemy coming out of it, while the 175th Infantry attacked from the northwest. That is, unless the enemy decided to move and move fast before the attack occurred.

In the interim our reconnaissance parties were very active during the night of the 19th-20th, when they knocked out three half-track personnel carriers, killed 50, and captured 64 of the enemy. During the daylight hours of the 20th, while reinforcements were moving into position, patrols of the 44th Cavalry killed 5 more enemy, captured 95, including the wounded Major Wallenberg, and liberated 7 American and 20 other Allied soldiers, whom the enemy combat group had picked up during the previous three days.

The period when other troops were moving up was a crucial two days for the cavalry screen. The enemy could have attempted a break-through and would have



overpowered the small task force of armored cars, jeeps, M24 light tanks and assault guns. Officers and men kept sleepless vigil from 1130 April 19 until after the climax of the battle at midday, April 21.

At 0300 on the 21st the 36th Cavalry radioed to a wakeful group CP that tanks were heard at the western approaches to the woods. When the location of the moving enemy force was determined, corps artillery laid down a prearranged concentration of fire. This quieted the enemy until 0500 when he debouched from the woods in strength, and overran the task force at a tactical road junction. (See Plate IV.) The cavalry screening force at this point knocked out one Mark IV tank and various thin-skinned vehicles without losing a vehicle.

COMMUNICATION BREAK

At this point communication was severed between the encircled troop and the squadron. However, two group headquarters linemen, who were repairing the group-corps' telephone line, appeared on the scene. Realizing the situation, they tapped-in on the line to the group S-3 and explained what had happened. The S-3 immediately had the commander of the overrun troop brought to the phone to give a hasty synopsis. The troop was then ordered to follow on the tail of the enemy combat group, which apparently had entered the smaller woods (see Plate V), and to strengthen its line between Klotze and the road junction, where it had been overpowered. Colonel Frierson, realizing that the 36th Cavalry was not up to the minute on the situation because of the communication difficulties, immediately left the group CP for the 36th CP. He ordered the squadron's small reserve and its headquarters troop to move forward at once and encircle the smaller woods into which the Wallenberg Group had disappeared.

Should the enemy again break out, this force was to maintain contact, and report the route, strength, and disposition. The enemy was further hemmed in when the 654th TD Battalion, which was in position south of the large Klotze Forest, was ordered to the southern and eastern approaches of the smaller woods. The 771st TD Battalion, moving into the area from the north, was diverted to a position on the western and northern edges of the woods.

The enemy, meanwhile, remained in the woods, dug in and again camouflaged vehicles. Exactly why they decided to do this has never been understood. Had they chosen to keep going after overrunning the 36th Cavalry screen, they had a good chance of escaping until bottled up again. They evidently stopped to reorganize. They had lost their leader, and some of their mechanization in the break from the larger forest. One of their 75mm self-propelled assault guns, which had turned south upon the exodus from the Klotze Forest, instead of following the combat group west, had been knocked out approximately 600 yards from the Group CP.

CAPTURE OR ANNIHILATION

By mid-morning the entire enemy battle group was

again encircled. Units were rushed to reinforce the encirclement from the far eastern edges of Klotze Forest, where the 175th Infantry was deploying. This time the cavalry had the enemy cold. (See Plate V.) Enemy casualties would result from any artillery concentration on the smaller woods, and when our forces were completely redispersed and had sealed the enemy forces in the smaller forest, corps artillery was notified. In less than a minute 4 battalions of corps artillery and a battalion of divisional artillery, which had arrived with the 175th Infantry, opened up on the woods.

A trickle of enemy came from the woods with hands held high. The concentration continued, and 500 Germans surrendered.

At the termination of the artillery concentration the squadron reserve and headquarters troop jumped off on a dismounted attack which turned into a mop-up of stragglers. During the concentration, the enemy had surrendered in force, leaving three Mark IV Tanks,

two 75mm SP assault guns, 23 half-track personnel carriers, 6 half-tracks with multi-barreled 20mm AA guns, various towed weapons, and a number of thin-skinned transport vehicles, both German and American.

As an anticlimax, the 175th Infantry Regiment attacked through the Klotze Forest in an action that turned out to be a hike, because all of the enemy had surrendered with the combat group. Various enemy vehicles destroyed by the artillery and the cavalry assault guns were found in Klotze Forest by the infantry.

SUMMARY

In this action the cavalry proceeded rapidly to an enemy area and immediately contained it. It engaged an enemy force by fire and movement, inflicted losses and at the same time kept contact, and later again encircled him. Finally, as a member of a team, it took the lead in the enemy's capitulation or annihilation.

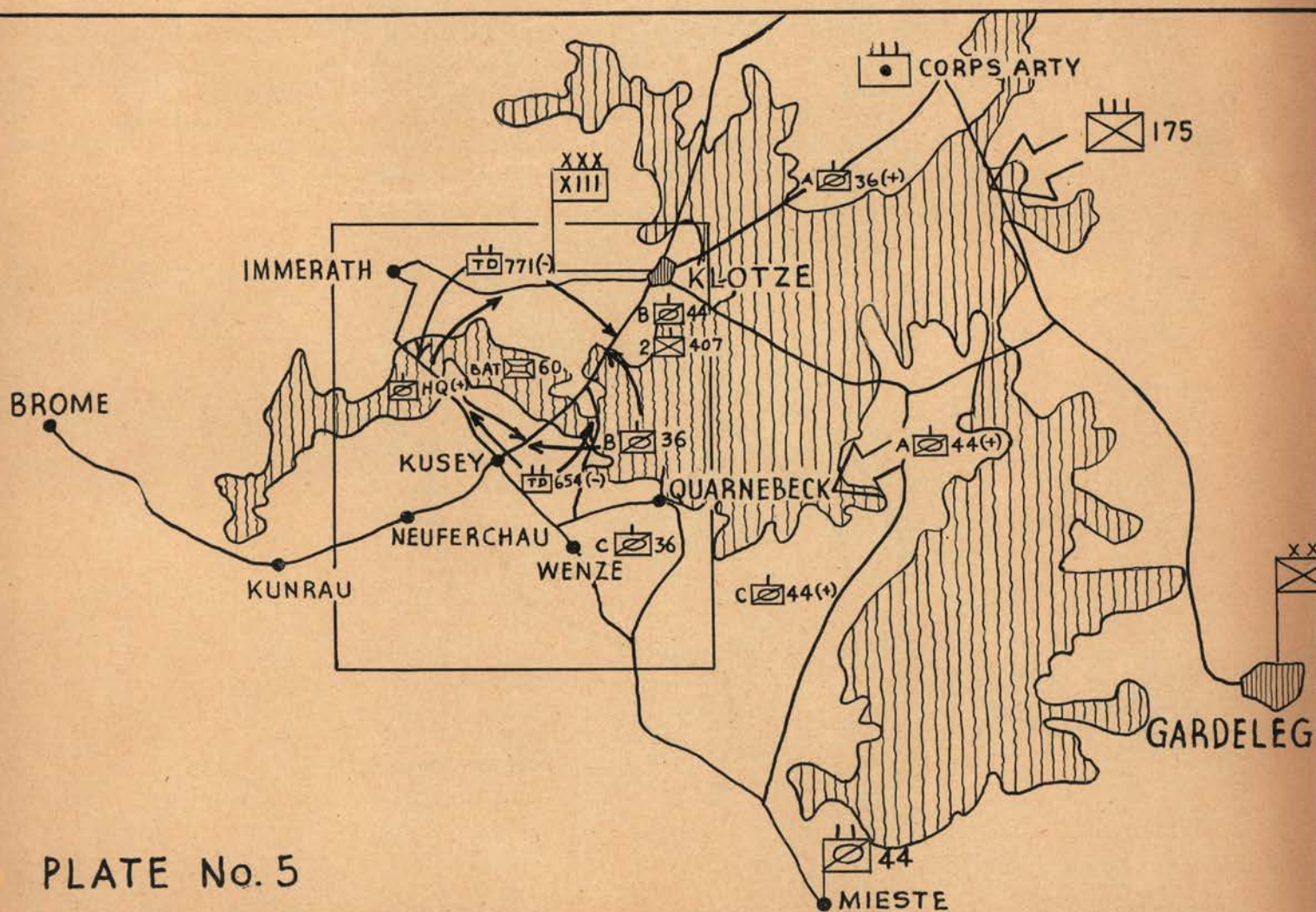


PLATE No. 5

FROM THE BOOK

*by Captain Richard O. Deaderick**

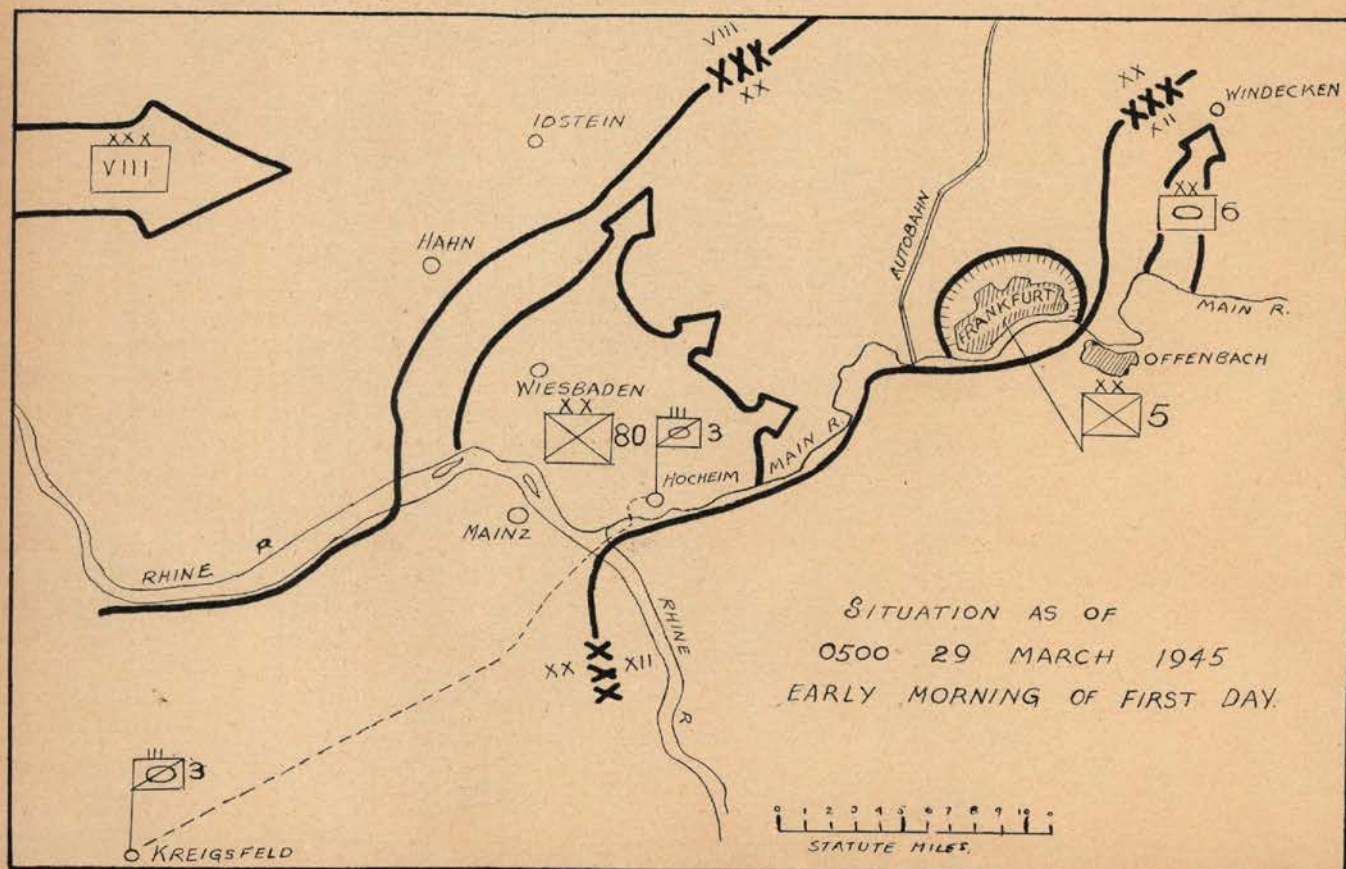
In a three-day action, the 3d Cavalry Group (Mecz) and the 3d and 43d Cavalry Reconnaissance Squadrons (Mecz) cleared a large slice of enemy territory which permitted the 65th Infantry Division to move forward on vehicles, without deploying for combat, for a distance of approximately 145 miles, from the Rhine to the Fulda River. Total casualties were 7 killed.

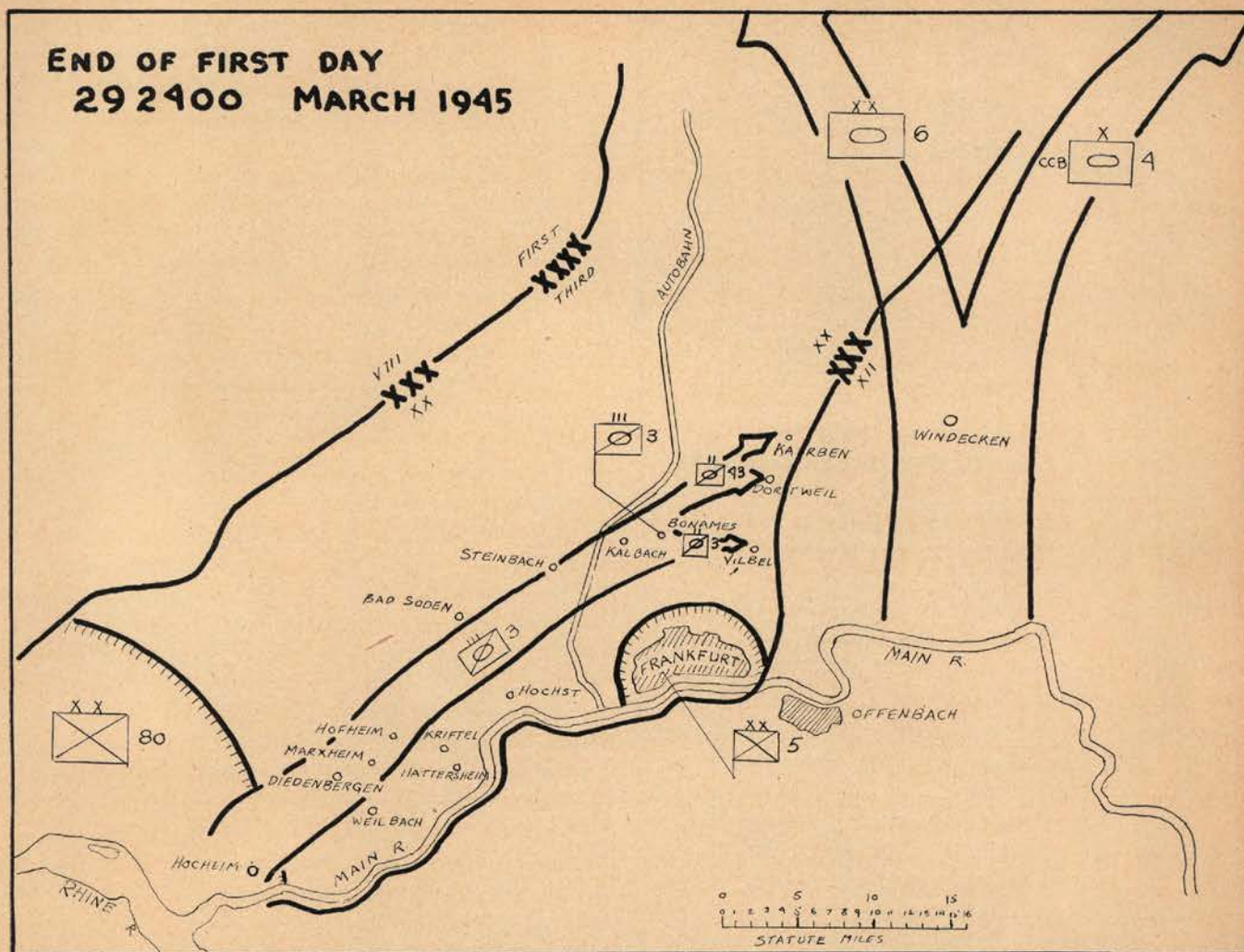
INITIAL SITUATION

THE assault crossing of the Rhine River by the U. S. Third Army below Frankfurt had achieved tactical surprise and was being exploited to the limit. A huge pincers was rapidly taking shape. In it the VIII Corps, in the middle, was starting across the Rhine, First Army units were breaking out of the Remagen Bridgehead and driving east toward Kassel and southeast toward Frankfurt, and the XX and XII Corps were moving abreast northeast into the heart of Thuringia. The

only major obstacle to the Third Army's move northeast was the Main River, which was crossed at Mainz, Frankfurt, and Aschaffenburg by midnight of March 27, thus setting the stage for closing the pincers.

On March 28, the situation was as follows: the XX Corps was firmly established across the Main, and the 80th Division was holding a deep bridgehead at the confluence of the Main and Rhine Rivers; the 5th Division was fighting in the city of Frankfurt north of the Main; and the 6th Armored Division was rapidly cross-





ing just east of that city and moving north.

Orders were issued for the 6th Armored Division to move north and northeast on Kassel via the Autobahn, and for the 3d Cavalry, followed by the 65th Infantry Division (motorized) to pass through the 80th's bridgehead and cut north of Frankfurt, then swing behind the 6th Armored to the other flank of the corps and move north on Bebra and Hersfeld. The 5th Division was to clean up Frankfurt, while the 80th cleared Wiesbaden and followed along in a general "mop-up" rôle.

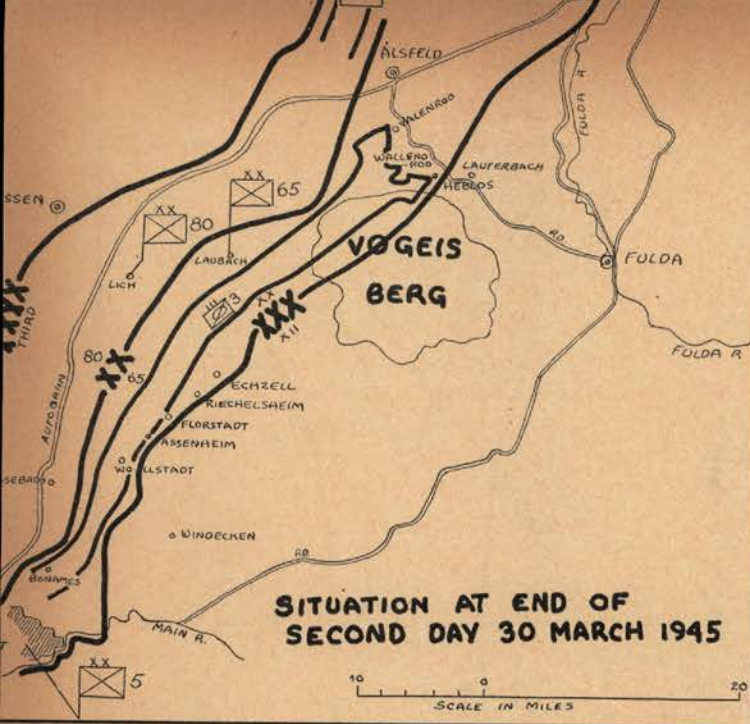
At this time the 4th Armored Division was operating on the left flank of the XII Corps, so that the cavalry's assigned sector had a famous armored division on either flank, each with about a half-day's start ahead of it. The group was assigned the mission of preceding the 65th Infantry Division, clearing all main roads for its passage, and maintaining contact with the 4th Armored Division on our right and the 6th Armored Division on our left. We were to by-pass small pockets of resistance, or if the enemy was met in strength, to fully develop his defensive position and screen the assembly of the division for its attack.

FIRST DAY

At 0030, March 29, the group headquarters closed its

CP at Kriegsfeld, Germany, and began a night march toward the Rhine River. At 0300, the group started crossing the Rhine at Niederstein, and by 0730 had completely crossed both the Rhine and the Main, and had assembled in the Hochheim area. These crossings impressed everyone. At last, after many months of fighting the Germans across France, along the Moselle and Saar Rivers, and through the Palentate, Palatinate, we finally were entering Germany proper. We had crossed the river that the Germans had said we could never cross, and all of us realized then that the fight we were about to enter would be the final battle of the war. There would be no turning back.

After assembling near Hochheim, a period of several hours was required for refuelling vehicles. Troops were fed the usual C rations, weapons were cleaned, and ammunition checked. The group commander, Colonel James H. Polk, issued orders and briefed the commanders of both squadrons on the day's mission. Considerable action was anticipated as soon as the 80th Division outposts were cleared, because on the two previous days the infantry had encountered stiff resistance in establishing their bridgehead. Also, because the 5th Division was heavily engaged in Frankfurt, and their drive north was calculated to flush numerous



enemy troops into the path of our advance. Finally, it was known that Frankfurt was protected by a ring of fixed 88mm dual-purpose guns that could play havoc with our thinly armored vehicles.

The day's mission was to drive across the corps' front to isolate Frankfurt and to establish firm contact with the XII Corps on our right. Our route led us through a broad, cultivated valley about 6 miles wide which contained numerous towns, large industrial installations, and an excellent road net. On our right was the Main River, and on our left a series of high wooded hills.

It was decided to advance in a column of squadrons with the 3d Squadron leading and assigned the mission of capturing, as its first objective, a line of three towns (Marxheim, Diedenbergen, and Weilbach) that stood directly across our path. Upon the capture of this natural defensive position, the 3d Squadron would push on to its second objective, a second series of towns (Hofheim, Krieten, and Hattersheim), and attempt to capture bridges over a small tributary stream which connected them. At this point, it was planned to pass the 43d Squadron through the 3d Squadron, and have it proceed along the axis Bad Soden-Karben and effect a junction with the XII Corps near Windecken. The 3d Squadron then would advance in echelon to the right rear, so that its columns would just clear the outskirts of Frankfurt. Since the 65th Division was to start crossing the Main at about dusk on this date, the cavalry was allowed a full day to clear an area about 20 miles long and from 6 to 10 miles wide.

At 1000 the 3d Squadron "jumped off" with troops abreast and each reconnaissance troop reinforced with a platoon of M24 tanks. The troops met little organized resistance and no artillery or tank fire, and in less than 30 minutes the squadron had cleared its first objective. Moving to the second objective, the squadron reported it clear at 1100. The bitter fight anticipated was not

developing and we could scarcely believe our good fortune. Many prisoners were taken but no complete units were encountered. The number of units represented by the prisoners was nearly as great as the total number of prisoners.

Upon receiving an "all clear" report from the 3d Squadron, the group CO gave the "go ahead" signal to the 43d Squadron and it passed through the leading elements of the 3d Squadron and began to push northeast. Town after town was reported clear. The 43d moved down the roads picking up prisoners and fighting only occasionally to reduce some hastily formed core of resistance.

As the squadrons swept along, the entire command was amazed at the reception they were receiving from the civilians. White flags flew from every building, and town streets were lined with people, some of whom actually cheered the advancing Americans. The scenes were a reënactment of the sweep across France. It was difficult to realize that these people were the enemy. All were eager to give information or to turn over German soldiers who were in hiding. To an organization that had expected to fight civilians as well as soldiers such a reception was a great relief. To add to the excitement caused by the enthusiastic greeting of the German civilians, hundreds of Polish, Russian and French refugee laborers, to whom our coming meant liberation, filled the streets, shouting, laughing and waving as we passed.

Roads were excellent and the weather balmy. Using the super-highway whenever possible to roll to the objective, the troops reported no bridges that could not be by-passed in some way, no mines, and no obstacles.

At 1700 it was reported that the final objective of Dortweil-Karben was in the hands of the 43d Squadron and that contact had been established with CCB of the 4th Armored Division. Many stragglers were picked up, including a colonel of ordnance and his entire staff.

The first phase of our mission had been completed without the loss of a man or vehicle. More than 300 prisoners had been captured; but best of all, there had been no organized resistance. The knowledge that we were through the crust, that isolated Nazi groups did not want to fight, and that enemy AA crews would not stand to their guns, was like a tonic to the whole command. The bitter winter months had paid off, and we were ready for the move forward. The whole command was re-supplied, spent a restful night, and looked forward to the next day's operation with confidence.

SECOND DAY

On the morning of March 30, instructions were issued for the attack. The 3d Squadron was ordered to continue attacking northeast in the left half of the zone. It was to seize an objective in the Alsfeld area by dark on March 30, and to send a liaison officer to the 6th Armored Division, on its left flank. The 43d Squadron was to move as rapidly as possible to the final objective of Wallenrod-Heblös, and continue liaison with CCB of the 4th Armored Division, on its right. Isolated

After the 3d Squadron had advanced about 25 miles, messages began to come in to group headquarters reporting contact with enemy patrols and outposts. Soon afterwards the squadron deployed, and every troop reported enemy contact.

Troop C had difficulty with a road block defended by snipers and bazookas, cleared it out without loss, and met a second block a mile farther along.

Troop A by-passed to the west and reached the Fulda at Baunbach, where it came under fire from SP guns across the Fulda. This fire destroyed an armored car and killed its crew. However, the troop succeeded in getting into Braach, and cleared a three-mile area along the river.

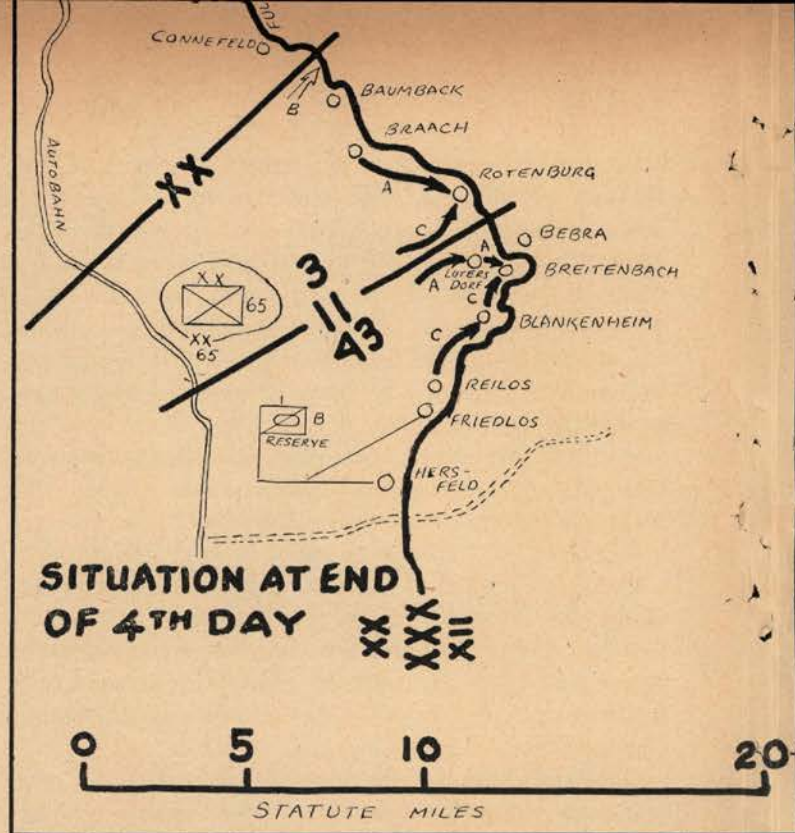
By late afternoon Troop B had deployed to the left of Troop A and cleared two small towns on the river bank against the opposition of a few disheartened snipers. The troop then established firm contact with the reconnaissance elements of the 6th Armored Division which had not yet been able to cross the Fulda.

Troop C, now on the squadron's right, made very slow progress in an attempt to close in on the sizable town of Rotenburg. Their area was heavily wooded, and the few poor roads it contained were aggressively defended by well-placed road blocks. One armored car was lost from close-range bazooka fire which also killed the platoon leader and driver. By evening, Troop C had been stopped cold some two miles from the river, and was deployed over a three-mile front facing the defenses of Rotenburg.

The 43d moved forward on its axis without opposition until about 1030, when elements of CCB 4th Armored were contacted. The squadron was ordered to halt to obtain information on the situation. It was found that the combat command was still engaged in a serious fight for Hersfeld. German tanks were still in the town and were being heavily attacked by a squadron of P47s. It was decided to by-pass to the west of Hersfeld, and to continue to push to the Fulda. The 43d Squadron moved forward on its new route and, after a great deal of difficulty from road blocks, poor roads, and heavily wooded rolling terrain, assembled northwest of Hersfeld. All three reconnaissance troops were immediately committed abreast. Troop A moved northeast, Troop C in the center moved east, and Troop B on the right also attacked to the east.

Shortly after the attack began all troops reported road blocks, snipers, and AT guns were making the advance increasingly difficult. The armored car of 1st Lieutenant Thomas A. Garrison, platoon leader of Troop B, was hit by an AT gun and knocked out. Two crewmen were killed but Lieutenant Garrison and his gunner were blown clear of the turret, took cover in a ditch, and later were able to rejoin the troop. This loss was avenged shortly afterward when Lieutenant Bransfield's platoon of Troop C got on the gun's flank and destroyed it and killed the crew with machine-gun and 37mm fire.

Resistance continued, and when darkness came the squadron was deployed fanwise with Troop A on the



left, Troop C in the center, and Troop B on the right. The high ground overlooking the valley of the Fulda was firmly held, but three villages on the near bank were still in the possession of a surprisingly determined enemy.

It was apparent that the Germans had established a strong delaying position along the Fulda River, backed up in our particular sector by at least 15 tanks or assault guns. The varied identity of prisoners taken in the area indicated that the forces confronting us were a hastily formed and makeshift unit composed of fanatical troops from the 5th Paratroop Division, and assorted SS and Panzer units.

Both squadrons were ordered to clear enemy forces from the near bank, develop the enemy position, and reconnoiter for fords or bridge sites. The 65th Infantry Division, which had been shuttling forward from the rear, now was about 20 miles behind us. The division planned to reach the forward assembly areas the next afternoon, and make an assault crossing the following morning.

During the night of March 31-April 1, a number of enemy patrols probed into our area, but were beaten off. One patrol, however, entered a town occupied by Troop A, 43d Squadron, and with panzerfausts scored two direct hits on one of the M24 tanks. Although the armor was pierced in two places, the tank was not disabled and, after repair with a sledge hammer, continued to function for the duration of the war.

FOURTH DAY

Early on April 1, the 241st Field Artillery Battalion arrived and its 105mm howitzers were placed in direct support of the 3d Squadron. The battalion's L4 planes were immediately put up and, although frequently

fired at by 88mm AA guns from across the river, did valiant work in reporting enemy activity. Elements of Troop A worked toward Rotenburg from the east and Troop C from the south, both under cover of heavy fire from the 241st FA. Their advance was slow and difficult because of the terrain and the necessity for clearing out 40mm flak guns located on the hills surrounding the town. By evening nearly all the high ground was in our hands, and Troop C's tanks were firing direct into towns from turret defilade. The enemy apparently believed further defense was hopeless and shortly after dark withdrew across the river, blowing the bridge behind them.

On the left of the squadron line, Troop B and the assault gun troop, which was in close support, located a ford and an undamaged footbridge, which the infantry later put to good use. Here the assault gun troop had a field day shooting at vehicular traffic across the river. One particular section of exposed road was continually used by the Germans who were withdrawing east across our front to get away from the pressure being brought by the 6th Armored Division. The day's score was two half-tracks and 4 trucks destroyed, an undetermined number of casualties, and several hits on tanks, apparently without effect.

The 43d renewed its attack early the same morning in a zone made narrower because the direction of the attack was aimed at Bebra, and because of the nearly right angle bend in the Fulda River. Thus Troop B was squeezed out of the play, and was ordered to assemble in squadron reserve at Friedlos just south of Troop C. One platoon of Troop B was left at Hersfeld to maintain contact and liaison with CCB and to take over the squadron PWE. The troop's tank platoon was attached to Troop A, which gave them 10 M24 tanks.

Troop A's initial objective was Lutersdorf, Troop C's was Blankenheim. Both troops were to attack independently. Troop A moved to its objective under small-arms and bazooka fire. As it entered Lutersdorf, the enemy across the river threw approximately 100 rounds of 88mm air bursts over the town and caused 4 casualties. This uncoordinated defense by the enemy, however, drove the town's defenders inside buildings and permitted our two tank platoons to close in quickly and fire point-blank into doors, windows and basements. The dismounted elements followed closely, and by noon 170 PWs including many SS were rounded up. During the attack a platoon leader and two men were wounded, and evacuated. After consolidating, Troop A was ordered to reconnoiter east toward Breitenbach in preparation for the attack on that town later in the afternoon.

Troop C, meanwhile, had been successful in its attack on Blankenheim. Road blocks defended with small arms and bazookas by fanatical SS men were encountered at all entrances into the town. Flanking one road block, which was defending the main entrance into town, Lieutenant Huckabee, leading a platoon dis-

mounted, was wounded and two men were killed by a machine gun which opened fire from extremely close range. The gun's position was so well camouflaged that the patrol had walked to within 12 yards of it without seeing it. The gun was quickly silenced by grenades. The remainder of the troop finally broke through to the center of town but took only 4 prisoners. Several enemy were killed and the rest were dispersed. By noon the troop had consolidated, evacuated wounded, replenished ammunition, and, after a K-ration interlude and a short rest, were ready for further action.

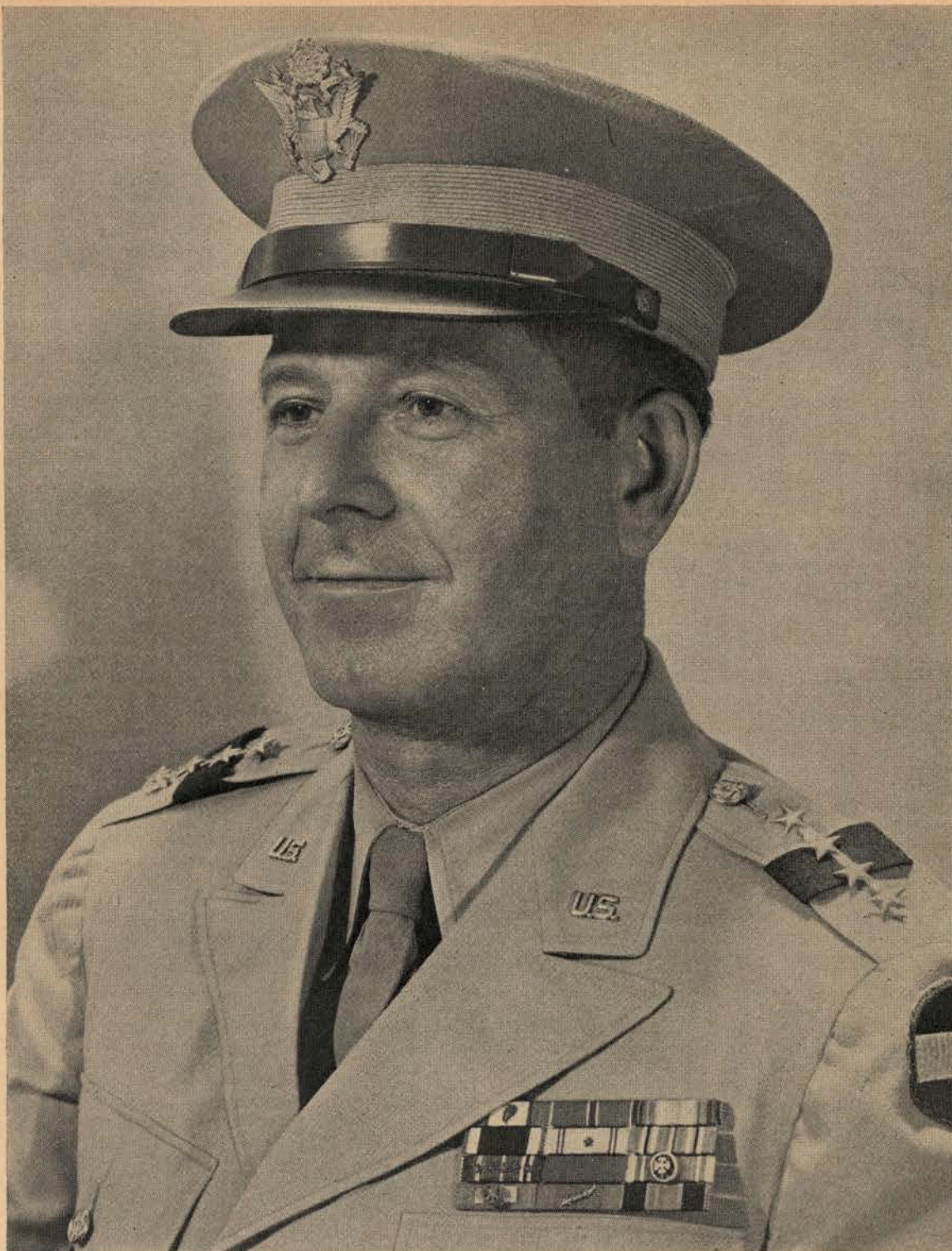
As Troop C moved mounted to an LD about 1,500 yards south of town one unusual bit of defensive enemy action was noted when 7 German soldiers on the high ground west of the road threw panzerfausts down on the column. Fortunately only one exploded, and no damage was done. All the Germans were quickly killed or routed by .50 caliber fire.

The 43d Squadron now had the two bases of the triangle in its possession, and at the apex lay Breitenbach, the last German position this side of the river. The assault gun troop, in battery position in the vicinity of squadron CP, was ordered to concentrate and increase its fire on the final objective and to throw one round of WP to every 4 HE. The tanks of both troops were to take the objective under the direct fire from the defiladed positions. The fire was to last for approximately 30 minutes, primarily to soften up the defenders, but also to make a show of strength. A coordinated attack by Troop A from the west and Troop C from the south was launched at 1500. The town was burning furiously as the troops broke in. Sniper and bazooka fire came from all parts of town and a heavy fight ensued. But by 1800, the town had been cleared, all prisoners rounded up, and the troops redispersed and consolidated for the night. One SS major and 40 assorted Wehrmacht and SS troops were captured, another SS major and several soldiers were killed, and an estimated 60 enemy soldiers fled across the river. The squadron lost one tank, one man killed and 5 wounded. The near bank of the river was clear, all lines of communication open, and the way was paved for the 65th Infantry Division to make its assault crossing and continue its attack into the heart of greater Germany's III Reich.

The groups' over-all losses for the 4-day operation were 7 men killed, 22 wounded, and 4 armored cars and one tank destroyed. It was estimated that 325 enemy were killed, 308 wounded, 2,362 captured, and an unknown amount of matériel destroyed or captured.

The operation was cavalry action in its purest sense, and was capped by a proper climax. The book says "When infantry attacks through a cavalry screen, the cavalry withdraws to protect the flanks."

The next morning, April 2, orders were received by the 3d Cavalry Group to proceed to the vicinity of Kassel, protect the left flank of Third Army, and gain firm contact with First Army in that vicinity.



To all members of
Army Ground Forces:

At this, our first peacetime holiday in five years, may I wish every soldier in Army Ground Forces a Christmas rich with memories and a New Year abundant with continued peace, prosperity and contentment.

Sincerely,

Jacob M. Wevers
General, USA,
Commanding.

Editorial Comment

Christmas 1945

ON Christmas Day for the last four years our armed forces have been at war. They fought with an indomitable spirit to gain a lasting victory; each year hoping and praying that the next Christmas would find the world at peace, and that they could at last return home.

On this Christmas Day, 1945, there will be no war. Victory has been won. It was a costly victory, because many cannot return to enjoy the peace that they gave their lives for.

There are many who will not be home for Christmas because of the necessity to maintain a large force in the occupied territories. But at least there is solace in the fact that they are not in battle.

Christmas 1945 we need not pray for courage and strength to bring us victory. We do need to pray for courage and strength and guidance in the difficult months ahead—months and even years—that our leaders and legislators may be given the wisdom and foresight to guide this nation through the trying times we will face, so that never again will the God of War make mockery of the words, Peace on earth, good will toward men.

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The American Saddle Club

WE recently received a letter from Mr. Ray Fox, Executive Director of the newly formed American Saddle Club, Inc., Rapid City, S. D., enclosing a brochure of information.

Inasmuch as many of our subscribers might be interested in joining this club, we are printing excerpts of the pamphlet herewith:

"The American Saddle Club is a non-partisan, non-profit, national organization, open to all local horse clubs and to individual horsemen and horsewomen throughout America. Its aims and purposes are:

1. To unite American horsemen and horsewomen in a national organization, committed to tolerance and coöperation for their mutual benefit and protection.

2. To foster the formation and perpetuation of local horse clubs.
3. To promote and extend interest in the horse for pleasure, work, sport and profit.
4. To gather and disseminate authentic information on horses of every breed and type.
5. To encourage adherence to recognized registration and breed associations.
6. To further patronage of reputable equestrian publications devoted to sectional, breed and sporting interests.

The keynote of the American Saddle Club is good fellowship. As every horse enthusiast in a community is welcomed into a good saddle, riding or driving club, so every man and woman who has a genuine liking for the horse has a spot reserved in their national organization. Here, on common ground, meet the horse people of America from every community—people great and humble, rich and poor, learned and learning. To fine people and fine horses throughout the nation is dedicated the American Saddle Club.

The American Saddle Club stands as the national bulwark of the democratic horse interests of America, just as, across the Atlantic, the English point with justifiable pride to their National Horse Association.

How MUCH DOES ALL THIS COST?

Individual membership dues are \$3.50 annually. There is an initial registration fee of 50¢, payable the first year. Husband and wife may elect a joint membership at \$5.00 annually, with an initial registration fee of \$1.00. All benefits and privileges are accorded both husband and wife under the joint membership plan, except that they receive a single monthly copy of *Quirt & Crop*.

WHO GETS THE MONEY?

Membership fees are allocated as follows:

\$2.00 to *Quirt & Crop*.

75¢ to the Executive Director for his services.

75¢ to operating costs.

Prevent TB



Buy
Christmas Seals

There is no medicine or drug which will cure TB. The job rests entirely in the hands of the people. Your purchase of Christmas Seals is your share in the protection against tuberculosis. Buy them willingly—Use them generously.

Unit Histories

We have received so many histories of combat units in World War II that it has been impossible to thank each one individually. However, we do appreciate receiving them, and if there are any cavalry or armored units who have printed their histories we would like to have copies for our library.

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Errata

In the September-October, 1945, issue of THE CAVALRY JOURNAL, the 14th Mechanized Cavalry Squadron was given credit in stories under the 15th Cavalry Group. In all places where 14th Mechanized Cavalry is mentioned it should read 15th Mechanized Cavalry. We regret the typographical error and extend to the 15th Cavalry Squadron our sincerest apologies.

✓ ✓ ✓

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 28, 1946.

This meeting is held for the purpose of electing officers and for the transaction of such other business as may properly come before the meeting.

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Do You Know?

We are very anxious to obtain information of the Army officers listed below. They are former subscribers of THE CAVALRY JOURNAL who were stationed in the Philippine Islands in December 1941, and whom we have not been able to contact.

If any of our readers can give us the present addresses of these officers it would be appreciated very much. The rank given in each case is the last known on our records.

THE CAVALRY JOURNAL has kept reserve issues for all Prisoners of War who were members of the Association at the time of their capture.

Clark, Lt. Chester A.
Cramer, Lt. Leland W.

Fowler, Lt. John M.
Garver, Maj. R. T.
Goetz, Lt. C. E.
Harrison, Lt. C. F.
Jones, Capt. P. M.
McLennan, Col. C. R.,
Maher, Col. W. F.
Merrill, Col. Giles
Monihan, Lt. Col. J. C.
Moran, Capt. J. S.
Nelson, Col. Frank
Noyquist, Lt. M. N.
O'Connor, Col. Edwin
Olsen, Maj. Alexander G.
Padilla, Richard S. (Civilian)
Ramsey, Lt. Edwin P.
Siciliano, Lt. Joseph
Trapnell, Lt. Col. T. J. H.
Vance, Lt. Col. L. C.

✓ ✓ ✓

Addresses

Many copies of THE CAVALRY JOURNAL are being returned to us from subscribers who have returned from overseas and left no forwarding address. Some have been separated from the service and others have been ordered to posts and camps all over the United States. We want you to receive your Journal, but the Post Office Department will not be able to deliver your copy unless you send us your correct address. If you are separated from the service, send us your home address.

✓ ✓ ✓

Book on Red Cavalry

Negotiations are now under way for the publication of an authoritative book on the Red Cavalry by Major Robert B. Rigg. A portion of the book has already appeared in THE CAVALRY JOURNAL in a series of articles entitled "Red Army Cossacks." Additional material has been added to augment and bring the story up to date.

Major Rigg has spent a great many years studying Cossack tactics and the Cavalry of the Red Army. His book will be the only one of its kind on the market at this time, and will be of tremendous interest.

HERE IS MY CHANGE OF ADDRESS!

Name _____

Address _____

I have received my Journal regularly ☐

I have not received my Journal regularly ☐

Renew my subscription ☐

Check enclosed ☐ Bill ☐

PROTECTING THE PEACE

Excerpts from the speech of General of the Army George C. Marshall, at the New York Herald-Tribune Forum, October 29, 1945.

IT is certain that the military establishment cannot hope to insure the safety of the United States very much longer at the present rate of demobilization unless some permanent peacetime program is established and at an early date.

"For the moment, in a widespread emotional crisis of the American people, demobilization has become, in effect, disintegration, not only of the armed forces, but apparently of all conception of world responsibility and what it demands of us. If we are to nourish the infant United Nations Organization, and thus establish some possibility of a future decent world order, definite measures must be taken immediately to determine at least the basic principles for our postwar military policy. I have never felt so certain of anything in my life. . . .

"Recently we demonstrated to the world our capability, I might even say our invincibility, in the air, on the seas, and wherever our armies fought on the ground. Germany and Japan were surprised, actually startled, by our willingness to fight, by our capability in rapidly organizing to fight, and by our ability and overwhelming success in the actual business of fighting. Incidentally, they were not the only ones who had their doubts about us in this matter.

"On the day of final victory no such doubts existed anywhere in the entire world. Yet, need I remind you that respect, like all intangibles, is fleeting, unless we bend our efforts to preserve it.

"Just a few months ago the world was completely convinced of the strength and courage of the United States. Now they see us falling back into our familiar peacetime habits. They witness the tremendous enthusiasm with which we mount demobilization and reconversion, but they see as yet no concrete evidence that we are determined to hold what we have won—permanently. Are we already at this early date inviting the same international disrespect that prevailed before this war? Are we throwing away today what a million Americans died or were mutilated to achieve? Are we already shirking the responsibility of the victory? . . .

"This business of dissipating the political benefits that a nation may derive from victory is in the American tradition. It is quite understandable in a nation that runs its own affairs, because there is no easy way to get big things done on this earth. The victory was hard-won. It will require a great deal of effort and sacrifice to fulfill our responsibilities of that victory, to achieve the future we recently talked about so freely.

"We must somehow get it clear in our thinking that the fulfillment of our responsibilities is not some vague mumbo jumbo. It requires positive active effort and

sacrifice, and, above all, it is a continuing process. We cannot do it in one step and then have done with it. Even if the United States now adopts a sound program in its relationships with the rest of the world, the program will be worthless unless we continue to support it year in and year out.

"For example, after the last war the Congress enacted the defense act of 1920. It was not the best program we could have found, but it was generally sound and would have been a long forward step had it been implemented through the years. It wasn't. Hardly before the President's signature on the defense act had dried, the act was emasculated by an appropriation measure which reduced the strength of the Army from the 297,000 men just authorized to 160,000 men. The following year this appropriation was further cut by 25 per cent to a little more than a quarter of the sum recommended by the War Department at the conclusion of World War I. Within a few years Congress had thus completely reversed itself on the policy of maintaining a respectable military posture, not by meeting the issue head-on, but by refusing to appropriate the money necessary to carry it out. The Army at home and abroad fell to the woefully inadequate strength of 130,000 men. . . .

"I sincerely believe that if we had given our security its proper attention the Axis nations would not have started the war. Millions of men and women, Europeans, Asiatics, and Americans, who perished in battle by disease, starvation and brutality, in the past five years, might be alive today had we faced the world in righteous strength instead of careless weakness. The enemy counted on us to go ahead with our pleasures, ignoring the threat to our lives and our very freedom. We proved them wrong, but in the end it cost us a million casualties and astronomical sums of money to restore our security and rightful position in the world. Had we not had allies to buy us time, our own efforts, great as they finally were, might easily have been too late.

"The War Department has made several recommendations to Congress on how we can best go about maintaining our strength in the future at a cost within our financial means. These recommendations have been questioned, usually by groups looking for an easy way out. I have opposed dogmatism all my life and think for a military man it can be a fatal mental disease, but I must say here tonight with all the emphasis I can command: There is no easy way. The American people will do well to give sober thought to their fateful problem. . . .

"I cannot escape the conclusion that the possibilities of atomic explosion make it more imperative than ever before that the United States keep itself militarily strong and use this strength to promote coöperative world order."

Patrol Across the Rhine

by 2d Lieutenant
Delfred Bierman*

Commence

ON February 18, 1945, the 1st Platoon of Troop C, 125th Cavalry Reconnaissance Squadron, was given the mission of preparing a reconnaissance patrol to be sent across the Rhine River. With several days grace allowed, detailed plans were drawn up and much of the patrol action rehearsed.

First to be considered was the enemy situation. The Germans were known to outpost and patrol the east bank of the Rhine at night. During the day the enemy usually kept hidden in the small towns, farm buildings or in their dugouts. On occasion they were seen moving around in broad daylight and this, of course, called for assault-gun fire, which always discouraged them.

Since the exact size of the patrol was to be based upon the boat or boats to be used, an engineer assault boat was chosen. This would easily hold 12 men. A good engineer crew of 4 could handle the boat and protect it on the far bank, and room was left for one officer and 7 men, a good-sized reconnaissance patrol. Such a patrol was big enough to take care of any small enemy force and yet small enough not to attract too much attention. For control, one large boat was better than two smaller ones.

As the reconnaissance and plans progressed, the patrol was organized as a team. At a small lake near the squadron CP all the equipment and personnel concerned were gathered for practice. Each man was assigned a definite spot in the boat, shown how to hold his gun and row at the same time, and told what to do on reaching the far bank.

Several SCR-300 radios had been borrowed from the 83d Infantry Division. One radio was to be on the near shore for control, one with the engineers who stayed with the boat (so they could follow the progress of the patrol), and another with the patrol itself. The radios were tested constantly during the practice and several men taught how to operate each one.

Constant practice at embarking, rowing, and debarking familiarized each member of the patrol with his job.

The detailed mission as announced was to "Reconnoiter the east bank of the Rhine from the shore southwest to Himmelgeist to the hay shed (about 1,200 yards back)." German soldiers had been seen in the vicinity of the hay shed which might indicate the location of a small enemy dump or installation.

Favorable launching and landing sites were easily picked. From OPs along the levee by the Rhine, from

a factory, and from other buildings, the entire plan was developed. A route and alternate route were picked. A plan of action was discussed and decided upon. All men became thoroughly familiar with the ground from personal observation, vertical and oblique photographs, and terrain maps. Every man was also informed of the pertinent details of previous patrols dispatched across the Rhine by other units.

The artillery fire plan was completed. Initial harassing fires were to be of normal density. Then, as the patrol started, Himmelgeist, the main threat to the success of the patrol, would be blocked off by intermittent fires. Other prearranged fires were to be laid on call. Plans were made to use one assault gun in direct fire to support the patrol.

On the morning of February 20, I rode over the area in a cub plane and inspected the ground. Everything was ready, so it was decided to run the patrol that night.

During the day the assault gun was placed near the Rhine behind the cover of a high fill. After dark the assault gun was to be taken along the road to the top of the fill and employed in that immediate vicinity. The assault gun had an SCR-300 radio and was to fire on call, or at any enemy weapons observed firing.

Supporting fire also was to be given by 4.50 caliber machine guns. Their crews were oriented, shown their gun positions, and their possible fields of fire. They would be under direct control of Captain Adolph C. Ploehn, Troop C commander, who controlled all support with a radio and phone from the near bank.

The time for starting was 2245. Before leaving the platoon CP each man blacked his face, emptied his pockets, checked his ammunition, and saw that his 4 grenades were handily carried. Each man was checked by the patrol leader, physically, and as to his duties, as well as his position in the patrol formation.

The engineer took the boat on a peep to the rendezvous. Everyone met there, and the boat was carried to the water's edge with difficulty. A bright moon was up and the sky was clear when the patrol shoved off at 2310. Afraid of making too much noise, the men took it easy rowing across, and made the trip in approximately 15 minutes. The east shore was sandy and the water shallow. Our security party waded in and took up their positions, while the remainder of the patrol pushed the boat to the shore. So far, everything had gone according to plan.

The patrol formed, and led by Corporal Jack Linn, started crawling toward the tree line about 100 yards

*Troop C, 125th Cavalry Reconnaissance Squadron (Mecz).

ts from Combat

from the river. The engineers stayed with the boat, which was behind a low bank, hidden by willow trees.

About 20 yards out, Corporal Linn came across some enemy land mines, which were successfully passed. When only a few yards from the tree line, Corporal Linn was fired upon but the fire was not close. Not knowing what it was, he started moving forward again. Then fire came closer, and he withdrew.

It then was decided to attempt a break at another place. We all pushed ourselves backward to protect our front until we reached the low bank, and the engineers.

Leaving the main body of the patrol there, Corporal Linn and I went up the river about 200 yards and tried to get through there. A strong enemy patrol approached and we hurried back to the boat to load up.

A few of the men became excited and made noise putting their weapons in the boat, and getting the oars set. Just before the last man got inside the boat an enemy machine gun started firing over our heads. Our supporting guns were radioed that the patrol was returning and they were requested to open up on the source of any fire that came from the east bank. Before we were 75 yards from the east bank, three guns which were about 400 yards apart were firing at us, one from directly behind us, and one on each side. They were throwing plenty of lead, but it was not long before our assault gun had silenced the machine gun on our left flank. In turn, the assault gun drew several rounds from an antitank gun, but our assault gun kept up its fire. After placing several tree bursts over the center enemy machine gun, it stopped firing. When we neared the west bank, the small-arms fire became more intense, and as soon as we hit the shallow water on the friendly side, everyone went overboard to seek protection behind the side of the boats, or to find cover on the shore. Orders were given for everybody to work their way over the levee, which was about 25 yards off, and to wait there where there would be full protection behind the bank. A quick check was made and it was found that in spite of the heavy fire laid down by the enemy all had made the levee in good shape.

COMMENTS

This patrol shows how personal reconnaissance, planning, and protection can take a lot of the unknowns out of a night patrol—and yet how the accidental appearance of an enemy patrol can prevent the completion of a mission. The radios worked perfectly and brought help the moment it was needed. The assault

gun, delivering direct fire, knocked out one enemy machine gun and silenced another. This definitely aided the return of the patrol. The planned artillery fires undoubtedly kept any reinforcements from joining the enemy.

As part of the large deceptive plan used along the Rhine at that time to confuse the enemy the patrol was a great success. Under this plan it was hoped that patrols would be noticed by the enemy, and thus he would be confused as to where the attack across the Rhine was to be made. Smoke screens, which always brought a resounding artillery reply, were also ordered and coordinated by higher headquarters.

‘ ‘ ‘

+Zeiko Falls

EARLY on the evening of April 29, 1945, Captain Adolph C. Ploehn, Commander of Troop C, 125th Cavalry Reconnaissance Squadron, received orders that his troop and attached units would continue aggressive reconnaissance beyond the town of Zeiko to the autobahn to contact the forward elements of the Russian Armies. Their exact location was not known, and a link-up might be made at any time.

Zeiko was supposedly an assembly area for German troops. Captain Ploehn already knew that the enemy situation in this area was fluid. Troop A was on his right, and the 83d Infantry Division was at Zerbst. Russian forces were known to be in Wittenberg only 20 miles to his front.

In the plan of attack, the mission was broken into two objectives. The first was to take the town of Zeiko, and the second to seize the bridge on the autobahn. For the convenience of coordination between the attached units the first objective was broken into two phases: the approach to the town, and taking the town itself.

A dismounted platoon was designated to approach and mop up the town, while a platoon of assault guns covered their approach with constant shelling. One platoon of tanks was to secure the flanks and prevent any escape or infiltration by the enemy. A mounted reconnaissance platoon was to proceed through the town with the dismounted men. The other mounted reconnaissance platoon was held in reserve to guard prisoners and the left rear flank.

The assault gun platoon was given orders to lay upon the road blocks on the near side of town until the dismounted troops were within 100 yards of the objective. At this time it would raise fire to the center of town, and as the troops entered again lift its fire to the far side of town, the mounted platoon would proceed to the auto-mounted platoon leader who was equipped with an SCR radio.

The tank sections were to be used on either flank to prevent the enemy from infiltrating into the town from the woods, or escaping into the wooded areas on the flanks of the town.

After the road blocks had been neutralized the mounted reconnaissance platoon and the dismounted platoon were to join forces and proceed together through the town. Upon reaching the far side of the town, the mounted platoon would proceed to the autobahn with sufficient dismounted troops to eliminate panzerfaust teams dug in on the shoulders of the road. The three tanks from the right flank were to bring up the rear and be available with supporting fire.

Shortly after the men had been briefed on the situation and the plan of action, orders were received by the dismounted reconnaissance platoon to move out. They drew no fire from the road blocks, as these positions had been neutralized by the assault gun fire, but they did draw small-arms fire from the wooded areas on the flanks. This was promptly taken care of by direct fire from the tank sections.

The 1st Platoon of Troop C, with 2d Lieutenant Delford Bierman as the platoon leader, approached Zeiko in a long column with Company F's tanks on each flank to form a gigantic "T." A halt was called about 500 yards from the edge of town and the burgomeister of Duben, a town just to the rear, was sent into Zeiko to contact the commandant. He carried Lieutenant Bierman's orders to "Surrender or suffer the consequences."

While awaiting his return, the cavalymen rested, seeking cover in ditches, behind vehicles or trees. Fighting men, however, are not diplomats. From their positions within the town, kraut snipers and machine gunners raked our column with occasional bursts of fire. This would be returned enthusiastically by C Troopers, with M1's, .30 caliber machine guns, .50 calibers, and 37mm. F Company obliged with devastating 75mm blasts.

At last the burgomeister returned with the German commander's refusal to surrender.

Troop E's assault guns moved into line while a light tank from the Psychological Warfare Detachment of the 2d Armored Division, with a loud-speaker, pulled up near the town and directed a verbal barrage explaining the futility of Zeiko's defense at the defenders. Meanwhile, dismounted men from the 1st Platoon entered the town. The psychological effort only netted more enemy machine-gun fire.



Signal Corps

The Ninth Army enters Zeiko

Troop E and Company F turned loose their heavy guns on the town. Several German vehicles could be seen moving rapidly toward the autobahn from the far side of town. As they were out of range our fire was ineffective. To our disgust, we later learned that this was a German general's escape.

As the dismounted men reached the center of town, they were met by hundreds of surrendering Germans stumbling from cellars, vehicles, road blocks, and other fortifications, completely dazed by the intense artillery barrage laid down by both the tanks and assault guns. Wounded, dying, and dead Germans were lying all around. Ten minutes after Zeiko had fallen, over half a hundred PW's had been counted. Only lighter mopping-up was to be done. This was accomplished by the 1st Platoon, assisted by men from the 3d Platoon and others from the tanks and assault guns.

Upon reaching the far side of town, the mounted reconnaissance platoon, preceded by 15 dismounted men, continued cautiously toward their objective—the bridge on the autobahn. The dismounted men were to take care of any bazooka men that might be dug in on the road shoulders. The bridge was taken and no opposition was met en route to the objective.

Large quantities of booty were found—from P-38's to fully loaded supply trucks. Ordnance trucks, signal and even a chow wagon provided useful and valuable material.

From every standpoint, the mission was a tremendous success. The excellent aggressive leadership of all commanders contributed largely to its successful completion. The 1st Platoon went throughout the mission without a single casualty. Communications were ably handled, and the supporting units deserve much credit for their timely assistance.

Mounted Combat

Lessons from the European Theater

by Major General R. W. Grow

The tremendous advantage of armored units in mounted action is due to their ability to employ weapons from the vehicle, whether tank, armored car, half-track, or 1/4-ton. It is not necessary to halt or dismount to shoot. With readily available mortar, artillery, and air support, and with radio communication, the mounted attack literally becomes a highly mobile, rapidly advancing sheet of fire, before which very few troops can stand.

PLANNING for the postwar army is under way. It will continue for a long time, however, and from the beginning must have a firm base, with sufficient elasticity to accommodate new developments.

The war in the European theater again proved the need for mounted troops who, in carrying out their time-honored rôle, contributed immensely to the attainment of decisive results. The Russian army included both mechanized and horse units, while the Western Allies utilized only mechanized groups. The glorious traditions of cavalry have been maintained and enhanced by both horse and mechanized troops during World War II.

The name *cavalry* has become identified only with horse units and a few mechanized reconnaissance groups, while the great bulk of mounted combat falls to what has become known as *armor*. Since it is applied to units which closely support foot troops as well as those which fulfill the traditional cavalry rôle, the word *armor* is confusing.

It is my opinion that the rôle, rather than the type of mount, should determine the branch or arm. In ground combat there are three basic rôles to be considered: dismounted combat, or the infantry rôle; mounted combat, or the cavalry rôle; and controlled massed fire support, or the artillery rôle. The latter is subordinate to, and intimately correlated with the first two. In reality, artillery supports both infantry and cavalry. All other arms and services are purely supporting. In the final analysis, the cavalry rôle is also subordinate to and supporting the infantry rôle.

In the European campaign the cavalry rôle was effectively carried out by our armored divisions. Our mechanized cavalry groups also successfully accomplished their part of the same mission.

The following examples of modern mounted combat, taken from the operations of the 6th Armored Division, show the decisive results of the mounted attack and the

combined attack under World War II conditions in Europe.

On October 1, 1944, the 6th Armored Division was called upon to counterattack in order to restore the corps position in the Gremecy woods, northeast of Nancy. In the woods, which extended about two miles in one direction by three miles in the other, the 35th Division had been forced back by a strong German penetration. The open, rolling terrain surrounding the woods was interspersed with small villages.

The 6th Armored Division plan was to make a mounted attack by two commands. One was to encircle the woods on the west and north, the other on the south and southeast. The objectives of each were about two miles from the line of departure. The action of the left command (CCA) is illustrative of both.

Two combat teams abreast formed the assault echelon. Each included tanks, armored infantry, tank destroyers, and armored engineers. A mechanized cavalry force protected the flank. After the objective had been reached on one flank, a third combat team, originally in reserve, extended the line. The entire force deployed, and at daylight passed mounted through the 35th Division line.

Initially, German artillery, supplemented by mortar and direct AT fire, was heavy. Bazooka and small-arms fire was received from the towns and woods. There were very few casualties from shell fragments or small-arms fire. All of the elements were mounted and protection was afforded by the speed of movement and the armor of half-tracks, tanks, and armored cars. The infantry and engineers dismounted only when several vehicles were stuck in a flooded stream bottom, and again when they reached their objective. Most casualties were incurred by the dismounted men who were caught under mortar fire in the stream bed, and while digging in on the objective.

Stuck vehicles were towed out under fire to the pla-

teau, from whence they sped on to their objective. The only vehicles lost were those stopped by mines and then hit with direct fire.

Both commands had taken their objectives within about two hours after the jump-off, and with the counterattack of the 35th Division in the woods, the corps' front was reestablished and materially strengthened. Late in the day and during the night, the 35th Division took over the whole line. A few days later its mounted units were withdrawn for employment in a similar attack on another part of the corps' front.

As a result of the Gremecy woods action there grew up a thorough appreciation of the value of mounted action which gave quick, decisive results with minimum losses. The half-track became a very popular mount, particularly for passage through areas swept by artillery. Although the division had fought in many actions during the preceding three months, this was the first deliberately prepared attack in which a complete mounted deployment had been made across a line of departure.

In the battle of October 8-9, 4 combat teams deployed and jumped off on a two-mile front in a heavy fog. They pushed through mounted to the towns which were their objectives. During the advance, the infantry and engineers dismounted only to clear towns and woods. When

the attack was continued the second day, one infantry company was caught in its half-tracks under heavy direct fire which destroyed several vehicles before it could be smothered by artillery and tank support. This, however, only emphasized the necessity for combining proper deployment and speed with adequate supporting guns.

Subsequent action in the Saar and Bastogne areas repeatedly showed the advantage of mounted action, especially by small units, whenever terrain and other conditions permitted it.

The above discussion refers to deliberately prepared attacks. In exploitations in which the division was frequently employed, the established rule was a rapid deployment, which was made mounted from column. Subsequent action usually combined both mounted and dismounted action.

As has always been the case, there were many situations, obstacles, and some terrain which precluded mounted action; but there were a surprisingly large number of occasions when decisive results were cheaply obtained. The traditions and principles of cavalry were borne out to the highest degree. Never, since the advent of gunpowder, has the mounted soldier been as effective on the battlefield. Whatever he may be called, or whatever his mount, he fights like a cavalryman.



New American Weapons

*by George Connerly**

GENERAL H. H. ARNOLD, air force chief, has revealed that this country already possesses:

1. Bombs steered on their 3,000-mile course by radio and pin-pointed into their targets by heat, light and metal reactions, an indication that radar already has been incorporated into pilotless missiles.

2. A super-super-bomber, "considerably better" than the B29, faster and with two or three times its range. The new plane's 5,000-mile range equals the distance between Washington and Buenos Aires.

Before launching into his startling conclusions, he observed casually that a year ago "we were guiding bombs by television from a plane 15 miles away."

Arnold summarized his ideas of the "observable trends" in air war as follows:

1. Manned or pilotless planes traveling faster than sound and eliminating aerial combat as we know it.

2. Improved bombs, destructive beyond the wildest nightmares, ideally suited to unannounced attacks which could destroy a country's major cities overnight.

3. Extraordinary development of guided missiles and refinement of control so exact hits can be made on targets of a mile square or less, in any part of the world, from any part of the world.

4. Perfected air-ground communications making possible the most intricate maneuvers either by piloted or pilotless missiles.

5. Development of techniques to make possible the dropping, at any point in the world and in a matter of hours, of completely equipped airborne troops, and their constant supply.

"None of these things is visionary, or merely possible," Arnold said. "They are probable to the point, almost, of inevitability. If we have another war—if another aggressor arises to strike the peace-loving nations, it will be with things like these that he strikes."

*The Washington Post.

Drama at Headquarters

*by Captain John D. Anderson**

LAST December Troop B, 125th Cavalry Reconnaissance Squadron was carrying on its routine duty of guarding the forward CP of the First United States Army in the vicinity of Spa, Belgium. Troop B had been divorced from the squadron while still in England, almost a year before, and had been with headquarters ever since landing with advance elements of the army command echelon on D-Day. It had been assigned to act as security for headquarters, and furnish reconnaissance parties for the selection of locations for future command posts.

On the evening of December 16, 1944, the comparative tranquility of an army headquarters was rudely shattered by the almost immediate threat of being overrun by a German counteroffensive, the now famous and much discussed Battle of the Bulge, or Ardenne Offensive. Troop B at last had an opportunity to receive a mission worthy of its cavalry traditions—"gain and maintain contact with the enemy." In short, they were to be the eyes of the Army Headquarters at a time when normal communications were inclined to be delayed and vague.

Early on the morning of the 17th, reports were received that parachutists were falling in the vicinity of Spa. The troop sent out three roving patrols, each consisting of two jeeps mounting .50 caliber machine guns, to scour the area surrounding the CP. The patrols operated until midnight of the 17th, but any parachutists in the neighborhood made themselves invisible, for none were found.

A real prize of war—a tremendous gas depot, containing several million gallons of gasoline, enough to run Von Runstedt's Panzer armies far to the west—lay hidden beneath heavy woods two miles south of Spa. Its capture might well mean enemy success. While the patrols were out looking for parachutists, Troop B's executive officer, 1st Lieutenant Anthony D. Kelly, made an extensive ground reconnaissance for road block sites and defensive positions to protect this gas dump.

At 2200 the troop was given the additional mission of patrolling the main roads between Malmedy and Stavelot. By 0530 both towns and the highways be-

tween had been checked, and no enemy had been contacted, but to the east of Stavelot enemy ground forces, reinforced by Mark IV tanks, were observed on the south bank of the L'Ambleive River.

At 9 o'clock Troop B was reinforced by a detachment consisting of three M-8 assault guns and 5 half-tracks from 9th Armored Group. This detachment was employed to man road blocks Nos. 1, 2, 3, and 4 (shown on sketch. The troop itself was used to establish a series of outposts to protect the gas dump and main echelon of Army.

As evening approached, enemy action grew warmer. Road block No. 2 reported an enemy tank which later was knocked out by a P-47; road block No. 2 reported enemy tanks approaching, but no contact was made; large caliber shells fell in the vicinity of road block No. 2, and outposts Nos. 3 and 5. Just after midnight on the 19th the area suffered an air attack by 12 German planes. Our AA fired on them, but the score was even for both sides; no hits, no runs, all errors.

Meanwhile Army Headquarters had been doing some fast and fancy packing, and was now ready to move to Chaundfontaine. The 3d Platoon, commanded by 1st Lieutenant George A. McDowell, was assigned the mission of providing march security.

During the remainder of the night there was only scattered small-arms fire, but with the approach of dawn, outpost No. 1 reported heavy automatic fire to their southwest, and vehicular movement was heard to the front. It was estimated that these vehicles were about two miles away and nearing their position. A patrol, sent out to reconnoiter the roads south and southeast of road block No. 2 to the vicinity of La Gleize, reported the location of a Tiger tank half a mile northeast of the town. Subsequently it was hit by a 90mm AA gun employed as an antitank weapon. The patrol also checked the village of Moulin Duruy, but found it clear of enemy.

About noon, as they were opening their K rations, the men of road block No. 2 observed an enemy column consisting of one light tank, two half-tracks with towed antitank guns, and one volkswagon approaching their position. This column halted on the road in such a position that only one of our .50 caliber machine guns had a field of fire. This gun opened fire causing some dam-

*Commanding, Troop B, 125th Cavalry Reconnaissance Squadron, Mecz.

age to the vehicles, and inflicting casualties among the personnel. The enemy tank returned fire with its 37mm gun, killing our gunner, wounding another man, and slightly damaging the vehicle. The enemy then withdrew, apparently not realizing that less than $\frac{3}{4}$ of a mile away, practically within their grasp, were millions of gallons of liquid gold in 5-gallon gas cans. By such slender threads do the fortunes of war and the fates of nations hang. Who can say what capture of this depot would have done to the eventual outcome of the Allied cause?

A patrol, led by Sergeant Hubrey, 2d Platoon, had a busy afternoon. They went to Ruy where they met C and K Companies of the 117th Infantry Regiment, 30th Infantry Division, and about 25 tanks of the 7th Armored Division. C Company and all the tanks were led by part of the patrol to Moulin du Ruy, while K Company was led to Cour and Andreimount. With the arrival of these units, the immediate threat to the gas depot was over.

Having guided these troops, the patrol continued on reconnaissance, and at 1415 reported that enemy forces had 6 Tiger tanks still in Stoumont and 40 tanks and half-tracks in La Gleize.

The situation was improved further when elements of the 3d Armored Division moved through our positions at 1700. During the night there was little action, except for occasional small-arms fire.

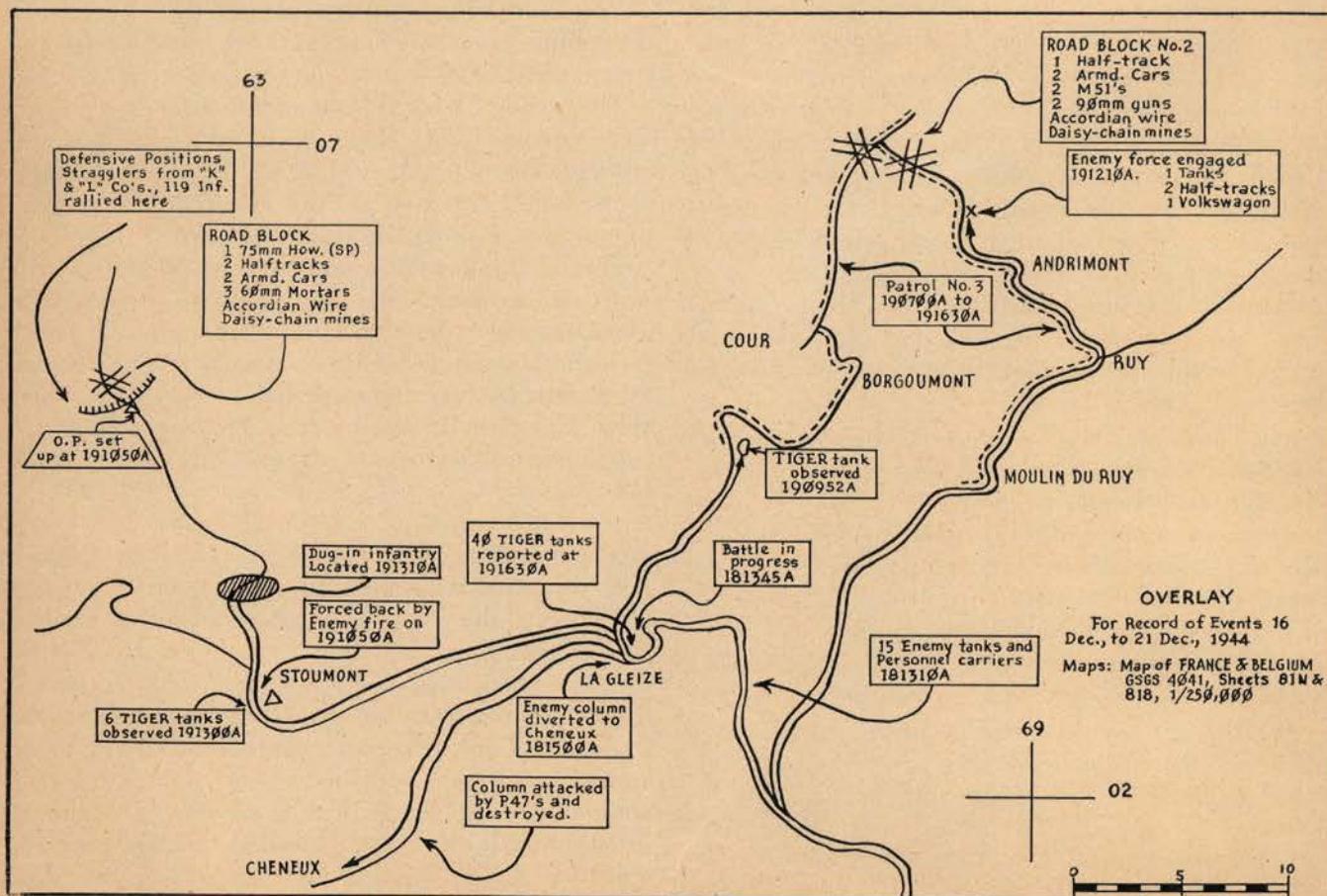
On the morning of the 20th Staff Sergeant Mc-

Millan, 1st Platoon, led a patrol with a mission of contacting elements of the 119th Infantry about 2 miles north of Stoumont to obtain information of friendly and enemy forces in the area. Upon finding that the infantry had made no contact with the enemy, Sergeant McMillan decided to learn for himself, and proceeded on about one and a half miles south, where the patrol drew fire from enemy dug-in positions (see overlay). The patrol replied with small-arms fire and hand grenades, then withdrew and relayed their information to the 119th Infantry before returning to the CP.

At 1500 the troop was relieved of its mission in the vicinity of Spa, and departed for Chaudfontaine, where main echelon of First Army was now operating.

Thus 4 exciting days came to a close. During that time Troop B had sent out roving patrols, routine patrols, established road blocks, and protected a gas depot. Relief was accomplished by showing part of the relieving troops the enemy positions, while the remainder of Troop B was passed through by friendly armor driving the Germans back.

This is just another example of a cavalry reconnaissance troop shifting rapidly from a rear area security mission, to combat reconnaissance and jumping from one situation to another as the enemy picture changed. Inasmuch as there was no other unit in the area at that time, the accurate information which Troop B sent back promptly was the only knowledge First Army had of enemy locations and movement in that sector.



A Cavalry Group in Delaying Action

by Major James W. Cocke, Cavalry

AFTER locating the 130th Panzer Lehr Division on Thanksgiving Day, 1944, the 106th Cavalry Group secured and reported information of the counterattack by this elite Panzer Division, against the left flank of the XV Corps. The resulting action by the 106th Cavalry Group succeeded in delaying the advance of the hostile force to gain time and space necessary for the operation by the corps to meet the threat.

The area is bordered on the west by the Saar River, which flows due north to Saarbrücken; Saverne is situated in a narrow pass between the Vosges and the Hardt Mountains. This corridor between the Saar River and the Vosges Mountains consists of gradually rolling hills, with 50 to 70 per cent arable land, and some woodlands. The soil is naturally dry and powdery and although heavy during rains, dries quickly.

The nature of the terrain and the fact that this region is covered by a system of fairly good secondary roads, offered the enemy a favorable approach by armor into the flank of the corps moving toward Strasbourg. The high ground 4 kilometers southeast of Saareunion gave the enemy excellent observation of our movements around Postroff, Weyer, and Drulingen.

GENERAL SITUATION

On November 22 the 130th Panzer Division had been assembled in the vicinity of Saareguemines. The XV Corps, consisting of the 106th Cavalry Group (Mecz), the 79th Infantry Division, 44th Infantry Division, and the 2d French Armored Division, had launched an offensive on November 12, with Strasbourg as its objective.

Our attack came after about a month of hard and bitter fighting, in very disagreeable weather. The 106th Cavalry, fighting as infantry on the XV Corps' left flank, had slugged its way through the forest of Parroy north of Luneville in what turned out to be one of the toughest campaigns of the war for this unit.

The action began as the group fought its way from Vaucourt on the left flank of the 44th Infantry Division toward Gondrexange on the Rhine-Marne Canal between Saarebourg and Luneville. The XV Corps punched a hole in the enemy defenses along the line Badonville-Blamont-Rechicourt north to the Rhine-Marne Canal and established a bridgehead over the canal in the vicinity of Gondrexange. The enemy had shelled Rechicourt very heavily in an attempt to halt the advance.

Both the 106th and the 121st Squadrons of the 106th

Cavalry Group, were ordered by Colonel Wilson to cross the canal and move as rapidly as possible to the north in the zone extending from the Vosges Mountains on the east to the Saar River on the west. This front was roughly 15 miles in width. The group was supported by Company C, 776th Tank Destroyer Battalion, which had been attached on corps order. Elements of CCD, 2d French Armored Division, were still moving north to Petersbach, thence east through the Vosges, to come down the east side of the mountain and reduce the strong point in the Phalsbourg Gap.

The advance was progressing well without serious incident until the group reached a general line Struth-Asswiller-Drulingen-Weyer-Baerendorf on November 22. The enemy resisted our advance by shelling Baerendorf-Postroff-Eschwiller-Eywiller-Hirschland and Weyer in the zone of the 106th Squadron with heavy-caliber artillery fire. The 101st Squadron on the left held its positions during the morning while on the right the 121st Squadron made slight advances against light resistance.

The troops were deployed as shown on Plate No. 1. Company C of the 776th Tank Destroyer Battalion was attached to the group and supported the advance during the day by direct fire. The command post for the group had moved well forward to the town of Siewiller.

ENEMY CONTACT, NOVEMBER 22, 1945

At about 1530 hours on Wednesday, November 22, Troop B, 106th Cavalry Squadron, succeeded in repulsing an enemy counterattack on Postroff, which consisted of about 60 enemy infantry supported by some 150mm artillery fire. Troop B, with one section of M36 (90mm) tank destroyers also engaged an 88mm and several towed artillery pieces near Postroff, at 1800 hours, Wednesday evening, with good results. (See Plate No. 3.)

Troop C was in position in the center, vicinity of Oberstinzel, and had been given the mission earlier in the afternoon of the 22d to seize and secure the town of Eschwiller. The 3d Platoon, plus a platoon of light tanks attached, was to make the initial attack (mounted if possible), followed by the 2d Platoon (dismounted) which would reduce all enemy resistance in buildings. If the attack was successful, the 3d Platoon would outpost the western part of the town and the 2d Platoon would outpost the eastern part. Each platoon would have a section of light tanks attached.

The 3d Platoon moved down the road with the two

OPERATIONS OF THE 106TH CAV. GP
OF THE SEVENTH UNITED STATES ARMY

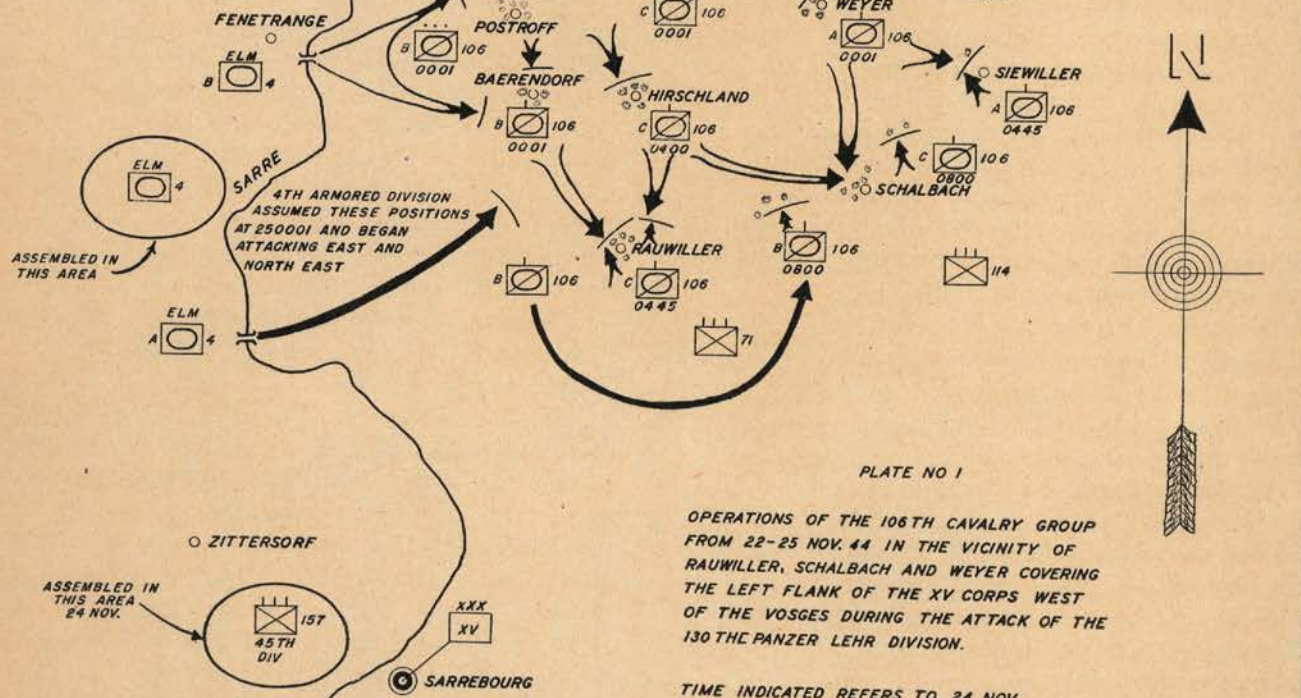
DURING THE BREAK THROUGH OF THE SAVERNE GAP
BY THE XV CORPS TO CAPTURE STRASBOURG

SCALE 1:62,500

1 0 1 2 3 MILES

T-4 GRAINWALKER

XX 130 PZ LEHR



armored cars leading, followed by a section of tanks, the remaining vehicles of the platoon, and another section of tanks. As the platoon moved forward on the road an enemy panzerfaust disabled the first tank. Heavy small-arms fire was encountered but was neutralized by the firing of our own 37mm and light machine guns.

When the 3d Platoon reached the edge of town, the 2d Platoon was immediately called up to continue the attack through the town. One armored car of the 3d Platoon moved down the street flanked by dismounted men to clear the enemy resistance from buildings. The other half secured the entrances to the town in the event of an enemy counterattack.

By this time darkness was settling and preparations were made to hold the present positions during the night. Troop A, on the right flank of the 106th Squadron, was reconnoitering the route, Rauwiller-Hirschland-Gungwiller on the same day. Early Wednesday morning the 1st Platoon of Troop A, 106th Squadron, had relieved a platoon from Troop B, 121st Squadron, which had been outposting the crossroad two kilometers west of Eywiller. The 3d Platoon of Troop A had passed through the 1st Platoon and secured the town of Eywiller. The mission was accomplished by a process of

"leapfrogging" one platoon through the other until the 1st Platoon was advancing in the direction of Gungwiller from Eywiller. In the following formation: One machine-gun jeep, two M8 armored cars, a mortar jeep, and a machine-gun jeep, in that order. When this platoon had reached a point about 200 yards east of Eywiller, the driver of the first armored car observed 6 Germans on the skyline about 800 yards to the northeast. Halting his car, the driver informed the section sergeant, who in turn radioed his platoon leader what had been observed.

Ditches on either side made it impossible to move platoon vehicles off the road; however, a line of trees offered some concealment, and it was decided to remain motionless until the nature of the enemy could be determined. The platoon leader then moved back into the town of Eywiller, where he could organize a dismounted party.

In the meantime, the 3d Platoon had received warning from the 1st Platoon and began to organize against any surprise attack.

As it was turning the vehicles around the 1st Platoon drew fire from an enemy high-velocity gun in position on the high ground northeast of Eywiller, but no dam-

age was suffered. The dismounted party moved out toward the high ground north of the town for the purpose of establishing an observation point. The patrol immediately drew small-arms and mortar fire from the enemy and was forced to abandon its mission. It was evident that the enemy occupied this position in fairly good strength.

Considerable enemy activity was observed along the high ground to the north. It was then decided to bypass the 2d Platoon east to Drulingen through elements of Troop B, 121st Squadron, thence to the northwest, in an attempt to reach Gungwiller, and continue the advance. Attachment for the 2d Platoon was a platoon of light tanks.

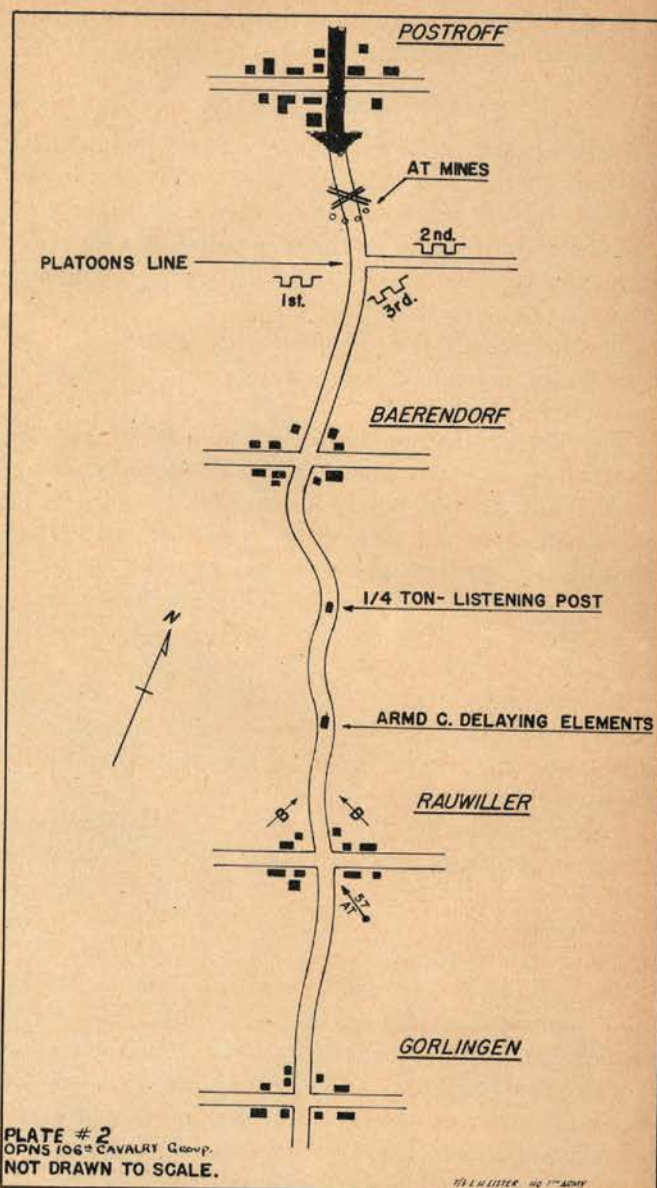
The 2d Platoon, Troop A, 106th Squadron, moved to Drulingen where liaison was established with a platoon of Troop B, 121st Squadron, which was blocking the road leading from Gungwiller to Drulingen. The outpost reported considerable activity about 1,000 yards to the right of the road but nothing near the road itself.

Keeping its tanks in the center of the column, the 2d Platoon, Troop A, 106th Squadron, then moved out toward Gungwiller. After moving out, it came upon a small ridge just short of the town. The platoon leader halted the column and thoroughly searched, by observation, the wooded area between his unit and Gungwiller. The platoon moved to the top of a hill overlooking the town, but no enemy movement was observed from this point. They then moved forward, but immediately a scout in the lead jeep reported what appeared to be an enemy Mark V Panther parked behind a haystack to his front. Beyond the tank several men were seen dashing for a dugout.

A dismounted party was sent forward to investigate the situation, but as the platoon withdrew, the enemy dropped a mortar shell (smoke) in the area. As soon as the platoon had withdrawn behind the crest of the hill, the area literally became alive with mortar fire which succeeded in knocking out one of our tanks. While plans were made to care for the wounded and to tow the knocked-out tank away, the platoon leader sent an observation party to the crest of the hill to warn the platoon of any enemy attack.

The OP reported the enemy forming for a counter-attack with infantry supported by one Mark V tank. The platoon immediately withdrew to a better delaying position a short distance away in the direction of Drulingen. As it came over the crest, the enemy tank fired two rounds into the M5 light tank which had been previously knocked out by a mortar shell.

The platoon found a position behind a railroad embankment where it could observe all approaches to the town of Drulingen. After withdrawing, positions were organized for the night (Wednesday, November 22). Hasty mine fields were laid by each platoon on all roads which were likely avenues of approach for enemy tanks. The enemy continued to harass our positions along the front of both the 106th and 121st Squadrons with artil-



lery fire during the hours of darkness.

The 106th Squadron established and maintained contact with CCB of the 4th Armored Division which was forming for an attack through Fenetrangle to Saareunion from the southeast. The assembly was taking place just west of the Saar River near Fenetrangle. The attack by the XV Corps had exposed the flank of the enemy in front of the XX Corps in the Saareunion area. This enemy was offering stubborn resistance, and it was agreed to let the 4th Armored Division attack Saareunion from the south by passing through the 106th Cavalry Group, screening the left flank of XV Corps just south of Saareunion.

The squadron commander of the 106th Squadron was forced to order Troop B to withdraw from Postroff as a result of the infantry counterattack on that town by the enemy earlier in the day. At midnight on November 22 the squadron line ran generally Baerendorf-Hirschland-Weyer.

The 121st Squadron was forced to adjust its line

during that night to conform to the 106th Squadron which had been forced to yield some ground.

THE COUNTERATTACK

On the morning of November 23 the commanding general of the 130th Panzer Lehr Division, assembled in the vicinity of Saareguemines, received an order to attack southward as early on that day as possible, objective Rauwiller-Schalbach. The telegram read, "The fate of Alsace hangs on you."

The enemy division commander attacked with the two Panzer Grenadier Regiments abreast, supported by about 30 Mark V tanks.

The 121st Squadron continued to hold its position until Troop A, in the center, began to encounter resistance. The command post of Troop A was located in the vicinity of Asswiller when the troop received instructions to take Durstel, which was held by the enemy in unknown strength. The commander of Troop A ordered a dismounted patrol to the high ground overlooking Durstel, but it was forced to withdraw in the face of 20mm gunfire. Observing the action, the troop commander called for assault fire to neutralize the gun. The enemy was very clever in moving his position and little effect resulted.

The remainder of the squadron was disposed with Troop B in Drulingen-Bettwiller, and was receiving some mortar and sporadic artillery fire. The squadron CO decided to hold the advance until Troop B's position was stabilized.

Troop B planned to attack as follows: One reconnaissance platoon was dismounted to take the high ground southeast of Durstel. Another platoon, mounted in its organic transportation, was to follow the tanks down the road as the condition of the soil prevented cross-country movement. The 3d Platoon (dismounted) of Troop B was to follow the mounted platoon to reduce any resistance encountered.

The attack jumped off as soon as the dismounted platoon was in position. The tanks moved at top speed and succeeded in reaching the north edge of town, where positions were quickly organized to meet any possible counterattack. The mounted platoon reached town immediately after the tanks and also organized the position.

The enemy, frustrated by the noise of the tanks, began a withdrawal but was caught in a cross fire, and suffered numerous casualties. Considerable activity was heard and observed all during the morning while Troop B consolidated its positions. A platoon of 90mm tank destroyers from Company C, 776th Tank Destroyer Battalion were placed in position to meet any possible tank threat. The remainder of the troop moved to Adamswiller but shortly after arriving a large enemy dismounted force was observed moving in our direction. The troop was immediately withdrawn to shorten the squadron line.

Early in the afternoon, an officer from the 130th

Panzer Lehr Division was captured in the vicinity of Tieffentach by Troop C of the 121st Squadron. The prisoner stated that his division was scheduled to attack at 1600 hours.

In the course of the morning considerable enemy artillery fire was received by Troops B and C. Tanks began firing intermittently into the towns of Eschwiller-Eywiller and Drulingen during the morning and early afternoon, but were not otherwise aggressive. Registration of our supporting artillery as well as our assault guns continued throughout the day.

Troop A, 106th Squadron, was the first troop to receive the weight of the attack. At 1530 hours the town of Eschwiller was subjected to heavy concentrations of mortar, artillery, and tank fire. Suspecting an enemy counterattack, instructions were given to platoon leaders to make plans for withdrawal to the next delaying position should a heavy counterattack come.

As expected, the Germans counterattacked with 10 Mark V tanks and infantry shortly after the artillery-mortar preparation. The two platoons of Troop A, 106th Squadron and the three remaining light tanks were forced to withdraw to Hirschland, where they occupied previously reconnoitered positions on the northern edge of town. (See Plate No. 3.)

The enemy opened up with a general artillery preparation along the entire front with heaviest concentrations falling in the 106th Squadron zone, confirming the information of the PW. Our troops, however, were already alerted for the attack.

The town of Eywiller was being defended by the 3d Platoon of Troop A, 106th Cavalry Squadron, since the first platoon of that troop had been moved to Weyer in troop reserve shortly before the attack. The sudden preparation in this sector by the enemy at about 1615 hours consisted of heavy small-arms, 20mm AA, artillery, and mortar fire, and succeeded in pinning most of the 3d Platoon to the ground or in cellars. Immediately afterward, an enemy infantry-tank team attacked the town of Eywiller, but its infantry suffered a great many casualties because of the accuracy of the 3d Platoon's fire. This platoon remained in position until the enemy was only a few yards from its position. In withdrawing, several men and vehicles were lost.

The platoon fell back to a position previously held by the 1st Platoon, but before it had time to organize the position was again subjected to heavy enemy 20mm fire. This action resulted in several more casualties and another hasty withdrawal.

The 2d Platoon of Troop A and elements of Troop B, 121st Squadron, were holding Drulingen (east of Weyer) during this period. The general attack by the enemy now took a three-pronged thrust at Hirschland-Weyer and Drulingen, and prisoners taken verified the identification of the two Panzer Grenadier Regiments, 130 Panzer Lehr Division. It now appeared that the objective was to encircle Drulingen from the south and west.

At the same time, Troop C, 106th Squadron, had its three platoons, plus a tank platoon, and a section of tank destroyers (attached) in position at Eschwiller. The 1st and 2d Platoons of Troop C were deployed near the road junction leading toward Eschwiller. (See Plate No. 3.) The tanks were deployed with the 2d Platoon at the left of the junction, the two tank destroyers (90mm) were also here with one destroyer covering each of the two roads. The 3d Platoon, Troop C, was in position on the road to the west covering the other entrances to Eschwiller. Hasty mine fields were laid by each platoon on all avenues of approach.

In the area of Troop B, 106th Squadron, positions had been difficult to prepare because of the rocky ground. Enemy activity had subsided in this area. However, the troop continued making preparations from positions already prepared as far back as Rauwiller to delay as long as possible. The first delaying positions were selected along a ditch paralleling a dirt road which crossed the troop front and ran along the ridge just south of Postroff. (See Plate No. 2.) Two platoons were astride the road with the 1st Platoon on the left and the 2d on the right. The 3d Platoon, Troop B, 106th Squadron, was in position south of the junction. Each platoon had two .30 caliber machine guns with ground mounts, individual arms and plenty of hand grenades. The 2d Platoon, Troop B, kept its radio jeep and another jeep with a .50 caliber machine gun near the road junction.

One platoon from Troop B, 121st Squadron, was sent to Weyer about 1930 hours to reinforce the unit in Weyer. A section of tank destroyers from the 776th Tank Destroyer Battalion went into position covering the road from Eywiller. The enemy continued a steady advance from Postroff and at 2300 hours the platoon on the high ground between Postroff and Baerendorf observed some dismounted men moving over the crest of the hill in front of them. The enemy opened up with very heavy small-arms fire. Artillery support was immediately called for by Troop B, 106th Squadron, and resulted in all corps artillery concentrating on the road between Postroff-Baerendorf. The troop commander ordered withdrawal of one platoon at a time. The attack had actually hit the 2d Platoon, therefore, it was possible to withdraw the 1st Platoon, then the 3d, followed by the 2d, which broke off the action after exchanging grenades with the enemy. Another artillery concentration (T.O.T.) was called for as the 2d Platoon evacuated the area.

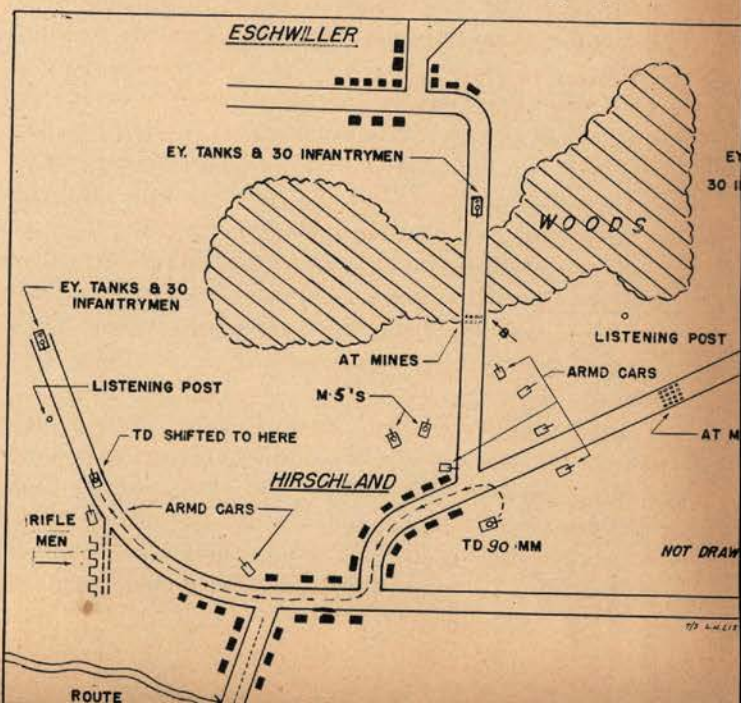
In the Troop C area of the 106th Squadron, outposts reported heavy tank activity to its front. Again our artillery fired heavy concentrations with good results. Orders were issued to shift one tank destroyer to the 3d Platoon sector, and about 2315 hours an enemy tank set off some of our antitank mines on the road covered by the 1st Platoon of that troop. Constant shifting of tank destroyers in the group was necessary for deception.

The 1st and 2d Platoons of Troop C called in their outposts as one of the armored cars fired on the enemy tank. The enemy retaliated with extremely heavy small-arms fire which drove the 1st Platoon back to a position along the road just west of Rauwiller. The platoon leader called for and adjusted artillery concentrations on the attacking enemy force. Fires were requested within 200 yards of platoon positions. The 3d Platoon with its tank destroyers and a section of the 2d Platoon reached its prearranged position. Meanwhile, the Troop A area, the hard-pressed platoon warned the command post at 0200 hours that the enemy tanks were again approaching.

All supporting artillery kept up steady concentrations on avenues of approach where dismounted enemy infantry had been observed. Several batteries of 240mm howitzers fired concentrations on tank concentrations as they were reported, but the tanks continued to roll south, increasing the pressure in this area. The 3d Platoon began falling back toward Weyer, with our troops firing all available weapons at the sparks from the exhausts of the enemy tanks. One of the enemy tanks was disabled by mines placed by the 3d Platoon of Troop A. The group commander made plans to move the command post to Metting in the event the attack continued toward Siewiller. However, phone communications to all supporting artillery were excellent and it was decided to remain as long as possible to utilize this advantage.

One section of tank destroyers was moved into positions at Weyer at about 0230 hours after enemy tanks were reported moving in that direction. Just prior to midnight Troop C, 121st Squadron was hard pressed by enemy infantry moving south from Tieffenbach, but the advance was broken up by our artillery concentrations north of Struth. Interdictory fires were placed on all crossroads over which the enemy had to pass, particularly in his rear areas.

Troops of the 121st Squadron were occupying the



towns of Drulingen, Asswiller, and Petersbach at midnight. Enemy artillery continued to harass the positions of the 121st Squadron, but there was no attack in their zone during the hours of darkness. However, considerable movement was heard moving from east to west across the squadron front, which indicated reinforcements coming in to add weight to the attack in the 106th Squadron zone.

The weather was cold and rainy that night, but the clouds were beginning to break up and a clear day was indicated.

The group command post moved out under pressure to Metting at 0400 hours, after enemy tanks and infantry were reported to have turned east toward Siewiller from Weyer only three kilometers to the west. Our supporting artillery started displacing to the rear to avoid being overrun by enemy tanks. Our infantry, which had moved up to meet the attack, laid mines on all probable avenues of approach but failed to give warning to our troops of their location. This resulted in one of the lead vehicles of the command group striking our own mine field as we moved to Metting during early morning hours.

The group command post remained mobile, prepared to move farther south if necessary after halting at Metting. At the same time the command post of Troop A, 106th Squadron, began moving from Weyer to Siewiller covered by the 1st Platoon with enemy tanks hot on their heels. The command post of Troop A plus the 3d Platoon then moved to Veckerswiller and outposted it. The 1st Platoon remained on high ground in the vicinity of Siewiller to delay the enemy until daylight. The 2d Platoon of Troop A was forced to fall back to Veckerswiller.

In the action near Rauwiller, the remaining two sections of the 2d Platoon had been trapped by an armored car which had blocked the road after hitting a building. The heavy rains made it impossible to move vehicles off the road, and the platoon was moved dismounted to Rauwiller. The enemy continued the attack, and forced the entire troop into other delaying positions at Schallbach.

At 0445 hours on the morning of November 24 the line was as shown on Plate No. 1. The 106th Squadron had been forced back to a line generally Rauwiller-Schallbach-Siewiller. The 121st Squadron's line extended generally Drulingen-Asswiller-Struth.

The squadron commander of the 106th Squadron ordered one platoon back to occupy Schallbach. Before positions could be established, however, enemy tanks overran the platoon and captured or destroyed over half of it.

In the Rauwiller area, Troop C used 60mm mortar flares to great advantage in firing on enemy movements. During the night, elements of the 44th Infantry Division moved into the Rauwiller area to meet the attack, and began digging in for a stand. Companies A and B, of the 776th Tank Destroyer Battalion were also moved

into the area with the 44th Infantry Division.

At 0630 hours, on the morning of November 24, the enemy launched a determined attack with his armor to punch a hole in our line at Rauwiller. The attack succeeded but the enemy could not bring up his infantry to consolidate and hold the position. In the Schallbach area, a tank destroyer platoon which was in position behind a railroad embankment in the vicinity of Weyer, succeeded in destroying 8 of the assault wave of Mark V tanks. By 0700 hours, the enemy had driven a wedge 5 miles deep into our lines. Enemy tanks broke into Rauwiller and began moving up and down the street firing at will. Troops were forced into basements but tanks moved up and fired point-blank into basement windows. Bazookas and 57mm shells ricocheted off the Mark V Panthers like hail bouncing off a tin roof.

The situation became desperate until some of our tanks and tank destroyers came to the rescue and stabilized the situation. An additional combat team of the 45th Infantry Division was alerted to move into the Schallbach area but were not needed.

About noon CCB of the 4th Armored Division, began moving toward Saareunion, through our positions and at the same time the 44th Infantry Division launched an attack to the north and succeeded in turning the attack by Panzer Lehr to a delaying action by the enemy.

Our fighter bombers came out after the weather cleared and aided in breaking up the attack. Enemy flak was extremely heavy over the area indicating considerable armor operating in the zone. The 106th Squadron began to assemble for reorganization and refitting after being passed through by CCB, 4th Armored Division, and the 71st Infantry Regiment, 44th Infantry Division. The 121st Squadron continued to fire on enemy columns withdrawing to the north and northeast, but made plans to assemble when relieved by CCB, 4th Armored Division.

CONCLUSION

1. This counterattack proves that infantry must follow close on the heels of tanks in order to consolidate or hold positions. Panzer Lehr did not have infantry close enough to be of value in holding the shoulders of the breakthrough or to exploit the break.

2. This action also shows the need of a more powerful gun organic in cavalry units as well as a larger proportion of dismounted men.

3. Close liaison between cavalry and supporting artillery is absolutely necessary in a situation of this kind. All artillery must be put to use for maximum results. All artillery from XX Corps on the left as well as the XV was concentrated on the area of attack.

4. Weigh every ounce of enemy intelligence since it might be of value as a warning of impending actions. This was only one example of such information being 100 per cent authentic, and where the commander was able to exploit the information.

PACKED

Pack Operations on Guadalcanal

During World War II, transportation by pack animals facilitated military operations on many fronts—from Sicily, Italy, and the islands of the Pacific, to the CBI theater where rugged terrain made the use of vehicles impracticable. This story is the factual narrative of the operations of the 97th Field Artillery Bn (Pack) in Guadalcanal, where many new animal problems were met.

ANIMAL TRANSPORT BY BOAT

THE 97th Field Artillery Battalion (Pack) was ordered to embark at Noumea, New Caledonia, for Guadalcanal in January, 1943. Animals were to be shipped by transport, and loading them was a new experience for all hands. Animal transport ships were scarce; usually their facilities had been hurriedly improvised to meet some urgent demand. Our Liberty



Signal Corps
Pack gun used by the U. S. Forces in New Caledonia. Part of the group later saw service in the Guadalcanal action.

ship in this category was a "field expedient," but was considered adequate. A flying stall and ramps were used to move the animals below to the stalls, which were arranged in a square around the open hatches. Stalls also had been constructed on deck. There was no provision for drainage and feeding facilities were few. There were oversize tanks to supply the water requirements of the animals but they had to be watered individually with a bucket. A detail was assigned to care for the animals during the voyage. Loading and unloading was done by the battalion.

Loading: The battalion animals were loaded at the Noumea harbor. Many were led up a ramp and aboard ship, then down a ramp into the hold. It was necessary, however, to load a number of them by use of the flying stall. The flying stall was a crate of sufficient strength and capacity to hold a horse or mule, and was swung over the ship's side onto the dock by a steam winch and a cargo boom. One end of the stall was lifted out and the animal led into the crate and secured. The stall then was swung aboard and lowered onto the deck or into a hold, when the animal was led out and tied. All animals were loaded without injury except for minor scratches and bruises. One horse, which dived off the dock and was chased about the harbor by a PT boat, was finally captured and deposited safely aboard.

ANIMAL MANAGEMENT ABOARD SHIP

Feeds and Feeding: Animals were fed aboard ship

twice a day. The normal grain ration was eliminated and only grain hay was fed. When the 14-pound ration was threshed, it yielded about 5½ pounds of oats. Bran was also included in the animal diet to prevent constipation. Animals were watered three times daily, and it was long and laborious work. It was amply demonstrated that water pipes and taps on an animal transport should be numerous and conveniently located.

Unloading: The flying stall was used again when the battalion debarked at Guadalcanal. An LCT (landing craft, tank) pulled alongside the ship and 50 to 75 animals were loaded aboard. The LCT then proceeded to the beach, the ramp was lowered and the animals were led to solid ground. The craft's steel ramp constituted a definite hazard. Animals lost their footing on its slippery surface and fell, but none of them were seriously injured.

RECOMMENDATIONS

Deck stalls: The use of deck stalls should be avoided because when animals are exposed to inclement weather they are apt to become ill. Contagion aboard an animal transport is difficult to control and may easily attain epidemic proportions.

Decks: Steel decks offer extremely uncertain footing, especially for shod animals. Numerous falls may be avoided if steel decks and ramps are covered with planks.

Ventilation: Adequate ventilation aboard ship is essential. That provided by open hatches alone is insufficient to permit comfort below decks for animals or men, and a lack of it assists the spread of any contagion. This is especially true in tropical latitudes. Ventilation should be of the forced-draft type which gives a liberal circulation below decks at all times.

PACK ARTILLERY ON GUADALCANAL

The battalion landed on Guadalcanal late in January, 1943, when the fight for the island was approaching its conclusion. Remnants of Japanese units were cornered in pockets, and enemy dead totalled about 40,000.

Mopping-up operations were in progress when the battalion moved into its assigned area near Henderson Field, and only part of it went into action against the demoralized enemy. Upon conclusion of the campaign in February, battalion personnel which had been in the front lines established a camp on a coral promontory on the Mahara River, where it remained for several months.

ANIMAL DISEASES AND TREATMENT

General. When the battalion arrived at Guadalcanal the animal strength was about 1,000, approximately 200 above normal. The excess was considered necessary to compensate for anticipated losses, and later experiences showed that it was not too high. Within two months after arrival on the island, 95 to 150 animals a day were

on sick call. Most of the casualties were from conditions involving the feet. Thrush and quittor were widespread because of the deep mud in the battalion area. The requirements of the higher command prevented the removal of the battalion from its location before the foot ailments were well established in the herd. Animals in like circumstances in the United States probably would have been similarly affected.

Guadalcanal's warm, moist climate presented ideal conditions for the propagation of bacteria which cause various infections. Tiny scratches on man or beast became easily infected and often healed with great difficulty. It was apparent that additional attention would be required to keep animal casualties at a reasonable figure, and that cuts, scratches, or other minor injuries should be immediately treated with antiseptic to prevent infection. Tropical conditions also seemed to contribute to the ease with which the animals contracted various forms of infection.

Stable areas should be kept scrupulously clean and animals provided with dry standing. Animals should be thoroughly groomed to keep the skin and hair free of mud, and properly shod to prevent penetration or abrasion of the sensitive parts of the foot. It was believed that thrush could have been largely prevented by painstaking care of the feet and by careful selection of camp areas. When selecting areas in the tropics for use by animals, particular consideration should be given to drainage, and soil texture. Swampy lowlands should be avoided, for thrush will almost certainly decimate a herd which remains in such an area.

Quittor. Quittor, an infection of the lateral cartilage of the foot, is generally the result of an abrasion or penetration of the sensitive tissue. Farriers inadvertently caused quittor in a few instances by driving horseshoe nails too close to the white line. Animals afflicted with the disease usually did not react to treatment and had to be destroyed.

Thrush. Rotting of the foot was the greatest single factor contributing to animal casualties in the battalion. The muddy bivouac area near Henderson Field was considered chiefly responsible for the prevalence of the disease. For two months, the animals were constantly above their fetlocks in the muck. Trouble was inevitable. New cases of thrush appeared daily and the veterinary section was kept busy applying medication. The most effective treatment was the application of pine tar and oakum, or a solution of copper sulphate. The hoof was prepared for the medication by trimming away as much diseased tissue as practicable. Care was taken to trim the hoof in such a manner that the pine tar and oakum or a wad of cotton soaked in the copper sulphate solution, would be retained when packed into the cavity exposed by excision of tissue. It was sometimes necessary, however, to use a retainer to keep the wadding in place.

Sunburn. Severe skin irritation caused by a combination of mud and sun was a condition encountered on

Guadalcanal which the veterinary staff never before had seen. Because of the almost daily torrential rains, the animals accumulated considerable mud which packed into the hair and formed a hard, crusty mat when dried. When the crust was exposed to the tropical sun, the result was similar to that which occurs when a fowl is packed in mud and buried in the hot coals of a fire. Skin and hair slipped away and left raw, burn-like areas. In order to keep the skin from becoming dry and cracked, it was necessary to thoroughly clean the raw areas and apply ointment or oil. Animals extensively affected by this condition could not be used. Thorough grooming is an effective preventive measure.

Summer sores. This condition was encountered frequently on Guadalcanal. The sore generally occurred on the animal's neck, shoulders and breast, and sometimes attained the size of a football. A sore began when the larva of the stomach worm was deposited by flies in a cut or scratch. The irritation caused by the larva resulted in raw, bleeding sores. The veterinary section was unable to find an adequate treatment. If the sore attained considerable growth, it was excised. Affected tissue was debrided and the incision kept clean and covered. Recovery usually followed. Sores could be prevented, however, if small cuts were immediately detected, cleansed, antiseptized, and protected from flies.

Unquestionably, animal diseases which become widespread in a herd in the tropics are more difficult to suppress than in a temperate zone. The tropics foster bacterial growth and increase its virulence. It is equally true, however, that adequate attention helps prevent disease. The validity of this observation was demonstrated in the case of an officer in the battalion who was particularly concerned about the welfare of his mount and had a shelter constructed for him. The horse was groomed daily and received the other attentions which constitute good animal care. The rain, mud, and hot sun made it necessary to expend extra effort to permit the horse to stand under shelter on dry, firm ground. But the rider was repaid, for during a 9-month period, the animal was never on sick call, nor did he develop any condition which required treatment.

Feed and Forage. The supply of grain and hay was maintained on Guadalcanal in much the same manner it had been in New Caledonia. Considerable baled "chaff" (also called chop) was received from Australia. Hay arrived from the United States, and also a small amount of very good alfalfa which was reserved for animals on the sick list.

Precautions were necessary to prevent spoilage of feed from the excessive dampness. Hay was stacked so as to secure thorough ventilation, and grain was kept covered and dry to prevent "sweating" and consequent molding. By exercising these preventive measures, the battalion's loss of feed by spoilage was negligible. The ration was augmented by grazing on the numerous savannahs located near the Mahara camp. As in New Caledonia, animals were herded to graze. The "kunai"

grass, very similar to prairie hay, grew as tall as a man.

Corrals. Pole corrals were constructed near the river to provide access to water, and small corrals were built for the segregation of sick animals.

Rigging racks, made from coconut logs and poles, were placed in convenient locations.

Equipment. Strict maintenance procedures with all types of equipment were essential. The battalion leather equipment was old but in good condition upon arrival on the island. The dampness soon caused more damage than months of previous normal wear. Cloth and leather molded or mildewed overnight, and deteriorated far more rapidly than in a temperate climate, which made it necessary to replace large quantities of it.

Marches. Pack operations in jungle terrain demanded the utmost physical effort from man and animal alike. Herded marches were not practical because of the difficulty of control. Thick vegetation usually screened from sight an animal 10 feet away. When one strayed from the herd in the jungle, he often was lost together with his equipment and cargo. The method finally adopted was to assign one pack animal to one man. Only then could the train commander be reasonably certain that all pack animals could be accounted for at the end of a march.

Rate of March. The battalion sometimes found it possible to march 25 miles a day in jungle terrain. Frequently, however, only three miles a day were covered at a cost of backbreaking labor. When possible, the march was conducted for 50 minutes followed by a 10-minute halt. Within 20 to 30 minutes after beginning a march, a "shakedown halt" provided an opportunity to inspect and adjust the loads and equipment. The rate of march often varied considerably in the course of a single day. Distance was generally computed in terms of the time required to traverse it rather than in miles. On a difficult trail, it sometimes was necessary to march for 10 minutes and halt for 10; in less difficult terrain, pack trains marched for 20 minutes and halted for 10.

Route Reconnaissance. Route reconnaissance was an extremely important phase of pack operations. The reconnaissance party operated as far as practicable in advance of the pack train. It carried sufficient pioneer personnel and equipment to make minor trail improvements. With it was at least one man who could accurately estimate the ability of the animals to traverse the terrain on the projected line of march. Any obstacles were reduced. The reconnaissance and pioneer party kept the train commander informed of their progress.

Trail Improvements. The duties of the pioneer details often became exceedingly arduous. It often was necessary for them to cut trails through heavy bush, dig approaches to stream crossings, construct bridges and blast trails on steep inclines. Brush mats were laid in swamps and bogs which could not be by-passed. Pioneer parties who were engaged in heavy work were relieved frequently in order to facilitate rapid trail improvements.



Chinese personnel of the Sixth Army are shown, *left*, as they de-plane from one of the many India-China Division, ATC planes which carried them, their mounts and elements of the Mars Task Force to a new front in Central China.

mando and Troop Carrier Squadrons had successfully airlifted 1,595 horses and mules from Burma to China.

Engineering and maintenance of the China Wing, ICD, contacted the 10th Air Force and obtained data on the handling of the animals and the preparation of

Pegasus

by

Major Arthur LaVoue, A.C.

THE Jap advance during April, 1945, was a serious threat to the vital U. S. 14th AAF Base at Chihkiang in Central China. At 1400 hours, April 19, the China Wing Headquarters of the India China Division, ATC, received a radiogram from Lt. General A. C. Wedemeyer, commanding general of U. S. forces in China. The message stated that since Chihkiang was essential to future plans it was time to stop the custom of Jap nibbling at strategic American Air Force bases.

Such a decision made it mandatory that the 22d Division of the new Chinese 6th Army, which had been trained by American military personnel and veterans of Burmese fighting, be airlifted with its animals and equipment from its base within the Kunming area directly to Chihkiang.

The movement was to begin on Saturday, April 21, and was scheduled for completion within approximately 10 days. The ICD was to transport 11,300 men, 1,350 horses and mules, and 1,850 tons of equipment, ammunition and supplies. In addition to the China Wing aircraft it was necessary to utilize C-46 aircraft from "Hump" operations in a shuttling operation to transfer this vast complement of men and material.

Had this operation occurred during the fall of 1944, the China Wing of the ICD would have found it necessary to discover a safe method of mass animal airlift. Fortunately, an excellent precedent had already been set, when between December 5, 1944 and January 5, 1945, C-47 aircraft of the 10th Army Air Force Com-



Loading operations were accomplished swiftly and efficiently when 6 x 6 trucks were backed up to the plane's door.

the aircraft to be used. A radiogram also was dispatched to Myitkyina requesting the appearance at China bases of personnel who were experienced in preparing C-47 type aircraft for such loadings.

It was determined that each airplane could carry 2 horses and 2 mules, plus 4 Chinese handlers and forage. Special flooring was made from plywood, which also was used to line the cabin of the aircraft to protect the animals from possible cuts should the planes encounter air turbulence during the 4-hour run to Chihkiang. Strips, which ran transversely, were installed in order to give the animals traction.

Loading was accomplished with a minimum of difficulty. First, the horses were led to the forward compartment. After they had been tethered facing the cockpit, plywood slats were placed to form an open stall. The mules, also facing forward, then were placed in the center of the cabin. Next, the Chinese handlers and forage were installed in the rear compartments to insure proper weight and balance of the aircraft during flight. When the China Wing C-47's began to roll in for their cargo, U. S. cavalry and SOS veterinarian and transport personnel were already on the scene at the forwarding base. Animals ready for loading were "staged" on a

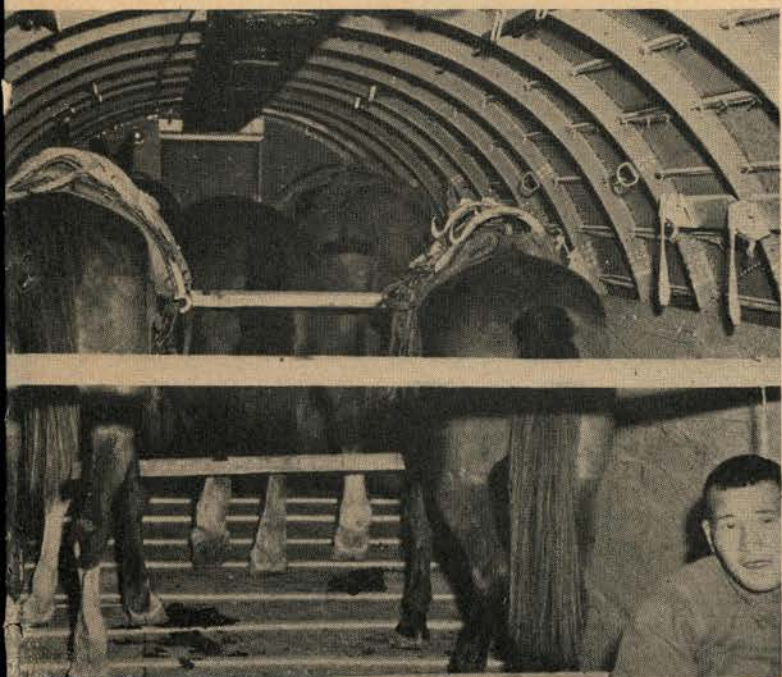
picket line adjacent to the field. Those tagged for immediate dispatch were walked onto 6 x 6 trucks in which they were driven to the waiting transports.

Neither the horses nor mules seemed to be disturbed by the noise of the motors or the motions incidental to flight. Within a period of 9 days, 1,334 animals had been airlifted to the scene of tactical operations without a hitch. Prior to the completion of this initial movement, official notification was received by the China Wing Headquarters of the ICD that the movement of 6th Army personnel, equipment and animals would continue beyond the amount and deadline originally set.

The additional movement, which became known as the *Second Phase*, commenced April 30. It entailed the airlifting of 14,282 troops, 844 more animals, and 466.3 tons of miscellaneous cargo.

Throughout the entire move not one animal, soldier or a single ounce of equipment was lost or miscarried. The following figures show the extent of the operation: A total of 1,648 trips were made, carrying 25,136 troops,

Strips of thin planking were laid across the flooring to provide traction for hooves. Plywood sides were installed to prevent injury if rough flying tossed animals about.



2,178 horses and mules and 1,565.5 tons of cargo. At the same time ICD flew to Chihkiang an additional 369.7 tons of aviation gasoline for use in the fighter planes which operated from Chihkiang and provided air cover during the move. According to statistical records, the transfer was accomplished with an aircraft utilization of 7.0 hours per day for China-based ATC aircraft. Only one accident marred the record: one empty airplane crashed on its return trip from Chihkiang to the Kunming area.

The success of the movement can be attributed to two factors: first, the superior performance by the ATC, SOS, and U. S. cavalry personnel assigned to the move; second, the cooperation received by the ICD from the Air Service Command, SOS, and AAF 10th Weather Wing. The flight personnel also was ready at all times to render ground-handling assistance.

The material results of the move were that the Japanese drive on Chihkiang was stopped, and the troops and animals carried into the zone of operations contributed toward a Chinese drive that regained fields such as Nanning and Liuchow.

Two significant factors stand forth. One is that the movement constituted the first time that a Japanese drive on one of the American Air Force Bases in China had been stopped dead and then thrown back. The second points to the utilization of transport aircraft to safely and speedily transport vast bodies of troops, animals, and equipment over great distances to an immediate scene of action.

China's greatest problem has always consisted of a virtually non-existent ground line of communication. It was considered a certainty that at least one-half of the horses and mules would have perished had the 6th Army been forced to undertake a forced march over the intervening hundreds of miles that stretched from their base to Chihkiang.

Truck transportation for animals over the incredibly rough terrain in the China theater was impractical. In order to utilize surface means, extra forage and water had to be provided. Average truck speed, even with American 6 x 6 equipment was 10 miles per hour, and experience has shown that animals frequently died like flies during such a journey.

In contrast was the certainty, speed, and safety of moving mounts and mules by air. Water and feeding presented no problem except at origination and destination. And, upon deplaning, the animals were in good condition and fit for immediate duty.

Sniffing calmly, one of Merrill's 4-footed "Marauders" prepares to debark near a new front from a C-47 plane.





Horses feeding at the grain and feed racks, USAF Remount Depot, near Shillong, Assam Province, India.



THE U.S.A.F. Quartermaster Remount Depot covers approximately 5,000 acres of rolling land, has accommodations for some 3,500 animals, and when the Japanese war came to an end it had a population of 1,778 Australian horses and 1,360 American mules.

The animals were purchased in the United States

A pack train led by mounted horsemen is shown moving up a trail as the pack mules are trained to carry loads.

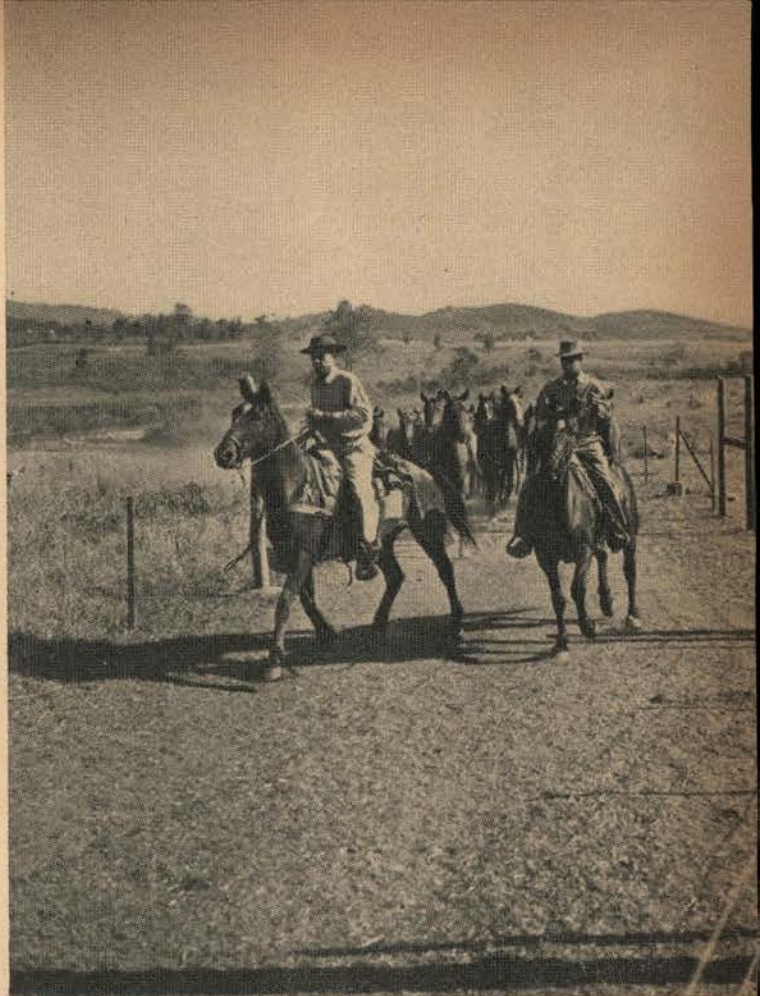
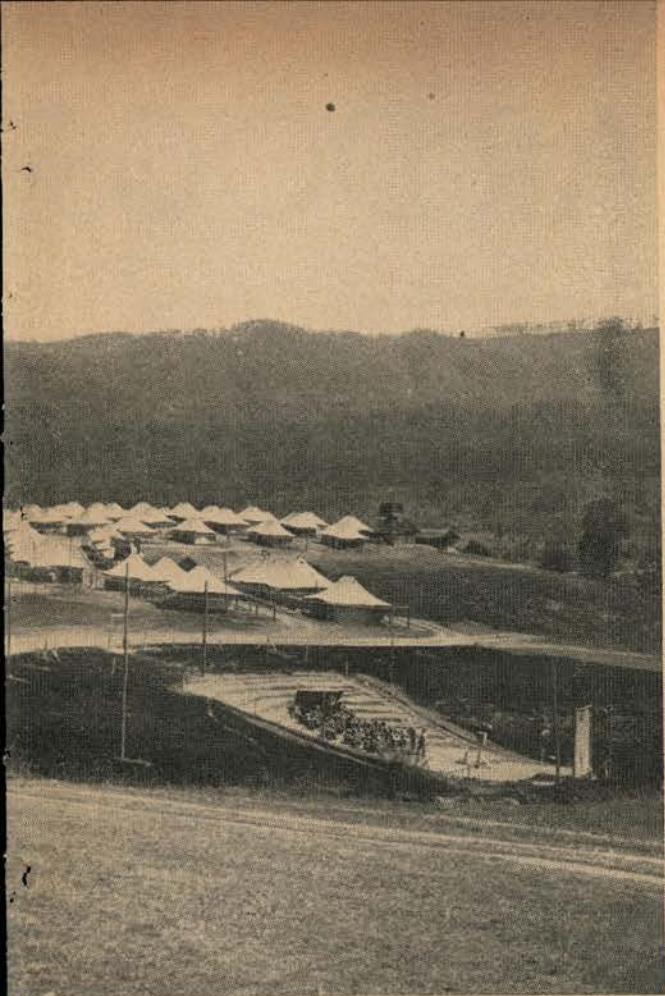


INDIA REMO

and Australia and shipped by animal cargo transports to Calcutta, where they were debarked and loaded onto specially built railway cars. They were transported 400 miles to Pandu and there ferried across the Brahmaputra River to Gauhati, transferred to large semitrailer-type trucks and delivered to the remount depot about 65 miles away. The horses and mules were given excellent treatment and care during the entire journey and losses encountered on the trips were so slight as to be negligible.

On arrival they were unloaded from the vans and run through chutes to the dipping vats where they were sprayed with a solution designed to kill all skin diseases and curb any infections the animal might have. They were vaccinated and given inoculations, as are new human inductees.

For a period ranging from 21 to 60 days after arrival at the depot the animals were kept in quarantine and not worked during that time. While in quarantine the color, weight, height, sex and disposition of the horse or mule were recorded and filed. This work was all done



Newly arrived animals are shown being herded to the quarantine pasture at the USAF Remount Depot.

UNT DEPOT

by the First Veterinary Company of the remount depot.

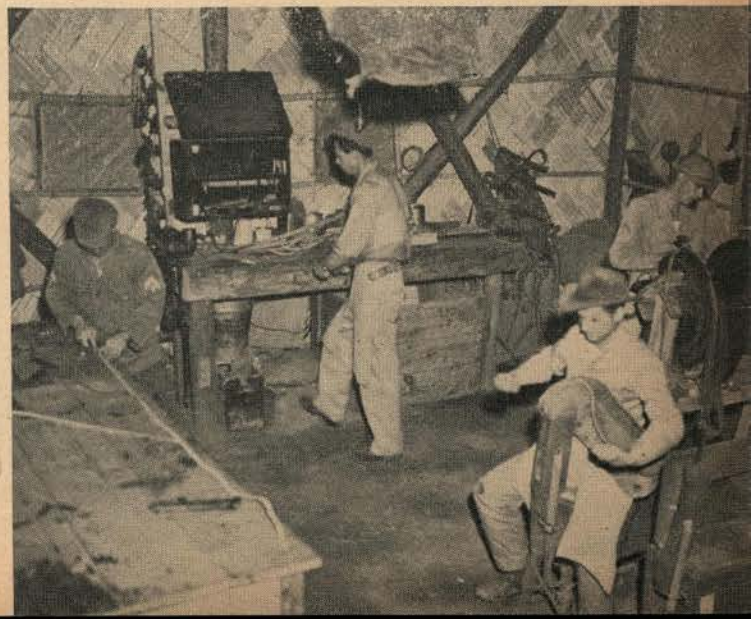
After release from quarantine the animals were put in the custody of a remount troop and turned out in one of three pastures. One pasture was for horses, the other for mules and the third for thin and run-down animals who required special care and feeding to build them up.

There were several range riders assigned to each pasture, and it was their duty to patrol the fences, noting any damage to be repaired, ascertain the adequacy of the fodder in the feed and check the herds for ill or lame animals. Whenever a horse or mule was found to be ailing it was reported to the veterinary, who then evacuated the animal and put it in sick bay. Daily progress charts were maintained and the animal carried on the sick book, where disposition of the case was noted. Should an animal die or be destroyed a death certificate noting the date and cause of death was executed and filed. About 8 animals a day were evacuated.

During the recent fighting in Burma, the depot, which has been in operation for more than a year, kept

the famed Mars Task Force, the Galahad Forces, Merrill's Marauders and the Chinese Forces of General Stilwell and General Sultan supplied with pack and carrier animals. The depot also supplied units in the Chinese theater, and it was not uncommon for horses and mules to be flown over the "hump."

The leather shop where the men both made and repaired saddles, reins, and various other articles of leather.





With fangs bared, a war dog at The Cavalry School almost pulls his handler along while seeking an "enemy" patrol.

AFTER a careful study of reports on the operation of war dogs with the Army Ground Forces, the Academic Division of The Cavalry School made provision for classes in the employment of war dogs with the cavalry platoon.

First Lieutenant John F. Riddick and 10 enlisted men were sent to the War Dog Reception and Training Center at Fort Robinson, Nebraska, where they were trained as handlers of war dogs. In three months they returned with 9 German shepherds and a collie. Of these, 8 were scouts and two were messenger dogs.

Although the army trains dogs for many functions, the cavalry is primarily interested in scout and messenger animals. The type of service for which they are trained is so closely related to cavalry reconnaissance and patrol work that they can be easily adapted to cavalry operations.

Transported in jeeps with their handlers, the dogs go into action when the troop dismounts. They are in the lead when patrols are sent out on foot, or stand sentry during bivouacs.

The animals usually work in teams composed of a scout and two messenger dogs.

The value of the scout dog is its ability to detect the enemy, and thereby lessen the hazard of ambush or infiltration. The average dog's sense of smell and hearing greatly exceeds that of man, and enables him to detect the presence of the enemy long before the soldier.

The well-trained scout dog works silently, and can crawl forward with the stealth of a cat. When the enemy is scented he neither barks nor makes a noise of

WAR DOGS

*by Staff Sergeant Harry L. Emery**

The type of combat service in which war dogs are used is so closely related to cavalry reconnaissance and patrol work that a new subject has been added to the curriculum of The Cavalry School—the employment of war dogs with the cavalry platoon.

any kind. He signals his handler by pulling hard on the leash. By the strength of the pull, the handler can estimate not only the distance but the exact direction of the enemy. The nearer the enemy, the harder the dog pulls. He can smell his quarry from 50 to 1,000 yards away, according to the wind direction and weather conditions.

The messenger dog does more than his name implies. Versatile and fast, he serves as a means of communication between the troop command post and the patrol. Information is carried in a tube attached to a specially constructed collar.

When occasion demands he can be used as a pack carrier. Should a patrol need ammunition in a hurry a dog can carry forward as much as 25 pounds lashed to a carrier strapped on his back. He can take it to the scene of action as fast as he can follow the scent of the patrol's footsteps. Medicines, food, pigeons, and other supplies can also be carried.

Should the CP desire telephonic communication with the patrol, the messenger dog can go into service to establish the connection. With the end of a reel of wire attached to his harness and with a small telephone strapped to his back, he can trail the patrol down by scent. Wire can be pulled in this manner for a distance up to 600 yards.

The Cavalry School does not pretend to make war dogs out of household pets, or trained war dog handlers out of students. The program is entirely one of familiarization, presented in a 4-hour class. The first hour is devoted to preliminary explanation, to prepare the students for the three hours of practical field demonstrations that follow.

The class has been added to the Field Officers' course, the Troop Officers' course, and the Officers' Refresher course.

Classes are held on a hill near the post in the early evening, so that both daylight and night tactics in war dog operations can be demonstrated.

A command post is set up around cavalry vehicles and a dismounted patrol with dogs is sent out to recon-

*Former Public Relations Staff member, Fort Riley.

noiter for an "enemy," who has been secretly stationed approximately 1,200 yards away. The patrol is accompanied by a scout and a messenger dog. The third member of the team is left behind at the CP.

The scout dog approaches the enemy, walking on a loose leash. Suddenly he tightens the leash, alerting his handler to the enemy's presence. His handler then warns other patrol members who continue the reconnaissance with added caution. The officer in charge writes a message and inserts it into the tube on the messenger dog's collar. The leash is removed and the dog races back to the CP with the information that contact has been established with the enemy. Orders are sent back to the patrol by the messenger dog that had remained at the CP.

Messenger dogs are fast, and under ordinary conditions can run a mile and a half in 4 minutes. Eight to 10 miles is considered the maximum range for successful operations.

A demonstration is also given to the class on how an exchange of messages is carried out between two fixed stations, such as a CP and an outpost; between a fixed station and a roving station, such as a CP and a patrol; and between two roving stations. The latter condition is simulated when "enemy shelling" necessitates moving the CP from the zone of fire while a patrol is in the field. In this demonstration the messenger dog arrives at the former location of the CP with a message from the patrol. Finding no one, he circles the spot until he scents the footprints of those who fled the CP. He follows this scent and promptly delivers the message.

For the final demonstrations the class is divided into groups of 8. Each group is sent out on patrol with a scout dog and his handler. The handler describes every movement of the dog to members of the group. Blank ammunition is used by the "enemy" to make the demonstration more realistic and illustrate the complete lack of fear on the part of the dog.

Over a log with 500 rounds of .30 caliber . . . dogs can often get through to positions much easier than can men.



Reconnoitering "enemy" movements, a war dog and handler hug the ground to watch for a patrol. At night on guard duty, dog points nose toward enemy when he is detected. Dogs can smell quarry up to 1,000 yards.

After dark, a perimeter defense is established and the groups of 8 are assigned positions at outposts, each manned by a scout dog and his handler. The "enemy" attempts infiltration tactics. When the scout dog alerts his handler, the trooper aims a flashlight in the direction pointed by the dog, then turns it on. If the light shines on the figure of an "enemy soldier" he is counted as dead. Few are able to successfully infiltrate the lines of the classmen.

The class is concluded with a critique, giving students an opportunity to ask questions.

Some of the more common queries and their answers, follow:

Q. Where can these dogs be obtained?

A. The remount branch of the Quartermaster Corps.

Q. How long does it take to train a handler and a messenger and scout dog?

A. Handler and dog can be trained in 13 weeks.

Q. Should a dog's handler be changed?

A. No, unless a change is unavoidable.

Q. What happens if the handler is a casualty?

A. Another trained handler can work the dog after one or two weeks of familiarization.

Q. What type of food is suitable for dogs in combat areas?

A. No special food is necessary. Dogs thrive on "C" rations, and with the exception of the biscuit and drink should be given the same quantity per day as a man.

Q. If the wind is at the dog's back is he of any use?

A. Yes, the dog can still hear four times better than a man.

Q. How long a period can a scout dog work?

A. Usually for a longer period than his handler.

Q. What reward does a dog expect for an accomplished day's work?

A. Verbal praise, hand praise, or food.



Will German Horses Be Used to Pay Part of Bill for Reparations?

by "Hank" Ferrard

The U. S. Remount Service has a new Chief. He is Col. Frederick L. Hamilton, a graduate of West Point in the Class of 1920. He came to the Remount in 1927 and has put in two tours of duty at Front Royal and at Kansas City and Colorado Springs. During the war he served in Australia, New Guinea and the Philippines as Chief of Staff of the S. O. S. for General Arthur Wilson, as a Base Commander, and finally as G-4 of all U. S. Army Forces in the Far East. He was awarded the Bronze Star, the Legion of Merit and the D.S.M. Colonel Hamilton is known as a fine horseman and an experienced executive. He should do much for the Remount which is now entering one of the critical periods of its history.

Just what changes and what new policies will be initiated are yet to be seen. Colonel Hamilton has just sent out to the Commanding Officers of the different Depots and Areas, however, a report on the horses of Germany, Hungary and Russia which is of the greatest interest. The wording of this report plus the fact that Colonel Hamilton has just gone to Europe, strongly suggests the possibility that some of the best Continental breeding stock may be brought to this country to enrich American bloodlines. The text of the report is as follows:

Headquarters 2d Cavalry GP (Mecz)

APO 403, US Army
20 July 1945.

Colonel F. L. Hamilton,
Chief of Army Remount Service,
Pentagon Building,
Washington, D. C.

Dear Freddie:

The information copy of your letter to General Gay was received yesterday and I was glad to see your interest in the breeding stock we have collected over here. I will give you the results of my observations here and recommendations as to which types of animals I have had contact with, whose bloodlines might be valuable in the United States, and a summary of animals now under our control that could be shipped home.

I have had considerable opportunity in the last five months of seeing almost every type of riding animal in use in central Europe. They have many breeds and types that seem quite uniform within each breed and several of these breeds are superior to our own general run of animals for cavalry mounts. Others appear to be outstanding as special purpose breeds for sport and pleasure. The outstanding point of these breeds is the apparent uniformity of type that has been achieved within the breeds. You know, of course, the wide variation of size in our Thoroughbreds and in our saddle horses. In central Europe the various breeds, through

careful selection, have achieved each a distinct type recognizable almost at a glance. The following is a summary of the more useful and important breeds:

1. *East Prussian*. Large animals, 15.2 to 16.2, very proud with the look of eagles, good legs, excellent shoulders. Considered by the Germans as their best field army horses. They would make magnificent hunters. The East Prussian stallion should make a wonderful top cross for any of our stock in raising good cavalry horses or hunters. They are good looking, gallop well and jump well. Being in the wrong part of the country we have secured little breeding stock though I have a few mares, not the best. I have about forty working animals, East Prussian, that are exceptionally good. I will keep an eye out for any good breeding stock, but am afraid they are in other hands, Russian I believe.

2. *Hanovers*. Magnificent heavy animals, showing great similarity to Irish hunters. These, however, are not good general cavalry mounts as they do not stand up well in the field, being too large and requiring too much attention and food. They stand from 15.3 to 17 hands and better, have magnificent bone and generally show more quality than our horses of similar size; outstanding show jumpers but cannot gallop with Thoroughbred or East Prussian. I would not think they are suitable for the United States, though individuals would certainly win lots of hunter classes. Have a good many working animals and a few mares.

3. *Pomeranian*. Similar to East Prussian and very good, though not so many of them. Also in other hands.

4. *Hungarian*. These are of several strains all showing a distinct Arab-Barb background. Excellent light cavalry type and would make fine polo ponies and hacks. Third Army has a great deal of breeding stock near Bergstetten near Donauwoerth under control of Major Owens, Third Army Headquarters.

5. *Arabs*. Apparently there was much breeding of Arabs throughout central Europe and there are several distinct Arab strains which apparently are clean-bred Arabs, but to me show some outside blood. Possess the pure beauty, excellent movement and disposition of the Arab. These Arabs have better hocks and bone and a little more size than the Arabs in the United States. Leading strains are Polish, Hungarian, Russian and Jugo-Slavian, supposedly the best in Europe were placed in a central stud of Arabs by the Germans. I have these and they are described below. I consider them a magnificent addition to our breeding stock at home for pleasure horses and polo ponies and to give quality to any type.

6. *Cossack*. Several strains, Kabardiner, Don and Panje. Best of these is the Kabardiner. They are the most beautifully typed animals I have ever seen and are supposedly the best light cavalry horses in Europe as they stand any amount of hardship, marching on very little food. They have an excellent walk, rather a short trot, but lovely gallop, and, I believe, like polo ponies at first glance. Being similar to our best seven-eighths bred Texas and Oklahoma types, stands from 15 to 15.2½, wonderful necks and shoulders, good middle pieces, particularly good feet and much better than average bone. Peculiarity of the breed is a slightly drooping hind end. All of them have this, it is a very marked peculiarity of the breed. A few half Kabardiner half Thoroughbred mares are really magnificent. I have about thirty of these mares with colts and consider them as worth-while for our breeding purposes for cavalry and polo ponies.

7. *Lipizzaner*. This, you know, is a special purpose breed of the Vienna Hofreite Schools for use as high school animals, pleasure horses and carriage pairs. The breed is all grey, standing 15.2 to 16 hands, extremely showy, good bone, good bodies with fine Arab heads or Roman-nosed heads depending on bloodlines, but have a rather straight shoulder and necks are a little upside down. They carry a very high head. Good walkers and trotters but poor gallopers, having lot of knee action rather than shoulder movement. Many of them show gaits similar to that of the Tennessee Walking Horse. Their value at home would be purely as a pleasure breed and I believe that the continuation of the breed in the United States would be desirable. There are a few in California where I understand they sell for four to five thousand dollars apiece. As pleasure they are not worth it, but they are beautiful.

I have a carriage pair I drive quite frequently and they would give anyone a lot of pleasure who didn't desire to use them as hunters or polo ponies. Originally

I captured intact the entire breeding herd in Europe, amounting to some 240 animals. However, at direction of General Patton most of this herd was returned to its origin in Austria, where it is now under the control of the head of the Hofreite School. However, I retained a small breeding herd of the very best which I think we could well use in the United States. It is listed below in the horses available.

HORSES AVAILABLE AT PRESENT

1. Arab breeding herd of German Government, said to be best in Europe and I believe they are: Three breeding stallions, four two-year-old stallions, six yearling stallions, twenty-eight brood mares, nine two-year-old mares, five yearling mares, about sixteen foals. Total seventy-one head.

I recommend that this entire herd be taken home. It would be dispersed and the bloodlines lost here and I believe they would be extremely valuable in the United States with the increased interest in pleasure riding.

2. Kabardiner Cossacks: Twenty-eight brood mares, twenty-three foals.

Excellent animals as a basis for a special purpose herd of light riding horses and polo animals, would fit well into our Oklahoma and Texas stock.

3. Lipizzaner herd: Two stallions, fourteen mares, eight foals. Total twenty-four head.

Small special selected herd of the best Lipizzaners would be useful as pleasure horses, show horses and high school animals for use in the East, would suggest Front Royal. As top cross for Tennessee Walking Horse would give better style.

4. Third Army has under its control the Hungarian Royal Stud amounting to about 600 animals, of which about 300 are really excellent animals of Arab, Anglo-Arab and the best Hungarian breeds, Babloyna, for instance. I have not seen these but sent an officer to look at them and he claims they are really excellent. Though the Arabs do not compare with the herd I have listed above, some of the Anglo-Arabs would be extremely useful to us. The details of this herd could best be obtained from Third Army, General Gay, though I can get it for you if you wish.

5. Thoroughbreds: I have about forty or fifty Thoroughbreds of varied origin at the depot, mostly brood mares and yearlings though some horses in training. They are excellent individuals so it is probably better that the United States get them than they be dispersed. However, these are not superior to any we already have in the United States and are just good Thoroughbreds.

6. About ten East Prussian and Hanover mares: Not the best of the breed. I believe we would have to go outside of the United States area to get top East Prussian stallions and mares. Some horse trading might be done to effect this and I believe some East Prussian stallions and mares would be most valuable as hunters.

Yours very truly,

/s/ HANK.

G-2 Operations in a Pacific

ON D Day the task force G-2 section for the landing consisted of 19 officers and 68 enlisted men. Of this group two officers and 5 enlisted men were temporarily assigned to work with a division. One additional NCO joined the section on the beach D Day.

BASIC INTELLIGENCE

The most conspicuous features of the planning phase were the scarcity of necessary information, maps, aerial photos, etc., at its outset; the complete coöperation received in an effort to remedy this situation; and, lastly, the complete and timely success (within the usual operational limitations) of this effort.

The fundamental consideration for the planning phase—and, as it later proved, the entire campaign—was the terrain. At first the only available sources of terrain information were an inaccurate sketch map and scattered aerial photos. The limitations of a sketch map are obvious; the terrain study was too general and though well conceived, not satisfactory for the necessary detailed analysis. The aerial photos were of insufficient coverage and from too high an altitude.

Two weeks after planning began, source material on the terrain was beginning to take a respectable shape. Good vertical aerial photos of the operational area were taken and a 1:20,000 operational map made. In addition, three persons who had lived in that area had been made available for interrogation and a terrain study was acquired.

The 1:20,000 map was a help, but since only a few copies were available, and the aerial photos upon which it was based were on hand, it was not a vital consideration. The persons interrogated included two police boys and a Dutchman. Information gleaned from these three sources was not too accurate for a military evaluation of the terrain. From this and previous experience, it has been fairly well concluded that usual civilian sources are capable of only limited help in terrain evaluation.

During the initial period of the planning phase, there was available but a limited amount of enemy intelligence. Any estimate of enemy strength had to be qualified carefully because of the limited source material available. Later, however, a fairly complete record of ship sightings was in hand and a fairly reliable order of battle was built up from various sources. Additional information from air and navy sightings materially increased the credibility of estimated enemy strength.

Communications were a constant problem. It was vital that corps receive from army, as quickly as possible, any material on the operational area; however, normal postal channels would take as much as three days. This situation was greatly alleviated by the assignment to the corps of a plane, which made possible frequent liaison trips to Army headquarters.

After four weeks of planning, the general intelligence picture was crystallizing and all vitally necessary requirements were in hand and distributed as widely as was necessary.

In résumé, it may be said that all basic intelligence and intelligence aids (maps, aerial photos, etc.) were made available in time and quantity for the accomplishment of the planning mission. This statement is made in full recognition of the limitations of aerial photos, sightings, etc., and leaves unsaid that only on-the-ground reconnaissance could have added other information which would have proven invaluable—for example, the complete impassability of the swamplands or the vicious character of the terrain in other areas.

PLANNING OPERATIONS

Pre-D Day operational planning centered in, the usual G-2 plan, the intelligence annex for the field order, and a currently maintained estimate of the situation.

The organization of the section, itself, had to be altered to fit the mission. This was accomplished by dividing the section into three more-or-less independent parts coördinated under the executive officer. The first sub-section, which was administrative, was headed by an officer and responsible for routine administration, preparation of reports and overlays. The second sub-section was called current operations and consisted of three teams of one officer and three enlisted men (one draftsman, one typist, and one runner) each responsible for 24-hour servicing of combat reports, situation map, etc. Thirdly, a service operations sub-section included CIC (Counter Intelligence Corps), Alamo Scouts, NEI (Netherlands East Indies) scouts, AIB (Australian Information Bureau), order of battle, and the interrogation and translation units.

Security was of paramount importance during the planning phase. A maximum of security was accomplished by the usual security measures (such as the covering of maps, proper handling of classified documents, frequent reiterations at staff meetings on the importance of security, etc.) and the preparation and issuing of passes. These passes were issued to all visitors and incoming personnel, and each was so classified as to permit the bearer as much, but no more, access to information on the operation than was necessary.

Positive security steps taken included the posting of maps and propitious investigations by CIC personnel of reported leaks of information.

Beside its normal counterintelligence work, the CIC detachment, consisting of one officer and 10 enlisted men, was put through a physical conditioning course, weapons training, lectures on searching for documents, Malayan language, booby traps and other subjects per-

fic Campaign

inent to their mission. Further, the CIC sections of the two divisions were augmented and a tentative, flexible plan of coordination of effort was worked out. This plan called for division CIC to work with forward elements while corps CIC would work captured installations, bivouac sites, dumps and villages in the rear areas. The tactical development would, of course, dictate the current geographical boundaries of the responsibilities.

During the planning phase, the G-2 section received a detachment of one officer and 25 enlisted men of the Netherlands East Indies army. All spoke English as well as Malayan and all were highly trained soldiers who had, beside combat experience, some training in U. S. Army CIC schools. Also, two native police boys, both of whom had been previously in the operational area, were attached to the section. Seven of these NEI soldiers and one police boy were assigned to the Alamo scouts.

The Alamo Scout group "A," under the command of a lieutenant, was attached to the G-2 section for special patrols. The group consisted of three teams of one officer and 5 enlisted men each. To this group the 7 NEI scouts and one police boy mentioned above, were attached as Malayan interpreters. A lieutenant commanding the group served as contact or liaison officer between the group and the A.C. of S., G-2, assisted in the planning of missions, and handled the general administrative and routine details of the group.

Thanks to available time for joint training, the assimilation of NEI scouts and the police boy into the closely knit Alamo scout teams proved easy. A fourth Alamo scout team joined group "A" on D Day.

Plans for the employment of the Alamo scout patrols were completed for three wide flanking patrols in the coastal area skirting the operational area.

The interrogation and translation unit consisted of one officer and 4 enlisted men (Nisoi). Attached to this unit was another officer who was a specialist in order of battle work.

On the beach on D Day, two officers of the AIB reported to the section, and a noncommissioned officer of the NEI army, attached to the AIB, reported for duty. He had been a member of a patrol which landed before D Day and was believed at that time to be the sole survivor. (Three other members of the patrol were later found alive.) The sergeant was assigned to an Alamo scout patrol operating in an area with which the sergeant was familiar.

COMBAT

Between H Hour and the official opening of the task force CP, the G-2 section was employed, within the limitations of shipping assignments, in keeping its

key men in communication with operative headquarters so that a minimum of time would be lost in orientation once the CP was set up.

The chief of the section was aboard the commanding general's destroyer where all information from operational sectors was received. Two officers of the section landed on the beach with a division headquarters and maintained contact with the chief of section by SCR 300. This same liaison group of two officers maintained contact with one of the Alamo scout flanking patrols—until terrain neutralized radio transmission, at which time a relay set was entered into the net. Later on D Day the nucleus of the section was landed and a temporary corps CP was set up. The corps CP was then moved to an LST and from that later unloaded and set up at a plantation farther inland.

In order to take up slack by the unexpected panic of the Japanese and emphasize the rapid success and the complete exploitation by our forces, actual combat operations varied somewhat from the original plans. Further, terrain severity, distances and meteorological conditions pared down radio transmission to its minimum efficiency and severely curtailed all other types of communication. However, the light flow of front line intelligence was more than balanced by the vast quantities of captured documents and large numbers of prisoners taken.

The three "current operations" teams were at no time "snowed under," while the interrogation and translation sub-section and the CIC were working day and night. During the first two weeks of the operations, more than 5 tons of documents were gathered and turned into the Intelligence and Training Unit by the CIC and troops, who had been well indoctrinated be-

This highly successful Pacific operation, which proved to be a G-2's dream in captured documents and matériel, presents vital points and valuable lessons for any intelligence unit.

fore the campaign in the importance of captured documents.

Because the operational area had been an enemy staging area and was caught on D Day with assorted detachments of casualties, as well as garrison units, the building of a credible order of battle was extremely complicated and difficult.

The administration sub-section worked its expected routine with its general turnover something lighter than had been anticipated.

The work of the Alamo Scouts—their first use with a corps-size task force—was satisfactory despite innumerable administrative complications. The important part played by the scouts however, was indisputable and with better planning to meet administrative problems, and with more attention to reconnaissance rather than

combat, they will be an even greater asset to similar forces in the future.

The CIC did monumental work in the searching of formerly enemy-occupied areas, the collection and movement of captured documents and material to prescribed areas, and in maintaining security by investigation of reported traitors, etc.

LESSONS LEARNED

The training and organization of the G-2 section for this operation was satisfactory as was proven by the successful accomplishment of its mission. Yet, no operation is barren of those things that make experience the best teacher—the particular application of long-proven principles to a particular situation.

It was the details, and even the obvious, which called for correction, a new emphasis, and/or a new method of handling. A summary of those are listed below as "lessons learned":

Security: Following on the heels of the mission came a great influx of visiting officials, observers, newly assigned or attached officers, couriers, etc. In order to assure a maximum of security under these conditions, all visitors, etc., were required to report first to a reception officer where their credentials were checked by CIC, and passes—classified "Operational" or "Non-Operational"—were issued. CIC checks were made throughout the headquarters from time to time to assure the safeguarding of information. All maps were kept covered when not in use. Frequent security speeches were made, and all other routine security measures were taken. Even though this program, plus the careful control of official dissemination of information down to units, was stringently carried out, persistent rumors of the operation were heard throughout the theater. It is believed that these leaks are by and large from non-tactical sources and that the principle stoppage of them will have to be made in other commands than that of the participating troops.

CIC: The work of the CIC was invaluable, both during the planning phase and the operation itself. The corps detachment of 10 men, however, was not big enough for the accomplishment of the best results. Security and combat training during the planning phase, and the searching of captured areas and security checks on natives during combat were tasks which could have employed to good advantage a detachment of three officers and 30 enlisted men. The importance of security, indoctrination of troops before combat, and CIC searching, locating, delivering captured documents and material to proper authority cannot be underestimated. Beside the lesson of using a larger CIC detachment for similar task forces, there is the lesson of (1) landing this detachment as soon as possible, and (2) having a prepared CIC plan of operation and coordination to follow. Lastly, transportation for CIC in combat areas is vitally important if captured dumps, etc., are to be searched and guarded properly.

Capture: Too much emphasis cannot be placed on the vital importance of NOT permitting any person informed of pending operations to expose himself to capture. This is most important.

Alamo Scouts: The more detailed and complete the advanced planning of Alamo Scout employment, the better their success. This advance planning should include both administrative and operational details. The idea of assigning an Alamo Scout contact officer is sound. His appreciation of the training, limitations and administrative needs of scout teams is a great asset in their employment.

Administration: The administrative details of keeping track of individuals in the section, details of packing, transportation assignments, etc., is a full-time job for one officer. This officer should be designated early in the planning phase.

Communications: Communications were a constant source of concern during the operation. Though this complication was foreseen, intelligence radio nets were not as thoroughly developed as needed. Because of the importance of space and weight in amphibious operations, SCR 300s were used. They might have proved satisfactory had the tactical situation developed more slowly. Since the enemy panicked, however, and our forces advanced as rapidly as the terrain would permit, SCR 300 proved to have too short a range (normal range was pared by the rugged nature of the terrain). In similar future operations, it is believed advisable to have liaison officers with SCR 300s with each landing force, and so organized that if one set becomes un-serviceable and/or the advance is rapid, replacement or relay sets can be entered in the net. Lastly, intelligence nets should not be shared with other agencies except in emergencies.

Because the flow of information from forward units was slow in filtering back to rear echelons, the collection of intelligence for relaying to higher headquarters were equally slow. Further, radio nets south were too heavily loaded to handle comprehensive reports. It is believed that had a Catalina been available for a daily round trip, the problem of communication to higher headquarters would have been solved to the satisfaction of all concerned.

Miscellaneous: Because of the large areas retaken from the Japanese in a minimum amount of time, movement of personnel (CIC, etc.) in the area was greatly restricted by a shortage of transportation. The section operated between D Day and D + 12 with one ¾-ton truck. This was not adequate.

During the active phase of operations, codes should be employed.

The assignment of a flak boat for patrol missions to the A.C. of S., G-2 was highly successful. It was used for transportation of Alamo scout teams to and from missions, and as a relay point in the maintenance of radio contact with these patrols, as well as patrol missions.

S-2 IN ACTION

With the 36th Cavalry Reconnaissance Squadron (Mecz)

WHEN the 36th Cavalry Reconnaissance Squadron (Mecz) first went into action on December 13, 1944, the combat education of the staff section began. During the next few months we were to learn that the book does not tell everything.

The job of S-2 is fundamentally the same, whether the situation is static or mobile. S-2 primarily and constantly deals with enemy information, patrols, maps, prisoners of war, security, and counterintelligence.

ENEMY INFORMATION

Enemy information is an important item. Its collection, editing, and dissemination justifies the existence of the S-2 section. That PWs, patrols, air reconnaissance, and captured material are bona fide sources of information, was known before we landed on the Continent. In addition it was learned that every CP and aid station, and every soldier at the front or rear is a source of information. The S-2 has to be news hound, diplomat, and feature writer as well as clairvoyant, because the more information that is collected, the more there is to disseminate.

Reconnaissance principle number 15 states that "Information obtained must reach the commander in time to be of value." That does not always or necessarily mean the CG or CO, but all commanders in the order of priority. Dissemination, therefore, must be flexible and information must go out in all directions at once.

On the night of January 25, 1945, our troops moved into position for a dawn attack from a line near Linnich, Germany. They were to attack east, drive the Germans from the west bank of the Roer River, and secure the right flank of the infantry as it attacked the strong point of Brachelen. A half-hour artillery barrage was contemplated and the attack was to jump off at 0700, January 26.

At 2300, January 25, a captured deserter told us willingly, and convincingly, that Brachelen was being

evacuated by the enemy, and that only small rear guard elements remained. He did not believe that these would put up much fight. Although he told us much more, the most important information was that the enemy would not defend Brachelen as bitterly as we thought, and that the impending attack was known in the town.

This sounded authentic, but it was not for us to "G-2" the situation, a mistake often made in combat, so it was sent to higher headquarters. Other agencies evidently corroborated the story, because no artillery barrage was laid, and the time of attack was moved up to 0600. This took the initiative from the enemy and added the element of surprise to our side. The attack went through with a minimum of casualties and all objectives taken.

The point is that after higher headquarters has been informed is the time to remember that there are 6 other troops that would like to know the situation, with them, being well-informed is a matter of morale. All available means of communication should immediately be used to get the information to them. This should be followed by as many personal contacts as possible, so that questions can be answered on the spot.

Written reports serve their purposes as a matter of record, but information about the enemy must continually flow to higher and lower echelons. A maximum advantage must be taken of "order of battle reports," situation maps, and periodic reports from higher headquarters. The S-2 never should be so busy that he cannot give the troop commander a few minutes to bring them up to date on the situation.

PATROLS

Patrols are a source of information if properly handled; if not they can readily become a source of information for the enemy. Here are a few experience-trying general rules:

1. Patrols must be well-planned, and most of the planning should be done by the troop commanders and the patrol members.

*36th Cavalry Reconnaissance Squadron (Mecz).

*by Captain Ferdinand A. Dostal**

2. A specific mission must be assigned, and everyone must understand what the mission is.

3. All members of the patrol must know the exact information desired.

4. A maximum cooperation from all staff sections is required in equipping, orienting, and aiding in the execution of the patrol.

The S-2 section assigns the mission and states the information desired. From then on it is the problem of the troop commander and the men who are actually going on the patrol.

Patrols should not be planned by one party and executed by another. This causes unavoidable delay, lack of confidence by patrol members, and usually results in the patrol's failure to obtain the desired information, and sometimes in increased casualties.

Patrolling is a dangerous part of reconnaissance, and requires the best from men in endurance, ingenuity, and combat ability. The patrol should have what it needs in the way of equipment, coordinated artillery or any other support it thinks is necessary.

To illustrate: After unsuccessful attempts to obtain unwilling prisoners from enemy territory across the Roer River, Troop C's commander volunteered to send a patrol across if he could plan it himself. Given a free hand, he devised an ingenious method for the patrol to cross the river, and return after the completion of its mission. He worked Troop E into the artillery support plan and assigned his own mortars a special covering job. The plan as submitted was sound and, more important, the members of the patrol had confidence in it. The mission was successfully executed, and resulted in the killing of several Germans, the demolition of a troop shelter, and the capture of the first unwilling POW that the division interrogators had seen in a long time.

MAPS

The procurement and distribution of maps, always of dominant importance in operations but made doubly so because of mobility, is an S-2 function. Because of the law of supply and demand there invariably is a minimum of useful maps and a maximum of maps for which there is no use. The proper handling of maps, therefore, is a matter of intelligent distribution.

Here are a few suggestions. After initial distribution, at which the signature of a responsible officer should be secured, to keep the records straight, unless it is obvious that the supply is plentiful, distribution should be rigidly controlled, and a lookout constantly kept for more maps.

These points should be remembered:

1. Reconnaissance troops should have first priority on distribution. Other troops usually are attached, and squadron headquarters can always fall back on the staff maps.

2. Troop E and Company F will have special requirements. Use 1:20,000 to 1:25,000 for fire data maps, and 1:50,000 terrain or "Going" maps for Company F.

3. The most practical operational and road maps are 1:50,000 and 1:100,000.

4. Always keep a few spares for emergencies.

5. Do not count on photo coverage in a mobile situation. It is impractical.

6. For static situations and patrol work, vehicles and low obliques are invaluable. Use them to the maximum.

PRISONERS OF WAR

Prisoners of war constitute one of the major problems of the mechanized cavalry. In a static situation, everything goes according to the book; but when the situation becomes mobile it is only through the utmost cooperation of the S-4 section that the PW problem can be solved. During the attack of January 26, 1945, near Linnich, the squadron took 26 prisoners. Even from this small number, it was learned that:

1. It expedites matters to have someone immediately available who can talk to prisoners in their own language, not to interrogate, but merely to facilitate the searching and start them on their march to the rear.

2. Medical aid should be available.

3. Transportation will always be a problem to a cavalry organization, especially in a mobile situation.

When the squadron crossed the Rhine April 1, and in its dash to the Elbe River took 3,324 PWs, it was only through the full cooperation of the S-4 section that the transportation of prisoners was handled. This necessitated the continual unloading of organic trucks, with a resulting decrease in S-4's mobility. One solution was in the establishment of spot PW enclosures on an MSR, and the sacrifice of a few men to guard them until infantry units with the facilities to handle them came forward. If an increase in PWs can be anticipated, the attachment of three or 4 inorganic 2½-ton trucks will solve the problem.

It was comparatively easy for interrogators to build up the prisoner's order of battle. The service record he carried supplied most of the information, and also served as a key to break him down to reveal further information.

SECURITY AND COUNTERINTELLIGENCE

The practice of the rules for security by the individual left much to be desired, and men and officers should be checked on continuously. The overclassification of documents, and their improper or careless handling resulted in much information getting into the hands of the enemy. Captured S-2 documents indicated the enemy to be well informed.

Counterintelligence, although an integral part of security, is also a form of propaganda. Although the squadron continually stresses military security.

The squadron S-2 is the collector and disseminator of enemy information, PWs, and enemy material, and the procurer and distributor of maps. On his shoulders rests the responsibility for security and counterintelligence measures.



Officers' Pack Class travels over rough terrain on a cross-country hike near Fort Riley.

The ease of taking difficult terrain mounted is shown in a demonstration by "K" troopers.



The C.R.T.C. in World War II

by Sergeant David F. Woods

IN October 1940 the War Department, following close on the enactment by Congress of a National Selective Service Act, authorized a Cavalry Replacement Training Center. The initial groundwork of plans and organization were delegated to the Chief of Cavalry.

The site selected for the new training center was an area of 2,480 acres of flat, sandy ground immediately adjacent to the banks of the Republican River and south of the Main Post at Fort Riley.

The first spadeful of ground was turned on December 9, 1940, and by February 1941, there were facilities available for the 6,160 selectees authorized and designated to take basic training at the center. Since that date thousands of men, officers and enlisted personnel, have learned and taught soldiering at the CRTC.

At the end of the war the CRTC represented an outlay of approximately four and a half million dollars. There are 210 barracks buildings, 50 mess halls, officers'

quarters, warehouses, administration buildings and headquarters; a Service Club, a theater with a seating capacity of almost 1,000; a modern swimming pool with filtering system; stables for approximately 2,800 horses; 5 dispensaries; a dental clinic; three post offices, two chapels, numerous baseball diamonds, indoor and outdoor boxing arenas, football fields, polo field, miles of paved and macadam roadways, landscaped and flower-planted area.

The CRTC has its own sewage-disposal plant designed for a population of 10,000 people. Power is drawn from Fort Riley on a 13,000-volt line and almost 75 per cent of the buildings are heated by natural gas-fired appliances. The remainder are heated by coal stoves. Garbage disposal is a sanitary fill. The over-all maintenance of the installation has been kept at an unusually high level.

Part of the Fort Riley reservation beyond the center extends for miles and lent itself ideally to the training

of cavalymen. Off in these vast areas have been built temporary structures for realistic combat problems such as village fighting and various other battle-course functions. The National Rifle Range, facing a natural rimrock, is one of the finest in the country. Hills, plains, river bottoms, canyons and gorges, and veritable jungle thickets all offer ideal conditions for the training of a versatile soldier.

This versatility was obtained by thorough knowledge and practice of new and approved methods of combat training for all theaters of operations; through specific orientation on the enemy and by incorporating in training schedules the tactics and weapons which proved most successful in exterminating the Jap from Guadalcanal to Okinawa, and the German from El Alamein to the Elbe River, only a few miles from Berlin.

Although the men who trained at the CRTC were moved to both the European and Pacific Theaters, all learned soldiering in an atmosphere that was geared to the first objective of beating Germany down first. For instance, the Village Fighting Course, where for years men learned street and house-to-house fighting, started out as a Nazi hamlet and after VE-Day was converted to a typical Japanese village.

This group of approximately 14 buildings, comparable to a village of about 500, was built by the S-3 Section, to resemble the kind of village a cavalry reconnaissance outfit would be called upon to patrol and reconnoiter. Moreover the men were trained to take the

village, to move through it as the Third Army moved through the cities and towns of Germany and the First Cavalry moved through the Philippines. Bobbing targets in the form of enemy sniper figures appeared and disappeared with startling realism at windows and doorways and around corners. Live ammunition from various type battle-tested weapons was fired as the trainees moved through the village.

On various ranges where the new soldier learned to fire his weapons, and moved on specific combat problems the targets were lifelike enemy soldier figures. The camouflage course was designed to conform to the terrain, vegetation and general atmosphere to be encountered in the war against Japan and Germany.

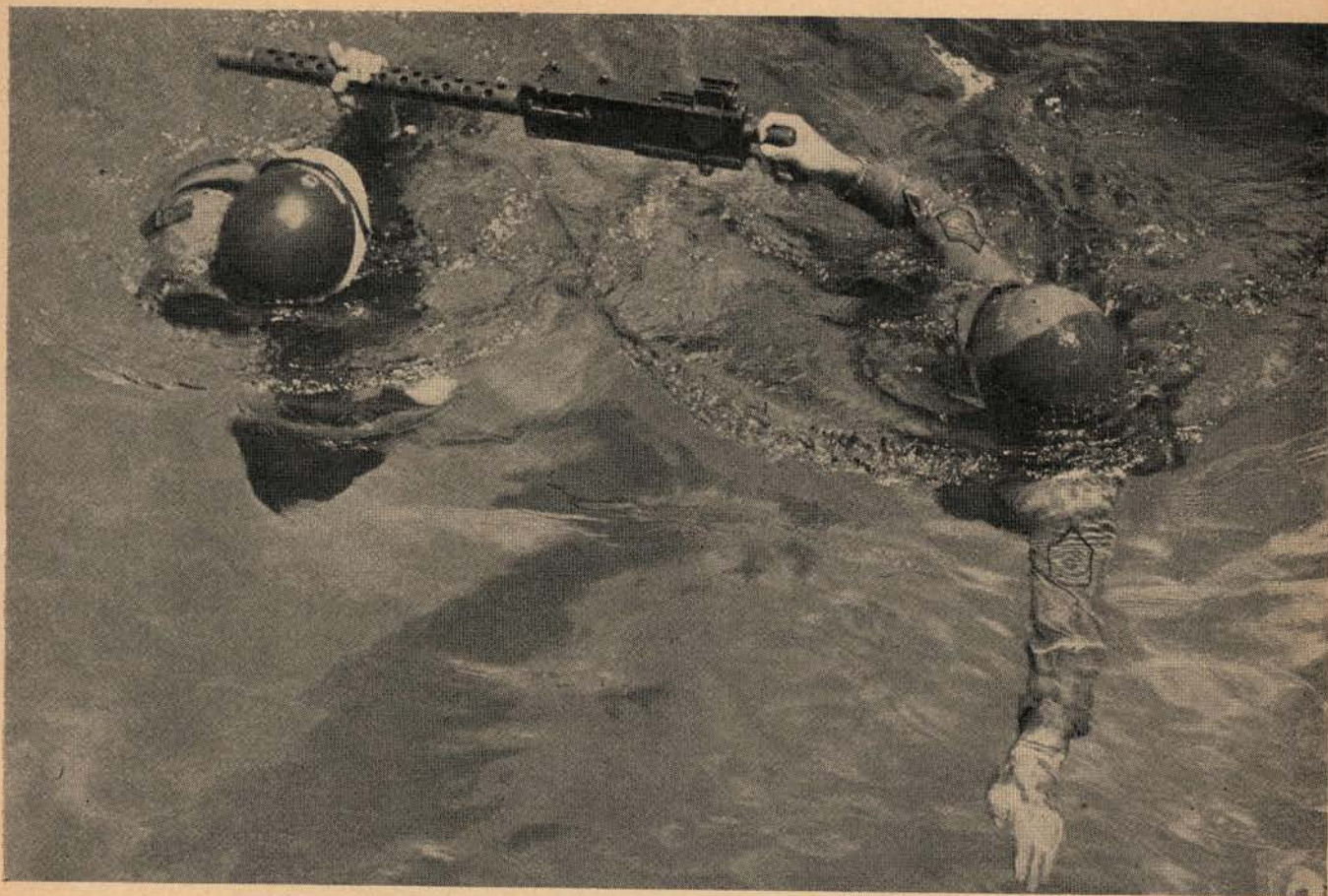
Even the Superman Obstacle Course, where the soldier learned to cross streams, climb walls, tread warily over precarious walks and bridges, the obstacles and surrounding effects gave a realistic semblance to actual conditions encountered in the Pacific and European Theaters.

Caves, such as the Jap lived and hid in during the furious battle on Okinawa, were dug out of the hill-sides. Typical enemy gun emplacements, enemy mortar batteries and strategic positions, taken according to enemy tactics, were singled out and used to familiarize the soldier with what to expect—when, where and how.

Mines and booby traps, which all operate on the same principle in that they kill the unwary and unsuspecting, were laid and placed according to the enemy methods. The differences in construction, appearance

A typical Japanese village where men were trained in house-to-house fighting.





Instruction in combat watermanship shows trainees the proper way to swim with a .30 caliber light machine gun.

and usage from other previously known and encountered mines and traps were explained to the soldier.

The soldier in training was constantly impressed with the importance of knowing the enemy, his habits and what could be learned of his philosophy. Alertness to the intangible and unknown mental processes of the Japanese and Germans was emphasized.

An integral part of all basic training for the mounted cavalryman was 72 hours of pack instruction. This included a thorough course on how to pack, on horse or mule, any conceivable object weighing up to 250 pounds. The value of pack training had been amply demonstrated by CRTC-trained men in the CBI Theater, particularly in their work through the otherwise impassable jungles during the rebuilding of the Burma Road.

CRTC was the only center to give training in how to fire the pistol. Scores of tight situations had been eliminated by cavalry reconnaissance outfits solely through their ability to properly and accurately handle this great defensive weapon.

Another fighting tactic which was added to the instruction was the proper and most effective use of the bayonet. Intensive training in bayonet was resumed because this particular method of fighting would be required in the Pacific Theater.

The fear of flame is inherent in all people, and the enemy was no different from anyone else in this respect.

So effective was the use of the flame thrower, particularly in Okinawa, that its proper and most devastating use was taught the cavalry trainees.

Special attention was given to the vital part that horse and pack was to play in certain theaters of operations, just as great emphasis was placed on training of mechanized cavalrymen for the European Theater.

The training at CRTC was geared at all times to what was actually learned in and planned for the theaters of operations. The fundamental objective was to produce a versatile soldier. He was to be a replacement in combat, and he moved out upon completion of training as a fully qualified replacement.

In the period from March 1941 to August 1945, the number of trainees who completed their training and moved out as replacements was approximately 124,925. They were sent to every theater of operations in accordance with the demands and requirements of the theater.

The officer personnel for instruction and administration was drawn largely from the CRTC's own graduates; men who had completed their basic training and had gone on to officer candidate schools at Fort Riley and Fort Knox. These officers were available as replacements themselves in overseas combat assignments and were eventually drawn from an officers' replacement pool located at CRTC. Meanwhile their knowledge, abilities, and talents were utilized to the full in the instruction and training of the basic trainees.



British Official Photo

As troops of the British Second Army moved northward from Echt, they met their stiffest resistance at St. Joost, a hamlet. Above, British infantry advance beside a "Crocodile" flame thrower to the town. Note fuel tank at rear.

Wasp and Crocodile

*by Major J. R. W. Murland**

WHEN BRITAIN WAS THREATENED WITH INVASION, EMERGENCY PROTECTIVE DEVICES DEPENDED ON THE USE OF BURNING OIL. EFFECTIVE WEAPONS, PRODUCED BY BRITAIN'S PETROLEUM WARFARE DEPARTMENT, LED FINALLY TO THE DEVELOPMENT OF TWO SUCCESSFUL FLAME-THROWING TANKS.

EARLY USE OF FLAME IN WAR

FLAME is one of the oldest weapons of warfare. In A.D. 668 "Greek Fire," a highly inflammable composition which could be projected from catapults or attached to arrows, was invented by Callinicos, and was in use with only slight variations for generations. The advent of refined petroleum oils gave fresh impetus to the development of flame-throwing weapons, though it was only in recent years that the present advanced state of development was reached.

Considerable advances were made during World War I, but the flame throwers of those days had an

extremely limited range, were cumbersome and vulnerable, and the General Staff never gave them its approval. In 1915 a heavy flame-throwing tank was designed by the British Trench Warfare Department; although the weapon was not completed, it was the first of our tank flame throwers.

BRITAIN'S EMERGENCY DEVICES

The modern flame thrower was a product of the many brilliant improvisations which were hurriedly conceived in 1940 to protect Britain from invasion. A number of these emergency devices depended on the projection of burning oil, and were the special concern of the Petroleum Warfare Department. Among the weapons pro-

*5th Royal Inniskilling Dragoon Guards.

duced was a flame-throwing armored car designed primarily for aerodrome defense. This vehicle could project a jet of flame either horizontally against ground targets or vertically against low-flying aircraft. From it was developed the latest flame thrower, a practical and deadly offensive weapon.

The problems involved in developing a satisfactory flame thrower were formidable. It had long been realized that success depended on three main factors: a suitable fuel which was not too volatile, and yet not too heavy to ignite; a method of feeding this fuel to a projector nozzle under pressure, upon which the range depended; and a method of igniting the fuel which was positive, easily controlled, and safe. These technical problems solved, there remained the difficulty of mounting the equipment in an armored vehicle in such a manner as to avoid the danger of its being ignited or exploded when the vehicle was subjected to the normal calculable hazards of battle.

These problems have now been solved, but development work still continues, and is directed mainly toward increasing the range of the equipment. Great strides have been made since World War I, and ranges now are in yards where previously they had been in feet. The protection of the flame apparatus also has been greatly improved, and a vehicle fitted with the latest equipment is scarcely more vulnerable than one without it. Full technical details of the equipment cannot yet be published, but mention may be made of two armored flame throwers which were extensively used in the operations on the continent following the Normandy landings in June, 1944.

FLAME THROWERS IN EUROPE

These two machines are known as the "Wasp" and the "Crocodile." The Wasp is a lightly armored carrier of the type used, among other multifarious duties, to provide an element of highly mobile fire power in the infantry battalion. The Crocodile is a Churchill heavy infantry tank. Mechanically, the two types have little in common except that they are both track-laying vehicles, are armored, and are equipped with flame-throwing apparatus.

Two features of the Crocodile are, however, of interest. First, the fuel supply for the flame thrower is carried in an armored trailer, towed behind the tank. Thus it does not affect the vulnerability of the tank itself, and if desirable, the trailer can be jettisoned when it is emptied. Secondly, because the projector nozzle is mounted in place of the usual hull machine gun, the main turret armament of the tank is unaffected by the flame thrower. It is therefore possible to simultaneously employ the flame thrower and either of the two main turret weapons, a 75mm gun and a 7.92 Besa machine gun.

It may seem surprising that these two armored flame throwers are based on two such dissimilar vehicles as the carrier and the Churchill tank. The explanation is

that tactically the normal functions of the two vehicles differ only in degree; essentially, both are infantry support weapons. The carrier element of the infantry battalion provides the vital reserve of fire power which can be moved rapidly to the support of any other unit of the battalion. The Churchill tank, employed in a more general usage, serves as the heavy armored support for the infantry both in attack and defense.

TACTICAL VALUE OF THE FLAME THROWER

The great tactical value of the flame thrower is that it can be used against targets, such as pillboxes, emplacements, foxholes and the like, which cannot easily be attacked with other weapons. The flame penetrates loopholes or other apertures and makes the interior untenable. Even where the flame cannot penetrate, its extreme heat will raise the temperature to an intolerable degree.

The physical effect of a flame thrower against any fortification is second only to its moral effect on the defenders. It is a terrifying weapon. Not only are the noise and heat in themselves fearsome, but there is no escape. Bullets are frightening to a varying extent, but there is always some possible defense against them, even if it is only by lying on the ground. There is no defense against the flame thrower except to go somewhere else as quickly as possible.

The combination of flame-throwing equipment and the normal infantry support weapons is a natural and extremely formidable one. It consequently is not surprising that the Wasps and Crocodiles were highly successful in all the operations in which they were used. The many concrete defenses on the French coast, the fortifications of the much vaunted "West Wall," and the buildings fanatically defended in Germany itself, all failed to hold out against this, the most frightful weapon of modern field warfare.

The "Wasp" flame thrower, a British weapon, is shown in action. The carrier it is mounted on has an armored body.

British Official Photo



The British Air Support System

by Major John North*

EXPERIENCE in this war has proved that in reality all land operations are combined army-air actions. The winning of the air battle is an antecedent to winning the land battle. From the battle of Alamein to the final surrender by the Germans their armies in Africa and western Europe fought without air superiority; and during that period did not win a single land battle. The winning of the air battle thus becomes the most valuable contribution that an air force can make to the winning of the land battle.

TYPES OF SUPPORT

In British Army nomenclature, the term *direct support* signifies an air attack upon enemy forces actually engaged in the land battle; it is an air attack which will have an immediate tactical effect upon the course of the land battle. It comprises attack upon ground targets, the use of airborne smoke, both visual and photographic tactical reconnaissance, and artillery reconnaissance.

Conversely, *indirect support* is an air attack upon targets which are selected for their strategic effect upon the general course of a campaign: such as the enemy's land and sea communications, his shipping, bases, and military installations. The main purpose being to prevent enemy movement into an area of strategic concentration and to isolate the battlefield. The value of this form of support was proven very clearly in the strategic bombing that preceded D Day, when bombing cut the bridges over the Seine and the Loire.

Not until documentary evidence is available can we fully assess the value of indirect support of the Allied air forces to the success of the land armies in the invasion of Germany. It should then be possible to judge to what extent the bombing of the enemy's transportation system slowed down the German war machine after the large-scale Allied operations reopened in February, 1945. Judging from the tenacity with which German front-line troops fought the land battle, it is possible that strategic bombing, particularly of oil installations, was a prime factor in breaking the resistance of German land forces.

Enough evidence is available, however, to assess the value of tactical bombing. It is, therefore, the purpose of this article to discuss its characteristics and the system under which it operates in the British Army.

BOMBING SYSTEM

The basic air support communication system in the British Army is the responsibility of the army officers operating army radio sets. The system comprises a number of "tentacles," each composed of a radio station assigned to a headquarters, down to and including brigades. These tentacles, manned by army personnel,

pass information and requests for air support to the Royal Air Force, to be sifted through the general staff at army headquarters.

The chief object of this army-air communications system, known as the Air Support Signals Unit, is to enable army headquarters to "get in the targets," and to pass air information to the air force. ASSU is an independent signals unit under the operational control of the general staff, although technically it is responsible to the signals branch. The air-support radio networks it operates usually by-passes normal channels in the interest of speed.

Air liaison sections, which are small, mobile, self-contained units staffed by army officers specially trained in army-air coöperation, are detached from army headquarters for duty with airfields headquarters of wings or squadrons. It is the function of the air liaison officer to assist the commander of the air force formation to which he is attached, and generally to interpret the battle to the air force.

During a mobile battle under such a system, even a single armored brigade can go into action with its own direct air support. Any request its commander makes will be answered direct by the general staff at army headquarters, who will assess the suitability of the suggested target. Small "strike forces" also can be allocated to forward troops, and an air force officer on the ground can speak from a forward control post directly to the aircraft overhead. If they are not already on the spot, he can call them up, and will be able to give the pilots of these aircraft a running commentary on the battle.

Generally, the army will indicate the priority of targets for attack, and the air force will decide the feasibility and the best method of attacking them. Such is the system.

HOW THE SYSTEM CAN BEST BE USED

Forces using the army-air communication system must recognize that the main burden will rest upon the army. Forward commanders must know what are suitable targets for air attack, what opportunities favor it, and what information the air force requires. If air intervention is to be successful, forward commanders must provide timely and accurate information to army headquarters.

Such information is vitally necessary, for instance, in fixing the bomblines—that safety line beyond which the air force is at liberty to attack any targets it finds. Fixing this line is an army responsibility; the air force is consulted only in regard to its ease of recognition from the air. Good bomblines drill is the first factor in the success of direct air support, and it must be sufficiently good to stand up under the test of mobile battle.

*British Staff Officer.

Forward commanders also must guard against the temptation to fritter away the available air effort on relatively unimportant targets; nor must army staffs be unmindful of the fact that the greatest asset of air power is its flexibility. It is this quality of the air weapon that enables it to switch its attack from one objective to another without a change of base. Army staffs thus are in a position to throw the whole weight of available air power into selected areas by turns.

This concentrated use of the air-striking force is a battle-winning factor of the first importance. Air resources therefore should never be dissipated into small packets, with each packet working to its own plan, under command of army formations. It follows that control of available air power must be centralized, and command exercised over it through air force channels.

Nevertheless, when the air effort has been allocated to a particular sector, a necessary concentration of effort will have been achieved. Within that sector, decentralization of control of part of the effort may be advantageous, and at times is essential, in order immediately to bring about air attacks which are closely related in time and space to the action on the ground.

TARGETS

The most favorable opportunities for air attack on ground targets are presented when the target can be destroyed or neutralized only by the type of projectile carried by an aircraft. Instances when air attack is useful are when the tactical situation does not permit the concentration of an adequate force of artillery, as in an amphibious operation; when mobile forces have outrun their supporting artillery; or when it is necessary to extend a bombardment to a depth beyond artillery range, which likely will happen when an attack is organized in great depth and it is required that every known locality be thoroughly shaken by fire power before the attack goes in.

Obvious suitable targets for air attack are armored fighting vehicles and transport on the move, small woods harboring enemy troops or armor, mortar positions, and enemy observation posts. But, to repeat, the forward commander must exercise discretion in the choice of the targets he indicates. A single machine-gun post or antitank gun cannot, for example, be regarded as a suitable air target—and an enemy column with heavy antiaircraft protection may be too expensive a target to be worthwhile. The ideal air target should be readily recognizable from the air, fall within the accuracy limits of the air weapon, be vulnerable if hit, and beyond the capacity of ground weapons.

A wise choice of targets, however, is only the beginning of the forward commander's responsibility. Targets are usually given to the air force by map reference, and when they are close to our troops colored smoke may be fired to assist identification. But these devices are not enough: it is the army's responsibility to give the air force a careful description of the target, details

of any artificial landmarks to assist navigation, and in particular, the precise location of their own and enemy troops.

Pilots will carry out missions with more enthusiasm if they know why a target is designated, and afterward are told the result of their attack from the army angle. In fact, the more they know about how and under what conditions the army fights, the greater will be their interest in army-air operations as a whole. Conversely, the air force must be "cast-iron on map reading," and study the most suitable form of attack for selected targets.

COÖPERATION

With inexperienced troops, the fear of being spotted by the enemy if forward positions are marked by air or ground indicators must be overcome. Experience has shown that certain casualties and damage must be accepted as reasonable hazards of war when direct support is called for on the battlefield. For experienced troops, the encouraging spectacle of their own aircraft over the battlefield and the detrimental effect upon enemy morale far outweighs these hazards. The morale effect caused by air action usually is out of all proportion to the material damage inflicted.

The measure of direct support as outlined above was given magnificently by the Royal Air Force during the original Allied landings in France; during the Caen battle, when irrespective of the damage they inflicted, their heavy bombers made a unique contribution toward breaking the crust of the enemy's morale; during the German counterattack at Avranches, which might well have moved to a different conclusion had not rocket-firing Typhoons prevented the German armored divisions from arriving on the battlefield in complete formation; and during the battle of the Falaise gap.

REQUISITE FACTORS

The effectiveness of direct air support may thus be said to depend on 4 factors: air superiority, the careful indication of targets, correct navigation, and good weather. Weather is the crux of the entire question of army-air operations. Because of the uncertainty of the weather factor, particularly as it was in western Europe, the over-all plan of a battle called for fire support from the ground alone. If air support was available, it was regarded as a bonus. If fire support from the air was essential for success, it was necessary to wait for good weather.

There is one combination of circumstances which makes air cover a vital necessity. That is when visibility is good and an army is in process of a big withdrawal. When the British Eighth Army withdrew to Alamein in July, 1942, the Royal Air Force dominated the skies over Libya and Egypt, and despite the density of its traffic columns, that army escaped being strafed and bombed on its long march back. It took up its new positions at Alamein unscathed from air attack.

LIVE STORAGE*

Next month *The Cavalry Journal* will publish the Army's story of its use of Live Storage.

"WE just wrap 'em up like Christmas presents—and if we ever have to unwrap them, they'll be in shootin' shape."

Andy Jeblick, Machinist's Mate 2/c, was "wrapping up" a 40mm gun by spraying an airtight plastic film covering over the whole gun and mount. He worked on the deck of a ship that can be retired to an inactive berth, now that Japan has surrendered and the war is over. The gun may never have to fire another shot. If it does have to shoot again, however, the tough film covering can be stripped off in a jiffy, and that gun will be ready for action.

Thousands of dollars', no, literally, millions of dollars' worth of ordnance equipment may be wrapped up in strippable film on board the vessels of the Navy's reserve fleet. That equipment will be safely stowed, well protected from the damaging effects of moisture.

Moisture is the great foe of inactive ordnance. Too much humidity in the air causes corrosion. In the past, guns and parts and other ordnance were packed in heavy grease. That prevented corrosion, but concealed the equipment too, so it was difficult to check its condition until the grease covering was removed, a lengthy and tedious business. Getting ordnance out of grease and into action is no 5-minute, not even a 5-hour, job. But one man has taken a 3-inch gun out of strippable film in 90 seconds.

Now, the guns of inactive ships can be kept dry indefinitely, ready for instant use, and always capable of being inspected. The same plastic covering protects guns and ordnance stored outdoors instead of in expensive warehouses.

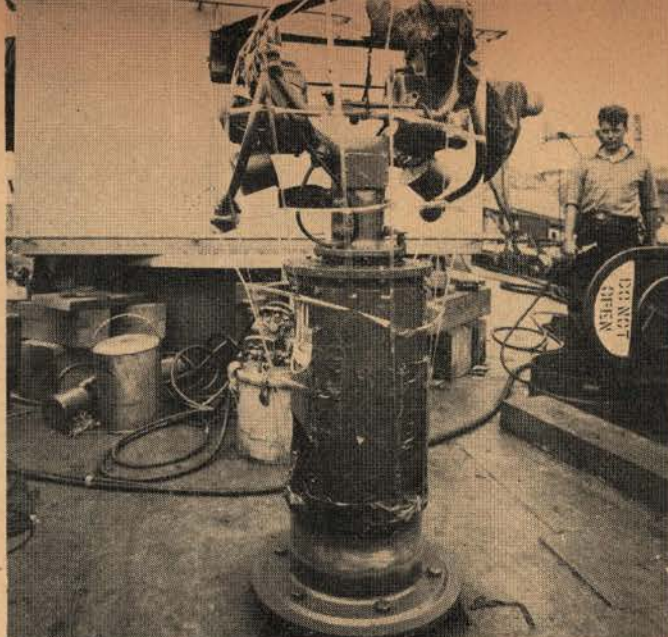
To wrap up guns, liquid plastic is sprayed over a network of scotch tape, attached to the outer projections of the weapon. That makes a gun package, with a tough opaque covering.

The package covered with strippable film is dried by hot air, before it is sealed. Inside the "package," with the gun, is a dehumidifying agent, such as silica gel, to maintain low humidity. A recording instrument to show any increase in moisture can be viewed through an airtight window.

Tests of strippable film have been made at the Philadelphia Navy Yard and aboard the *USS Holder*, a former destroyer escort, which was torpedoed in the Atlantic during the war, and now serves as a test ship at the New York Navy Yard. They show that the plastic covering will be a quick, easy, and efficient way to get the guns of the reserve fleet under cover as soon as ships are tied up at permanent anchorages.

Ready for action on short notice, ordnance of the Navy will fight off corrosion, in "live storage" from which it can emerge instantly, in fighting mood.

*From *Fire Power*, Bureau of Ordnance, U. S. Navy.

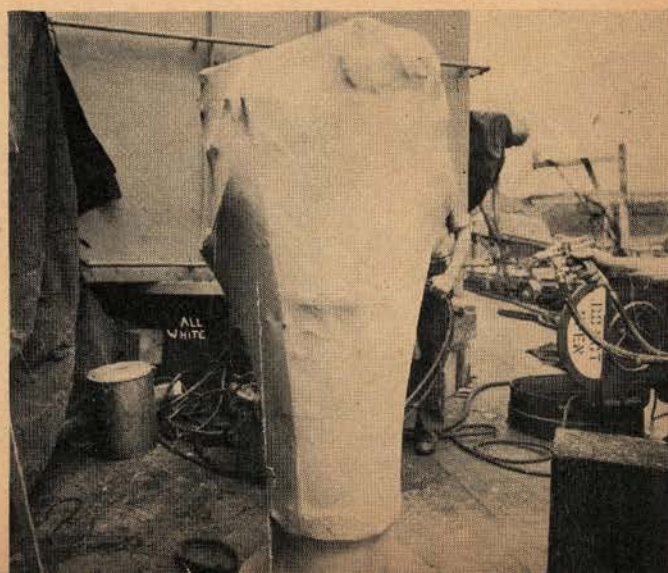


Gun director is taped, and ready for packaging.



Above: Partly covered with the new, plastic coating.

Below: Completely webbed and protected from weather.



Straight Talk for Disabled Veterans

*by Edna Yost**

AT first thought it may seem brutally unkind to suggest to a severely wounded or disabled man that probably he is not so badly off as he thinks. Yet his future need not be dark at all—provided, of course, he wants a future such as any other normal man wants, and is willing to bestir himself and work to achieve it.

ADVICE FROM OTHERS

At least that is what scores of today's successful people, who received severe injuries in an earlier war or in civilian life years ago, have assured us. When asked "What would you like most to tell the servicemen who are being seriously wounded every day?" these men answered in words of their own choosing: "I'd tell them that if a man makes up his mind to lick whatever has happened to him, if he gets ready to work and then gets the right kind of job, things turn out far better than he thought they would at first."

They do not deny that it is a hard job, a grueling job sometimes. But they take for granted, and by the scores of thousands they have proved to the rest of the world, that men bearing all kinds of physical losses and disabilities can achieve economic independence and build for themselves lives that are satisfying.

I remember a one-armed man. He was a young fellow who had been a highly skilled, right-hand mechanic when he lost his right hand and part of his arm. One day several years later he came into a college classroom to let one of the professors compare the skills of one-armed and two-armed men in certain one- and two-handed tasks. Using his left hand and a pincer-like apparatus that he wore where he had once had his highly skilled right hand, he ran circles around most of the other young men in the tests. The skills that had once resided in his right hand had been transferred, through practice and without loss, to his left hand. Even with his apparatus he could do more of the tests—picking up small objects, inserting them in holes, etc.—as well as, and sometimes more quickly than, some of the young men with perfectly sound right hands.

In other words, in many skills, well-paid jobs requiring the use of both hands, the one-armed fellow was worth more money to an employer than the two-armed men. But I'll bet he never dreamed it would be so during those first weeks of looking down at the stump of an arm a few inches below his elbow.

It is not what a man loses but how he uses what he has left that is the more important factor in an injury.

Whoever you are and wherever you are, bedfast or convalescent or back in civilian life again with injuries that were once looked upon as a permanent handicap,

the biggest job you have is to save yourself from being a mental cripple.

The Ford Motor Company employed 9,563 physically handicapped men as long ago as 1919, and has been using them in proportionate numbers ever since. It had raised the ante to nearly 12,000 by 1943. They have used hundreds of one-handed or one-armed men.

SCORES IN BUSINESS

Surveys show that in scores of business and industrial establishments in this country, properly trained, carefully placed "handicapped" men and women have a higher rate of production, fewer accidents and less absenteeism than their "normal" fellow workers. The Western Electric Company, Caterpillar Company, Lockheed Aircraft Corporation, International Business Machines, R.C.A.—dozens of corporations, both large and small—have been using the handicapped for years with results like these.

Unfortunately, the veteran needs to be warned at this point that a lot of bad advice and poor workmanship are available in America in the artificial limb and appliance business. Suckers are still being made out of rich and poor, famous and obscure, alike. For the present, remember that good work is available.

The definite physical losses occasioned by amputations are often simpler to handle than those that are not so bluntly final. In cases where members of the body are left, but with their functions lost or impaired, a man should take all possible steps toward their recovery before admitting that the handicap is permanent. He has fingers, let us say, but they are still stiff; a good-looking leg, but it does not serve him well; an arm that hangs limply. Once upon a time, these conditions might have been accepted as final. Today we know that even doctors have been surprised by man's capacity for recovery.

These are the cases in which it is so essential for the inner man to want hard to help himself. There are dozens of men who will be saying 10 years from now that if they had been given intelligent medical advice and help soon enough, they would be using their hands and legs as well as anyone else. That is what happened after the last war. Unquestionably, many veterans suffered from inexcusable negligence. But the main thing for today's injured veteran to remember is that thousands of severely injured men were helped back to normal living after the last war and—depend on it—they were the fellows who did what was necessary to help themselves. If Uncle Sam today were as wise as Providence (and he isn't) and all the Army and Navy and Veterans' Hospitals as fully and competently staffed as the most efficiently staffed business or industry in the

*Public Affairs Committee, Inc.

world, all of them together could still do comparatively little for the man who does not try hard to help himself.

When a physically handicapped man frankly faces his job future, he begins to realize how lucky he is if he has not permitted shock and illness to make him silent or sullen. This is particularly true if his injuries make it necessary for him to change his work, since he is likely to need more help from others if he must train himself for a new type of work. He needs to speak up and ask all kinds of questions to gather the information he needs.

COUNCIL IS AVAILABLE

Vocational counselors experienced in working with the handicapped should be asked frankly, "If I am willing to pay the price in effort, can I continue my

chosen line of work?" If the answer is "Yes," ask for the necessary training and make an intelligent plea for it.

Trained counselors are available to you at every Veterans' Administration Hospital having regional office activities and at many other places. If, however, you cannot find one who can answer your questions authoritatively, get in touch immediately with the nearest office of the Veterans' Administration.

There are thousands of types of work in this country, and your future happiness and success depend upon doing only one of them well—or one at a time. Refuse to be discouraged if you fail at the first work you select. Plenty of successful disabled workers have had to make a second choice and, maybe, a harder try.



Army Education Program

DEFINITION: The Army Education Program is that part of the training program not related directly to the performance of military duties or supervised recreation.

OBJECTIVES: 1. To assist in the maintenance of military discipline and morale.

2. Without delaying the separation from service of any individual to prepare each man for his return to civilian life by imparting—

a. So far as practicable, not less than the equivalent of a fifth grade general education to all military personnel who have not received such education previously.

b. One or more useful vocational or professional skills or basic education leading toward such skills.

SCOPE: 1. Following the close of hostilities in any theater, commanders of all inactive theaters, departments, and defense commands outside the continental United States will cause all training programs to be revised for the purpose of including the maximum amount of education *consistent with the performance of and training for current and projected military duties.*

2. When it is determined that the program is to be applied in an element, all personnel therein will participate in either the Educational or the Athletic and Recreational Program. Nothing in the foregoing prohibits an individual from participating in both programs.

ACTIVITIES: The Army Education Program will include such of the following activities as are considered practicable by the theater commander:

1. Educational advising, i.e., providing advice for military personnel as to types of instruction available and suitable for individuals on the basis of previous education, experience, and contemplated vocations.

2. Instruction in general educational subjects, as

well as instructions in various trades and occupations.

3. Supervised on-the-job training in such occupational fields as are available within the command.

4. Administering and reporting results of end-of-course tests, subject examinations, and tests of general educational development.

5. Provision of information concerning, and assistance in applying for, accreditation of educational experience and training during military service.

SCHOOLS: The theater commander will cause to be established such of the following types of schools and instruction as in his judgment are necessary in view of educational requirements and available facilities.

1. Unit schools serving units of 1,000 men or less (battalion level), and including, so far as possible, vocational training (including supervised on-the-job assignments), general education up to and including the second year of college education, and literacy training. Separate unit schools may be established on a regimental or other level.

2. Technical schools established in or near installations of the technical services or locations where similar facilities are available and including specialized vocational training (including supervised on-the-job assignments) for which equipment and instructor personnel are not available in unit schools.

3. Courses of study in civilian colleges or universities at which arrangements can be made to provide instruction at college and university level to qualified military personnel.

4. Army university study centers in civilian colleges or universities or localities where suitable facilities are available to provide general, preprofessional, and professional courses to qualified military personnel at college and university level.

The Straw and the Camel

This article is not intended to condemn the practice of overloading per se. When handled properly, overloading of transport vehicles can be a successful means of stepping up the transportation of matériel. But it must be done only with a knowledge of the pitfalls it may incur—for the operating techniques of “normal” conditions frequently become abusive techniques when the conditions change. It is this abuse which must be watched for and avoided.

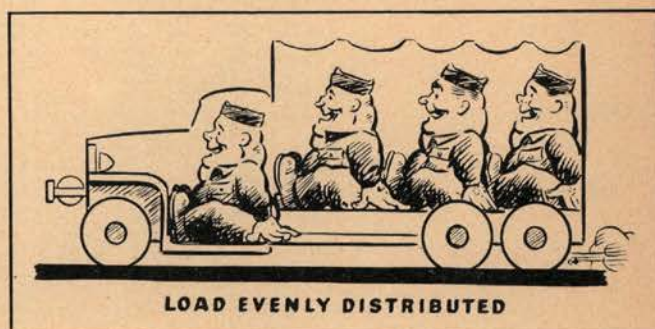
THE straw that broke the camel's back would play hob with a military transport vehicle, too. It would break the frame, axle housings, springs, torque rods, propeller shafts, axle gears, differentials and axle shafts, in addition to ruining the wheel bearings, tires, clutch, transmission, engine, brakes and many other parts. If you happened to be the guy who gave the camel a raw deal, it probably would not have been especially serious, and you could have passed it off by giving him a nice funeral. But when your truck breaks down because it has been overloaded and abused in driving cross-country, over bad roads or no roads at all, it's a different story. The funeral might be yours—or your buddies'.

The payload capacities that have been assigned to military vehicles are not arbitrary ratings. They represent definite, safe carrying capacities for cross-country operation, and they have been established by scientific engineering methods. It is only logical, therefore, that loads which exceed these ratings will cause breakdowns if not properly handled.

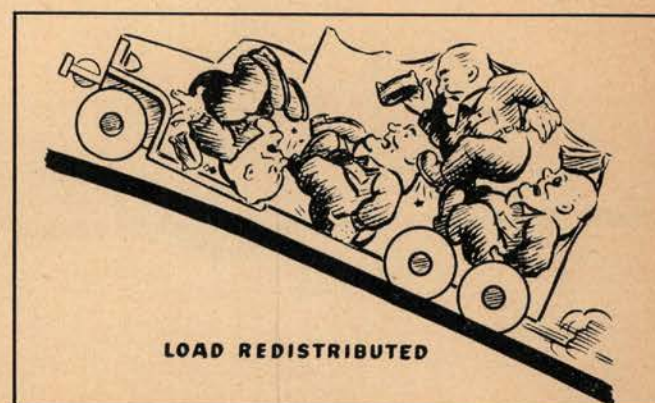
Because the dangers of abused overloading are hidden ones, something else often gets the blame. Joe says the axle shaft was faulty. It wasn't, though, until his truck was overloaded a few times and driven over ground that would rattle the treads off a heavy tank. Taking an overload over severe terrain will wind up an axle shaft like a corkscrew, on the same principle that a wire bent back and forth a few times will “wind up” and snap.

In addition to bad terrain, which is number one on the list of hidden evils to watch out for, there are other unknown factors that have a bearing on the subject. The speed with which certain phases of operation are made is vitally important, for the heavier the load, the greater the strain on every part when turning or stopping the truck, and excess speed increases this strain even more. The skill of the operator is also important. Proper handling of a vehicle can save untold damage, by preventing jolting, skidding, swaying, etc.

Let's take a typical 2½-ton 6 x 6 over an imaginary trip and see how these factors affect the vehicle. . . .



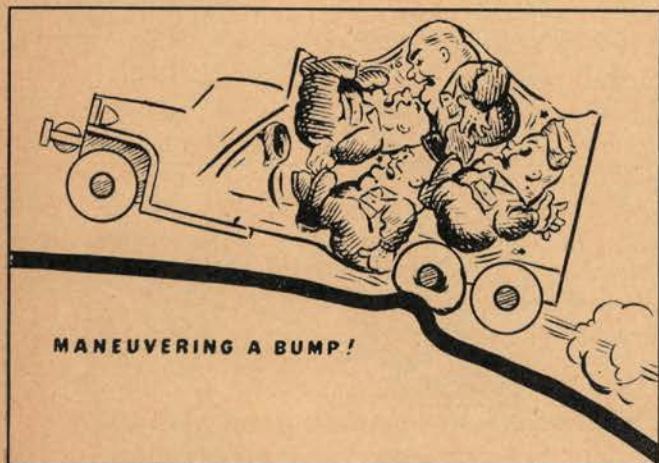
The specified rating of the truck, 2½ tons, is the weight established for cross-country operation, which allows ample safety factor for practically all conceivable conditions of cross-country terrain. Actually, in terms of “normal” operation of vehicles on typical American highways, the truck has a 5-ton capacity. Suppose, then, the truck is loaded to the 5-ton limit for “normal” operation. As the vehicle starts out, it is moving along a level highway. The weight of the truck and its load is distributed in the proper ratio, with 5,400 pounds on the front axle and 7,800 pounds on each rear axle. Remember, the safety factor has been used up. Now, suppose the road conditions were not known before the vehicle began its trip. There happens to be a steep hill along the line. This is what happens. . . .



If the grade is steep enough, the front wheels may actually be lifted off the ground during a quick pick-up,

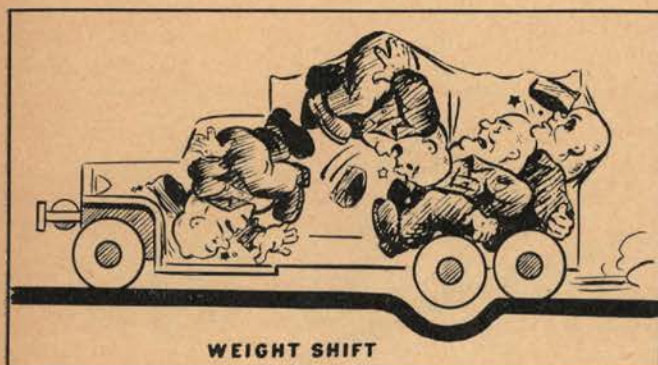
and all the weight, 21,000 pounds, will shift to the rear axles! This serves as an example of the fact that, even on lesser grades, when the truck hits an incline, the load is completely redistributed and, with no factor of safety to fall back on, the trouble begins.

Though the breakdown may not occur on this first hill, parts may be weakened, and three or four more such hills during the course of the trip may cause one or more of the weakened parts to break down. And remember, the vehicle we are using as an illustration is a 6 x 6, with two rear axles to share the load. On a 4 x 4 in the same situation, the entire vehicle weight and its overload would be transferred to *one* axle.



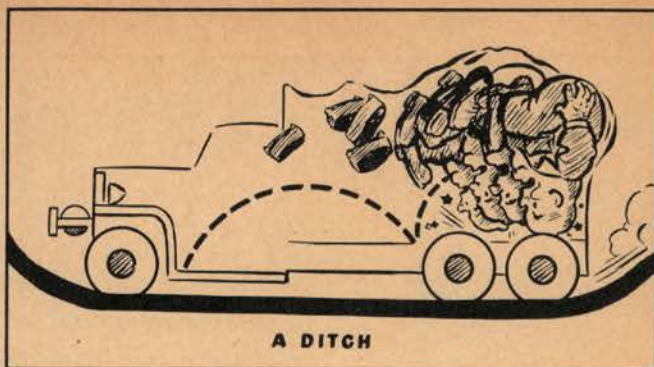
MANEUVERING A BUMP!

Suppose the hill has been crossed without mishap. Now we start running into rough terrain in which fighting formerly occurred. It's strewn with debris—rocks and logs and piles of earth. Going over a partially covered log, of which there are many in the area, is a real hazard to the overloaded truck, for at one moment in the maneuver the entire weight of the truck and its load, 21,000 pounds, is shifted to the intermediate axle, with its *maximum* capacity of approximately 16,000 pounds. With the 5-ton load, there is a sudden thrust of about three times the normal axle load on this axle. The safety factor has been used up—something has to give way.



WEIGHT SHIFT

Suppose a large hole has to be crossed. Again, the weight shift is a quick one—a jolt—this time on both the front and rear axles. And the intermediate axle will not be able to touch bottom all the way across the hole, so the rear axle takes a double overload during the course of the maneuver.



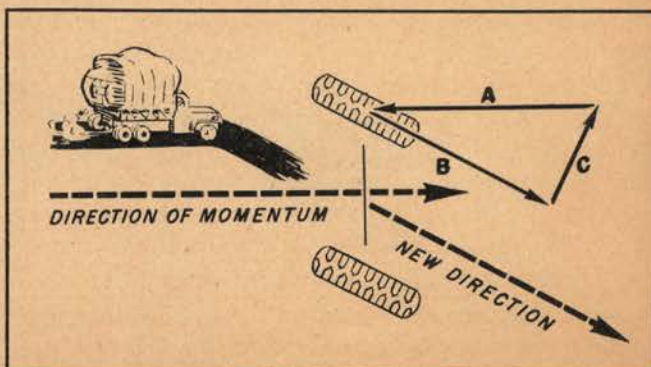
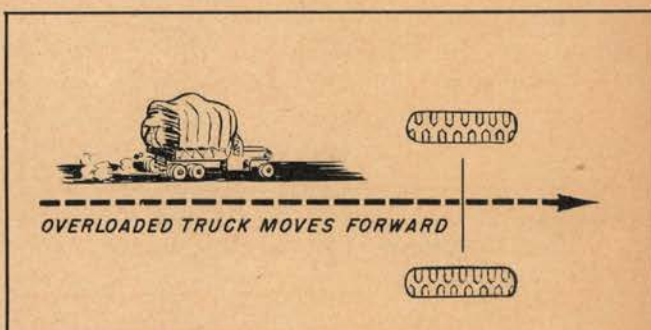
A DITCH

Next, the driver finds he has to turn off what is left of the road and cross a ditch. Because the ditch is wider than a shell hole and does not look so deep, he does not slow down. Result—a terrific strain on the vehicle as the weight is shifted rapidly from front to rear—with no safety factor to take the shock.

Any one of these conditions may cause a failure or weaken something to the point where it will give way on the next trip. And the one extra load of matériel that got through will be paid for with a deadlined truck and the consequent delay in shipping other equally vital matériel.

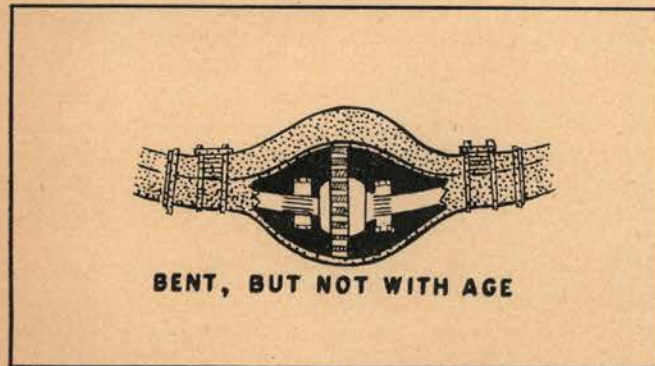
The accompanying drawings illustrate a few of the mechanical failures that overloading causes—from axles bent (but not with age) to swayback trucks, in which the frame has been bent and working parts thrown out of alignment.

Not the least of the dangers of overloading are the accidents it may cause, especially when the driver fails to reduce his speed and drives as he does with a normal load. A very common plea of drivers who have gone into a ditch when rounding a curve with an overloaded vehicle is, "My brakes locked." The brakes didn't lock, though. This is what happened:

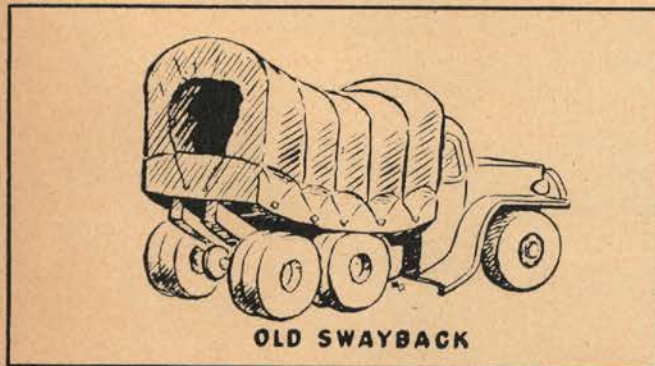




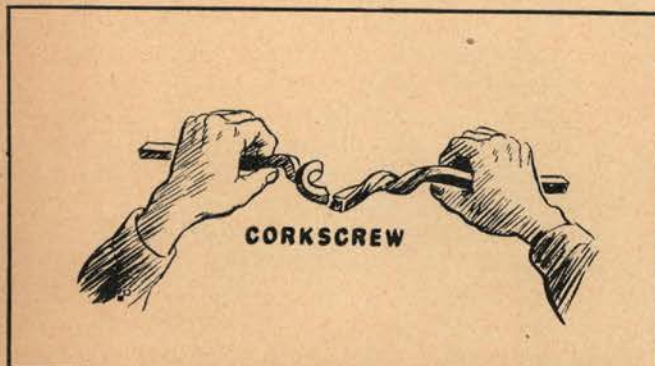
Tired out—Overloading has the same effect on tires as underinflation. Distortion of casings breaks them down. Treads wear quickly and unevenly.



Bent, but not with age—Overloading causes bending and early failure of axle shafts. Differential and spring parts will fail sooner or later.



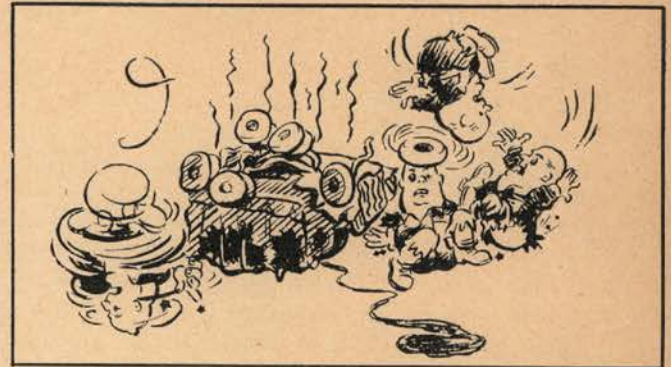
Old swayback—Overloading eventually bends the frame—throws working parts out of alignment.



Corkscrew—Axle shafts "wind up" and eventually snap, like a wire that is bent back and forth a few times.

As the overloaded truck moves forward, the wheels rotate easily and naturally. But as the driver attempts to turn, and the front wheels try to guide the truck in a new direction, the momentum of the overloaded truck pushes straight ahead. When the brakes are applied to slow the truck for the turn, the reaction of the road against the front wheels is in the direction of the arrow "A," while the reaction of the brakes through the wheels is in the direction of the arrow "B." This sets up the force "C," which represents the reaction to wheel rotation that is due to the turning angle. The farther the wheels are turned, the more the brake reaction tends to skid the wheels. Were it possible to turn the wheels 90°, they would skid of their own accord, without application of the brakes at all. Since the braking power of the front wheel brakes is in direct ratio to that of the rear wheel brakes, and since the majority of an overload is carried by the rear wheels, the front wheels have a tendency to go into a skid much quicker.

In other words, the front wheels slide sidewise, rotate slower—may stop. Tires drag, and steering becomes increasingly difficult, as when a truck is standing still on flat tires. The side pressure causes king pins and bushings to bind, front wheels to lock. The vehicle skids, and there's hell to pay for it. . . .



This is the final result—when the operating techniques of normal conditions often become abusive techniques under conditions that have changed.

Slamming on brakes, frequent use of emergency brakes instead of power brakes, with the resultant strain on the front axle, and, in slippery weather, use of chains on rear wheels only, are common causes of accidents which are greatly aggravated by overloads.

Remember, unless all conditions of terrain and operation are known, and unless vehicles are handled with a thorough understanding of the effect of an overload under these conditions, overloading is a shining example of inefficiency and false economy. The temptation to succumb to its promise of getting something done beyond the normal possibilities of the vehicle is a mirage equal to anything the desert has to offer. And, back to the story of the straw and the camel, you would be better off with a crippled camel than a fleet of dead-lined trucks. At least the camel would keep you company.

Book Reviews

THE GERMAN TALKS BACK. By Heinrich Hauser. Henry Holt. \$2.50.

The very excellent notice to the reader, by the publishers of this book, states:

"This book is not a document written in the spirit of fair play. Its author is not an historian or sociologist, with the detachment of the scholar. He is a German; he doesn't like us; he does like Germany and the spirit of Prussia, which he believes has made Germany great and may yet again make her a world power—and hence a world danger. He writes bitterly and often impudently. Little of what he has to say about the United States would appear either fair or reasonable to, say, a Briton. But he is speaking his mind and his emotions, with complete sincerity behind the impudence and flippancy of his style. Most essential of all, he is describing something that may well be of life-and-death importance to the American people. That something is the way the German people feel about the war just ended, about the United States, and, indeed, about the whole Western civilization of which Germany herself is a part.

"When the author's manuscript was submitted to us for possible publication we read it with anger, revulsion from its central thesis, dislike of the way it said its say no less than of its actual content, and a constant desire to talk back to its writer—the same emotions that the reader himself will feel in his turn. . . .

"As publishers, we concluded that *The German Talks Back* could honestly be issued as representative of a dominant state of mind in contemporary Germany, though we recognized the necessity of prefixing to the book's text a statement like this one, and of including with that statement a preface from a careful and competent scholar of German history who should draw a line of demarcation between the generally admitted facts about Germany and the author's personal colorations of them. This task was generously undertaken by Hans J. Morgenthau of the University of Chicago, and the publishers urge that every reader of this volume study his foreword not merely before but also after reading Mr. Hauser's text."

This book and its preface and annotations should be studied with great care. There are certain accusations about this country that cannot in truth be denied. The natural irritation of the reader toward the author should not blind him to truths when they are encountered. The German attitude, however, as exhibited by the author, amply corroborates Emil Ludwig's statements made in *The Moral Conquest of Germany*.

The inability of the author to stick to facts should be noted, and his overbearing manner and exhibitions of Nietzscheism should be a warning—not the warning the author intended, he has overplayed his hand and in his bitterness has betrayed the secrets of the German mind. It is to be hoped that the value of Mr. Hauser's book will not be ignored as was *Mein Kampf*.

48 MILLION TONS TO EISENHOWER. By Lt. Colonel Randolph Leigh. Infantry Journal. \$2.00.

Dedicated to the men and women of the Service of Supply in the European Theater of Operations, this book is a record of supply in combat unparalleled in world history.

Colonel Leigh has compiled the material gathered through the Historical Section of ETO and produced a readable and informative document of interest as well as value to those concerned in the solutions of supply problems.

Statistics are delineated in excellent charts that make ready reference convenient. The index also is well coordinated to enhance the reference value of the book. The illustrations are grouped in the back, an unfortunate wartime method of binding that does not utilize the excellent plates to the best illustrative advantage.

✓ ✓ ✓

RENDEZVOUS BY SUBMARINE. By Travis Ingham. Doubleday, Doran. \$2.50.

The story of Charles Parsons and the guerrilla soldiers in the Philippines who paved the way for the recapture of the islands makes exciting reading.

Commander Parsons was selected to head Spyron (Spy Squadron) because he knew the terrain, the people, and the language like a native. His sound judgment and diplomacy enabled him to weld together the scattered guerrilla bands into an organized force with food and ammunition to assist at the proper time the invading American forces.

The narrow escapes, the careful planning, and studied risks that were essential to such an undertaking make this book a thrilling narrative of World War II.

✓ ✓ ✓

A SHORT WAIT BETWEEN TRAINS. By Robert McLaughlin. Knopf. \$2.00.

MY FAVORITE WAR STORY. Compiled by Editors of *Look*. Whittlesey House. \$2.50.

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Dealing with famous historical Cossacks and the battles they were involved in, the second portion of the book is by far the most interesting. Here Mr. Hindus has allowed his pen to swing into his subject without too much consciousness of what effect he is having on the reader. The result is a really stirring historical sketch of this warrior people.

The latter half of the story is given over to a description of the home life and folkways of the Cossacks of today. While these are of interest, the author's tendency to propagandize, badly overdone in *Mother Russia*, is to a less extent still in evidence and obscures what might have been a most enlightening description. Mr. Hindus' early books on Russia were dispassionate accounts of the early days of the Soviet. It is unfortunate that his last two publications have lost the clear unbiased view that made *Red Bread* and *Humanity Uprooted* so valuable. This last story is interesting, but it does not have the stature that it might have.

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