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THE CAVALRY JOURNAL

AUG 3 1945
UNIVERSITY OF ILLINOIS

Signal Corps Photo

A patrol of the First Cavalry Division advances through a village toward Aliminos (Laguna), P. I.

JULY-AUGUST, 1945

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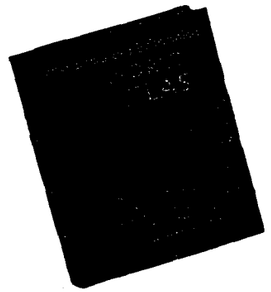

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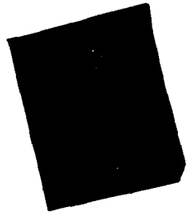

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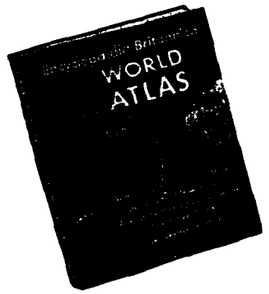

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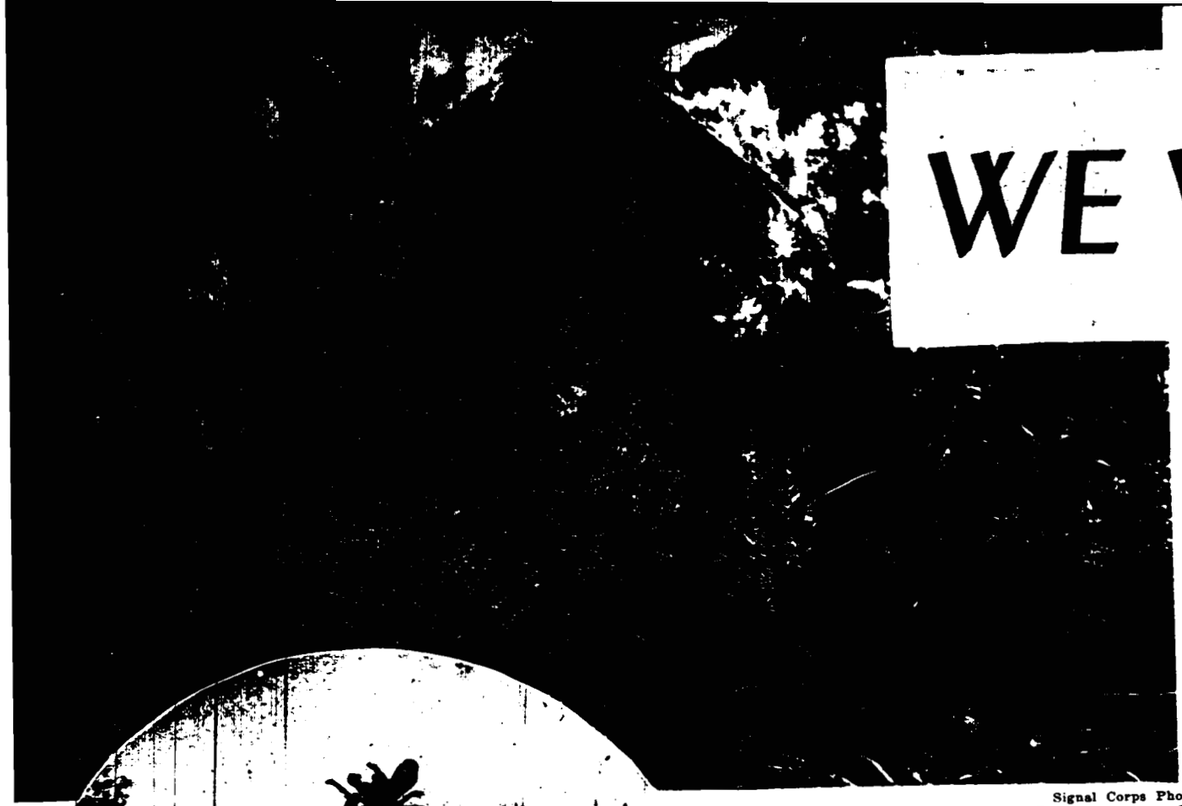


Signal Corps Photos

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.

CAPTAIN FELLEY, 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 ammunition 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.

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 Reconn'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.

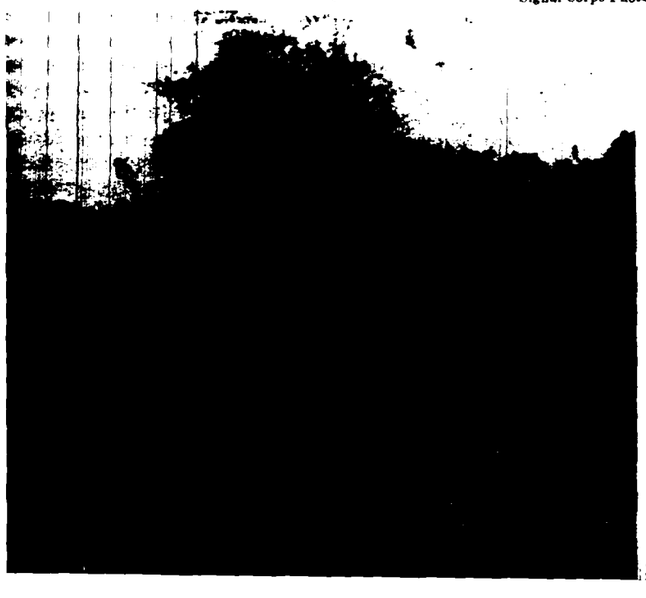
We had no opportunity to get the BAR because the convoy started to move. My brake was still jammed, but in "low low" gear I was able to move the truck the remaining 30 feet over the rise ahead. I jumped out quickly, put a screwdriver between the hand lever and the ratchet, and in a few seconds had pried 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 heavy fire from several pillboxes, and this time it took our tanks 45 minutes to clear the area before we could proceed.

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



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, Reconn'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 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.

En route to Manila, men of the First Cavalry Division take cover from enemy fire by crouching on the roadside.
Signal Corps Photo

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 witstood 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.

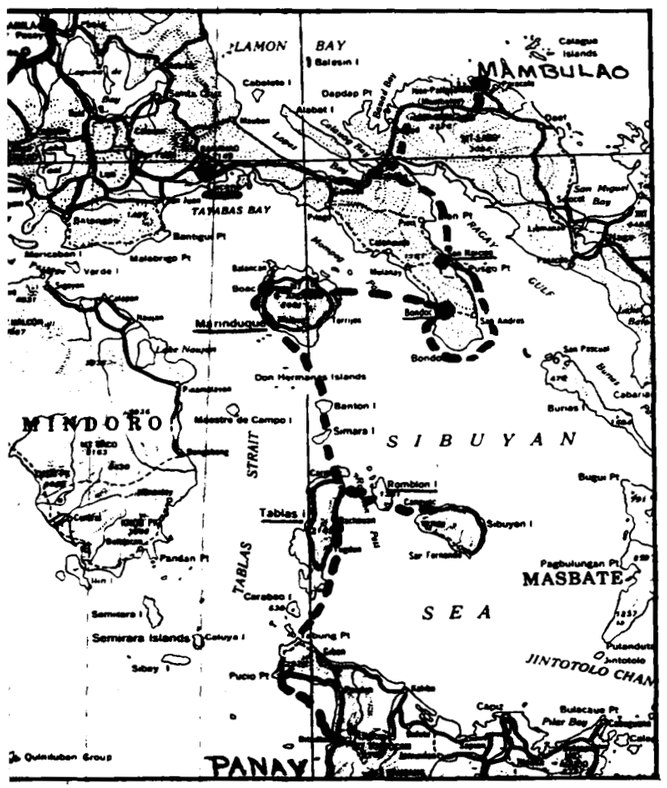
We had several encounters with the Japs en route, but suffered no casualties until we reached a river crossing near the end of the constructed roadway. Here we found a bridge 50 to 75 feet above the river bed, adequate for the passage of our small trucks, but unable to support the weight of our large 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 available, 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.

*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.

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.

Signal Corps Photo

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.

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.

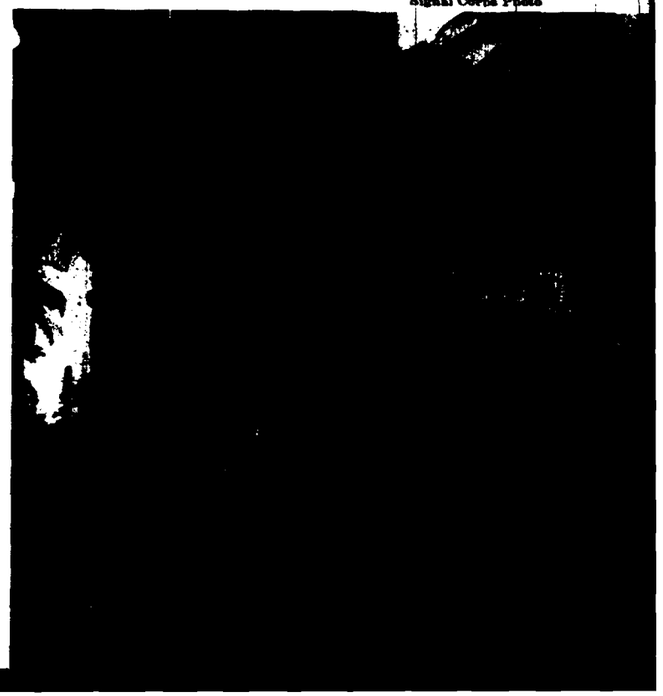
On one occasion in the Leyte campaign a field artillery battalion commander found a front-line outfit in need of supplies. His men and equipment immediately obtained them. Liaison planes of the artillery were used many times to make reconnaissance flights over enemy territory and to drop supplies.

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 cavalrymen 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 cavalrymen 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.

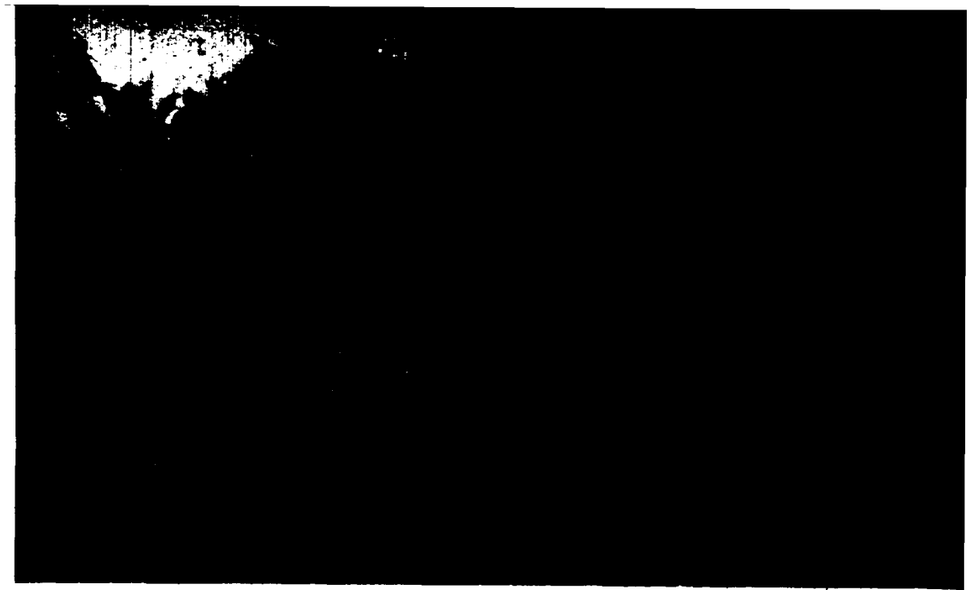
A few minutes after 1800 hours, February 3, a cavalry tank entered the city limits of Manila, and the 1st Cavalry Division had won the race.

On the outskirts of the city the cavalry column split. One unit sped on to capture and occupy the Malacanan 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 Malacanan 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

*by 1st Lieutenant Stephen C. Perry**

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 LVTAIs, 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 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

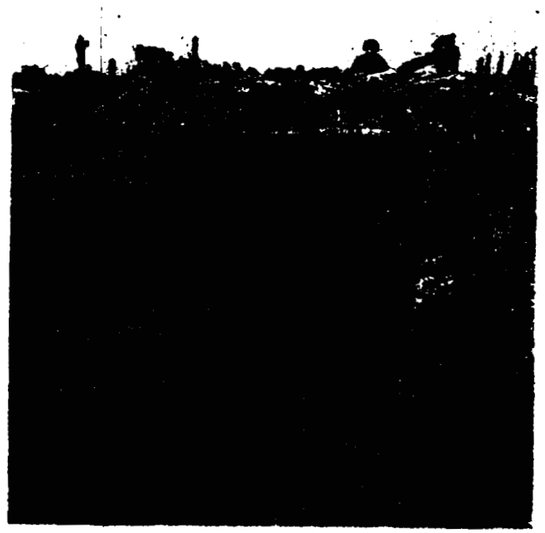
At the end of two weeks, the 40th Reconnaissance Troop was withdrawn to defensive positions on the division flank. Cavalrymen, who had spearheaded the division's advance without interruption since S Day, were able to get some much-needed rest; and equipment, which had taken the worst imaginable treatment 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 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.



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.

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 counterattack 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

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.

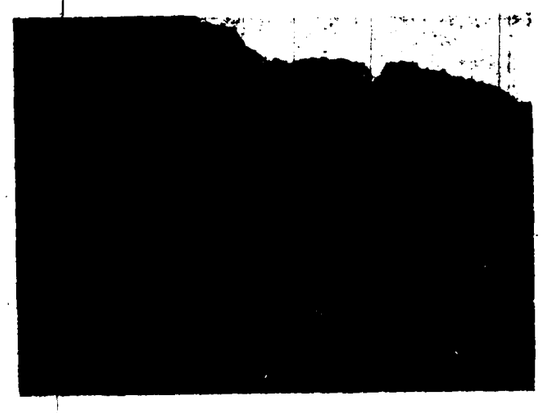
(2) Be able to fire accurately from the hip. A great percentage of firing is done in this manner.

(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 subunit 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 coöperation between flame-throwing tanks and infantry is most important. Likewise close coöperation between the different arms on small-scale tactics is essential.

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.



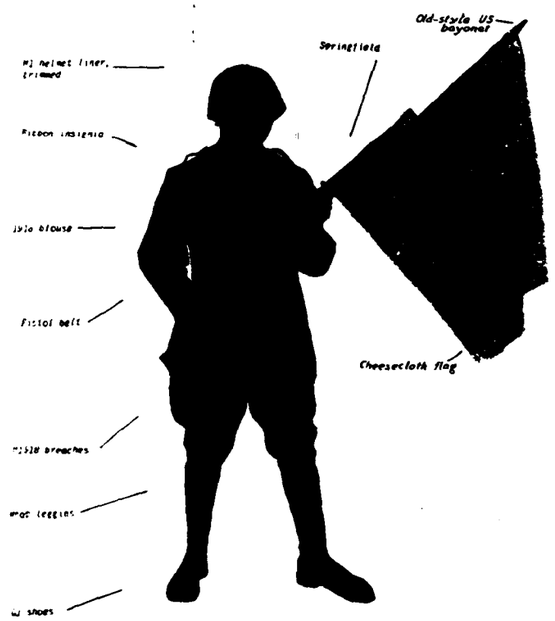
Training Against Jap Enemies

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.



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.

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-

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 American 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 use 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 airfields 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 Jap 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 Horse Cavalry

*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.

*U. S. Cavalry, Retired.

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

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 coördination 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 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 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.

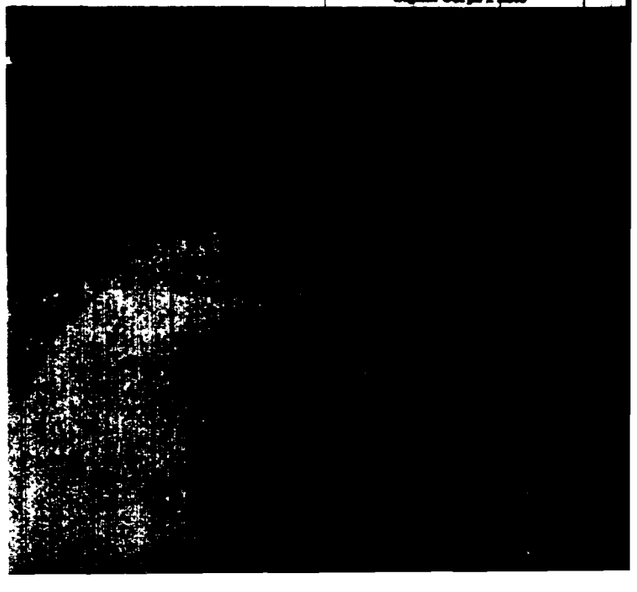
Strenuous efforts were made in Sicily, Italy, Burma and Leyte to obtain horses for cavalry, and mules for pack troops.

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



"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 rehorse the 1st Cavalry Division, and to place it, or a similar unit, in the China theater.

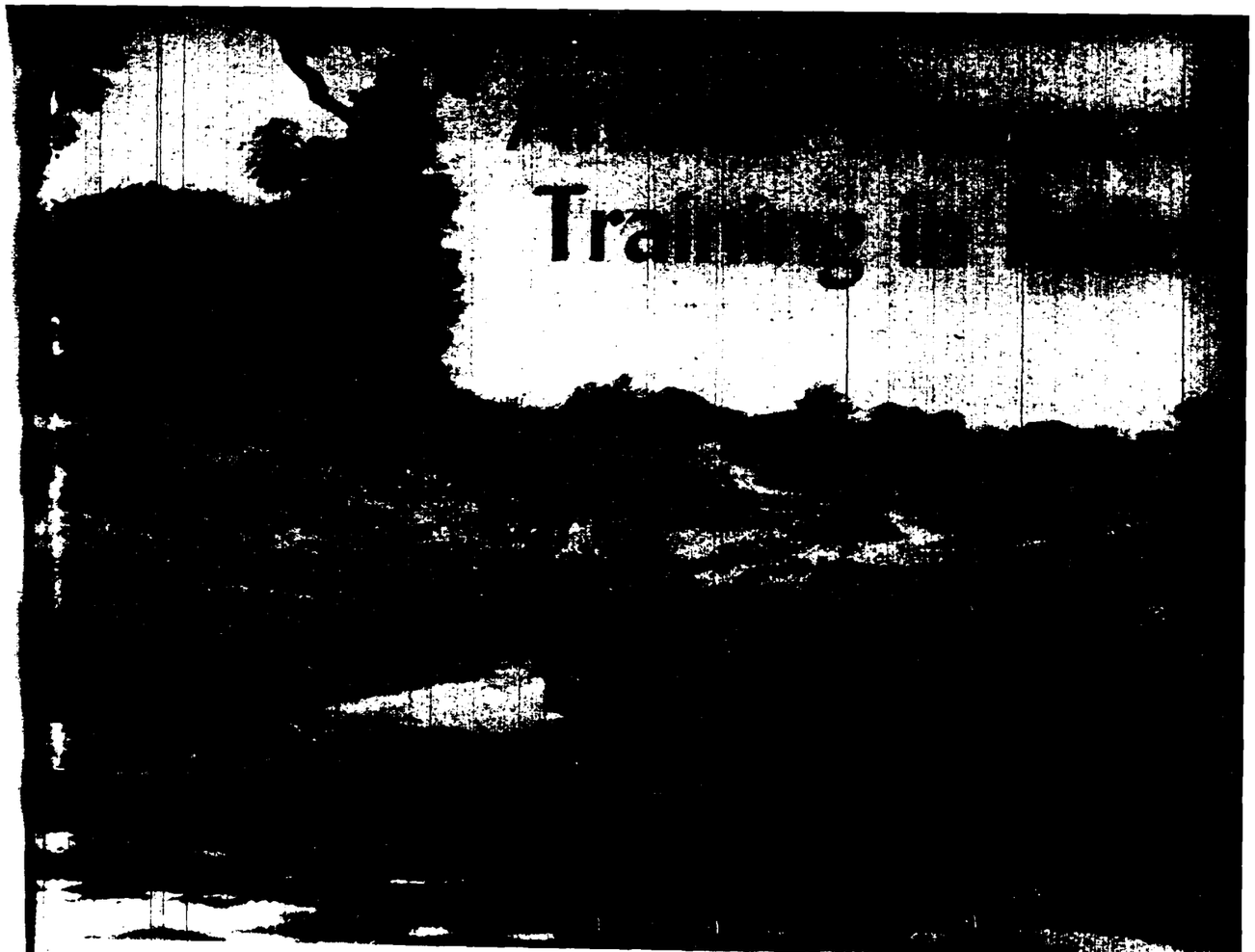
It has been predicted that cavalry would never be employed as a division; so likewise it was predicted for armored units, which have fought almost exclusively as divisions.

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



Transportation

*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.

*Chief, Animal Training Center, Ramgarh, India.

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 13½ 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.

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.

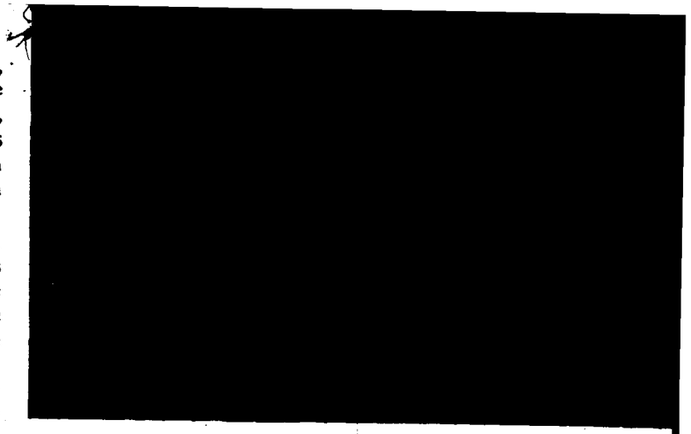
At the beginning of the training at Ramgarh, it was believed that a horse-drawn cart would be of value in the terrain. Because of the narrow trails it was thought that the cart should be drawn by two animals on a tandem hitch, to which the British packsaddle could easily be adapted. But the cart soon 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 coordinate 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.

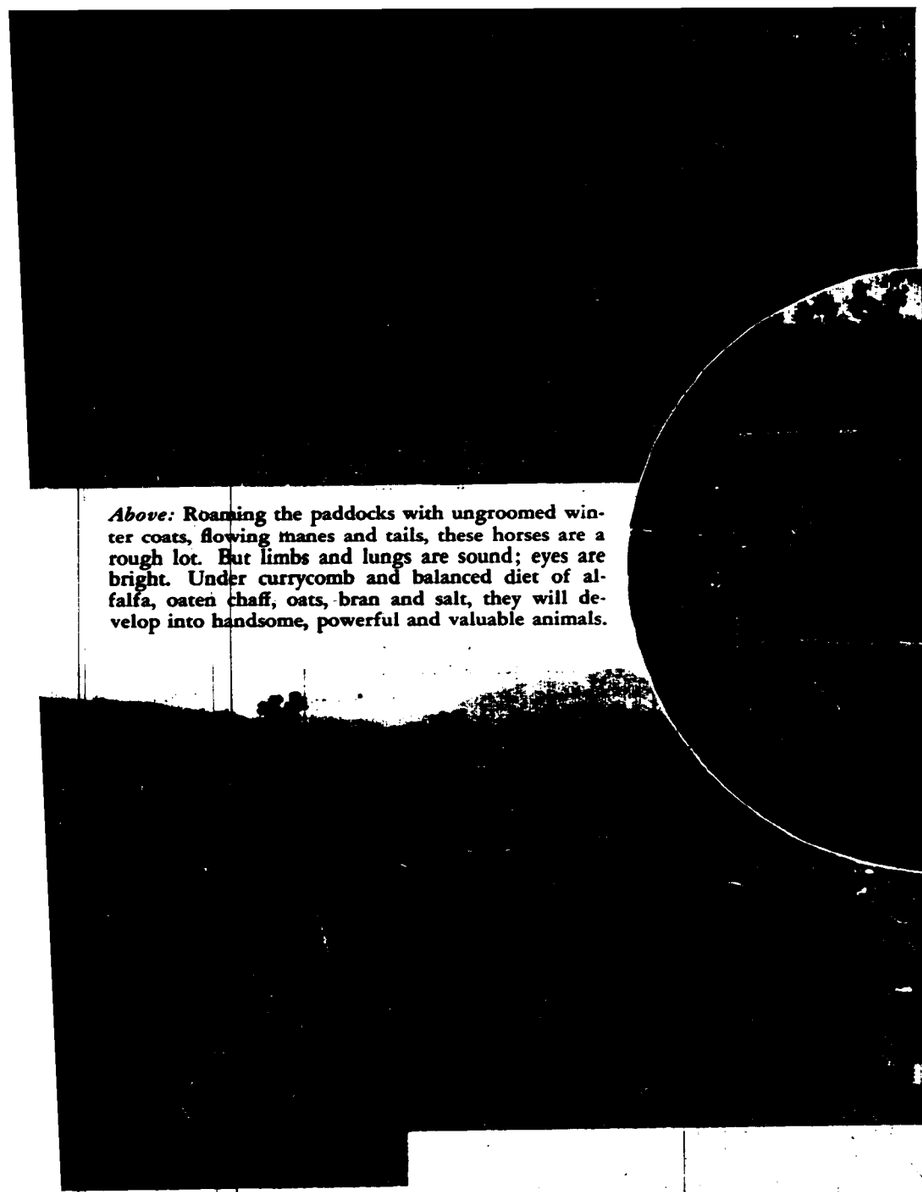
Located in a valley with mountainous terrain near by, the training center was situated ideally. Training did not stop for the monsoon season, and as soon as individual training had been followed by unit training, long marches were made under conditions approximating those anticipated for the units. On 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.

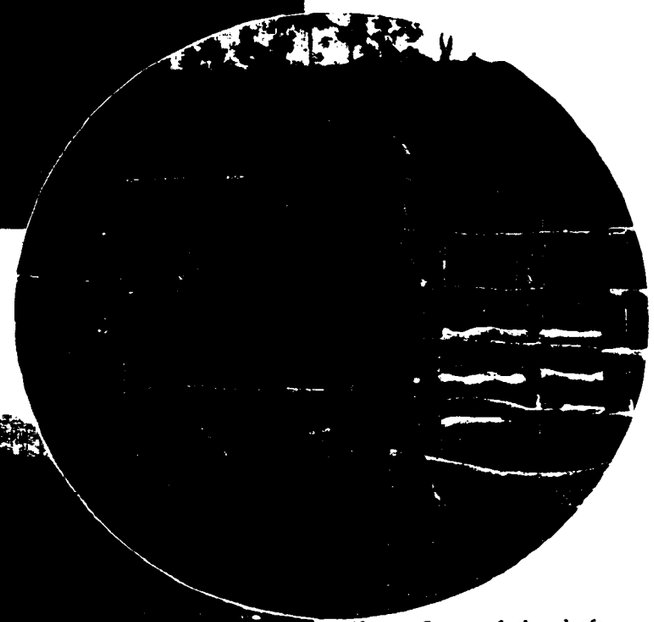
During the Burma campaign, the success of Ramgarh-trained Chinese troops proved that the efforts of the Animal Transport Department had contributed its part toward driving out the Japanese.

Aussie Horses Join U. S. Army

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.

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.

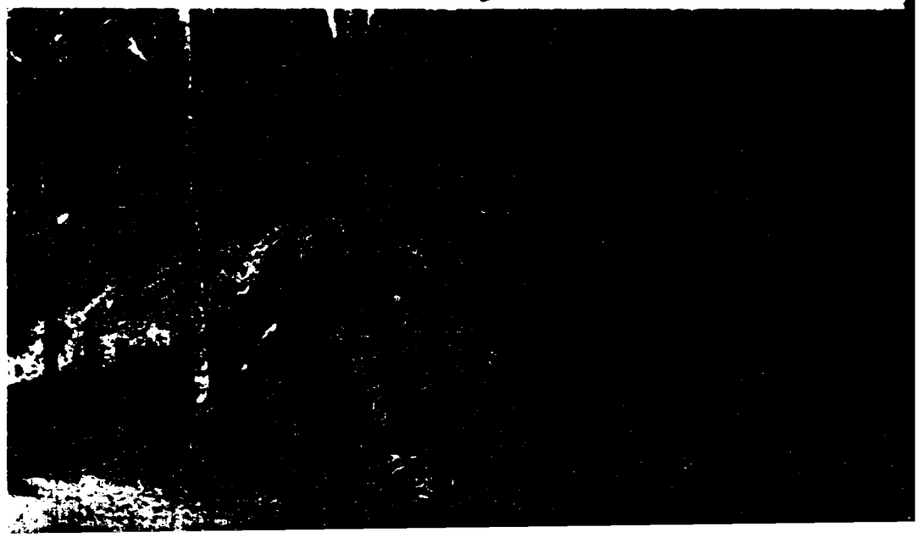
Unless a good horse is particularly placid, she will like the place of honor at the head of a training pack team and will resent any other place in a line of horses once she has become used to being leader. She will want to see where she is going—not just the rump of the horse ahead.

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 packtrain 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 counterattack 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 Maizieres 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

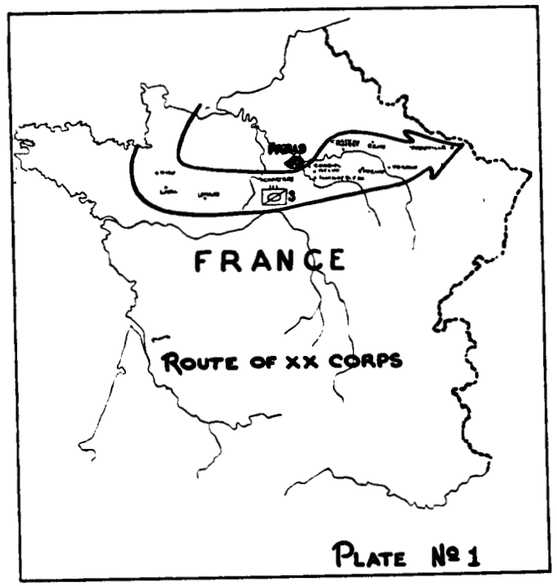


PLATE Nº 1

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 (Mecz).

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 coördinated 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 headquarters, 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 coördinating the plan of harassing fire of the assault guns, tank destroyers, and his artillery. This centralized control prevented repetition of harassing fires, and coördinated 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

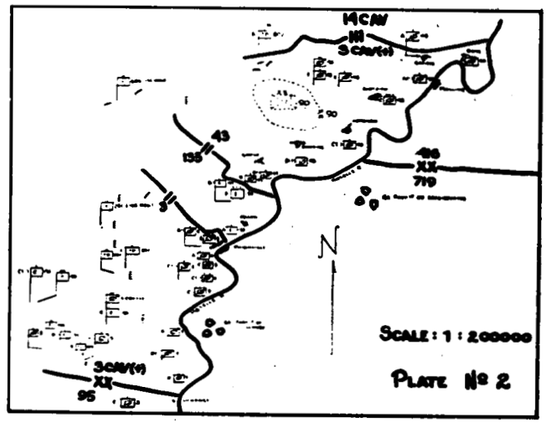


PLATE Nº 2

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

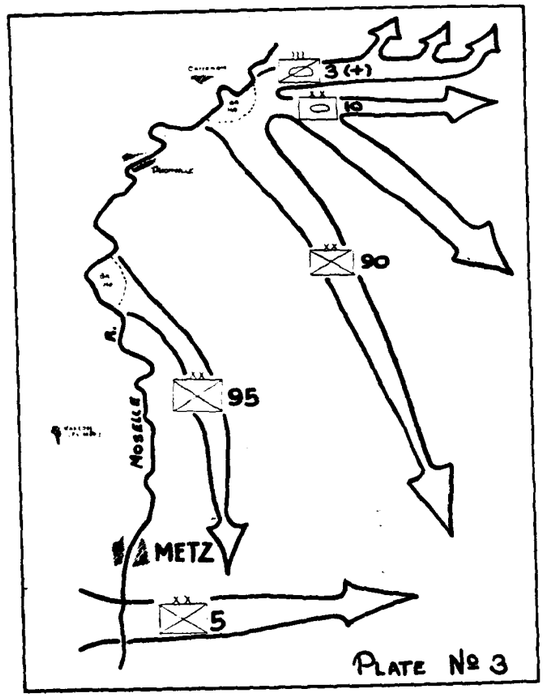


PLATE № 3

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 manueverability 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

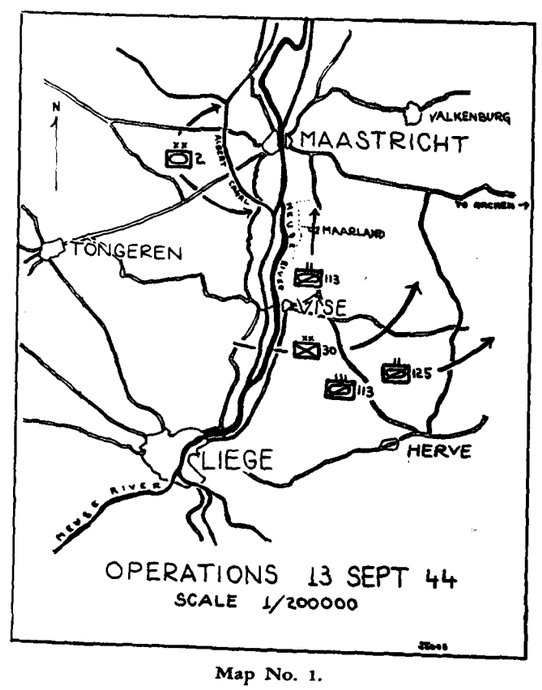
—A unique cavalry action in which mechanized cavalry reconnaissance elements—operating mounted—attacked, overran, and completely destroyed a German infantry battalion dug in on a defensive line with supporting weapons.

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.)



Map No. 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.

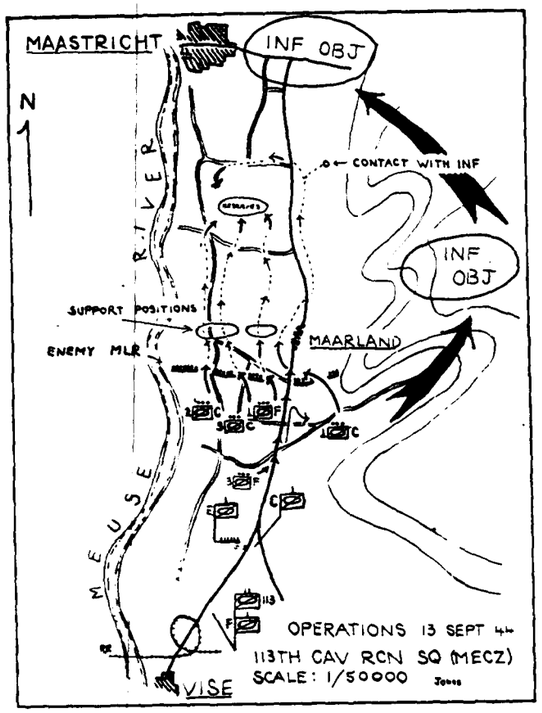
The execution of the squadron mission had fallen to Troop C, supported by Troop E in battery position. Company F, less one platoon, remained in squadron reserve. With two reconnaissance platoons abreast and astride the two main routes of advance, Troop C was moving north against moderate resistance. 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. 2.

rear to take stock of the situation. (See Maps 3 and 4.)

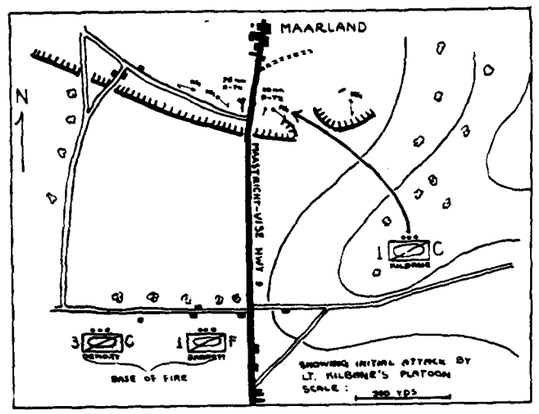
Lieutenant George L. Dana, the officer-observer for the assault gun battery, worked himself forward and started to adjust on the enemy gun positions. Lieutenant Kilbane radioed a brief estimate of his situation and was informed that his troop's 3d Platoon, under Lieutenant Richard S. Demory, was on the 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.

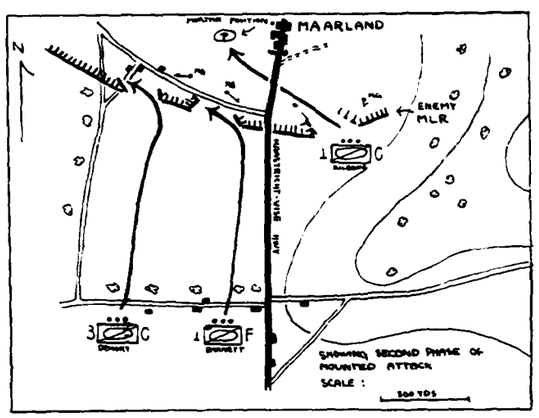
Mounted Assault

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.)

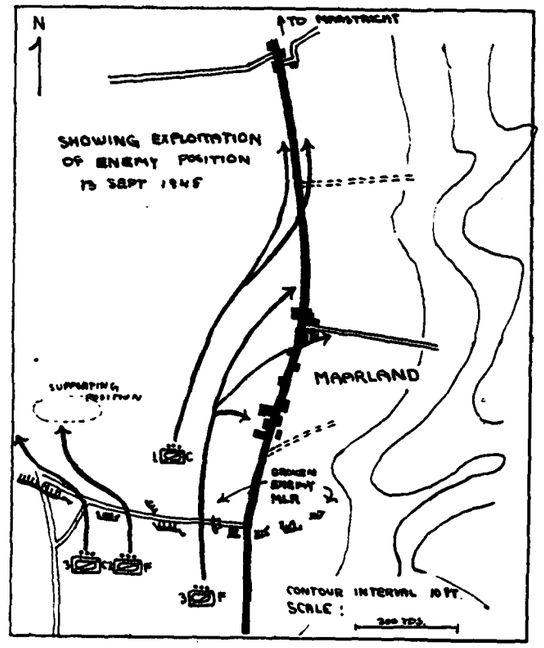
The flanking platoon moved approximately 500 yards to the flank and assembled in slight defilade. Lieutenant Kilbane placed the platoon in wedge formation, his three armored cars comprising the center, and his machine gun ¼-tons wide to the flanks and rear. The assault guns raked the enemy position with a last furry 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 cannister, 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 coördinated 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.

Comments from Combat

Assault Guns

by Lieutenant Colonel Albin F. Irzyk*

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 coördinate 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 coördinate 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 coördinate 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 coördinating with the infantry that is generally with him, to concern himself with his single assault gun. This condition results in a tendency to 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

*8th Tank Battalion.

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.

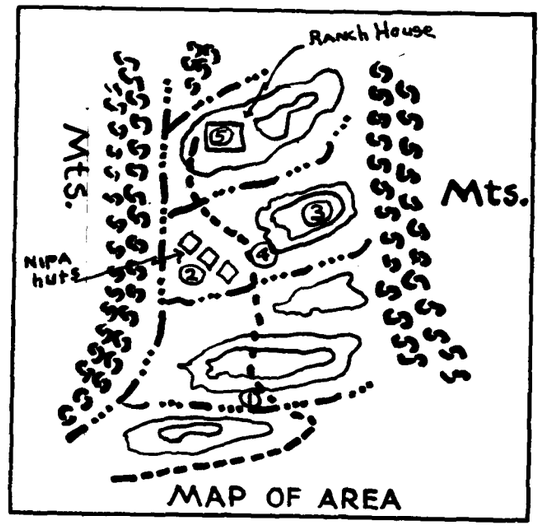
We moved out at noon and traveling south on a fair road covered some 30 miles that afternoon. By 1600 we found our road leading west to our objective. Rain was coming down in torrents and rather than risk bogging down in a muddy river bottom, we organized a perimeter for the night around an old abandoned 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

there for the night, the two platoons received heavy fire from a German SP piece that maneuvered several hundred yards north of their position. The next morning infantry cleared the buildings up to the outposts. At 1900 that night the 2d Platoon moved to Nieukerk, where the leading elements of the task force were fighting, and outposted along the road three kilometers to the north.

By the next morning TF Byrne had reached the outskirts of Sevelen, and the 3d Platoon, continuing on its flank security mission, moved north of Nieukerk 6 kilometers to the line of an east-west railroad. Stopped there by a blown overpass, the men were confronted with scattered small-arms and mortar fire from a woods to the east, but managed to hold the flank.

The 1st Platoon moved into Sevelen with the TF and, with a secondary mission of contacting the British, moved north but were halted by light small-arms and heavy SP and mortar fire almost at the town's outskirts.

The 2d Platoon, operating over a road midway between the other two, moved north until it reached a railroad bridge mined and prepared for demolition. On the way the troops had picked up a Polish refugee who was now sent into town on foot to find out how heavily the town was held. When the Pole returned with the local priest, the platoon leader—using major strategy in a minor way—set up all his mortars, pulled the AC37's into position, and told the priest that unless all soldiers in the town were marched out, the town would be reduced to rubble. The ruse worked—a ruse because of the lack of supporting artillery—and 18 prisoners marched out.

The mined bridge, however, was still there. Through the interpreter the platoon leader discovered that 5 of the prisoners had mined the bridge, so under Sergeant Carl V. Bell's supervision the prisoners removed the mines and cut the demolition wires and to make sure, the lieutenant then ordered the German soldiers to stand on the bridge while the lead jeep drove over. The bridge was OK.

At 1700 that night the 15th Cavalry Group passed through the troop's positions and assembled at Nieukerk. The day's work had netted 58 prisoners taken as against two casualties suffered by the troop.

Reconnaissance for Division

On the morning of the 4th the troop was given a contact mission on the division's right flank, which had become exposed by the forward surge that had taken them to within 10 kilometers of Rheinberg. No locations of any friendly units on the right were known, so while the 3d Platoon provided immediate security, the 2d initiated patrols which by 1300 had contacted elements of the 5th Armored Division in Vluyn and established forward locations of CC A within a few kilometers of the Rhine. As a result of this information, previously unknown to division or corps, a shift was made in division objective, and the ensuing rapid liquidation of the Wesel pocket was accelerated.

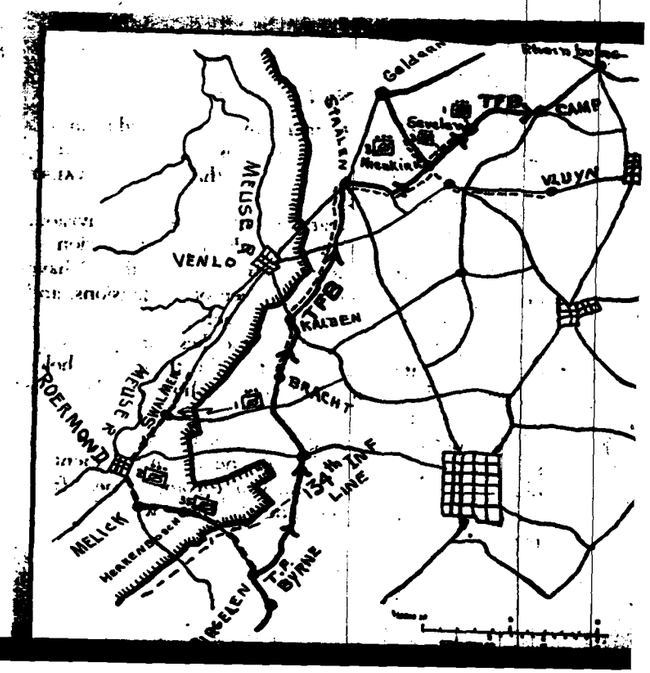
At 0200, March 5, the troop was withdrawn to division reserve, and its small but vitally important part of the operation was completed.

In the initial phases of the operation the troop had found the area in close proximity to the Roer River heavily mined and obstacles painstakingly prepared, but because of the rapid pursuit and consequent hurried withdrawal of the enemy, no mines were booby-trapped. In some instances, dummy blocks of wood instead of mines were inserted in the slots chipped out of the macadam surface. Despite engineer warnings that the Regal mine might be detonated by tilting, many were removed by hand and lifted off the road—although the predominating method of removal was by means of a long rope.

The movement through Holland was greatly facilitated by the attachment of civilians who spoke presentable English. Their knowledge of minefields and road blocks saved hours of experimenting. Through German territory the friendly Russian and Polish slave laborers aided in the same manner.

The 35th Reconnaissance Troop (Mecz) is a D plus 30 unit which went through the hedgerows of Normandy, withstood the German breakthrough at Mortain, and broke east from Le Mans to spearhead the race across France. The troop operated day and night miles in advance of supporting units and at one time was strung along a 90-mile stretch of the Loire River, with communication from Troop HQ relayed from section to section.

The troop has experienced every mission conceivable for a small cavalry unit—contact between divisions advancing in close proximity on a front, and between divisions 20 miles apart, front reconnaissance, dismounted patrols, flank security, and screening.



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 500,00 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 Committee 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 intergovernmental 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."

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 artilley 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 bizzare 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.

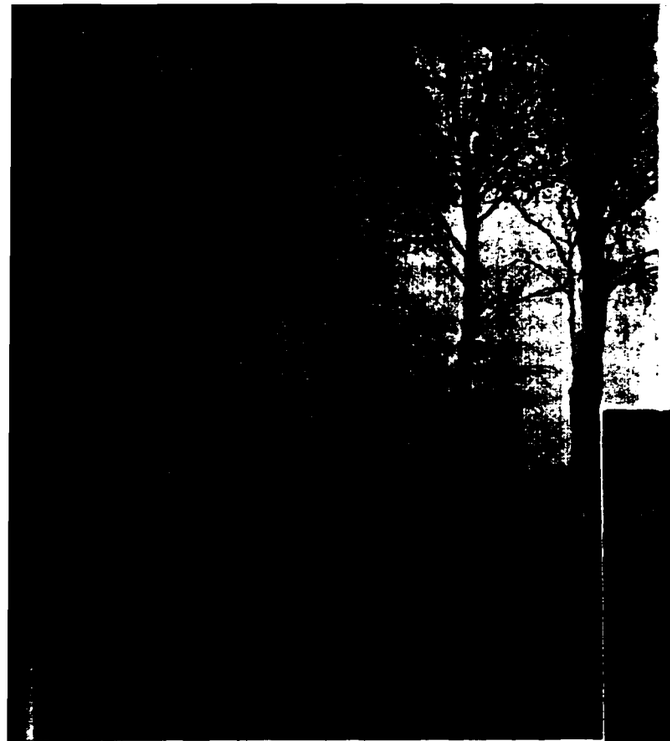
"And you ride on the elephant's head," Patton quoted the officer as saying, concluding that this should illustrate what a hard task it is to improvise cavalry.

Soviet Cavalry in World War II*

by Colonel I. Pronin

Beyond the Oder, Soviet cavalrymen 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.

*By cable to THE CAVALRY JOURNAL from War Department, U.S.S.R., Moscow, June 26, 1945.

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 Stalinogorsk, 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.

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 Snigerev.

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:

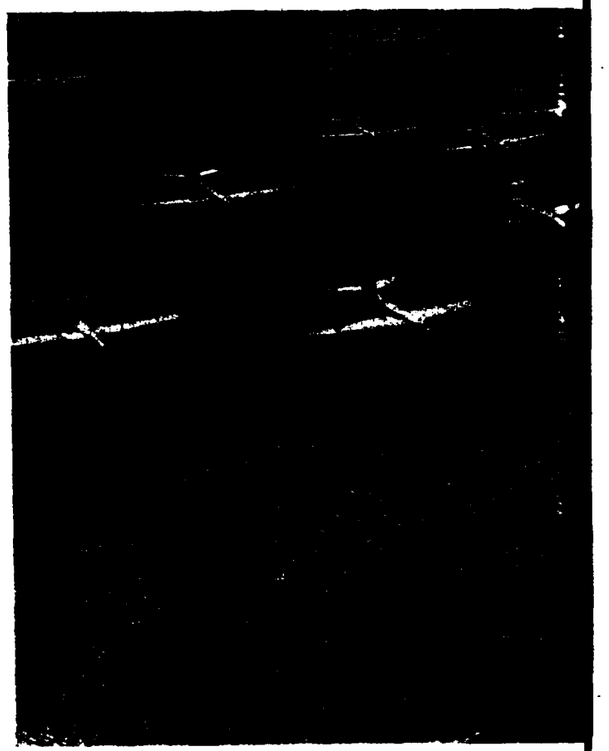
"Whether the enemy can be stopped at this point is still questionable. His air superiority is terrific and smothers almost all our movements. At the same time, every movement of his is prepared and protected by his air force. Our losses in men and equipment are extraordinary. The morale of our troops 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; 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 where she could safely ignore this handicap. Moreover, she leaned heavily on what she thought was her superior air force.



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.

*Impact, May, 1945.

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 counterattack. 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 neessary 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 hedgerows 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 bombline, 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

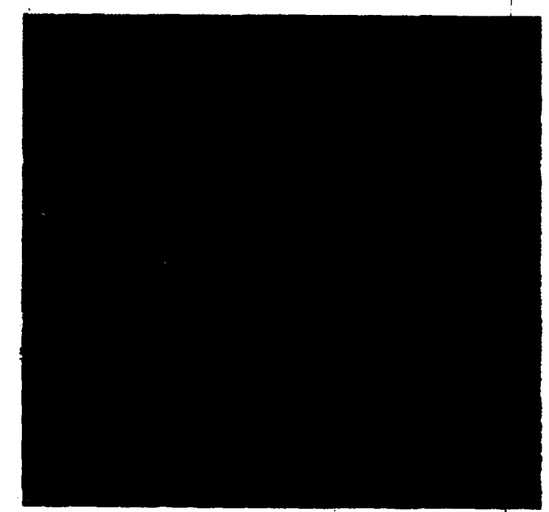
An analysis of the operation reveals some interesting facts. Enemy casualties amounted to less than 10 per cent, in some instances to only 5 per cent. This is because troops were well concealed in one-man foxholes and were not likely to be killed unless direct hits were scored on them. The damage to 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 coordinate 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 hedgerows 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 Frankurt-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.

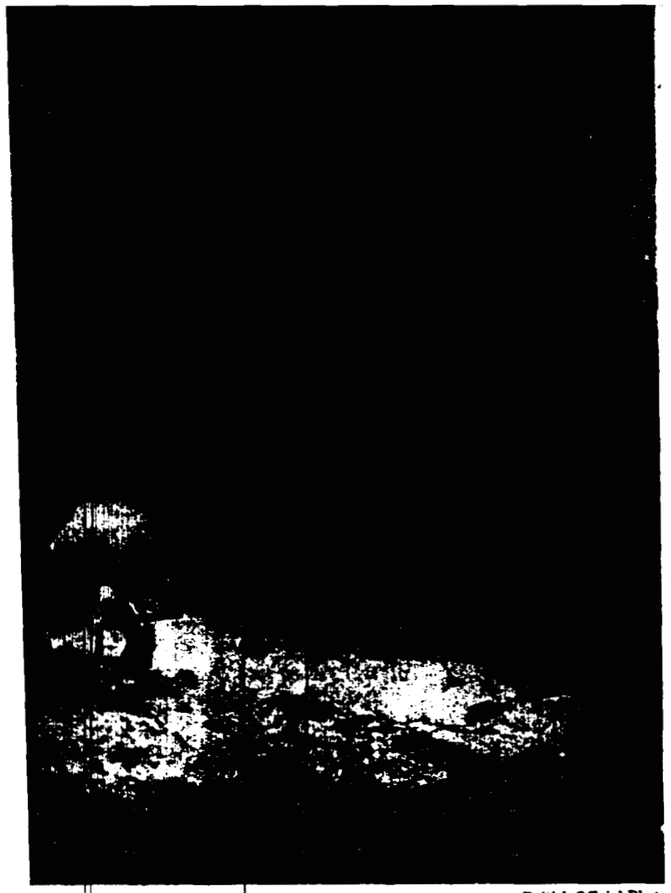
The Tactical Mission Is Fulfilled

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 the Siegfried Line - - -

Unspectacularly, almost soundlessly in the eyes of the world, one of the greatest feats in military history was in the process of accomplishment. It was achieved when Allied troops threw the Germans off balance by drawing their reserves to what was to prove merely defensive action.

*by Major John North**



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 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 Holland, 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 3½ 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.

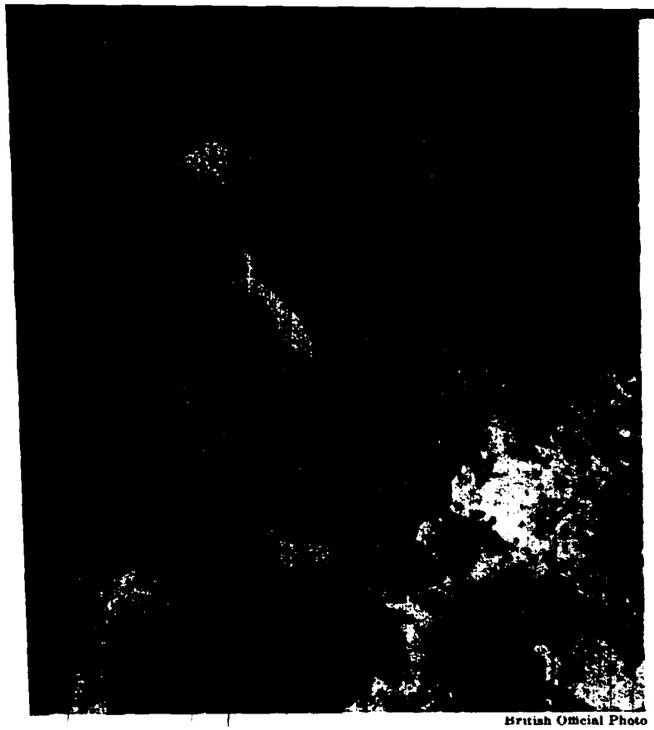
The Germans now were considerably disorganized and unable to form a coördinated defense against the armored and motorized infantry columns which thrust to the northeast and north. By March 3, Munchen-Gladback and Neuss had been occupied. Three days later Krefeld, Homberg, and Rheinberg had been taken. 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.

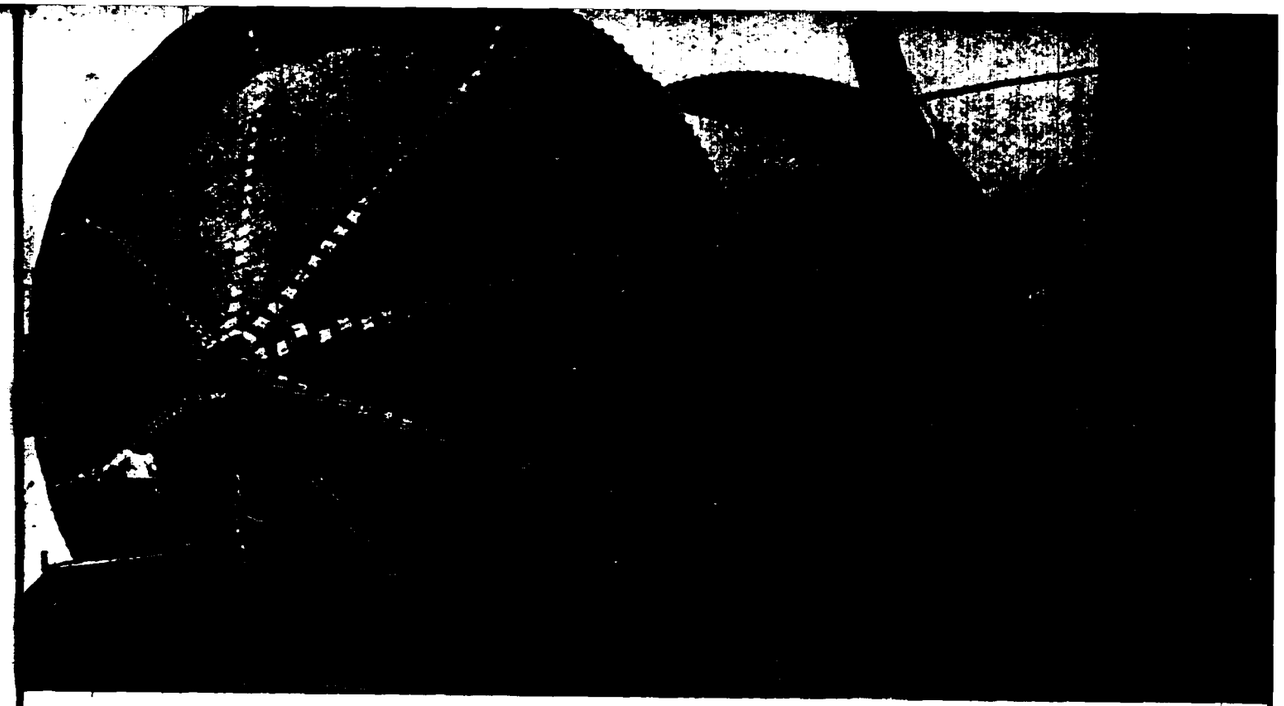
At last the Germans endeavored to stabilize a line through the Hochwald to Geldern. But by now the advance of the United States Ninth Army had begun to influence the northern battle, and the enemy was compelled to fall back upon his Wesel bridgehead. His resistance was so fierce, however, that the fight 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

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.

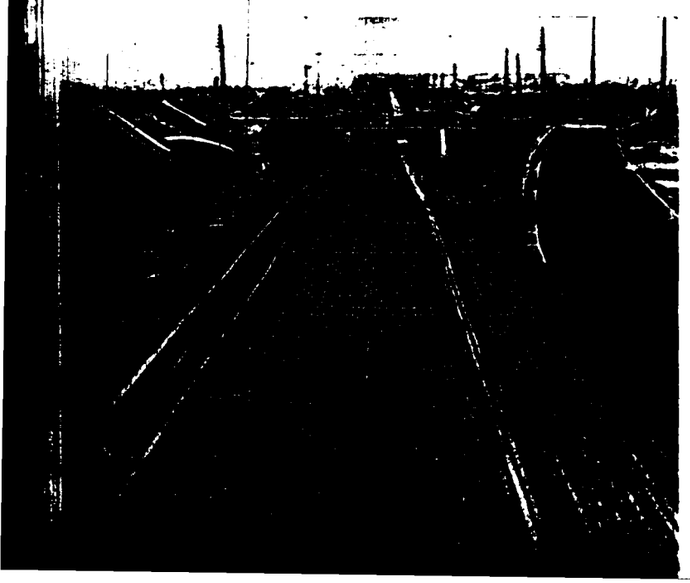
Finally the coördination of the whole scheme was perfected, provision was made for pumping stations on the English shore, and Force Pluto was formed to lay the under-channel pipeline. It was composed of ships of all sizes, from 10,000 tonners to barges and motorboats.

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.

Told for the first time, and one of the greatest supply stories of the war, the 200 miles of pipe shown below in ¾-mile lengths, made possible delivery of 1,000,000 gallons of gasoline daily during the invasion of France.



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.

Britian'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.

*by Captain Robert W. Williams**

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 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.

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 doughboy 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.

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 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!"

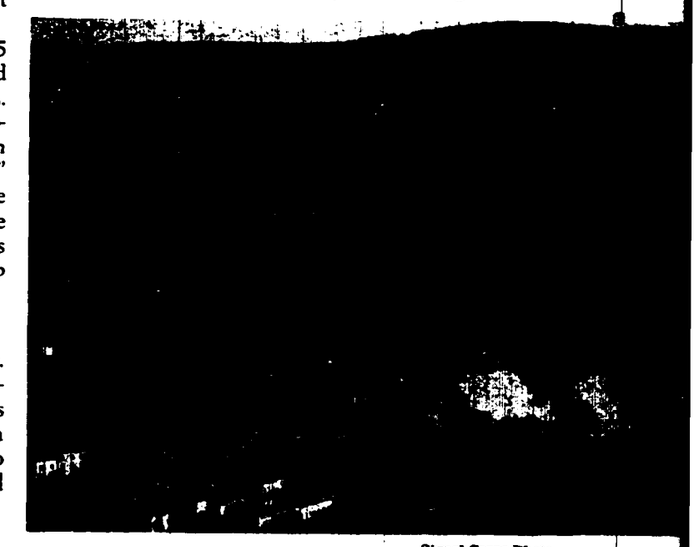
In Battle Actions

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, Liberanan 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.

Signal Corps Photo

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 dugouts, and has given fire support to all kinds of troops.

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, mixing 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.

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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. Without 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 recruitment; 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 reëstablished 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 absolutely 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.

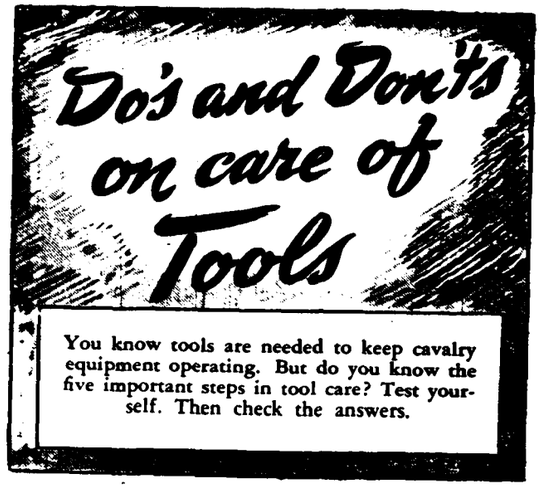
Since armies must carry on in all kinds of weather, in all places and at all times, their equipment is constantly being subjected to the ravages of moisture and fungi, and fungi and moisture have been known to cause breakdowns in a matter of hours.

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.

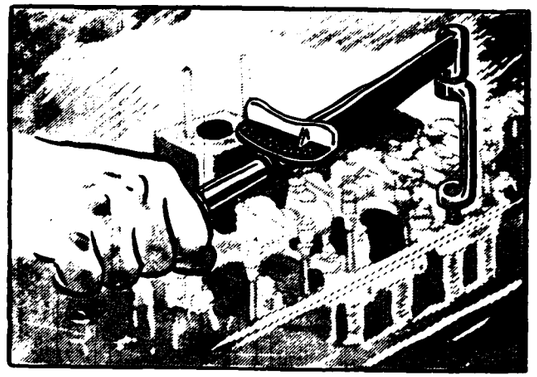
Wherever vehicles move together as a unit, maintenance discipline is vitally important, for everything must stop and start together. Therefore, if one vehicle breaks down, even for a minor defect, the whole unit may be delayed and the mission fail.

"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.



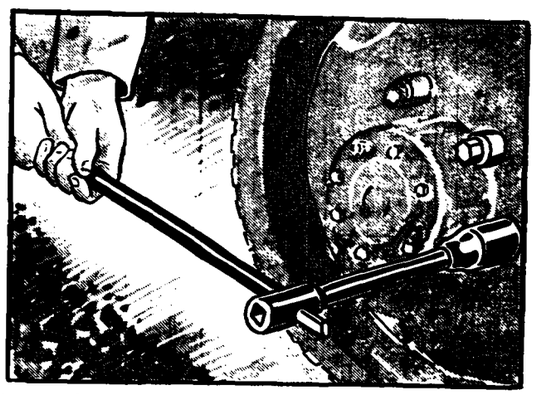
You know tools are needed to keep cavalry equipment operating. But do you know the five important steps in tool care? Test yourself. Then check the answers.

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.

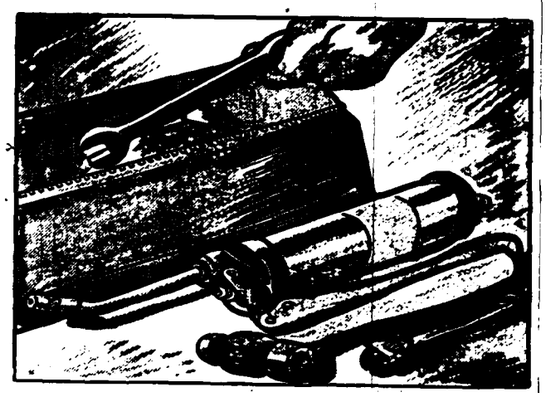


1. Use the RIGHT tool. Each tool is designed for a specific job. The wrong tool can result in personal injury, work damage, and tool breakage.

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.

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

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By LT. COLONEL J. D. HITTLE, U.S.M.C.
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Handbook to Army Regulations

By LIEUT. COLONEL WALTER SCZUDLO
Adjutant General's Department, A.U.S.
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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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✓ ✓ ✓

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 psychonalysis is making to criminology and wherein it should obviate miscarriages of justice occuring 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.

✓ ✓ ✓

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.

✓ ✓ ✓

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.

✓ ✓ ✓

DAN SICKLES. By Edgcumb 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 cliches and a more modern staccato style, better adapted to driving serious points than assembling torrid adjectives.

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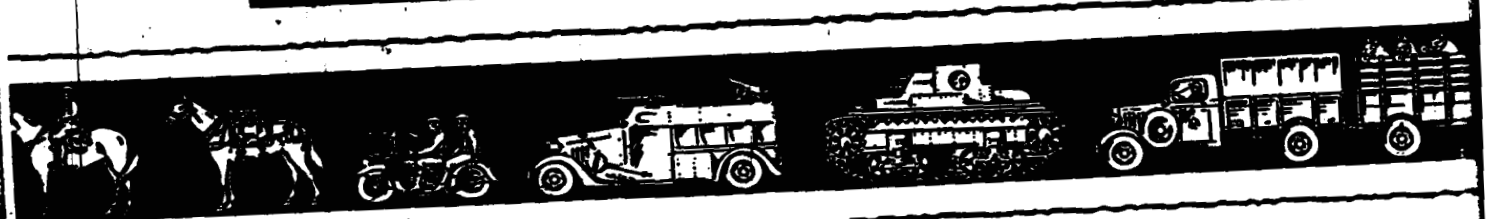

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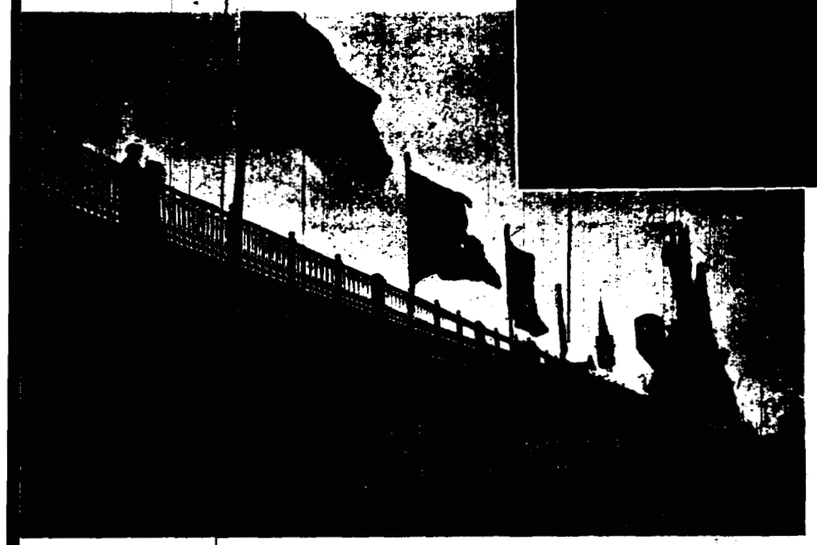
The Prize of Antwerp

*by Captain Ernest Watkins**

The Nazis' Ardennes gamble—which cost them 90,000 men—was aimed at the great port ——→



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.**

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 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 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.

*Britian'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.

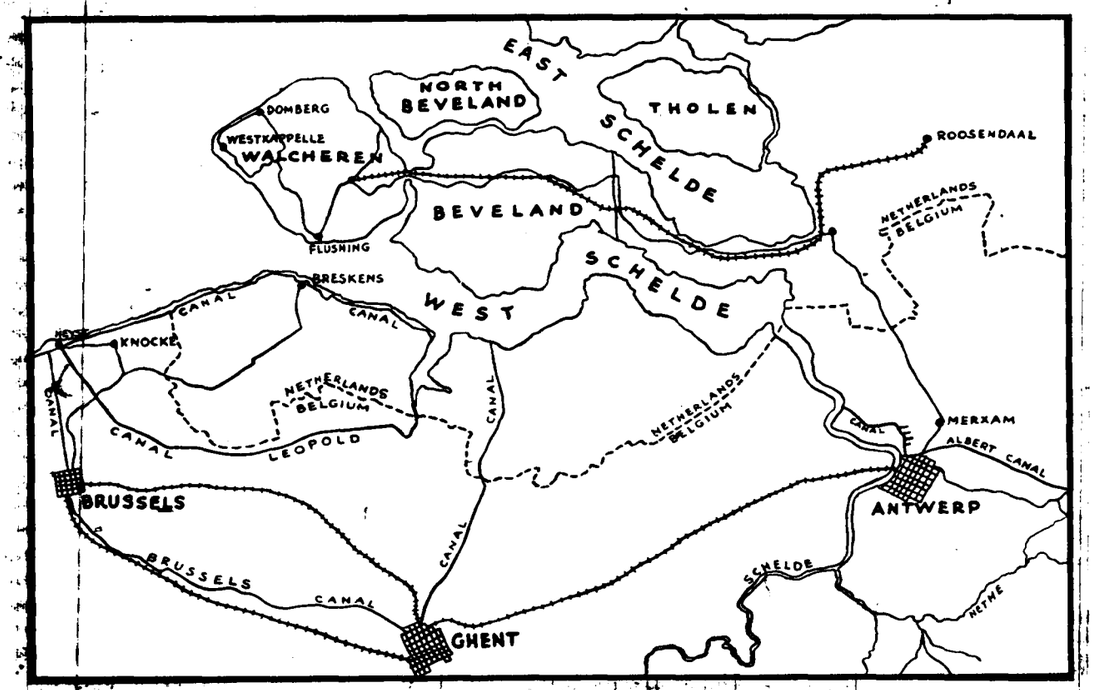
Time was pressing, and it was decided to make a three-pronged simultaneous attack on Walcheren Island—one on the east along the causeway from Beveland, one from the estuary against Flushing in the south, and one from the sea against Westkappelle on the west coast.

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.

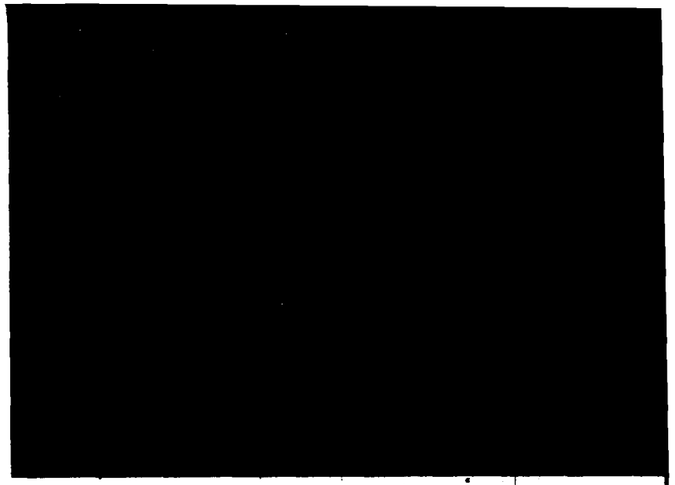
With the minesweepers came the hydrographers, to map out the channel in the estuary and see how much it had changed in the four years since last an Allied craft had sailed in it.

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 dock the sentry at one entrance barrier is American; at the other, British. Their patrol between is joint.



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.

A port is a transhipment 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.

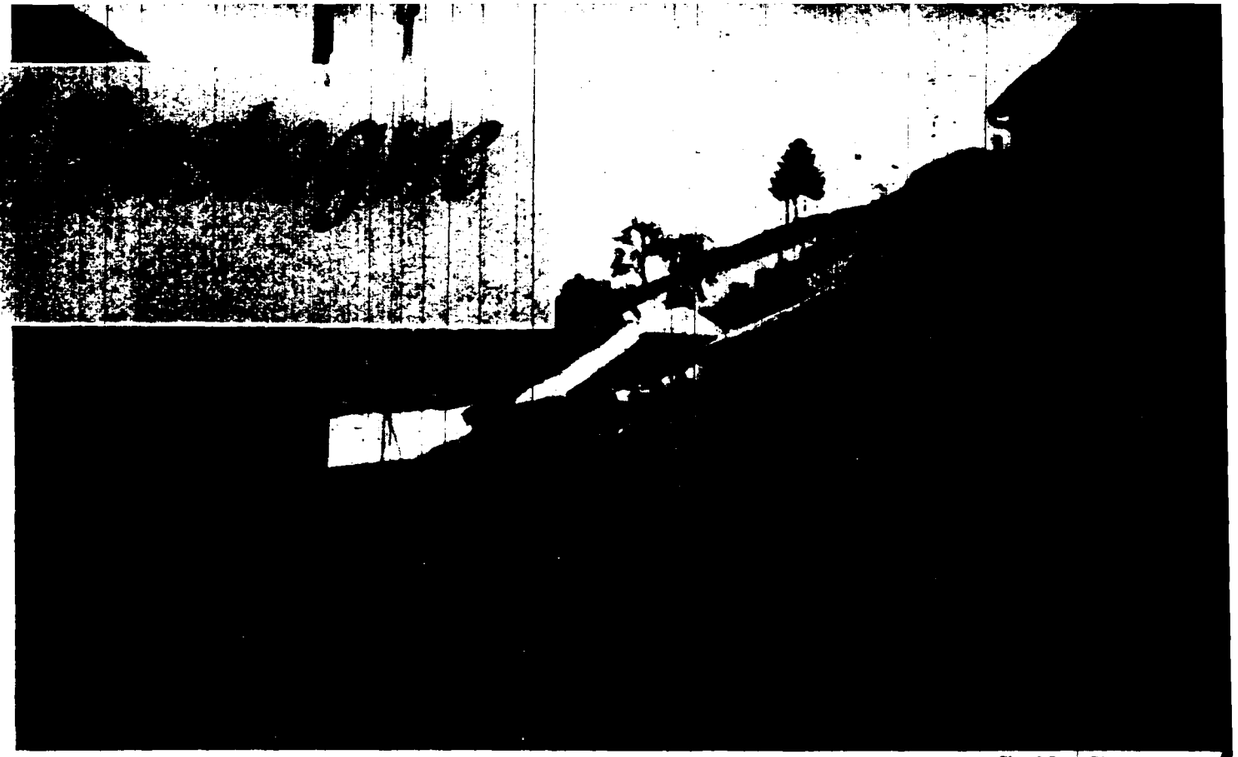
[illegible]

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 Saarbrucken 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-Saarbrucken 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 Saarbrucken 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.



Signal Corps Photo

Members of the 6th Cavalry Reconnaissance Group roll through the streets of Weltz, 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 armored 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 Moircy, 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 Moircy, 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.

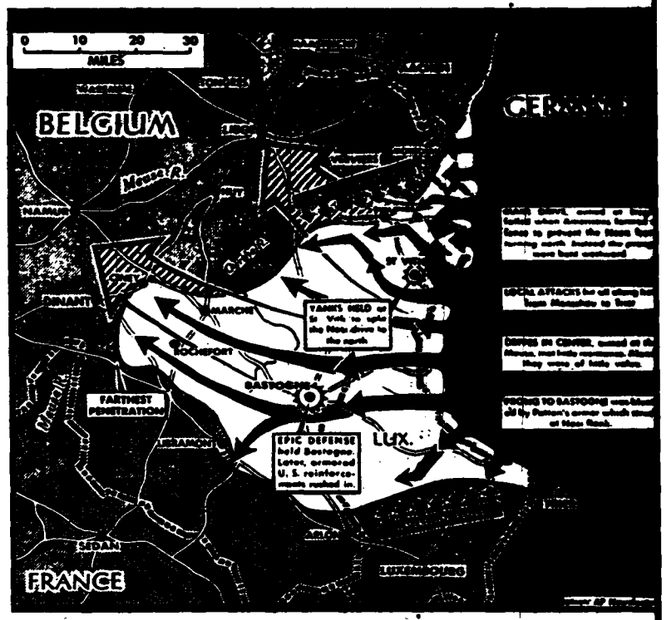
Intelligence within the group headquarters—which for obvious reasons cannot be handled on too large a scale—should be handled on a plane of thought comparable to that of the G-2 section of a division. Knowledge of the enemy and his capabilities forms the skeleton about which the cavalry commander plans 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 encountered. 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.



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.**

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

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 BELGIUM—

125th Reconnaissance Squadron In Pursuit of Route Germans

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, Marchelepot, 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 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-Marchelepot 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 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.

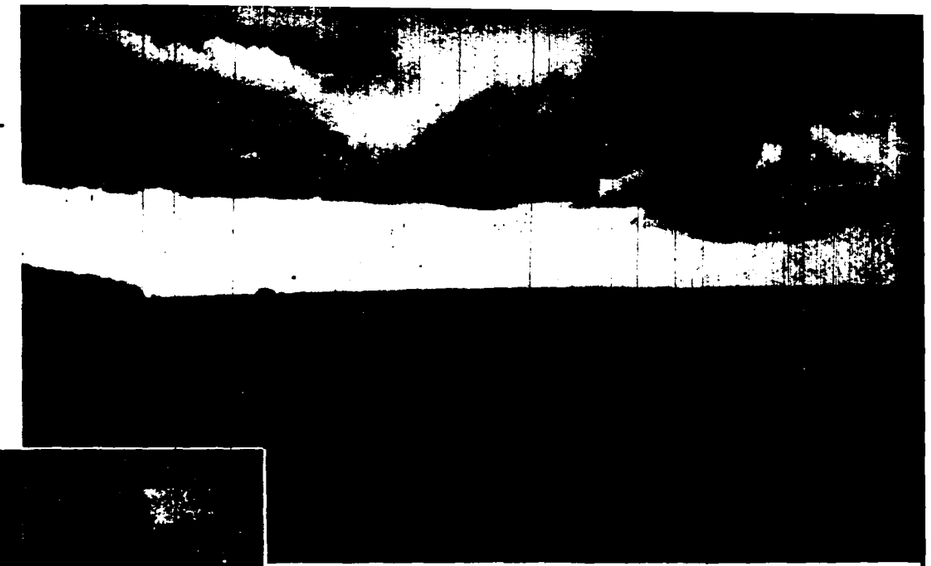
Troop C continued to move along secondary roads about one mile east of the main axis of the task force advance. The 1st Platoon reported all bridges out north to Peronne, along the Somme Canal. Troop A had crossed the river at Peronne.

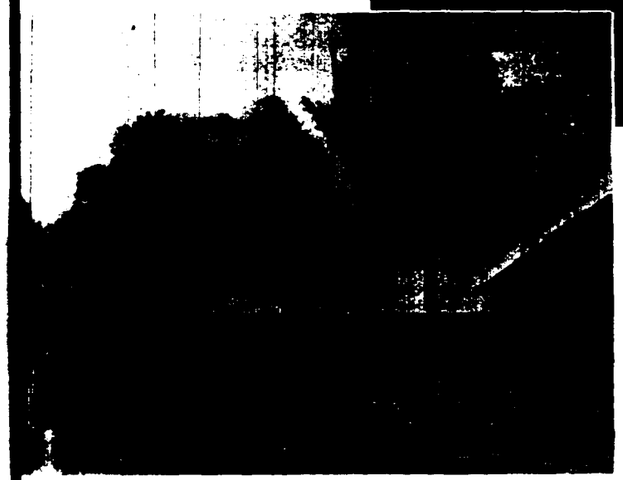
In the meantime, the 82d Reconnaissance Battalion, which had jumped off earlier than the 125th Squadron, had reached the Somme River to its front and found all the bridges in its zone blown. While the 2d Armored Division rapidly established a bridgehead and built a bridge, its reconnaissance elements 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-



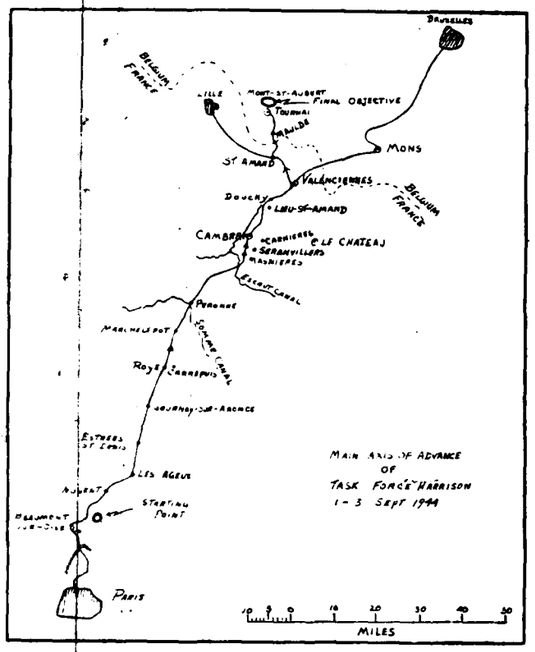


Above: **Tanks of an armored division (unit not identified) roll across Flanders. German units withdrew so fast that it was often difficult for the Americans to maintain contact.**

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

*Commander, Troop C



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 machine 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 ¾ 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

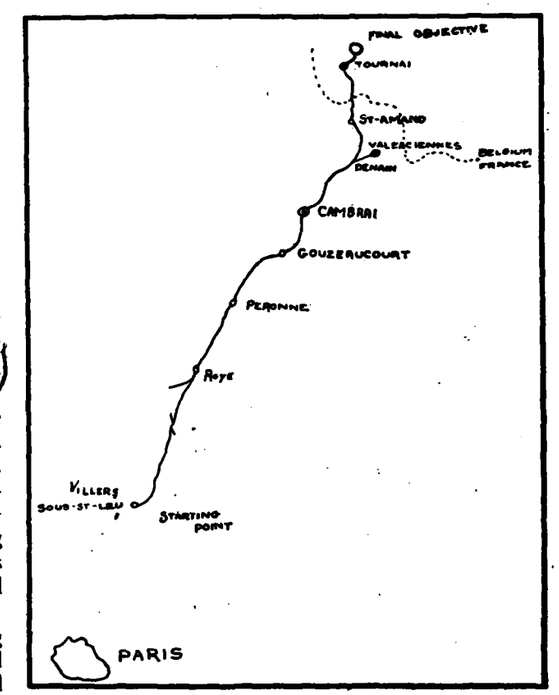
As Task Force Harrison moved out, it was flanked on the right by the 28th Infantry Division, and on the left by the 113th Cavalry Group with the 113th Cavalry Reconnaissance Squadron preceding the 79th Infantry Division. To the left of the 79th was the 2d Armored Division.

The pursuit was definitely under way and little time was available for orientation. The axis given Troop A went north and northeast through Roye, Pétronne, 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 ¾ 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 reconnoitered 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.

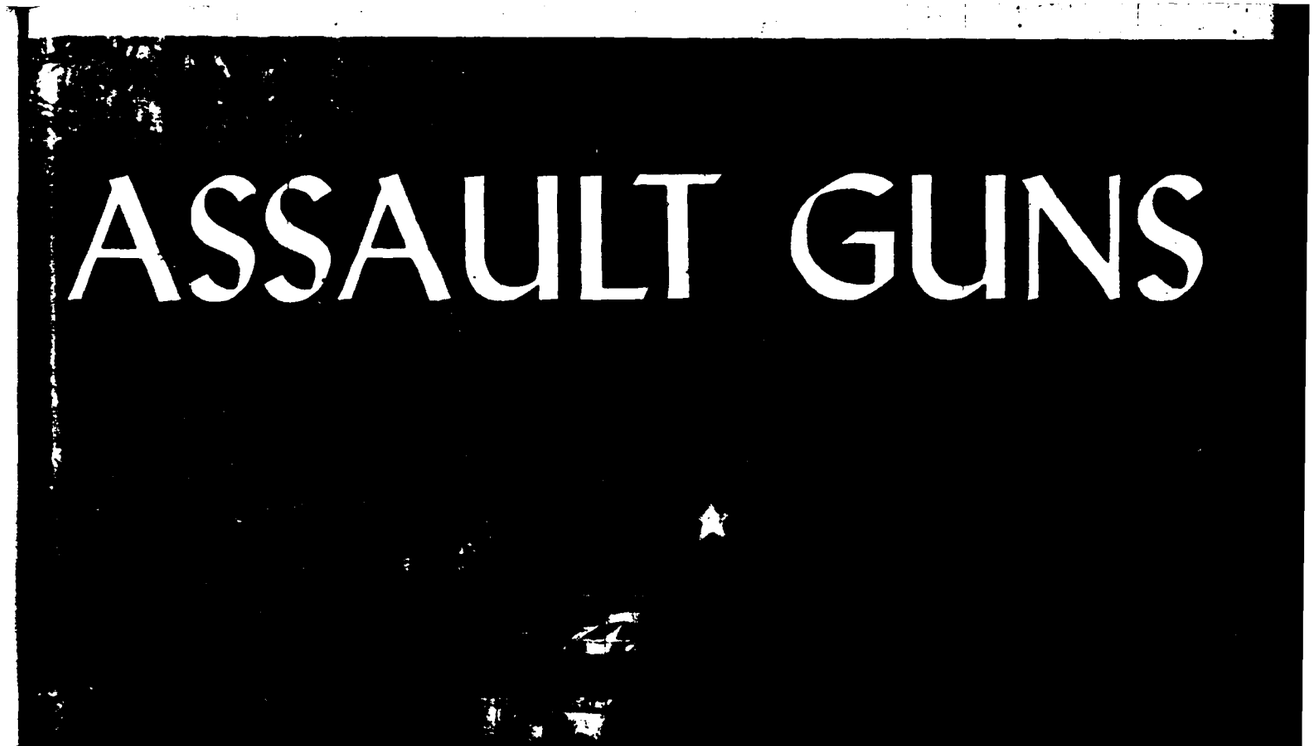
The 3d Platoon was ordered into Iwuy with instructions to block all roads leading out of town to the north, northeast and northwest. Lieutenant Lyman was instructed to establish a road block south of the bridge across the canal on the south edge of town. Troop Headquarters and the reserve platoon were 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**

Signal Corps Photo

Assault guns support a reconnaissance unit on patrol near Blair, France, in the Lorient sector. Unit is not identified.

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 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

*Commanding Troop E, 125th Cavalry Reconnaissance Squadron (Mecz).

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.

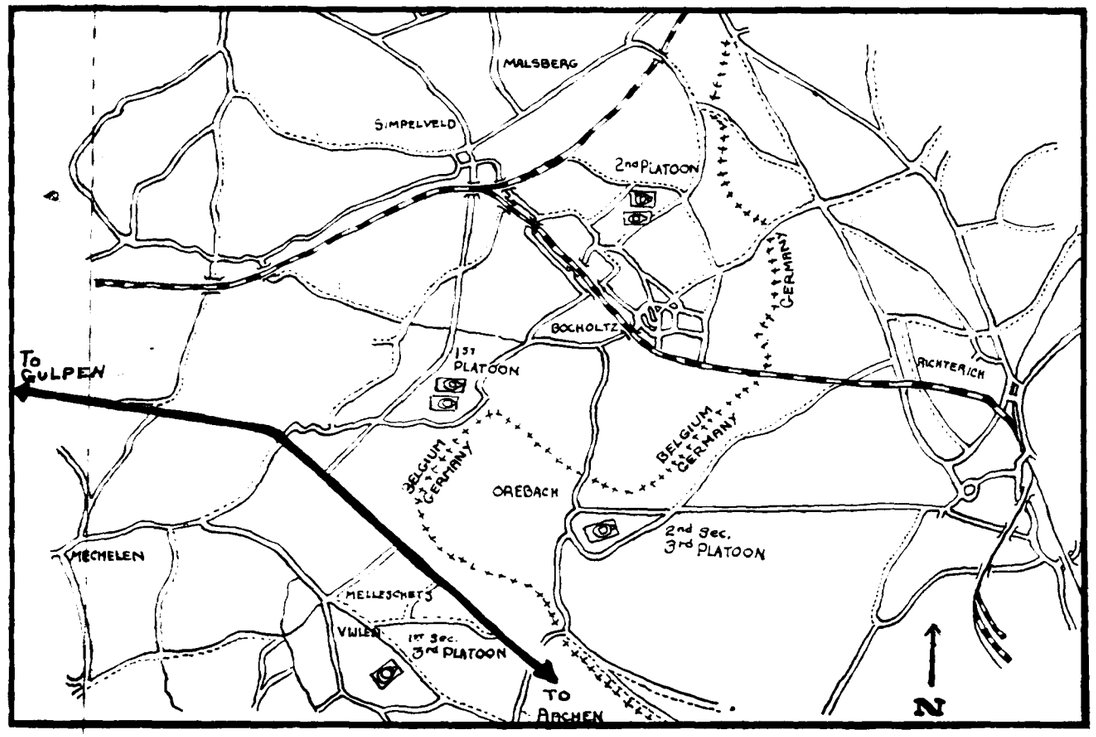
After this action the 1st Platoon assault guns were assigned two outposts on the west side of Orsbach, which they maintained until relieved by the 1st Platoon, Troop A and its assault gun attachment. The 1st Platoon assault guns then moved to Bocholtz and set up a defensive position opposite the Siegfried 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 Bocholz. 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

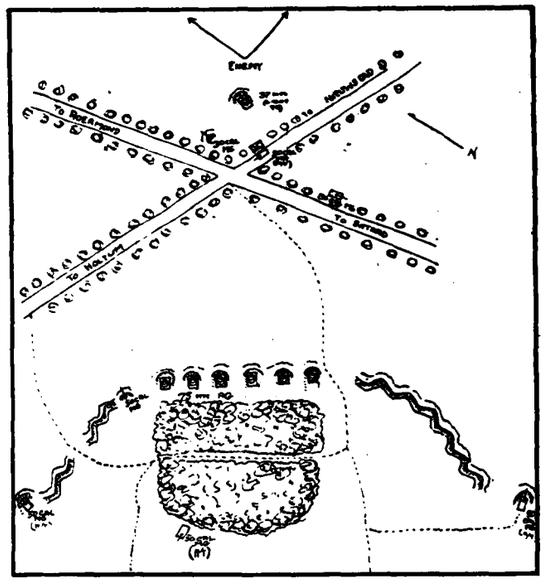
October 1—November 3, 1944

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 ½ mile west of the town of Neiuwstad, 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.

Coördination 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 coördinated their efforts with the battalion and assumed much of the artillery's night harassing fire. Another means of conserving ammunition was effected by close coördination 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 coördination 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 a sto 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 coördination between reconnaissance platoons or smaller elements and the assault guns. Each reconnaissance section should have at least one man experienced in adjusting indirect assault gunfire. 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 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.

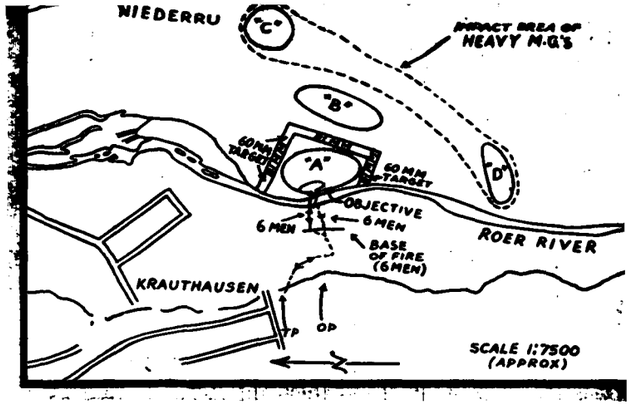
60mm mortars: H-3 minutes to lift on call.

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 coöperative 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 equipment 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.

*Commander, 104th Cavalry Reconnaissance Troop.

Comments from Combat

Ammunition Supply During Rapid Movement in Combat

*by Lieutenant Colonel Herbert F. Krucker, Cavalry**

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.

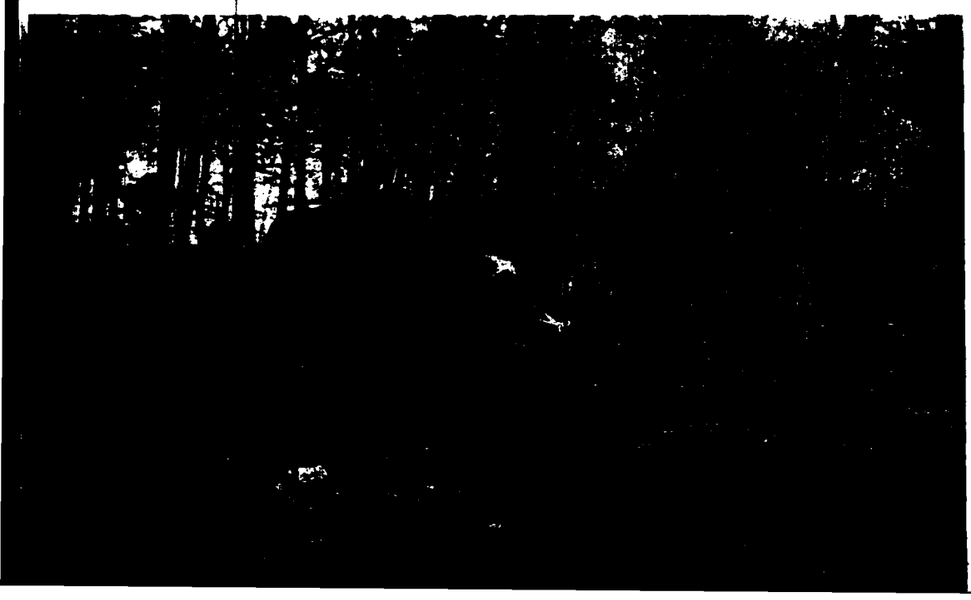
The principal of resupply was very simple in statement, to wit: Keep a full basic load at all times. This was not hard in Normandy when the line was relatively stable and the class V dump was close by, but it was obvious that when a breakthrough occurred or any extended move forward was made the problem 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 Geislautern, Germany, February 8, 1945. This gun belongs to Troop F, 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

The system was particularly helpful to the attached antiaircraft 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 batalion 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 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 dugout. 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

*3d Cavalry Reconnaissance Squadron (Mecz.).

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.

*Radio Operator, 34 Cavalry Reconnaissance Squadron

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

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 reëstablished 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?

Write it down—100 to 2,000 words.

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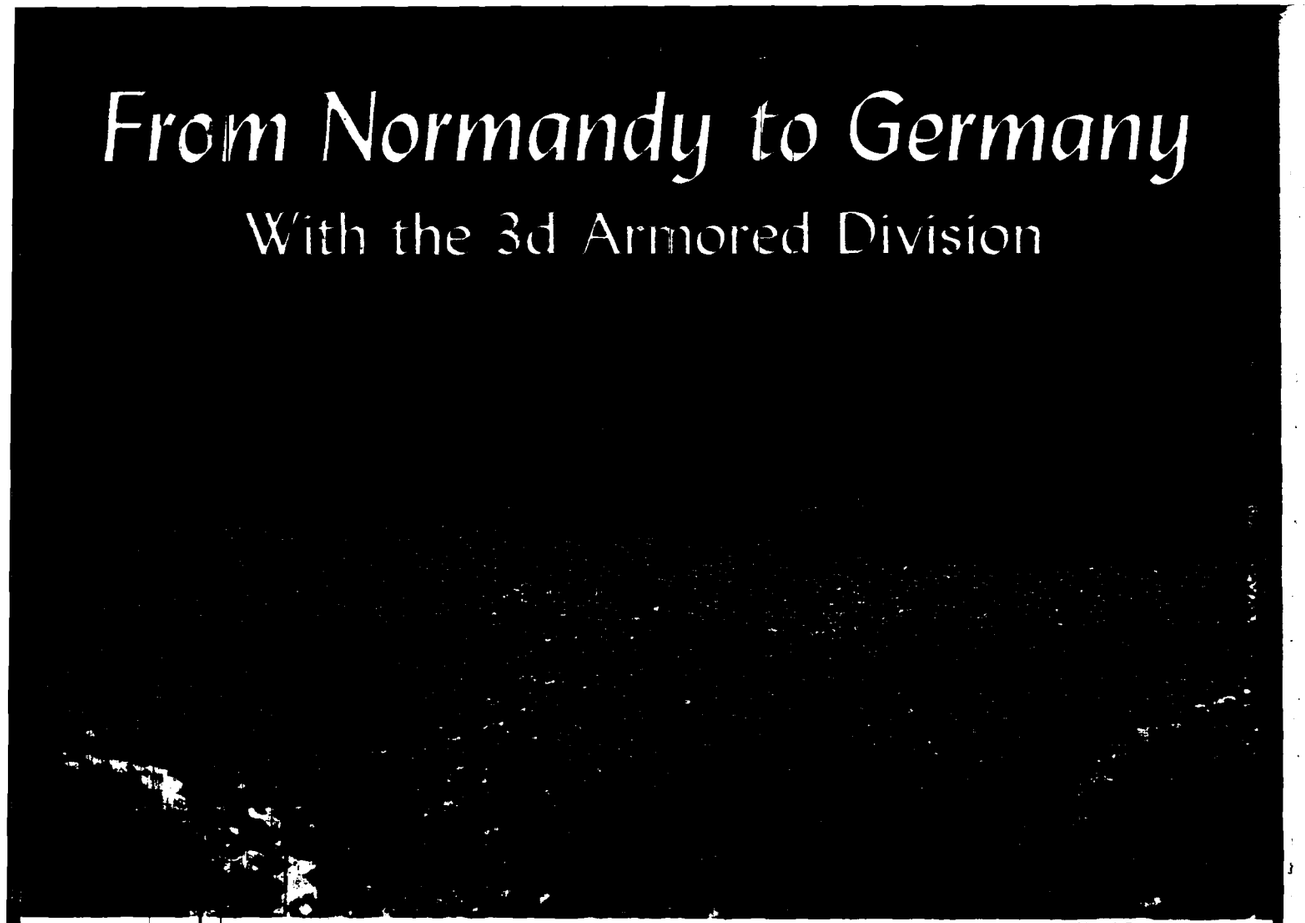
Let others benefit from your experience.

From Normandy to Germany

With the 3d Armored Division



Signal Corps Photo

Tanks of the 3d Armored Division fire at German positions in Belgium. Note mountain in background; also snow.

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 Colonel Abney) remained principally in reserve. Later, when the division began to shake down to a more perfectly coördinated 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-dozers, division engineers designed their own. The Maintenance Battalion constructed an arrangement which

Compiled from a pamphlet, "Call Me Spearhead," issued by *Stars and Stripes*, a publication of the Information and Education Division, Special and Information Services.

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 Foret 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 equippage, 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, commanded 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—Ranes—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.

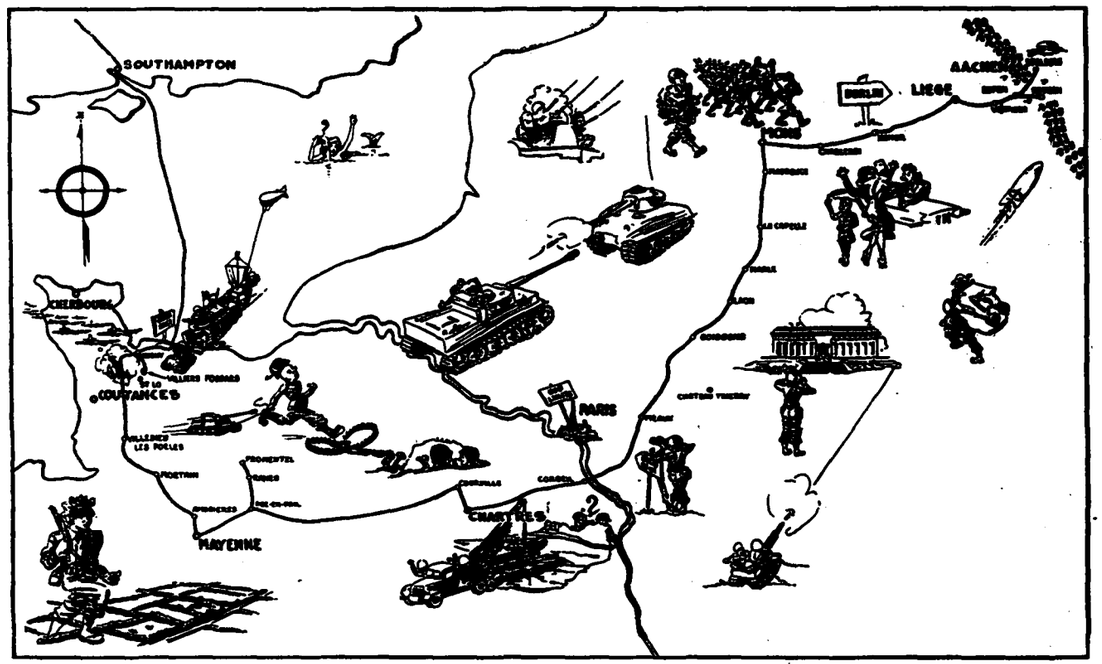
Individual performances were faultless. Tank commanders drew straws—the winner leading the attack. Fighting was often at 70 to 100 yards. One TD neutralized two Panther tanks at the negligible range of 25 yards. Two shots pierced the thick frontal armor of the vaunted Mark Vs. The TD commander himself 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 Chateauneuf, 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 Compte 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 I (Lovelady) 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.

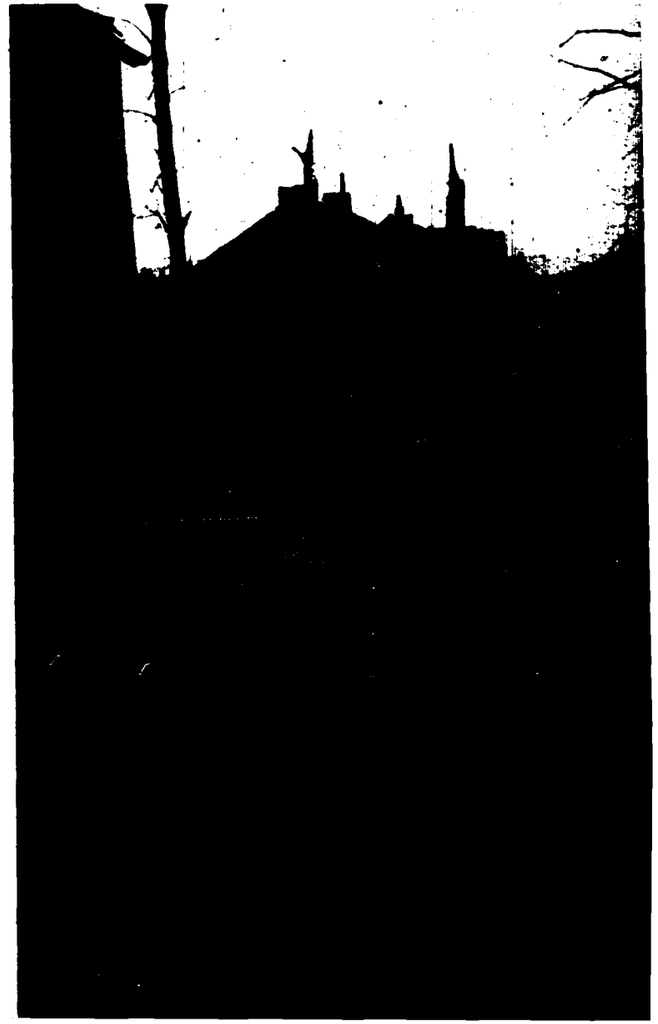
Task Force Mills (Major Herbert Mills) of CC Boudinot reached Namur that day. CC Hickey bivouacked that night east of Charleroi, and CC Boudinot, which had alotted 45 minutes for passage through the city, took two hours and 45 minutes. Advance was delayed by the tumultuous welcome of the citizens.

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 coupelet. He was the 4th German general for whom the division had accounted.

On the 8th Lieutenant Colonel Hogon'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 coördination 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.

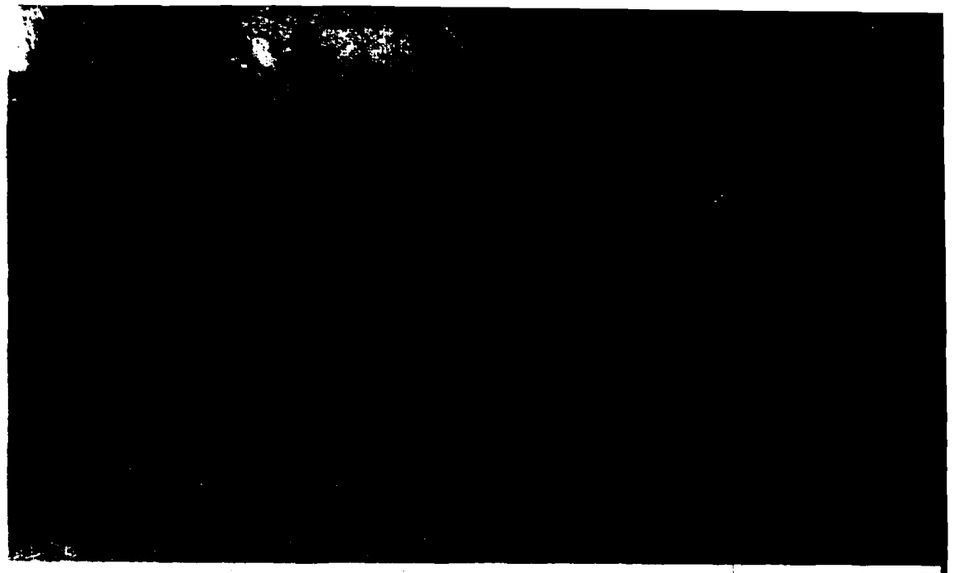
Inside Hitler's Reich

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 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, athletes 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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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 coördinated 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."

* * *

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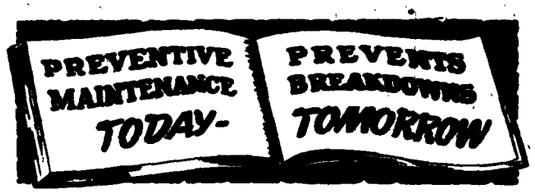
Bailey, Lt. Leon E.
Barlow, Lt. Bowman O.
Bartels, Lt. Chester F.
Bennett, Lt. Thomas H.
Bennett, Capt. W. C.
Bensley, Capt. Harry R.
Beziat, Lt. Robert L.
Bielss, Capt. August C.
Birkett, Lt. Bion B.
Black, Lt. Wm. H.
Booth, Lt. Donald
Bowden, Lt. W. K. (USNR)
Boyle, Major Russell T.
Brady, Lt. Ben.
Bricker, 1st Sgt. Mervin A.
Bright, Lt. Claxton W.
Brown, Lt. Col. M. M.
Bruce, Lt. Robert W.
Brunswick, WO David
Bukowski, Lt. Bernard V.
Buser, Capt. George W.
Byrns, Lt. William C.
Cahill, Lt. James P.
Caldwell, Lt. Tommy
Campbell, Lt. Virgil L.
Carlson, Lt. Donald W.
Caton, Lt. John
Cave, Lt. R. F.
Chaffee, Lt. Thomas K.
Champlin, Major Paul W.
Chapin, Capt. John S.
Clark, Lt. Charles T.
Clayton, Lt. H. D.
Coe, Col. R. L.
Coffman, Lt. Earl R.
Cohen, Sgt. Raphael
Coles, Major A. P.
Colman, Lt. Lee J.
Compton, Lt. John R.
Connors, Lt. R. W.
Cooper, Capt. James W.
Cotton, WO James
Cotton, Lt. Wm. E.
Crozier, Lt. Baalis B.
Hutler, Lt. Benjamin M.
Dallas, Lt. Burt E.
Daran, Capt. Patrick B.
Davisson, Major J. E.
Deegan, Lt. Paul A.
Dennison, Lt. V. A.
Dodson, Lt. Leonard E.
Doetterl, Capt. F. A.
Dolan, Lt. John W.
Drosselmeier, Cpl. Francis J.
Duisman, WO Joe
Duncan, Lt. Col. Scott M.
Dunlap, Lt. John M.
Dunton, Lt. David P.
Dvoracek, Lt. George F.
Early, Capt. Douglas C.
Eberhart, Captain Wilson C.
Eckard, Lt. Chester R.
Eicher, Capt. R. A.
Etzler, Lt. Frank H.
Evans, Lt. Joe M.
Evans, Major Morris H.
Falconer, Lt. Ian
Fenner, Lt. Louis N.
Field, Lt. Willis E.
Fletcher, Major Louis W.
Fonda, Major Edward S.
Fox, Pfc. Gerard
Freeman, Capt. Robert L.
Fuller, Capt. Andrew P.
Gardner, Lt. George T.
Giesen, Lt. Col. Arthur R.
Gipson, Lt. Charles E.
Gleason, Lt. Cloyes T.
Goodman, Major R. M.
Gouger, Lt. Thomas M.

Gray, Major John E.
Gray, Lt. W. Ashley
Haggard, Major Edwin C.
Hamilton, CWO Kenneth D.
Hamner, Capt. Charles D.
Hand, Lt. Robert J.
Haneman, Lt. Henry W.
Hanson, Col. Thomas G.
Hantke, Lt. Russell C.
Harney, Lt. Robert G.
Harrell, Lt. Wesley B.
Harris, Lt. Glen H.
Harris, Lt. Robert W.
Hawley, Lt. Col. D. C.
Hawley, Lt. Dan W.
Heatherington, Capt. Fred R.
Heatherly, Lt. Edward S.
Hellman, Lt. Leo
Hicks, Capt. Grady L.
Hinton, Lt. Walter V.
Holsapple, Lt. Earle T.
Hope, Lt. Col. Wm. B.
Howland, Lt. John S.
Howze, Col. R. L.
Hughes, Lt. Carl R.
Hughes, Capt. William R.
Hurst, Lt. Jack
Iseley, Lt. Col. C. M.
Jenkins, Lt. Hubert J.
Jochum, Lt. Clarence C.
Johnson, Lt. Col. Albert S.
Jones, Lt. Joseph W.
Kearney, Lt. John T.
Kearns, Lt. John A.
King, Major Charles G.
Kirby, Lt. Thurman A.
Koon, Lt. Billy W.
Laney, Lt. Harry M.
Langford, Lt. John R.
Lawson, Lt. Clyde D.
Len, T/5 Nikolas
Lieb, Pvt. William R.
Lindblad, Lt. Ralph L.
Lindsey, Lt. Chester A., Jr.
Lippincott, Major Louis D.
Liscomb, Lt. John M.
Logan, Capt. Samuel S.
Long, Lt. William E.
Luca, Sgt. S. A.
Luckey, Capt. Marion W.
Ludwikoski, Lt. John E.
Lyons, Lt. Lushion L.
McAllister, Capt. James W.
McClain, Lt. James L.
McClain, Lt. Wilofard A.
McCulloch, Capt. Joseph A.
McGhee, Lt. Robert B.
Macarthur, Capt. D. B.
Macleod, Major George I.
Martin, Lt. John E.
Martin, Pvt. Nathan L.
Maust, Major Robert
Maxwell, Lt. Jesse N.
Means, Lt. Alfred G.
Meyer, Sgt. Earl H.
Miller, Lt. Francis Morris
Miller, Lt. Thomas E.
Minihan, Lt. William J.
Mitchell, Lt. William G.
Mohr, Lt. Gordon D.
Moore, T/Sgt. Jack J.
Morris, Lt. Weldon B.
Morse, Lt. George B.
Murdock, Capt. Warren D.
Murphy, Lt. Joe H., Jr.
Neel, Cpl. Robert W.
Neiman, Lt. J. F.
Nelson, Capt. Harold A.
Neuhaus, Lt. Philip R.
Noll, Lt. Sherwood
Norton, Lt. Clifford J.
O'Hara, Lt. Joseph P.
Oliver, Lt. Elery W.
Pearson, Lt. H. Brice
Peckham, Lt. Vassar C.
Pelletier, Lt. Edmund
Perry, Lt. Robert P.
Poppic, Lt. George T.
Powell, Capt. Joseph W.
Pressman, Lt. Lawrence
Price, Lt. Cole B., Jr.
Price, Lt. Madison C.
Purcell, Capt. Graham B.
Quinlivan, Lt. William D.
Rader, Major Dale
Raley, Lt. A. C.
Read, Lt. Russell F., III
Rasmussen, Lt. Lawrence T.
Reed, Capt. Francis D.
Reed, Lt. Ted E.
Reidenbach, Lt. Richard C.
Roessler, Lt. Frederick F.
Rottman, Lt. Charles C.
Russow, Lt. Lanny
Ryan, Capt. Thomas J.
Sarratt, Lt. Charles S.
Schiffman, Lt. Robert D.
Schurkman, Lt. Seymour
Schutt, Lt. Wm. C.
Seiley, Lt. Carl A.
Shackelford, Lt. Paul A., Jr.
Shappee, Lt. Jonathan
Shaver, Lt. Howard D.
Shelton, Lt. Orville E.
Shields, Lt. Harold A.
Shorr, Pfc. Stanley
Short, Col. J. C.
Shultz, Capt. Wm. G.
Siegfried, Major Jack S.
Silance, Capt. Wm. H.
Sitzenstock, Lt. Robert L.
Slovacek, Lt. Elmer F.
Smallens, Cpl. Alfred M.
Smith, Lt. Chas. Z., Jr.
Smith, Lt. Ralph C. J.
Spencer, Lt. Gayle H.
Staker, Capt. Lowell G.
Stapleton, Lt. Joseph I.
Stephens, Lt. Marquis D. L.
Stoddard, Lt. Col. Ralph H.
Stokes, Lt. Wm. S., Jr.
Sweet, Major Murray F.
Taylor, Capt. G. P.
Taylor, Lt. Col. Harvey D.
Thomas, Pvt. Edward W.
Thompson, Col. F. J.
Thompson, Lt. Homer E.
Thompson, Capt. Lynn G.
Tornace, Lt. Hugh F.
Tracy, Lt. Col. L. S.
Tucker, Lt. Lee E.
Tully, Lt. Howard B.
Van Holsbeke, Lt. Leon A.
Van Milligan, Lt. Alfred C.
Waldron, Capt. A. S.
Waldrop, Lt. Tom G.
Walker, Lt. Philip G.
Walker, CWO William E.
Wanke, Capt. Willard S.
Waring, Lieut. Charles W.
Warner, Lt. J. W.
Wassell, Capt. Harold
Wayman, Lt. Col. L. A.
Webb, Capt. Richard A.
Wells, Lt. Claude M.
White, Major Gerry L.
Willard, Pvt. J. J.
Williams, Lt. Jack A.
Williams, Pfc. James D.
Williams, Lt. Willard C.
Willis, Lt. Col. Arthur N.
Willoughby, Col. R. E.
Wilson, Lt. George W.
Wingfield, Lt. Jim K.
Winslow, Capt. John M.
Withers, Lt. Louis A.
Witten, Lt. Wm. L.
Woolworth, Lt. Duane
Wright, Lt. Owen O.
Wright, Lt. Col. Robert O.
Young, Lt. Charles E.
Zeskey, Lt. Harry C.
Zweible, Major D. T.



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.

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 occured. 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 counterattack, 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 Germn 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 important 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 antiaircraft 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, antitank 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

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.

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 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 Malacanan 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.

1st Cavalry Division

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.

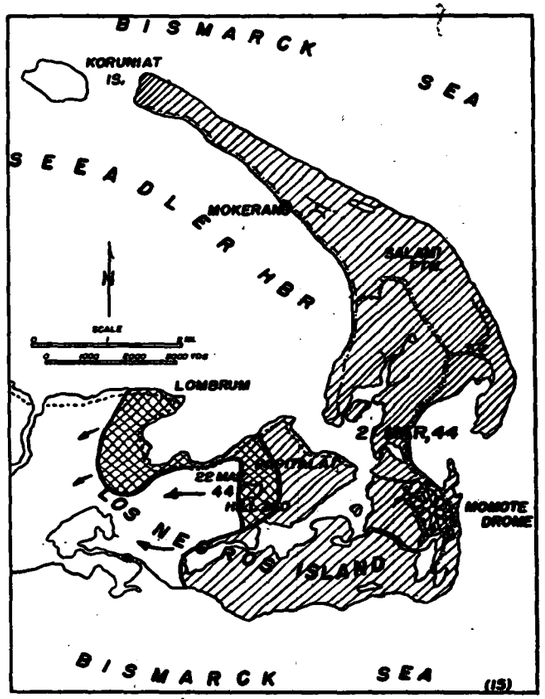
On the 22d, combined elements of the 5th and 12th Cavalry (two squadrons) launched an organized attack against the elevated enemy positions west of Papitalai Mission. (See Map 1.)

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 pestiforous but ineffectual counterattacks gained nothing but an ever-increasing roll of Sons of Heaven killed in action.

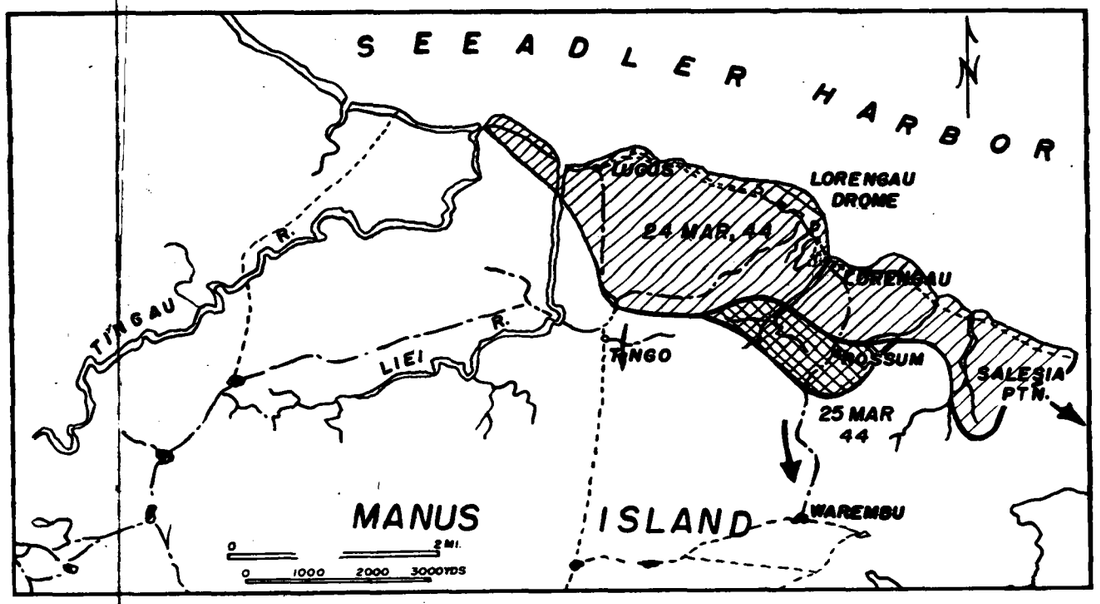
Attack on Rossum

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 pillboxes, 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 strategems. 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 outskirt 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 Loniu Passage, the dividing line between the 2d Brigade on Manus Island and the 1st Brigade on Los Negros.

Previous information indicated the presence of Japanese 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.

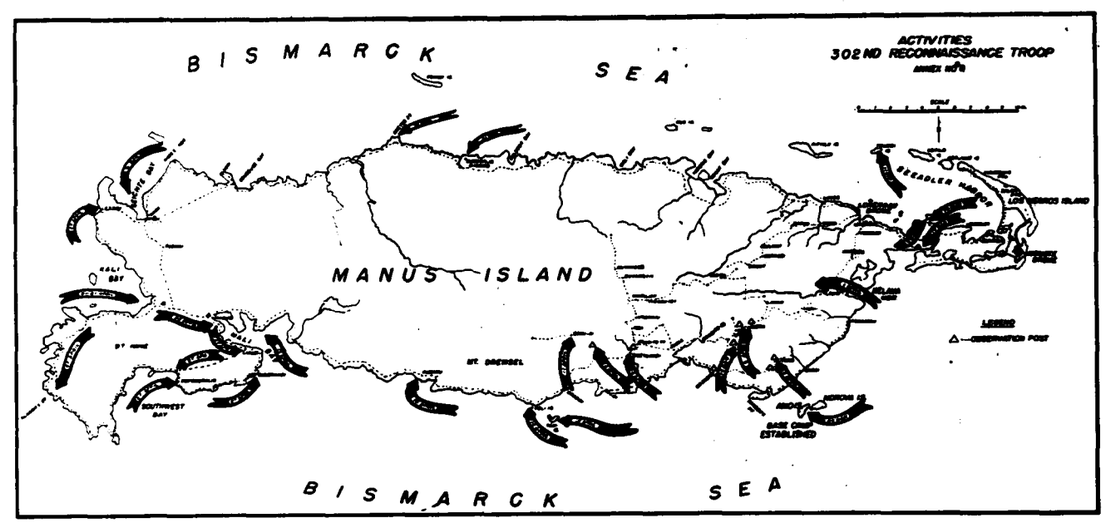
A Jap wandering west from Papitalai offered a good example of the enemy's spirit at that stage. One of the few stragglers left alive on Los Negros was vainly struggling to get to Lorengau, not knowing the fate of his comrades there. He had thrown away his weapon, and wore only a few grenades and tattered clothing.

Pityilu Island

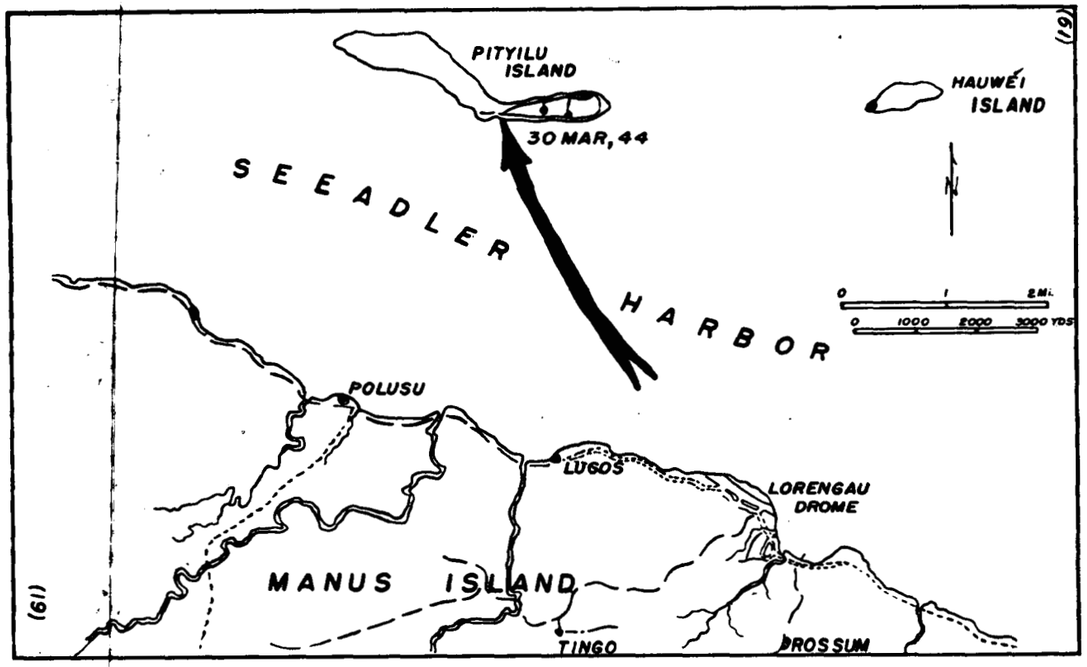
While operations were still in progress on Los Negros and Manus Islands, P-40's had struck at Pityilu Island, the fourth in a chain running west from the northern tip of Los Negros.

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 Mopenang 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 . . . hoooooooooo!" in true cavalry style.

The coördinated 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, unlifelike 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 whir 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 Fechiteler, 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.

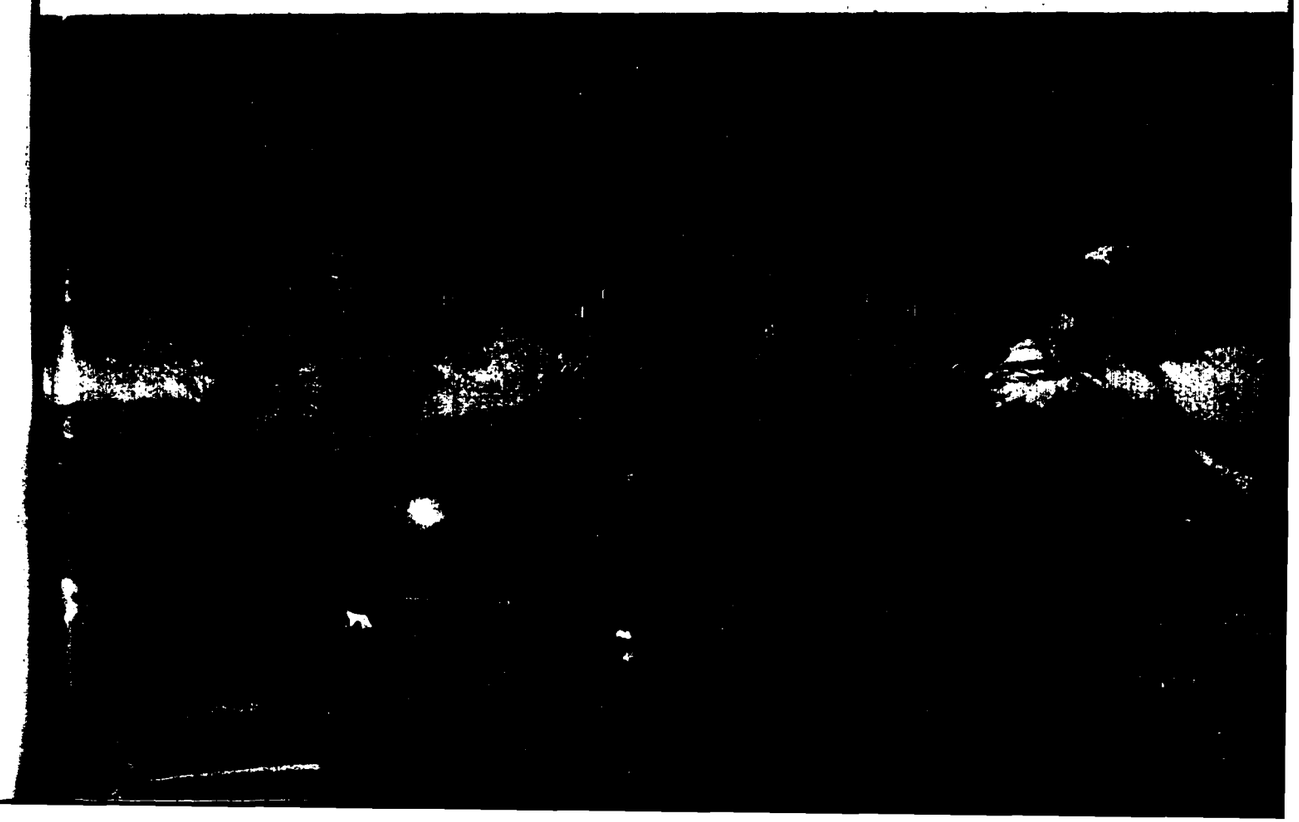
After the Admiralties Campaign had "officially" ended, there remained several hundred enemy stragglers to be disposed of. Information indicated that the enemy was again planning to assemble and had in fact started to drift to the area selected. Probably no units have ever had more realistic and extensive 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.

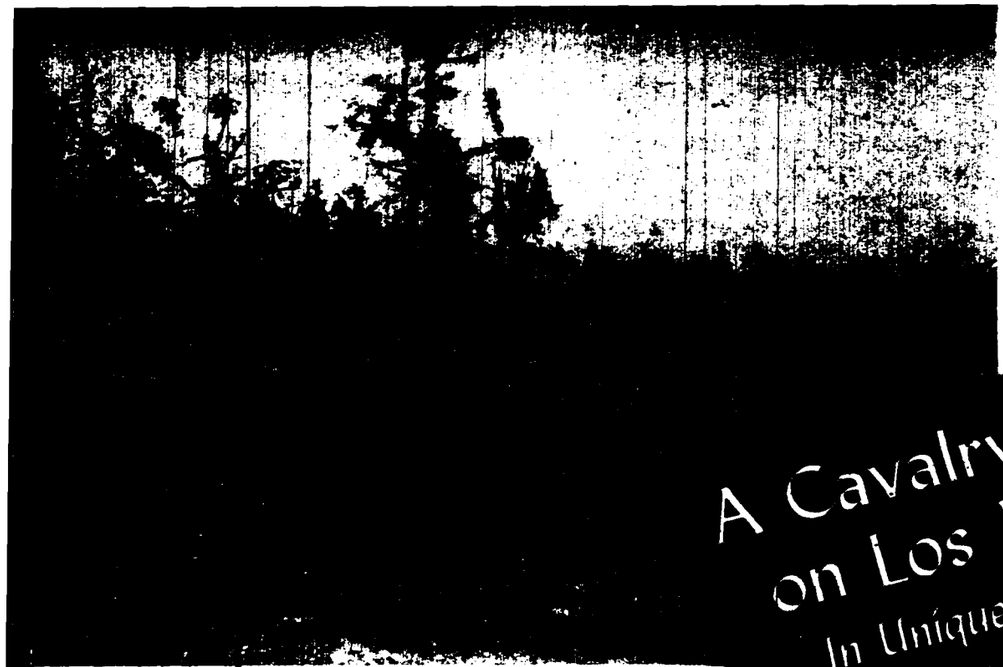
During this period of mopping-up operations particular attention was given to stealth, observation, terrain appreciation, reporting of information, and the development of physical fitness by a series of extended patrols with a minimum of equipment.

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 wade 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

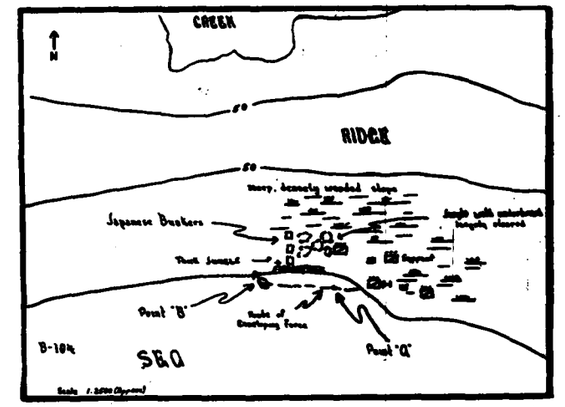
The troop commander decided to use one platoon in a holding attack in front of the bunkers, send one platoon of two full-strength squads through the water along the beach to a position in rear of the bunkers, and use the third rifle platoon in support of the right flank. Initially, the 60mm mortars and 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.

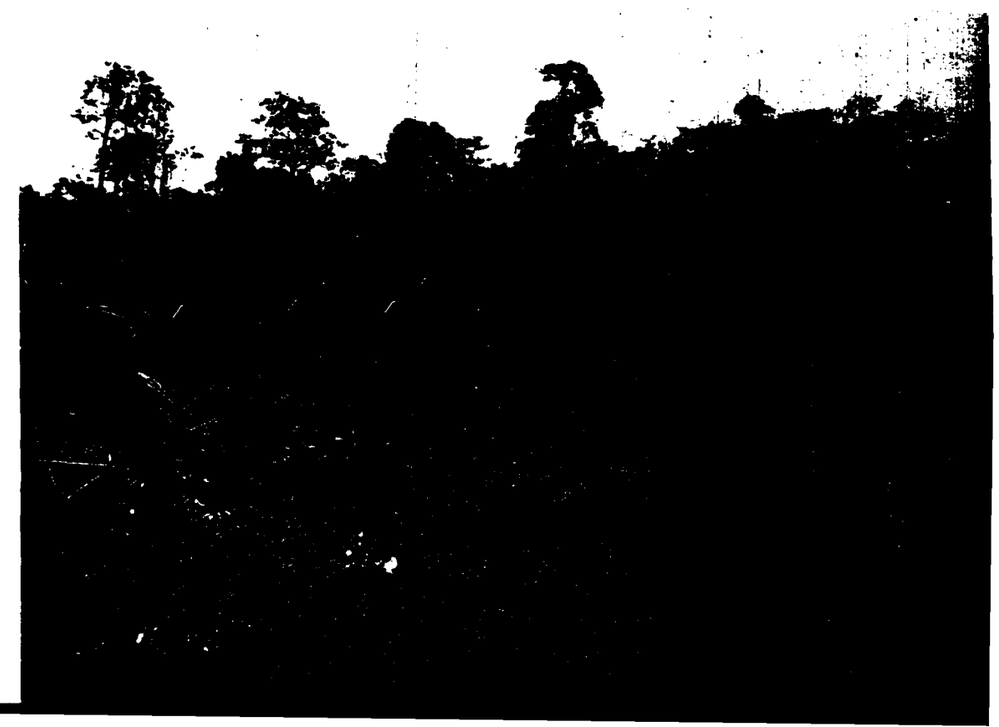


Situation

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 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?

"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.

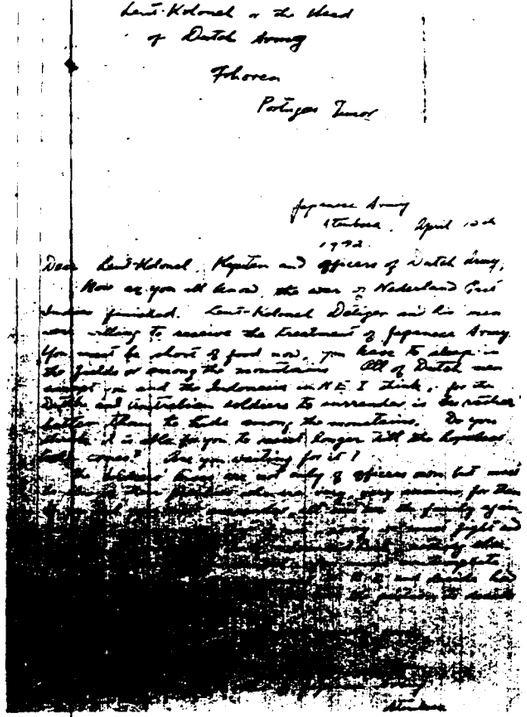
"Hoping to get you good answer soon,
Yours sincerely,
JUNZT KINOSHITA,
Head of Japanese Army,
Atemboea.

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

GUERRILLAS OF THE INDIES

*by Selden Menefee**



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 several 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."

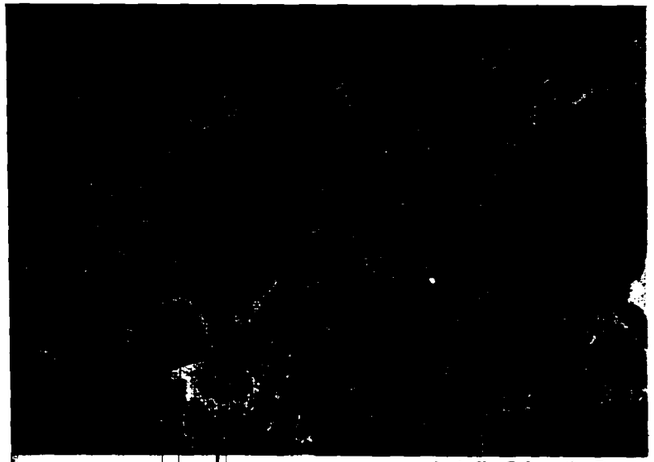
For 69 days after the Japanese invasion of Timor the guerrillas were completely out of touch with the outside world, and were given up for lost. Then the Australians managed to rig up an emergency radio transmitter out of part of an old radio set they had discovered in the jungle, scraps of wire, and 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

*Director, Washington Office, Netherlands Information Bureau.



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 Netherlands Indies Army, and the wife and the 16-year-old niece of one of the Indonesian officers.

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

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 guerrillas. 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.

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 counterattack, 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.

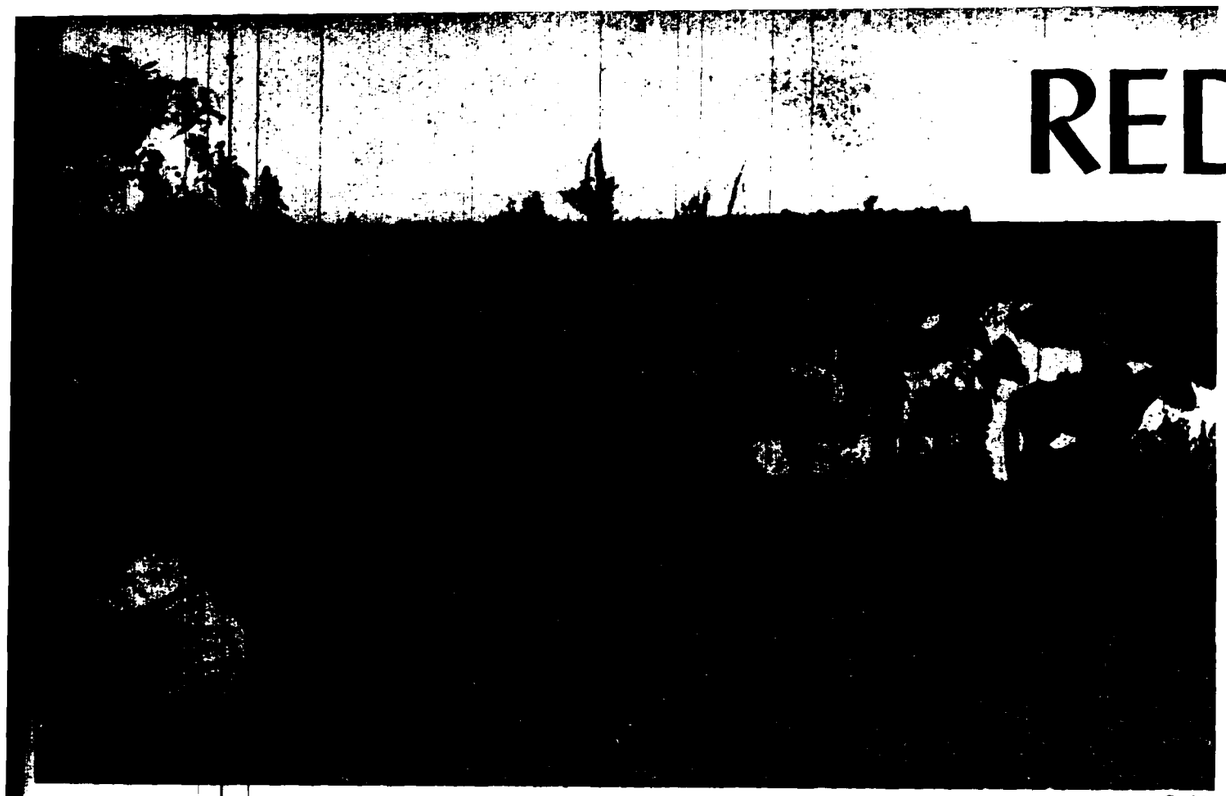
This organization greatly increases the size of the small Jap unit, generally following German and American principles. Although the Japs are believed to have more than one armored division, it is thought that they will confine their tank operations to support of infantry.

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.

RED ARMY COSSACKS

by Major Robert B. Rigg, Cavalry



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 writen 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 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* cavalrymen 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

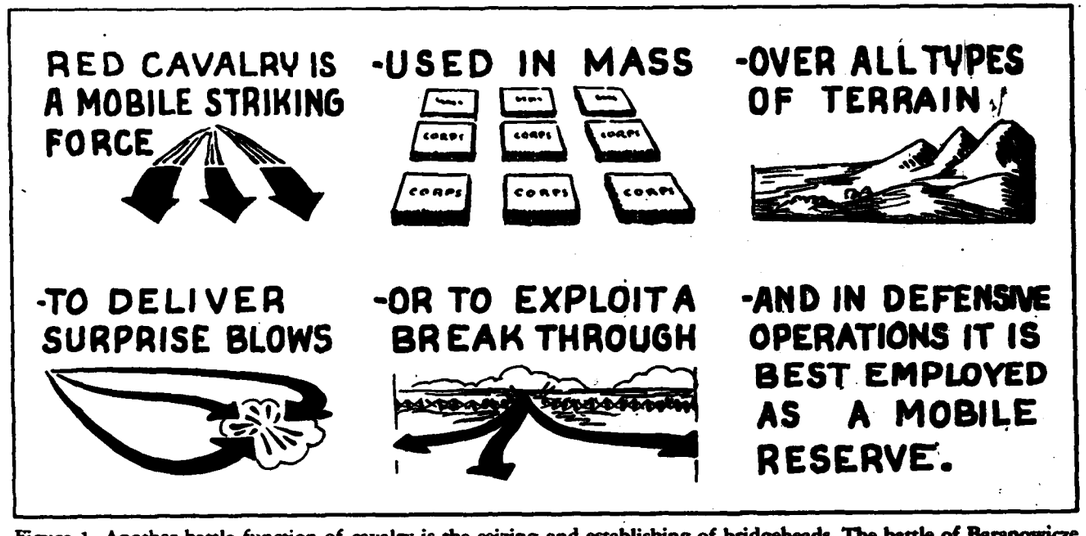


Figure 1. Another battle function of cavalry is the seizing and establishing of bridgeheads. The battle of Baranowicze (July 1944) is a good example of such an action. General Pliev's Kuban Cossack corps fought its way for 60 miles in a period of less than two days to outflank the enemy and establish 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 disadvantageous 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.

[1]January-February, 1944, Cavalry Journal.

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 areas[2] 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:

[2]The 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.

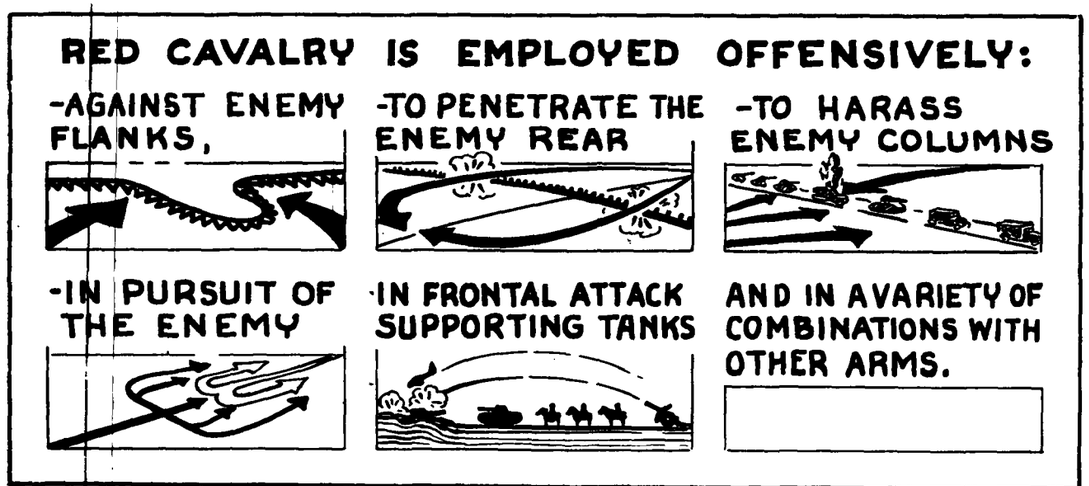


Figure 2. Red Cavalry is regarded primarily as an offensive arm. It is a highly mobile force, equipped with modern arms.

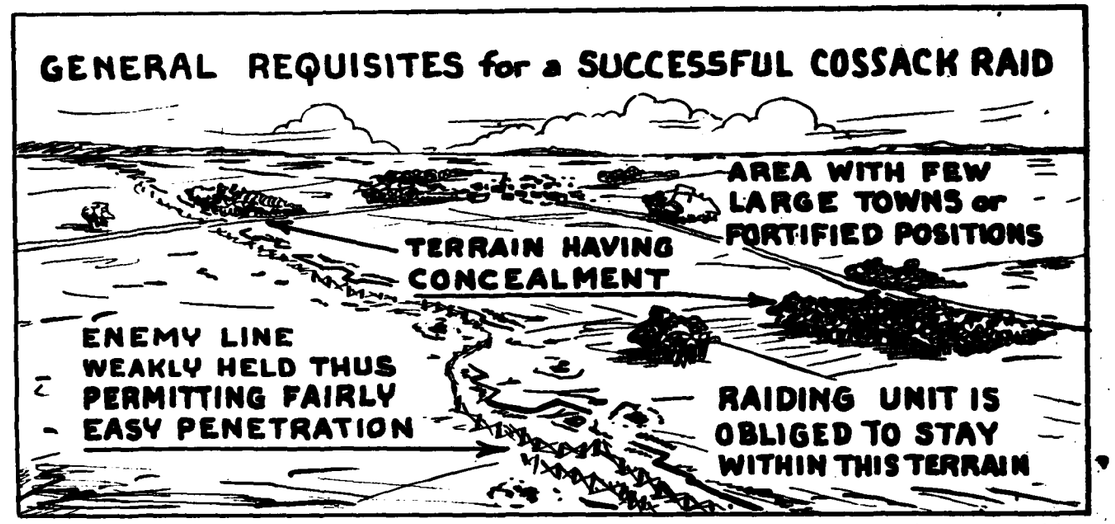


Figure 3. The raiding plan must include a preliminary air reconnaissance and map study to determine these requisites.

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 strongpoints 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.

[3]Such raiding units rarely include tank support.

[4]Either W/ or W/O mechanized units attached, depending on the season, terrain and objectives.

[5]Raids 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.* 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 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 trys 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.

*As discussed here, mounted attacks do not include those made with tanks.

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 acton 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.

Tactics of Red Army's Mobile Team

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 overflown 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 cavalrymen 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.*

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 squardons 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 cavalrymen 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 Barqnovitchi 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 balanced 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 unremitting 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.

Translated by Nicholas Corotneff **from an editorial in *Red Star*, August 2, 1944**

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 vehicles, 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.

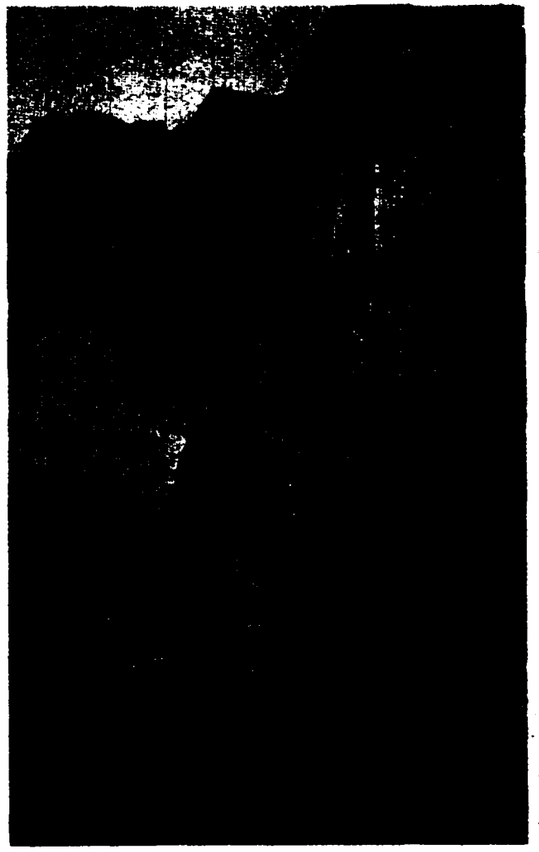
2. *Pack Battery.* The pack battery was constantly used by infantry troops in the mountains and was successful in bringing artillery fire on enemy positions from the flanks. This unit offered immediate direct artillery support to infantry troops in cross-country attacks where normal artillery fire was 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.



*Commander 3d Reconnaissance Troop (Mecz) in Sicily and Italy from May through December 1943.

MIXED CAVALRY REGIMENTS*

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 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, reëstablishing 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.

*(Translated at the Command and General Staff School from a Spanish article by De Sotto in *Ejercito*, January, 1943.)

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 reëstablish 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.

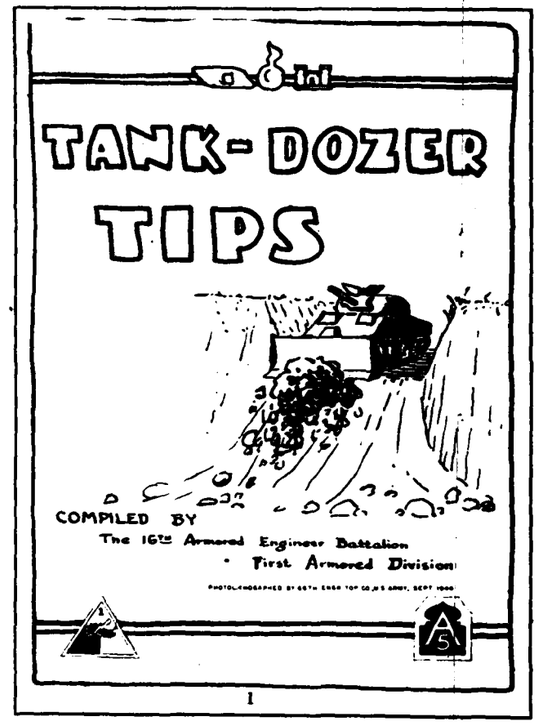
In order to meet the threat of the armored force, which was endeavoring to encircle Shreveport from the north, the 4th Cavalry, less the detachments on the west flank, was assembled at Logansport, entrucked, and moved to Greenwood, 25 miles distant and a few miles west of Shreveport. There it held off 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 reëstablish 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.



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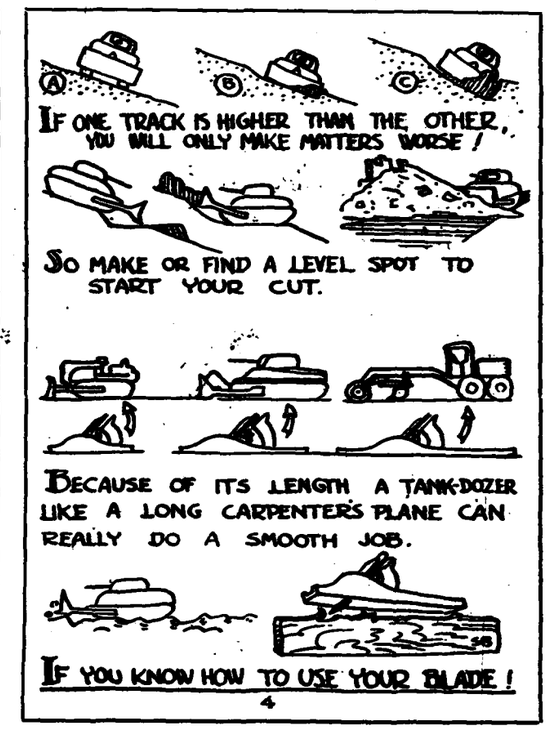

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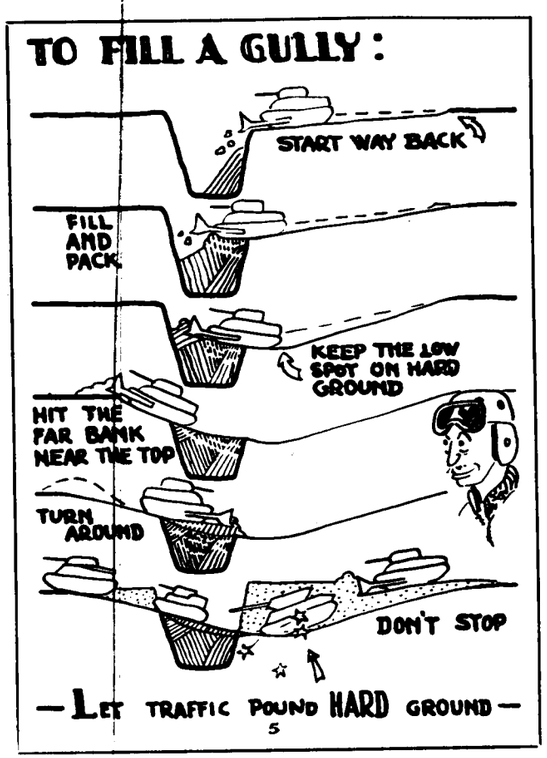
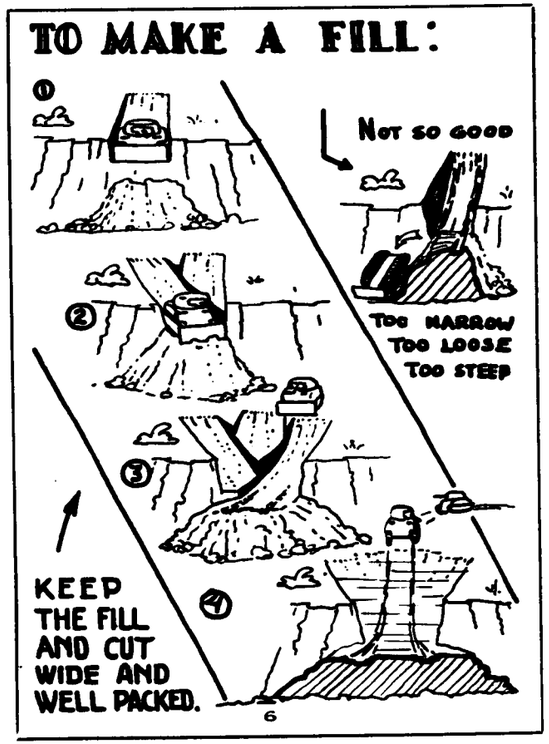
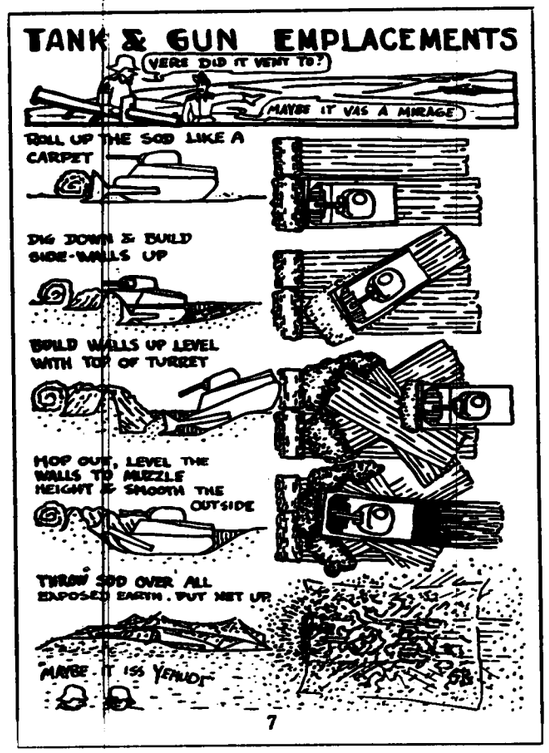
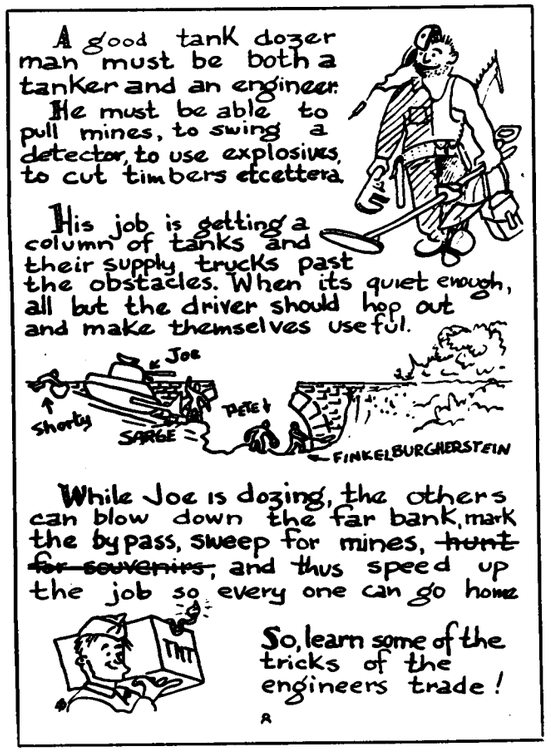
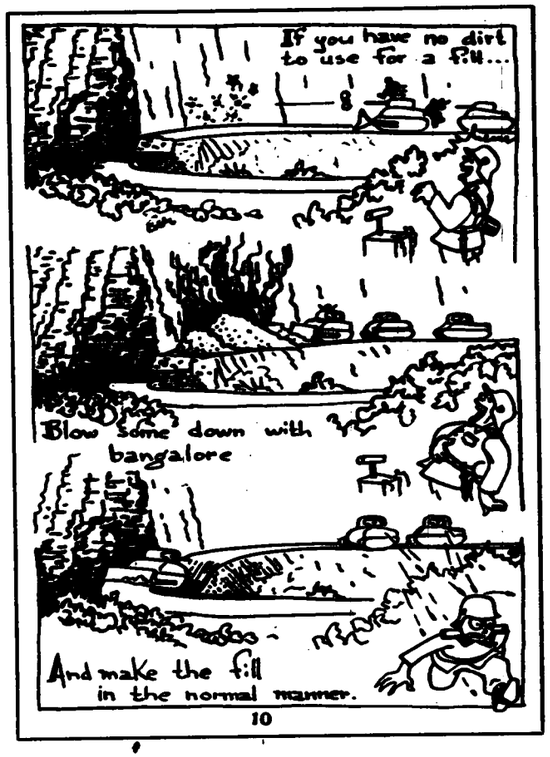

TO FILL A GULLY:
START WAY BACK
FILL AND PACK
KEEP THE LOW SPOT ON HARD GROUND
HIT THE FAR BANK NEAR THE TOP
TURN AROUND
DON'T STOP
—LET TRAFFIC POUND HARD GROUND—
5


TO MAKE A FILL:
1
2
3
4
NOT SO GOOD
TOO NARROW
TOO LOOSE
TOO STEEP
KEEP THE FILL AND CUT WIDE AND WELL PACKED.
6

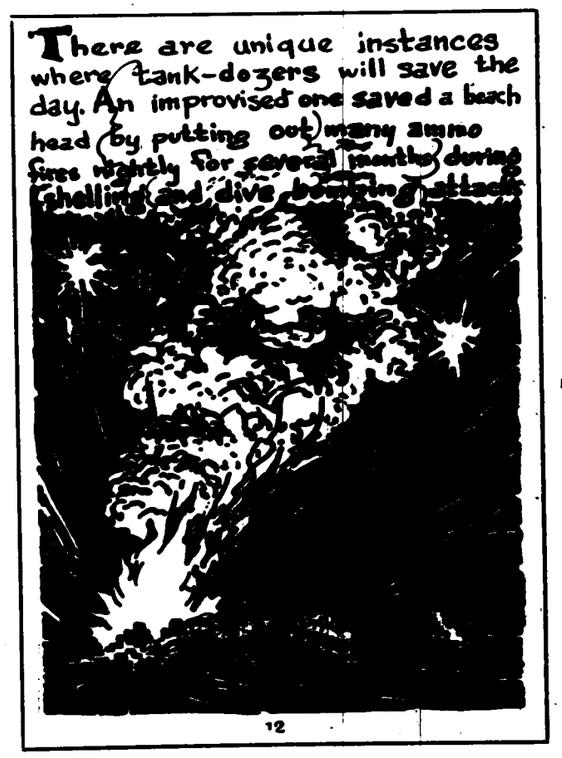

TANK & GUN EMPLACEMENTS
VERE DID IT VENT TO?
MAYBE IT VAS A MIRAGE
ROLL UP THE SOD LIKE A CARPET
DIG DOWN & BUILD SIDE-WALLS UP
BUILD WALLS UP LEVEL WITH TOP OF TURRET
HOP OUT, LEVEL THE WALLS TO MUZZLE HEIGHT & SMOOTH THE OUTSIDE
THROW SOD OVER ALL EXPOSED EARTH, PUT NET UP
MAYBE IT ISS YENUF
7


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 etcettera.
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.
Joe
Shorty
SARGE
PETE
FINKELBURGHERSTEIN
While Joe is dozing, the others can blow down the far bank, mark the by pass, sweep for mines, ~~hunt for souvenirs~~, and thus speed up the job so every one can go home
TNT
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 attack)
12

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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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.

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PARTY LINE, by Louise Baker 2.50
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 Warrant 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 publics 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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Signal Corps Photo

1st Cavalry Division in the Leyte Campaign

From A Report of the 1st Cavalry Division

7th Cavalry advances toward San Jose, Leyte, P. I., October 24, 1944.

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 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 Uban 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.

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.

Signal Corps Photo

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, reëquipment 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 coördination in this method of supply was very difficult. The jungles' thickness prevents the use of panels. Smoke is undependable. Map coördinates 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.

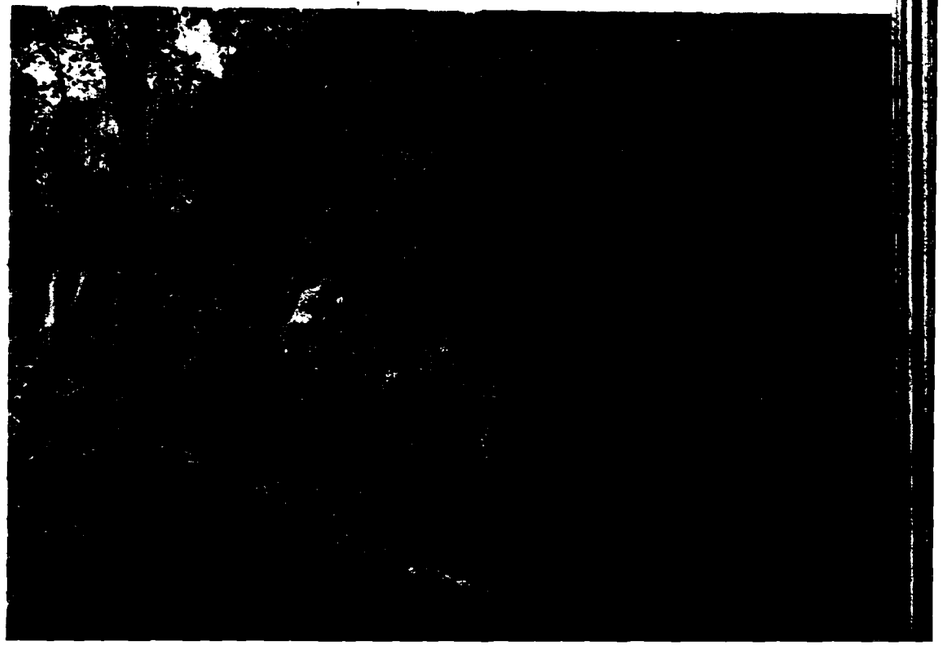
Tanks: Tanks were rarely used. However, they were valuable in the capture of Tacloban shortly after landing, and in clearing the Ormoc Road as the operations ended. Our experience was that the medium tanks could go any place the light tanks could.

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 Agoo 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 Agoo. 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.

A sharp tank attack also developed along the main road at about 8:00 P.M. Troop F had been holding enemy advance along trails from the north with difficulty, and now had to act as rear guard. The regiment, Troop F, and elements of the enemy attack all arrived in Rosario at about the same time. Considerable confusion resulted. Troop F in position in the barrio, holding enemy attackers from the north just clear of the regimental column as it withdrew, while every effort was made to expedite the withdrawal. Major Trapnell, Lieutenant Wheeler, and Lieutenant Mickleson, held, and destroyed by burning, the bridge one kilometer west of Rosario. All earned D.S.C.

The rear guard was under fire of enemy enveloping force and tanks throughout, but the withdrawal, more or less piecemeal to Bued River line, was completed by midnight. (175 men reached Bued.) This was the first regimental experience against enemy infantry, tanks and dive bombers.

December 23. Regiment in hastily occupied position at Agat held the river crossing and kept the old road to Baguio open for withdrawal of Baguio troops.

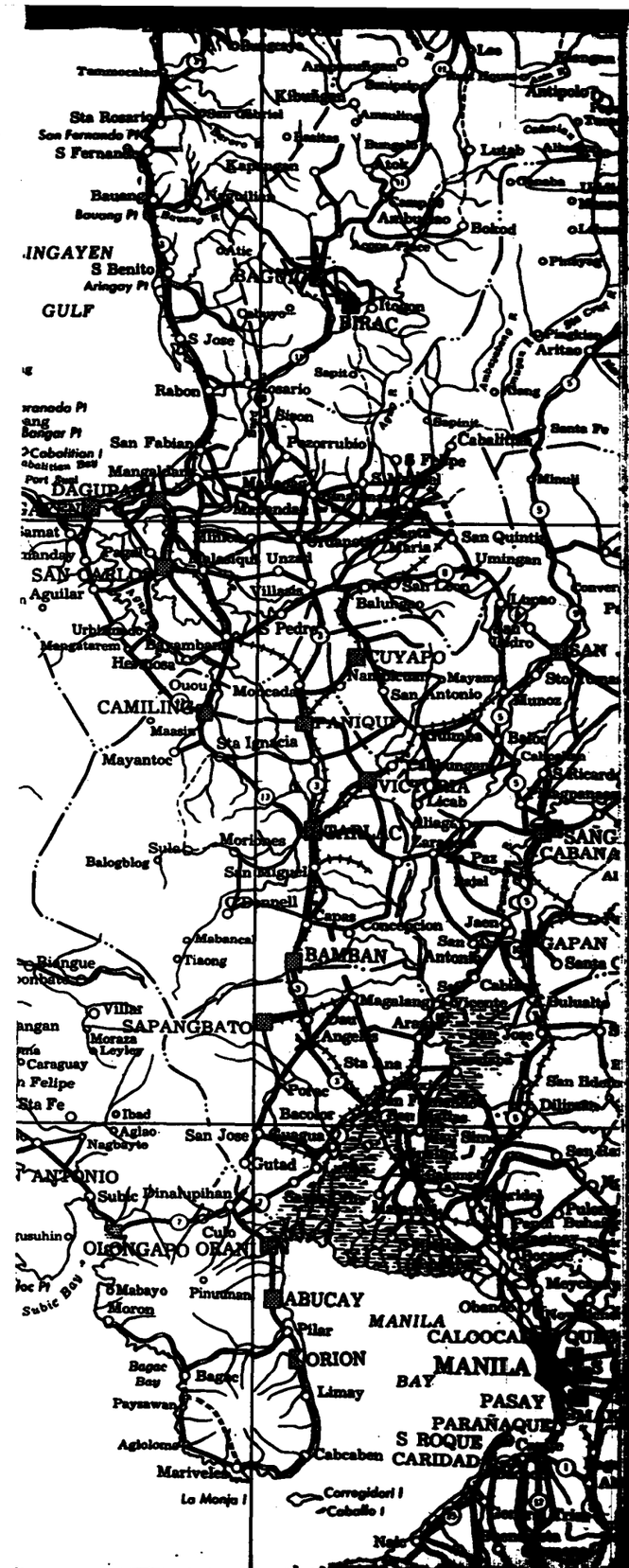
Some units of 71st Division joined during night of December 22-23 but did not occupy position and were gone by A.M. December 23. Regiment was ordered to cover withdrawal of remainder of 71st Division and did so until 9:00 A.M., when ordered to Pozorrubio to reorganize. Withdrawal was made through 71st Division lines at Sison.

Baguio Troops did not withdraw via Route No. 3. At this time two sections of scout cars, First Lieutenant Charles R. Bowers commanding (killed 24 December 1941), covered the roads and trails north and east of Pozorrubio. At dark, December 23, the regiment was again ordered to withdraw to Binalonan at about 1 A.M. Without food or rest since before Damortis action. Bivouac in southern area of barrio. Division headquarters 71st Division at town plaza.

December 24. At 5 A.M. regimental outpost was driven in by Japanese tanks advancing down route No. 3. Hasty defenses were organized at regimental bivouac and attack of enemy infantry and tanks through Binalonan was held.

At 7:00 A.M. regiment learned that all troops and 81st Division CP had withdrawn during the night. Regiment was unable to break off engagement until early afternoon, during which time enemy was denied the barrio and routes east thereof toward Tayug. However, enemy tanks did by-pass Binalonan on Route No. 3 and advanced as far south as Urdanetta. During the afternoon a withdrawal was effected, covered by Troop F and one section scout cars—east to Tayug.

The regiment assembled at Tayug and was again placed in 71st Division Reserve. 71st Division then withdrew to Umingan while the 26th Cavalry held the river crossing of Tayug. This action continued under heavy shellfire and enemy infantry attack, until 2:30 A.M. December 26, when the regiment was ordered to withdraw to Umingan, and executed a model withdrawal, destroying 7 bridges en route and suffering only



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 Dingalen 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 ambushed 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 Major Fleeger, 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.

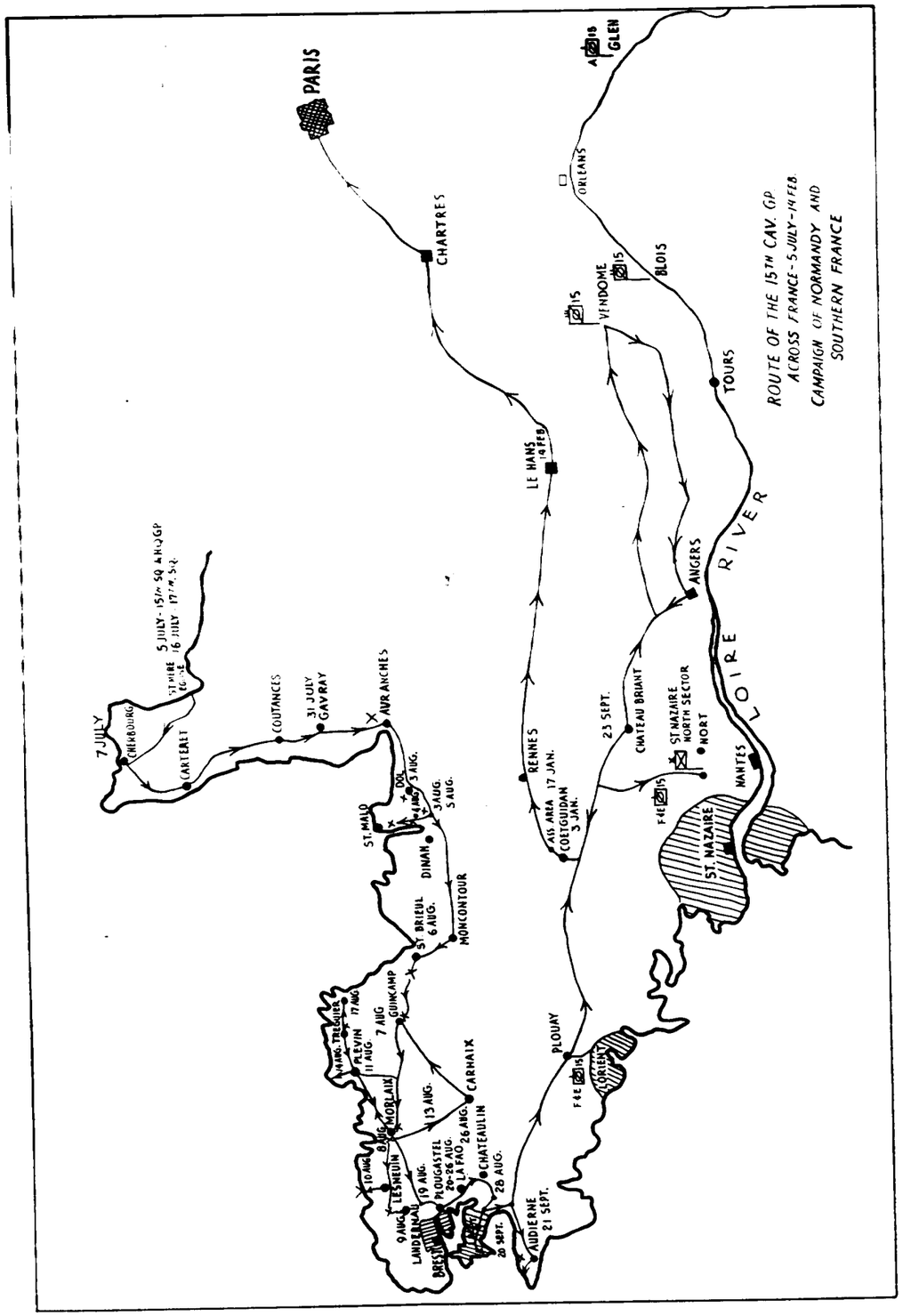
2. Regiment was mounted until about January 16, when animals were sent from Bagac bivouac to corral at KP 167 near Mariveles. As food shortage became acute, all animals were slaughtered for consumption by troops. After January 16 the regiment was employed as infantry. This was necessitated by the mountainous 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
So rest 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

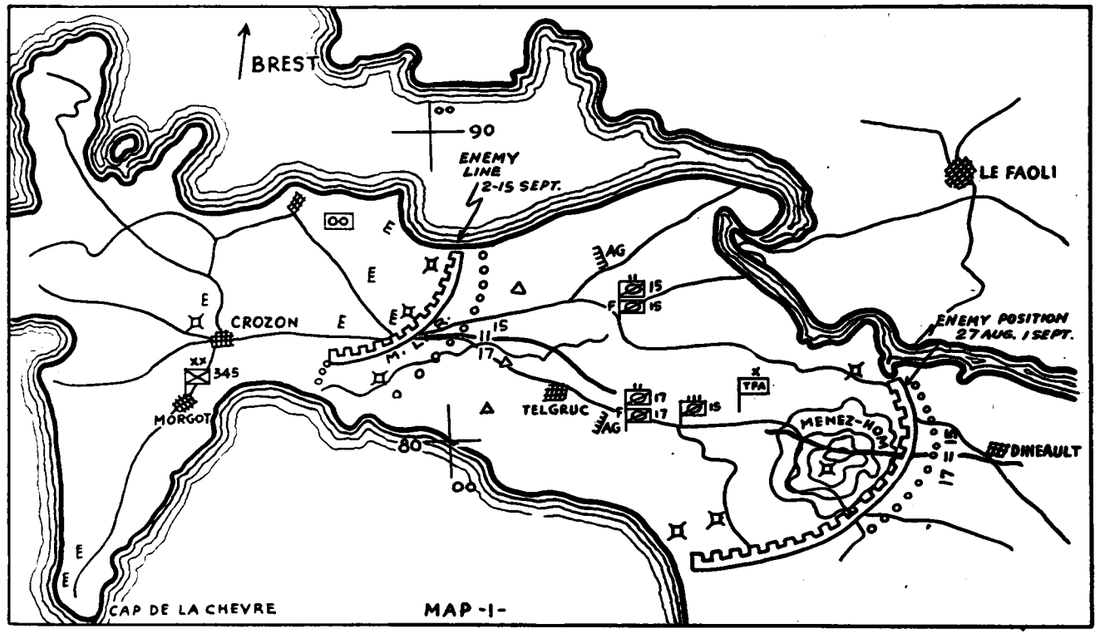
AFTER covering nearly 500 combat miles in operations on the Brittany Peninsula during the period August 1 to 27, 1944, the 15th Cavalry Group went into a dismounted phase on the Crozon Peninsula from August 27 to September 15. During this period many mistakes were made and many lessons learned which 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.

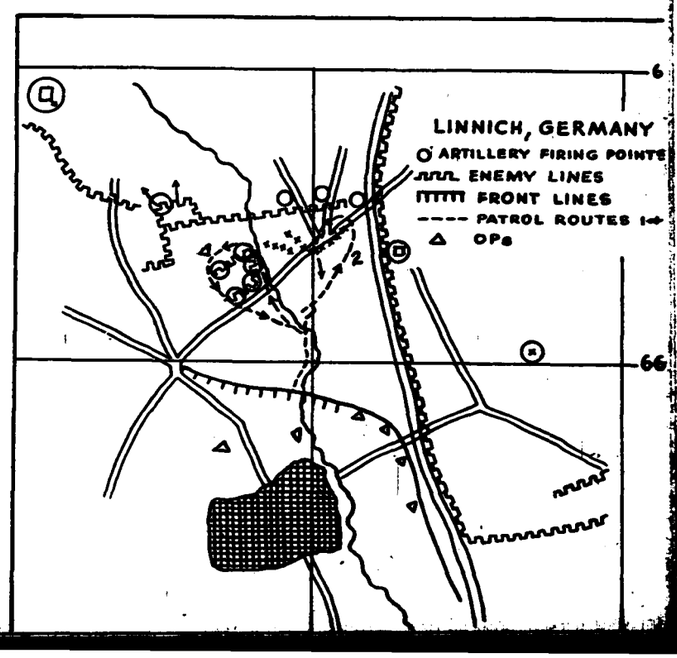
In the afternoon members of the patrol were selected and taken to the observation post nearest their objective. There they remained for a number of hours to study the terrain over which they would work and, in addition, they were supplied with aerial photos of the area for study. This enabled them to 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 coördination 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.

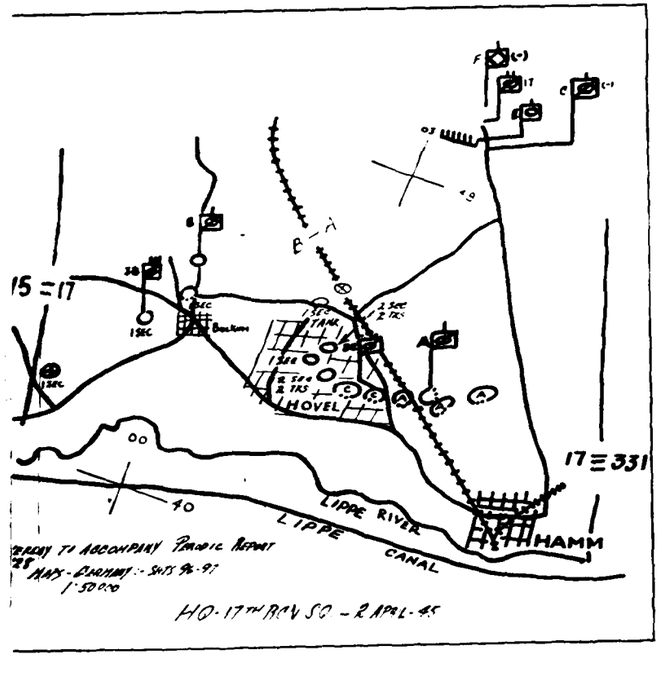
Assured that everything was being done to aid them to perform their mission, the patrols gained materially in confidence.

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 coördinated 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 following 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.

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.

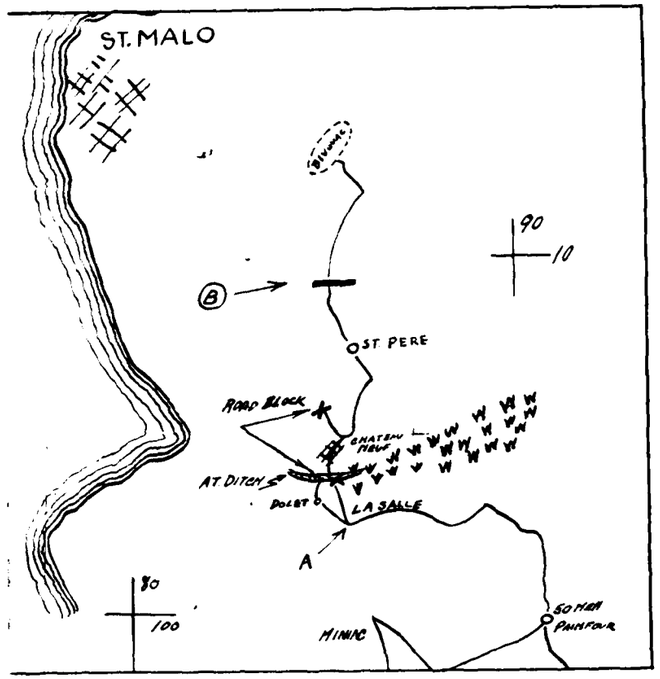
Troop A was in the lead, followed by Company F, Troop E, and Squadron Headquarters. Proceeding south from its bivouac, the squadron swung northeast and moved into the village of Pianfour, where Troop A encountered about 50 enemy who were dug in at a crossroad and prepared to hold their positions. The 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 Plouhinic. 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 CANNAE

*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.

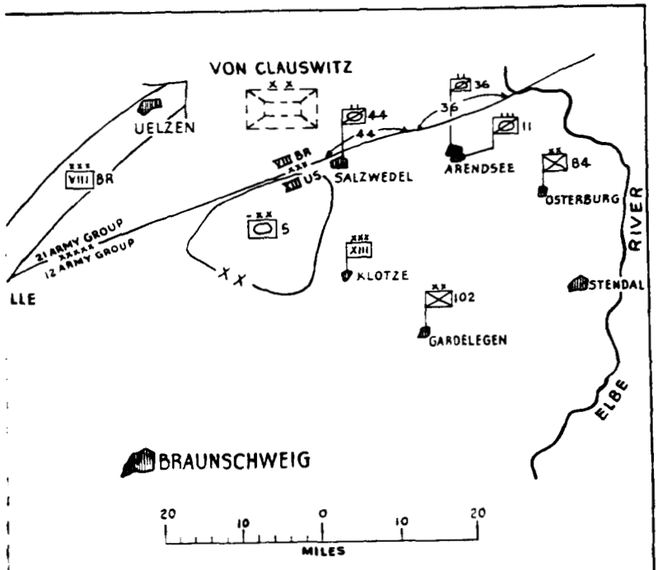


PLATE No. 1

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 coördinate 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 Infantry 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.)

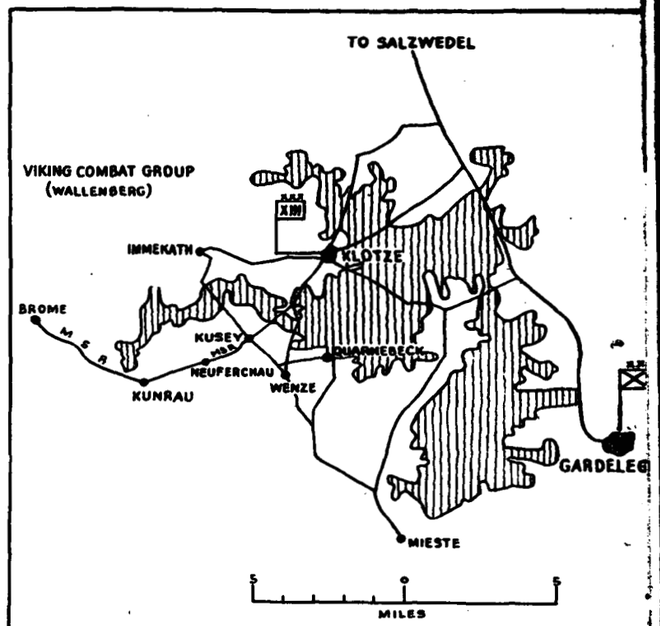


PLATE No. 2

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

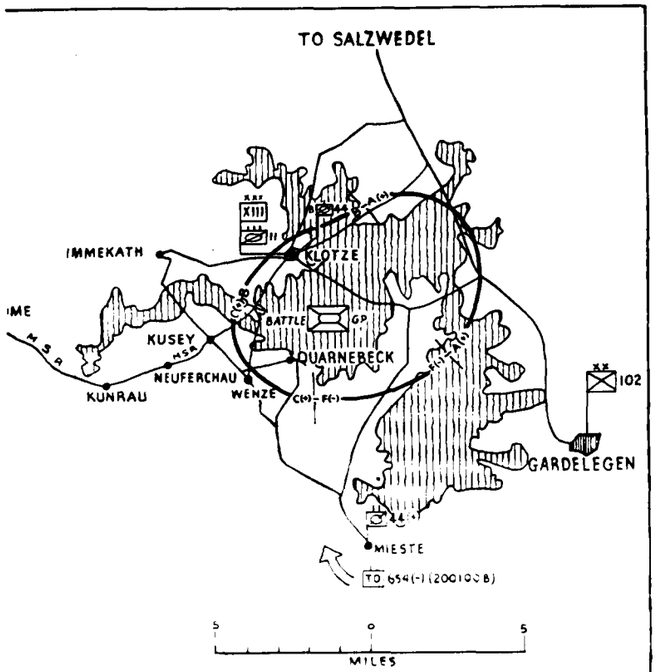


PLATE No.3.

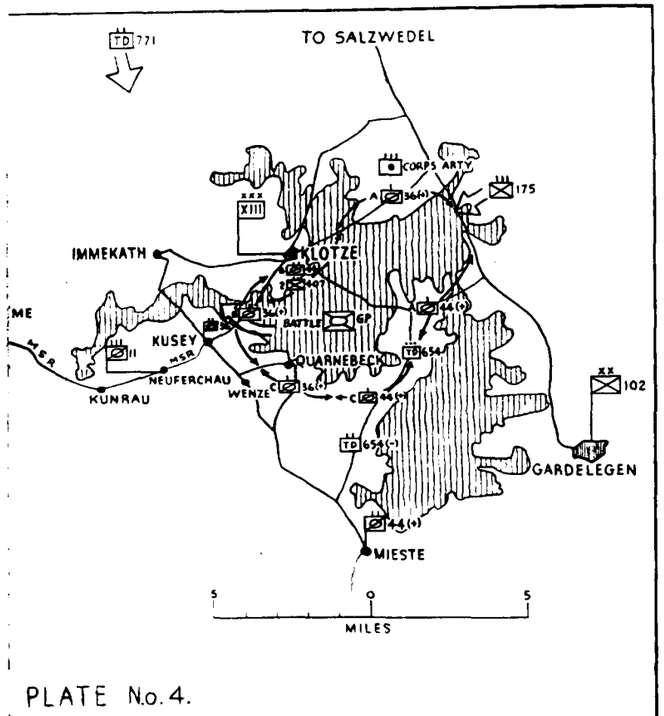


PLATE No.4.

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 redisposed 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.

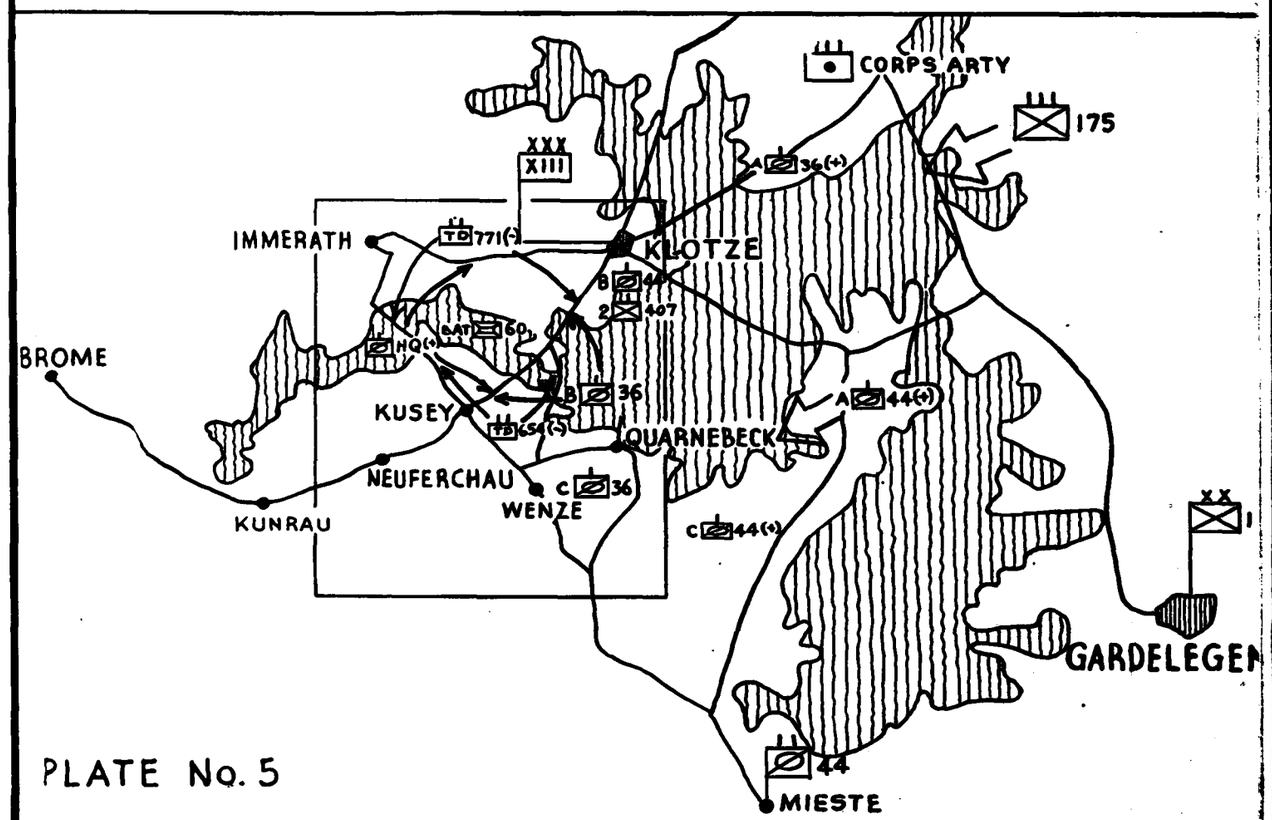


PLATE No. 5

FROM THE BOOK

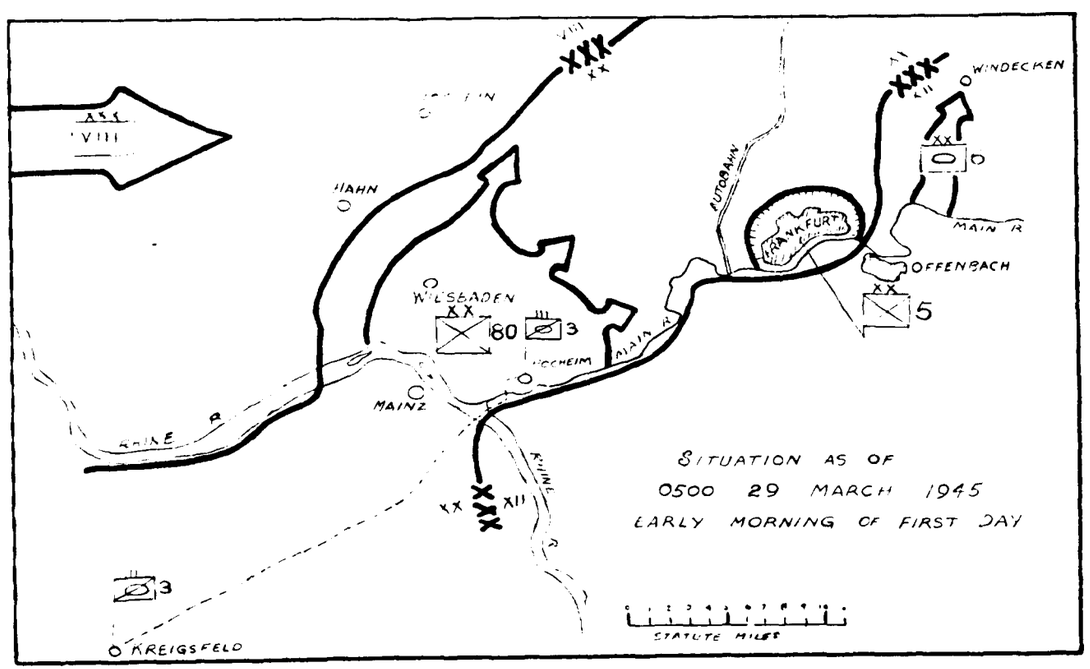
*by Captain Richard O. Deaderick**

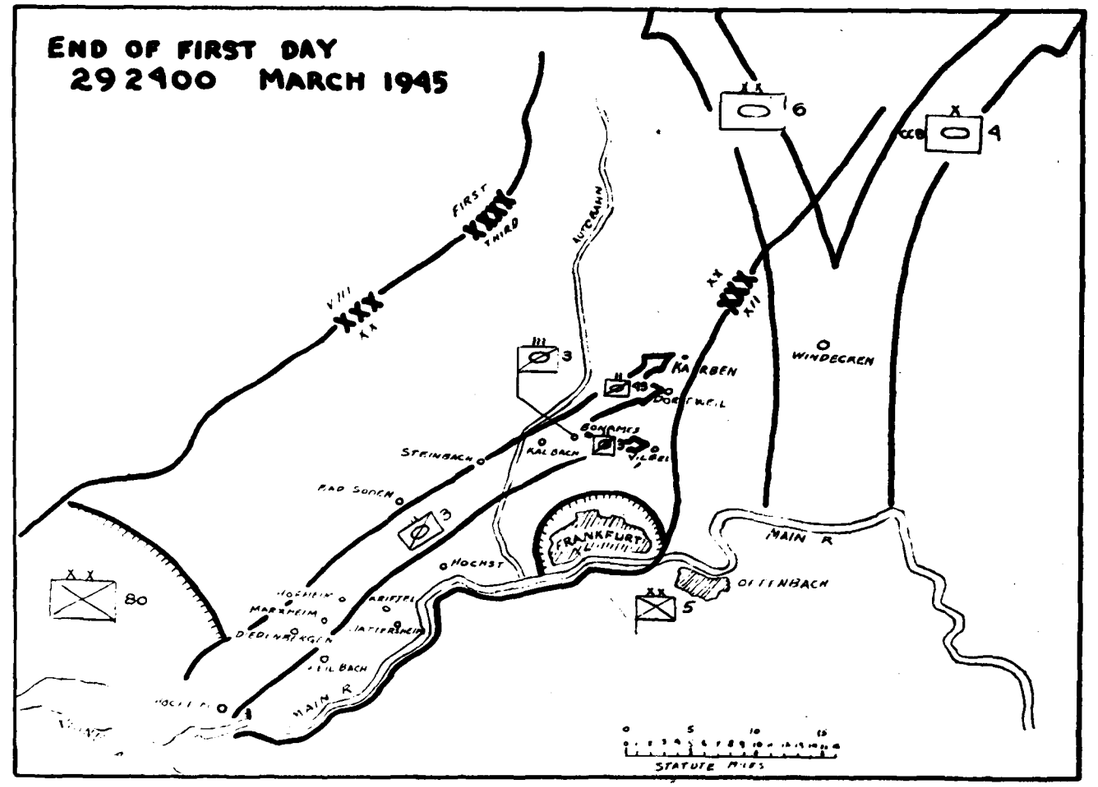
In a three-day action, the 3d Cavalry Group (Mecz) and the 3d and 43d Cavalry Reconnaissance Squadrons (Mecz) cleared a large slice of enemy territory which permitted the 65th Infantry Division to move forward on vehicles, without deploying for combat, for a distance of approximately 145 miles, from 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 crossing just east of that city and moving north.





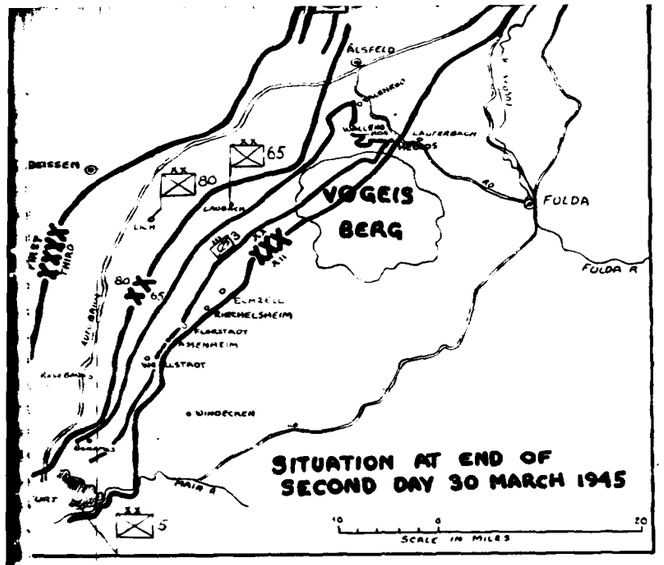
Orders were issued for the 6th Armored Division to move north and northeast on Kassel via the Autobahn, and for the 3d Cavalry, followed by the 65th Infantry Division (motorized) to pass through the 80th's bridgehead and cut north of Frankfurt, then swing behind the 6th Armored to the other flank of 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 Kreigsfeld, 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, Kriften, 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.

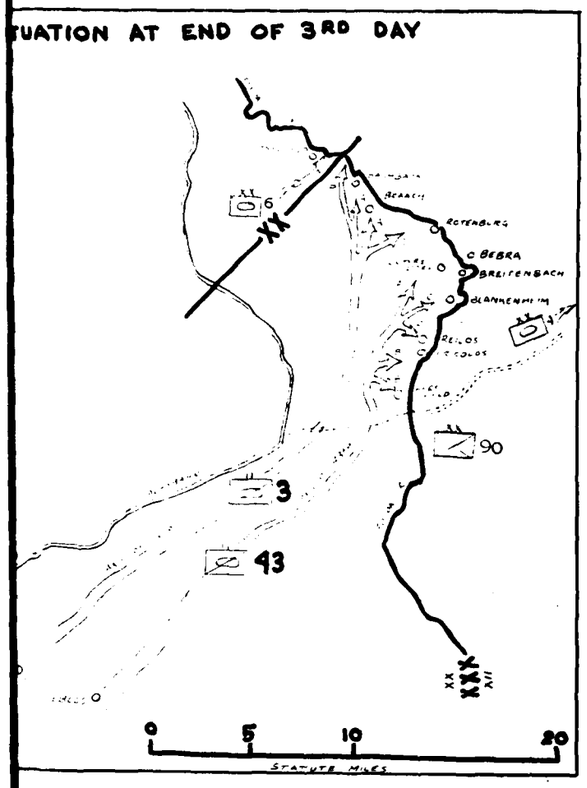
Second Day

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-Heblos, and continue liaison with CCB of the 4th Armored Division, on its right. Isolated

resistance again was to be by-passed for the following infantry to mop up. The objective set for this day's advance would, if secured, put us safely over the Voge Berg, a high and heavily wooded hill lying across the corps' sector of advance, and the next logical delaying position in our path. Taking it would also give us control of the lateral road from Alsfeld to Fulda, which was important because it was the only first-class lateral road within the next 50 miles.

At 0700, March 30, the squadrons renewed their attack, moving northeast over good secondary roads. We were traversing a rural district of small stone villages, rolling hills and numerous small forests. It was ideal country for ambushes, small demolitions, or sniper activity, but very little was encountered. Frequently German civilians reported to us that small bodies of troops had taken to the woods, but there was no time to investigate and we knew the infantry would gather them in later.

Town after town was reported cleared as the two squadrons rolled forward, even faster than the day before. By means of radio and liaison officers, close coordination was maintained with the units on either flank. All reports indicated that resistance was negligible in the corps' zone. By 1800 both squadrons reported



that the final objectives had been reached and secured. The attitude of the civilians and liberated refugees was the same as on the previous day.

The 3d Cavalry now had moved 50 miles deeper into Germany. Enemy equipment and supplies were captured in immense quantities, including a radio station with all its equipment intact. About 925 PWs were taken, including many officers and service units who had attempted to escape the trap. Hospitals containing many German soldiers and officers were overrun, checked, and told to continue in operation. As it was impossible to transport prisoners or even guard them, a group would be disarmed, placed under a German officer or NCO, and started on to the rear. Although telephone lines were cut at the exits to each village, word of our coming somehow preceded us, and several groups of prisoners were met who were already organized and on their way to the rear.

By the end of the second day we were secure on our objective, with our left flank unit across the Autobahn, holding Alsfeld, and in contact with rear elements of the 6th Armored Division. Our right flank was just outside Lauterbach and firm contact had been established with the 358th Infantry, which had been motorized and attached to CCB of the 4th Armored Division. Although our advance had been almost unopposed, late in the evening disturbing reports began to come in of increasing resistance on both flanks. As it was securing for the night about 2000, the 4th Armored had run into tanks and SP guns. The 6th Armored also reported it had encountered heavy demolitions, road blocks, and an unspecified number of Panther tanks about 15 miles south of Kassel. It looked like trouble in the morning.

Third Day

Late the night of March 30, a radio message was received from Corps Headquarters ordering the 3d Cavalry Group to advance as rapidly and as deeply as possible into the corps' zone. It was hoped that we could locate a hole the overstrained enemy had not been able to plug, and could advance while the enemy's attention was concentrated on the two armored divisions. The 3d Squadron's mission was to advance at 0700, March 31, to seize and clear the objective of Heiligenstadt, which was 75 miles to the northeast, and about 40 miles beyond the Fulda River. The 43d Squadron, still east of the 3d Squadron, was to advance on Mulhausen, some 70 miles ahead. Squadron commanders were ordered to keep their units concentrated. All troops moved out at 0700, March 31.

The first resistance soon was met when enemy planes strafed the 3d Squadron's column without result. For an hour following the strafing, the Luftwaffe kept close watch on our advance but made no attack. The arrival of friendly fighters about 0830 drove off the enemy planes, but as there was no air support party with the group, we could make no use of the now abundant air cover.

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.

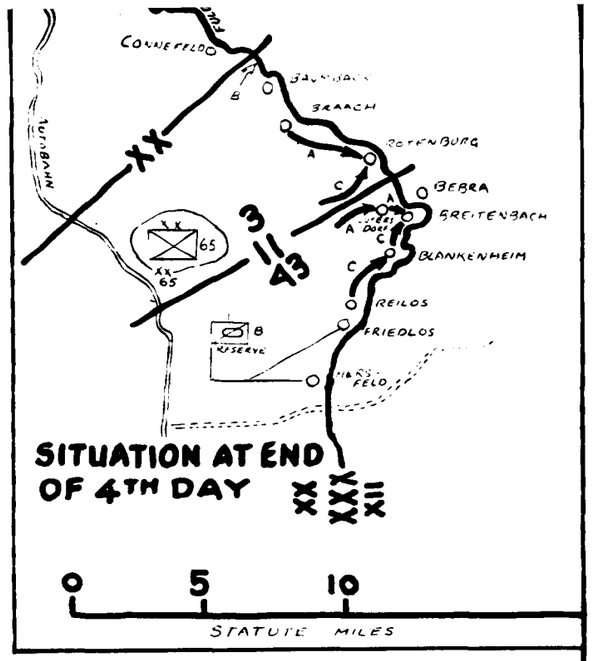
By late afternoon Troop B had deployed to the left of Troop A and cleared two small towns on the river bank against the opposition of a few disheartened snipers. The troop then established firm contact with the reconnaissance elements of the 6th Armored Division which had not yet been able to cross the 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 uncoördinated 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 dismounted, 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.

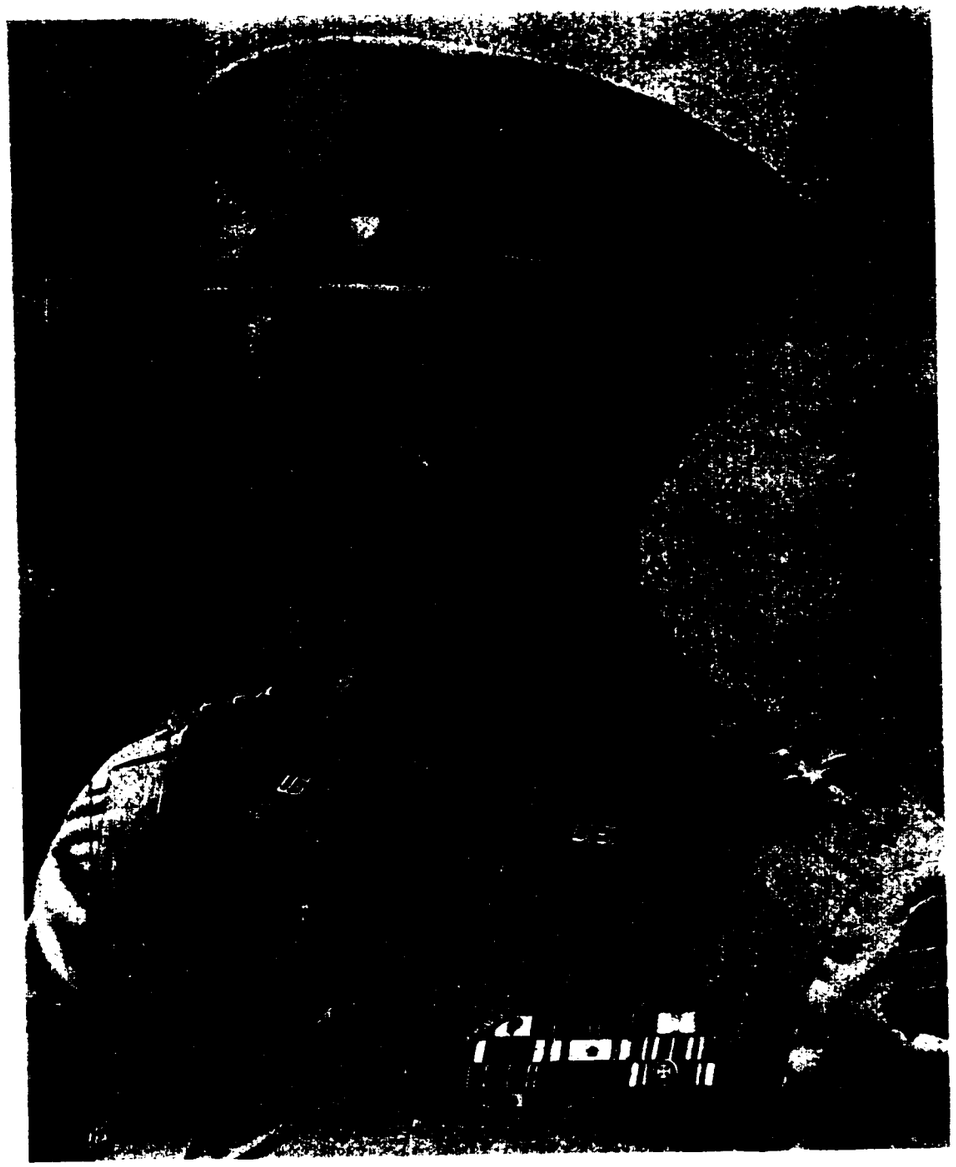
As Troop C moved mounted to an LD about 1,500 yards south of town one unusual bit of defensive enemy action was noted when 7 German soldiers on the high ground west of the road threw panzerfausts down on the column. Fortunately only one exploded, and no damage was done. All the Germans were quickly killed 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 coördinated 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 redisposed 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.



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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 Devers
General, U.S.A.
Commanding.

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.

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.

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.

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
Novquist, 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.

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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."

Comments from Combat

Patrol Across the Rhine

*by 2d Lieutenant Delfred Bierman**

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 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.

*Troop C, 125th Cavalry Reconnaissance Squadron (Mecz)

* * *

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 coördination 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 automounted 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 cavalrymen 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 ¼-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 reëstablished 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 Connery**

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 between 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 ¾ 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.

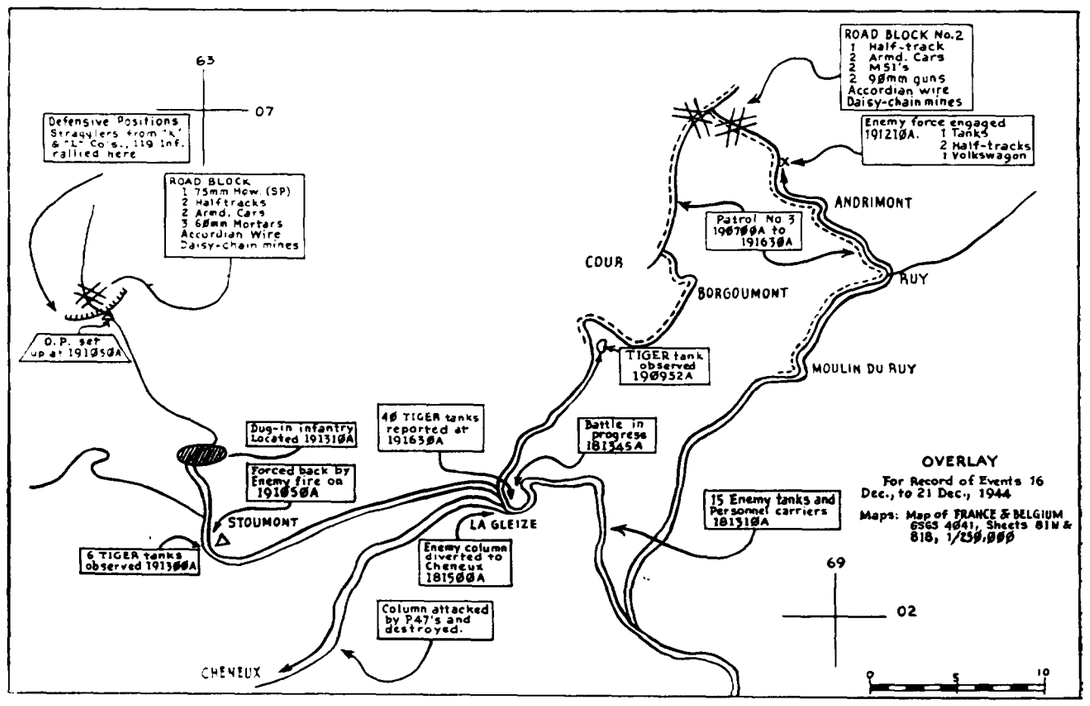
The situation was improved further when elements of the 3d Armored Division moved through our positions at 1700. During the night there was little action, except for occasional small-arms fire.

On the morning of the 20th Staff Sergeant McMillan, 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 Saarbrucken; 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 101th Squadron on the left held its positions during the morning while on the right the 121st Squadron made slight advances against light resistance.

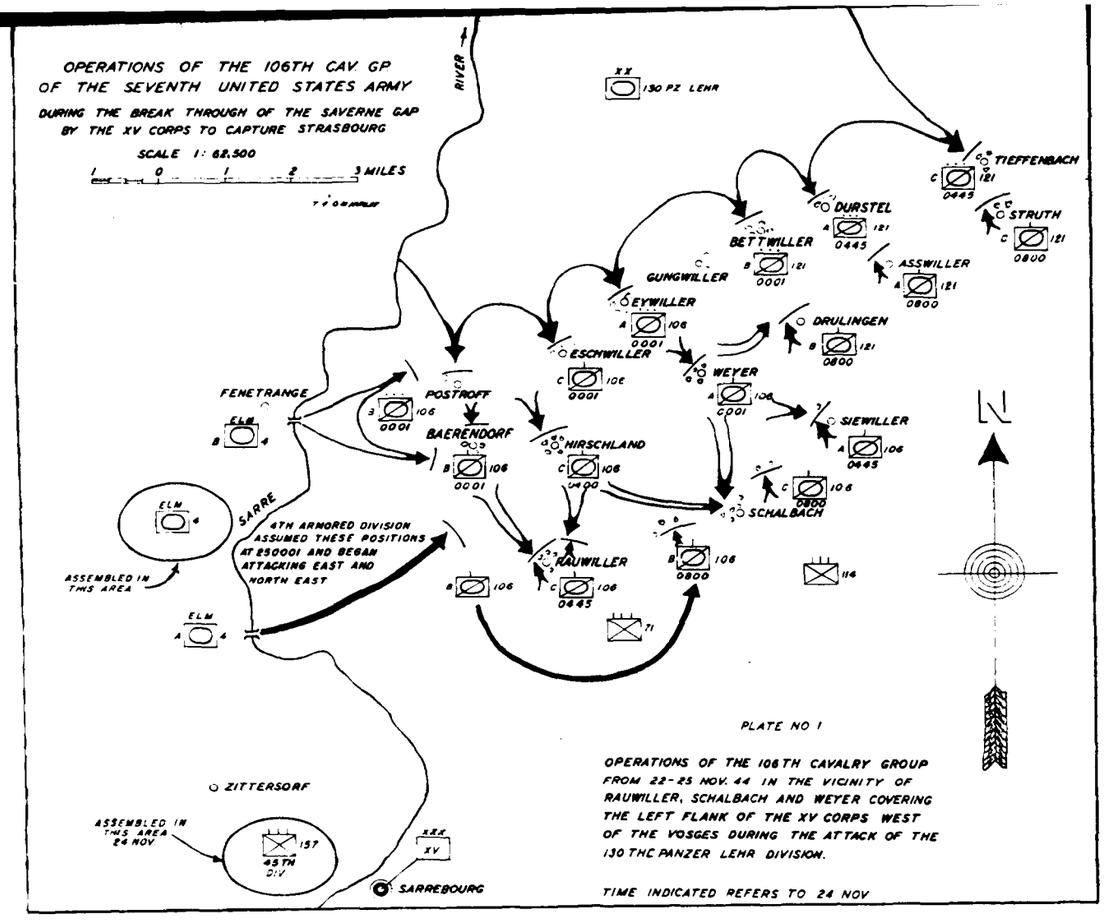
The troops were deployed as shown on Plate No. 1. Company C of the 776th Tank Destroyer Battalion was attached to the group and supported the advance during the day by direct fire. The command post for the group had moved well forward to the town of Siewiller.

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



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.

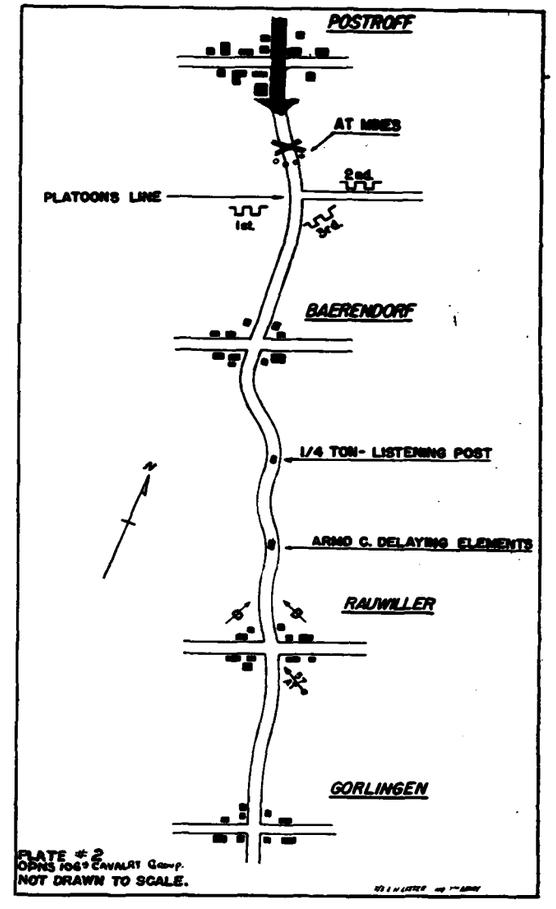
The 2d Platoon, Troop A, 106th Squadron, moved to Drulingen where liaison was established with a platoon of Troop B, 121st Squadron, which was blocking the road leading from Gungwiller to Drulingen. The outpost reported considerable activity about 1,000 yards to the right of the road but nothing near 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 counterattack 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 Fenetrange to Saareunion from the southeast. The assembly was taking place just west of the Saar River near Fenetrange. 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 Tieffenbach 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.

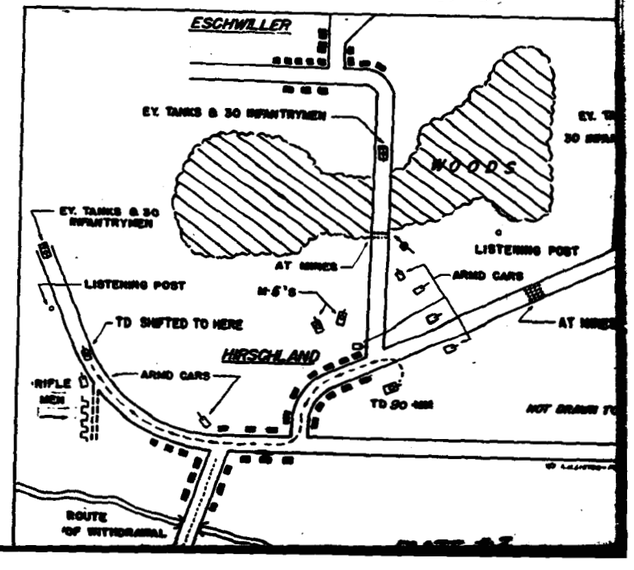
In the Troop C area of the 106th Squadron, outposts reported heavy tank activity to its front. Again our artillery fired heavy concentrations with good results. Orders were issued to shift one tank destroyer to the 3d Platoon sector, and about 2315 hours an enemy tank set off some of our antitank mines 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 Schalbach.

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-Schalbach-Siewiller. The 121st Squadron's line extended generally Drulingen-Asswiller-Struth.

The squadron commander of the 106th Squadron ordered one platoon back to occupy Schalbach. 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 Schalbach 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 Schalbach 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.

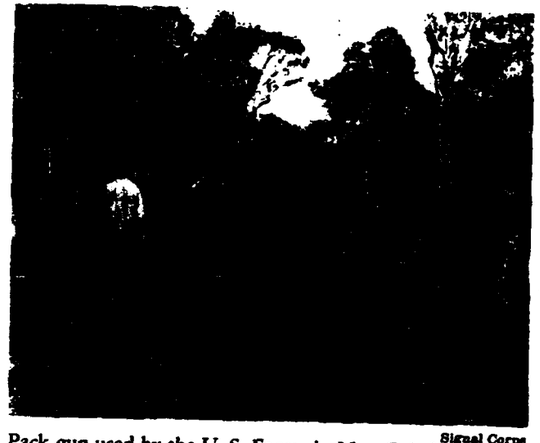
4. Weigh every ounce of enemy intelligence since it might be of value as a warning of impending actions. This was only one example of such information being 100 per cent authentic, and where the commander was able to exploit the information.

Pack Operations on Guadalcanal

During World War II, transporation 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 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.



Signal Corps

Pack gun used by the U. S. Forces in New Caledonia. Part of the group later saw service in the Guadalcanal action.

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, antisepticized, 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.

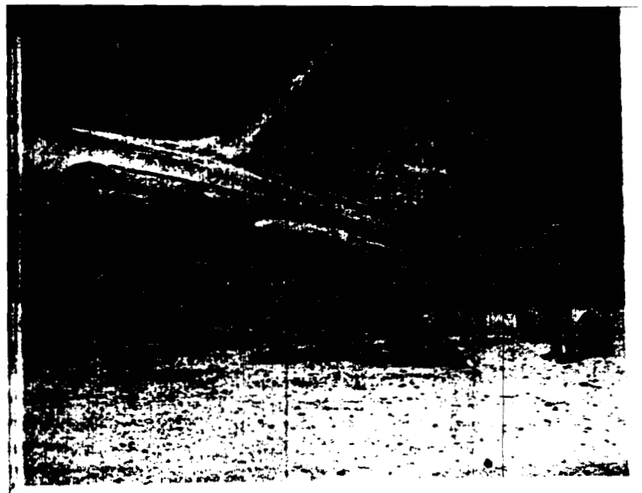
Equipment. Strict maintenance procedures with all types of equipment were essential. The battalion leather equipment was old but in good condition upon arrival on the island. The dampness soon caused more damage than months of previous normal wear. Cloth and leather molded or mildewed overnight, and 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.

Pegasus

by

Major Arthur LaVove, 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 Command 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

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

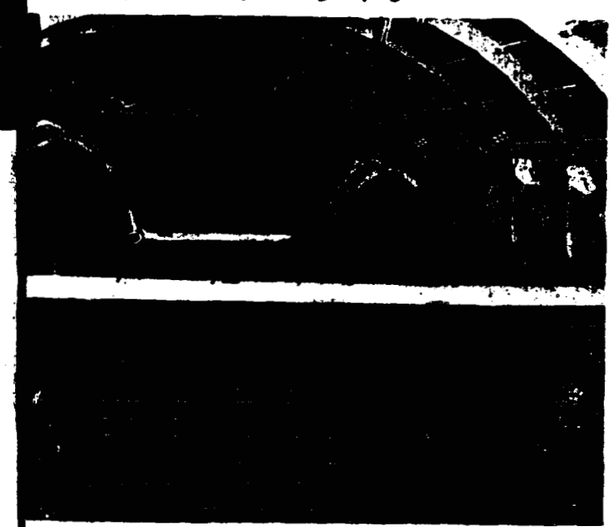
picket line adjacent to the field. Those tagged for immediate dispatch were walked onto 6 x 6 trucks in which they were driven to the waiting transports.

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 coöperation 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.

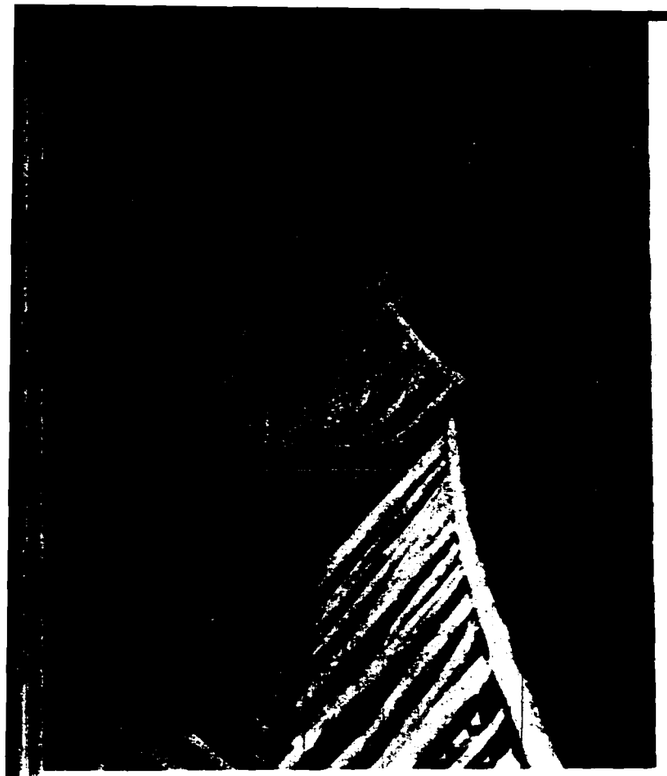
Two significant factors stand forth. One is that the movement constituted the first time that a Japanese drive on one of the American Air Force Bases in China had been stopped dead and then thrown back. The second points to the utilization of transport aircraft to safely and speedily transport vast bodies 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.

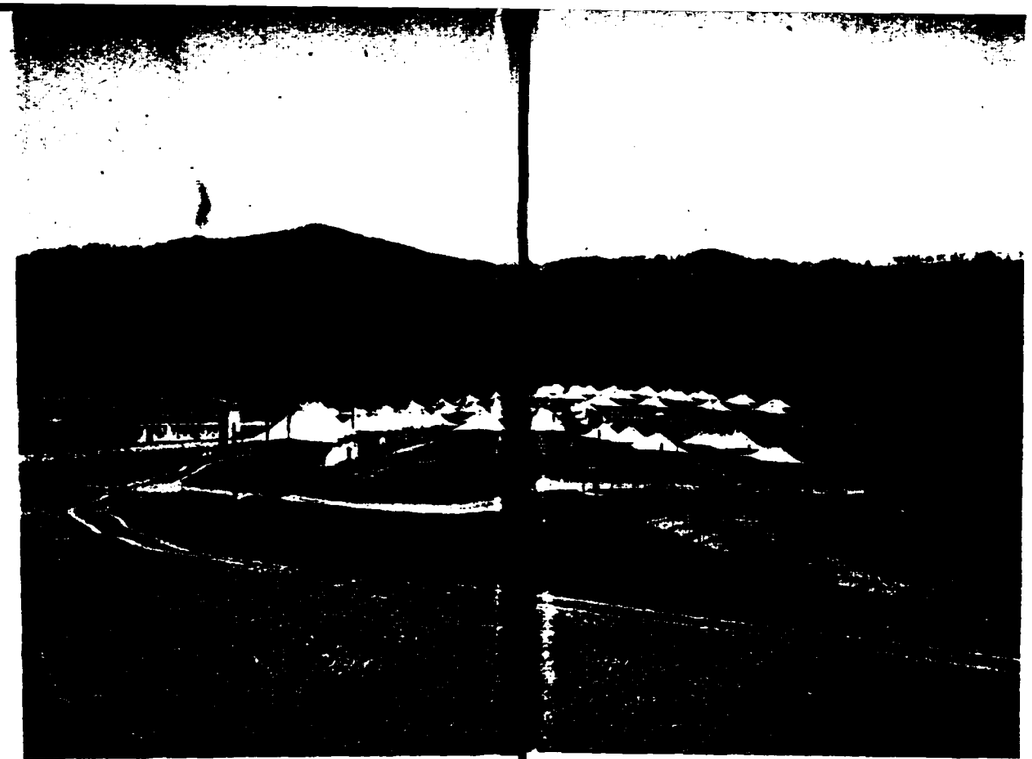
Truck transportation for animals over the incredibly rough terrain in the China theater was impractical. In order to utilize surface means, extra forage and water had to be provided. Average truck speed, even with American 6 x 6 equipment was 10 miles per hour, and experience has shown that animals frequently died like flies during such a journey.

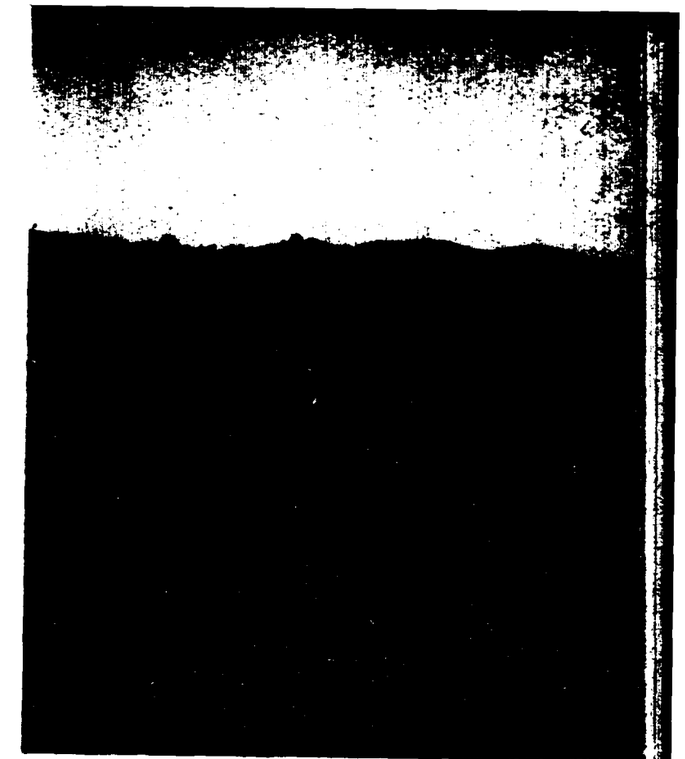
In contrast was the certainty, speed, and safety of moving mounts and mules by air. Water and feeding presented no problem except at origination and destination. And, upon deplaning, the animals were in good condition and fit for immediate duty.

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.





Newly arrived animals are shown being herded to the quarantine pasture at the USAF Remount Depot.

INDIA REMOUNT DEPOT

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 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 by the First Veterinary Company of the remount depot.

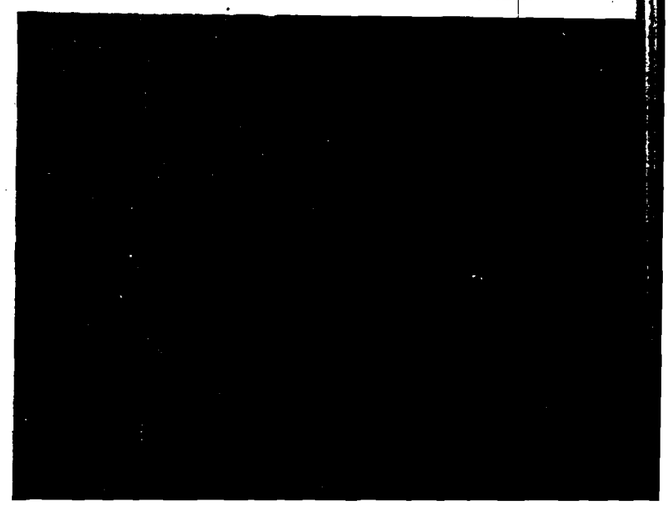
After release from quarantine the animals were put in the custody of a remount troop and turned out in one of three pastures. One pasture was for horses, the other for mules and the third for thin and run-down animals who required special care and feeding to build them up.

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."

A pack train led by mounted horsemen is shown moving up a trail as the pack mules are trained to carry loads.

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.

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.

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 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 reconnoiter 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.

*Former Public Relations Staff member, Fort Riley.

Will German Horses Be Used to Pay Part of Bill for Reparations?

by "Hank" Forrard

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 on 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 Campaign

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.

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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.

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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 pertinent to their mission. Further, the CIC sections of the two divisions were augmented and a tentative, flexible plan of coördination 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.

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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 before the campaign in the importance of captured documents.

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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 proscribed 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 unserviceable 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 PW's, 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-tried general rules:

1. Patrols must be well-planned, and most of the planning should be done by the troop commanders and the patrol members.

by Captain Ferdinand A. Dostal*

*36th Cavalry Reconnaissance Squadron (Mecz).

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 coöperation 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, coördinated 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 coöperation 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 coöperation 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 cavalrymen. 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.

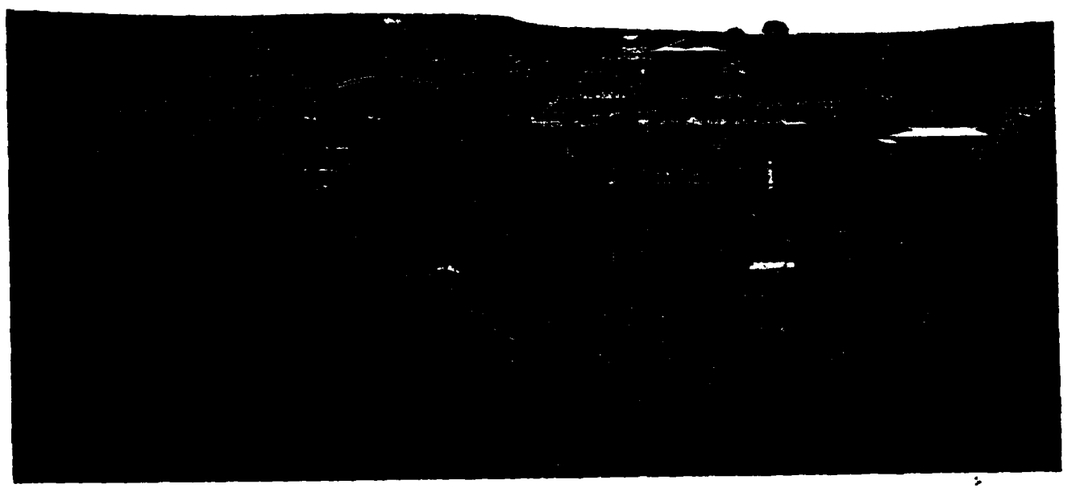
On various ranges where the new soldier learned to fire his weapons, and moved on specific combat problems the targets were lifelike enemy soldier figures. The camouflage course was designed to conform to the terrain, vegetation and general atmosphere to be encountered in the war against Japan and Germany.

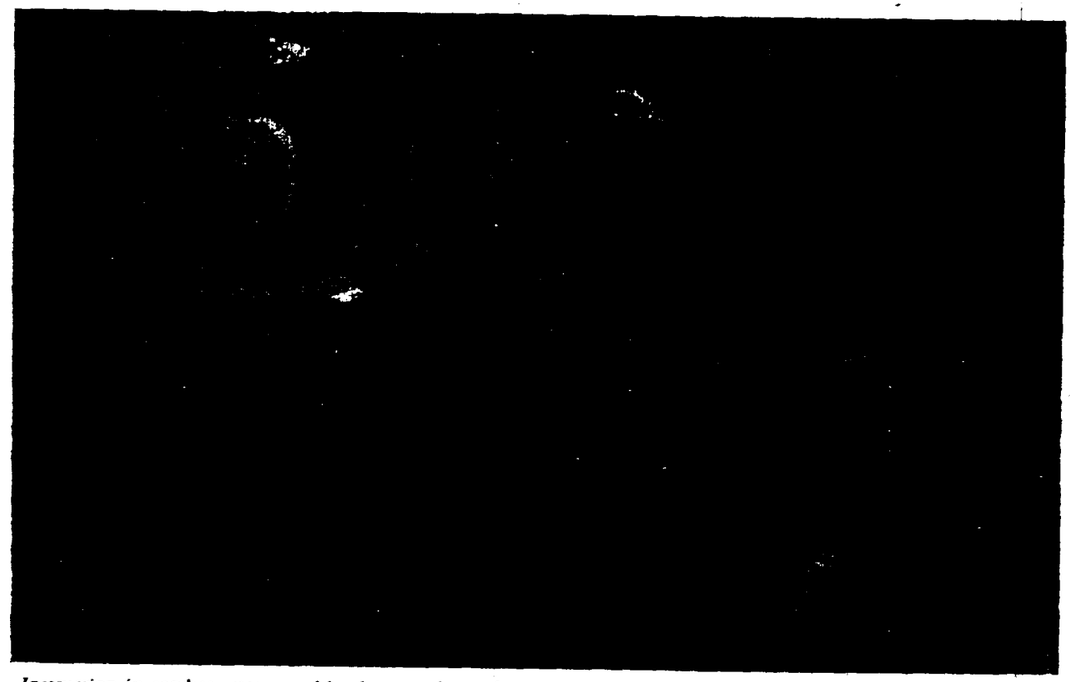
Even the Superman Obstacle Course, where the soldier learned to cross streams, climb walls, tread warily over precarious walks and bridges, the obstacles and surrounding effects gave a realistic semblance to actual conditions encountered in the Pacific and European Theaters.

Caves, such as the Jap lived and hid in during the furious battle on Okinawa, were dug out of the hillsides. 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

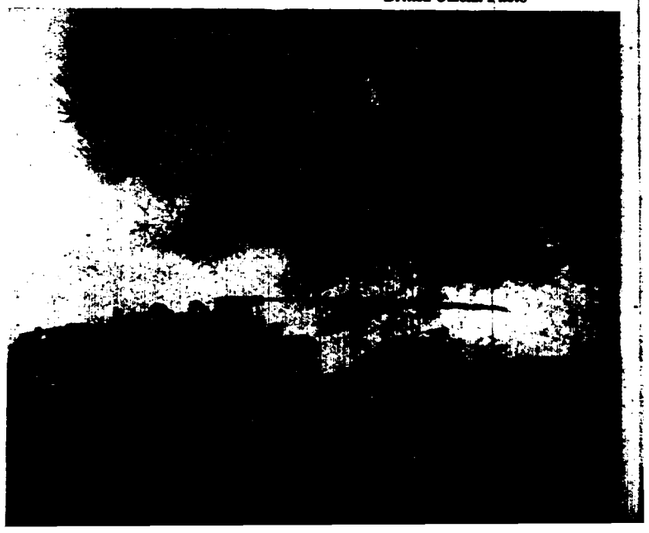
The great tactical value of the flame thrower is that it can be used against targets, such as pillboxes, emplacements, foxholes and the like, which cannot easily be attacked with other weapons. The flame penetrates loopholes or other apertures and makes the interior untenable. Even where the flame cannot 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 cooperation, 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 bombline—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 bombline 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.

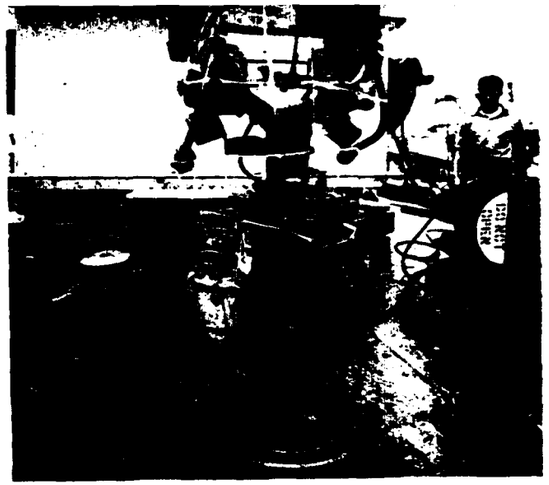
To wrap up guns, liquid plastic is sprayed over a network of scotch tape, attached to the outer projections of the weapon. That makes a gun package, with a tough opaque covering.

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 [illegible] 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' Administrational 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.

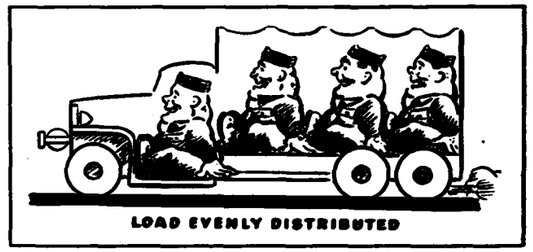
THE straw that broke the camel's back would play hob with a military transport vehicle, too. It would break the frame, axle housings, springs, torque rods, propeller shafts, axle gears, differentials and axle shafts, in addition to ruining the wheel bearings, tires, clutch, transmission, engine, brakes 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.

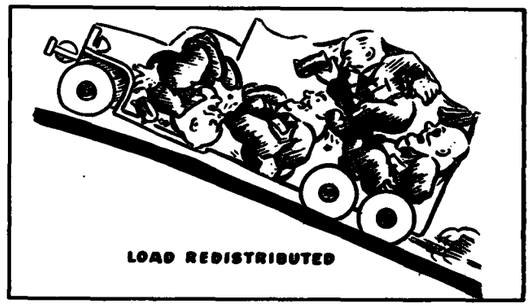
Because the dangers of abused overloading are hidden ones, something else often gets the blame. Joe says the axle shaft was faulty. It wasn't, though, until his truck was overloaded a few times and driven over ground that would rattle the treads off a heavy tank. Taking an overload over severe terrain 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. . . .



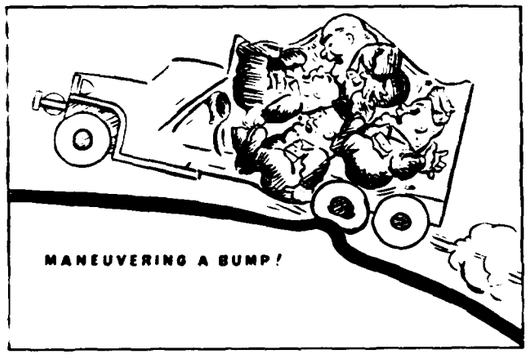
The specified rating of the truck, 2½ tons, is the weight established for cross-country operation, which allows ample safety factor for practically all conceivable conditions of cross-country terrain. Actually, in terms of "normal" operation of vehicles on typical American highways, the truck has a 5-ton 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. . . .



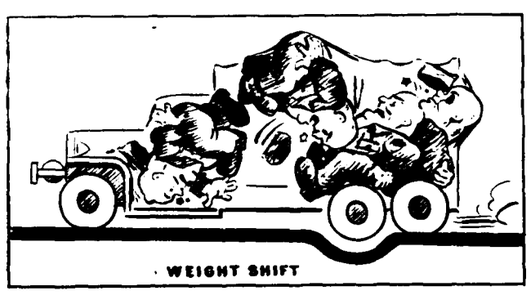
If the grade is steep enough, the front wheels may actually be lifted off the ground during a quick pick-up,

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.

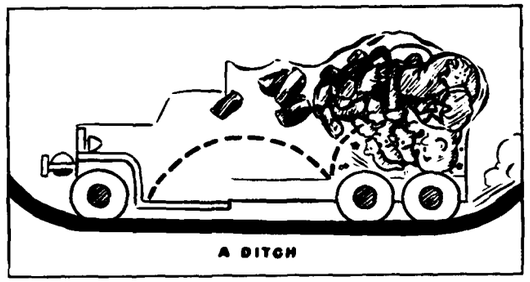
Though the breakdown may not occur on this first hill, parts may be weakened, and three or four more such hills during the course of the trip may cause one or more of the weakened parts to break down. And remember, the vehicle we are using as an illustration is a 6 x 6, with two rear axles to share the load. On a 4 x 4 in the same situation, the entire vehicle weight and its overload would be transferred to *one* axle.



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.



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.

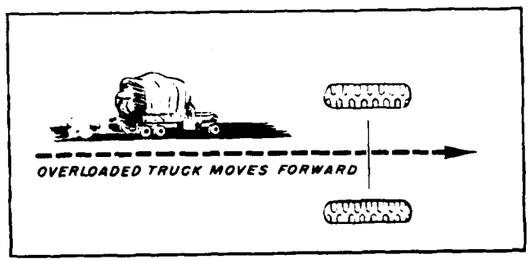


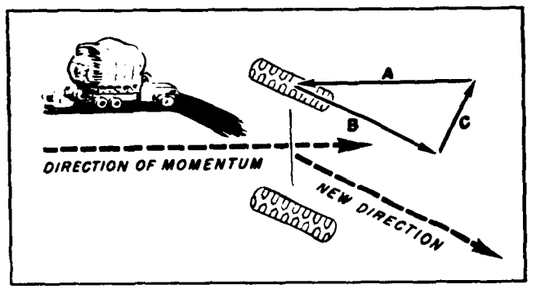
Next, the driver finds he has to turn off what is left of the road and cross a ditch. Because the ditch is wider than a shell hole and does not look so deep, he does not slow down. Result—a terrific strain on the vehicle as the weight is shifted rapidly from front to rear—with no safety factor to take the shock.

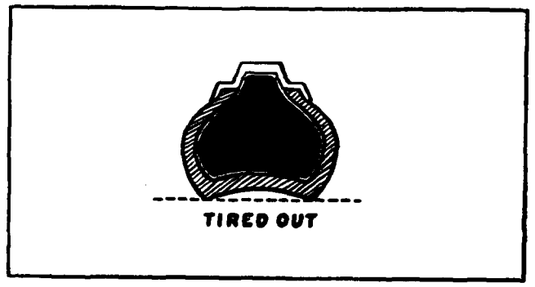
Any one of these conditions may cause a failure or weaken something to the point where it will give way on the next trip. And the one extra load of matériel that got through will be paid for with a deadlined truck and the consequent delay in shipping other equally vital matériel.

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.

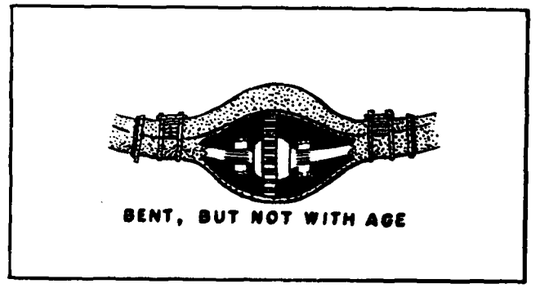
Not the least of the dangers of overloading are the accidents it may cause, especially when the driver fails to reduce his speed and drives as he does with a normal load. A very common plea of drivers who have gone into a ditch when rounding a curve with an overloaded vehicle is, "My brakes locked." The brakes didn't lock, though. This is what happened:



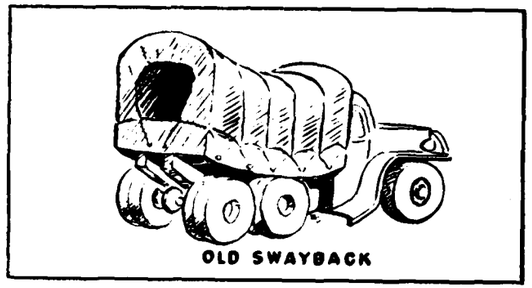




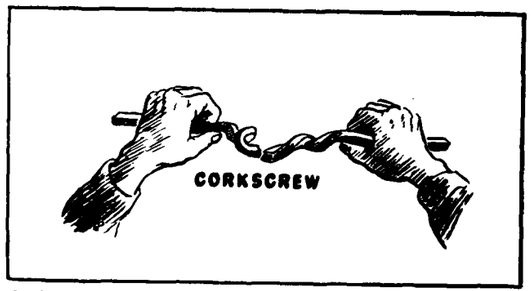
Tired out—Overloading has the same effect on tires as underinflation. Distortion of casings breaks them down. Treads wear quickly and unevenly.



Bent, but not with age—Overloading causes bending and early failure of axle shafts. Differential and spring parts will fail sooner or later.



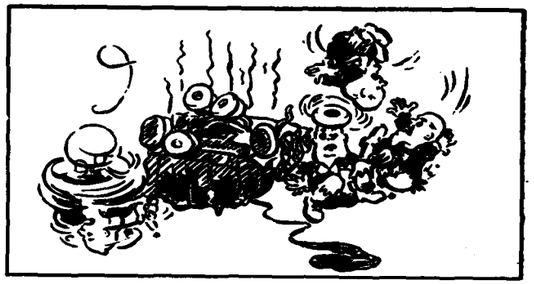
Old swayback—Overloading eventually bends the frame—throws working parts out of alignment.



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 deadlined trucks. At least the camel would keep you company.

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.

A Short Wait Between Trains is a collection of short sketches of army life in training camp, in transit, overseas, on leave, and home from the wars. Written by the former managing editor of *McCalls*, who had been on the staff of *Time*, these stories are far above the average in perception and detail. The title story was based on an actual incident and warrants wide circulation both because of its subject matter and handling.

The Editors of *Look* have grouped a number of true tales about the war by famous reporters such as Ernie Pyle, Stefan Heym, Larry Lesuer, Vincent Sheean and others of equal stature under the title of *My Favorite War Story*. The short sketches of the authors as well as the profuse illustrations are noteworthy additions to a most interesting compilation of war reporting.

NOT IN OUR STARS. By Sergeant Josiah E. Greene. Macmillan. $3.00.

DESERT EPISODE. By Captain George Greenfield. Macmillan. $1.75.

These two widely different books are equally worthy of the Macmillan prizes for fiction by the armed forces of Britain and America.

Not in Our Stars is an absorbing and extremely well written novel based on life in a community built around a growing metropolitan dairy farm. The individual characters stand out with startling clearness and without losing personality are yet typical of the good and evil, normal and warped, persons to be found in any group. Because of their proximity one to another, and the limited perspective of their lives, they may seem exaggerated, but to one who has lived in a small community, or a group whose livelihood interest was confined to one occupation, the exaggeration will not appear so great. Perhaps the strongest emphasis is placed on the fact that fear of insecurity—social, financial, and personal—is the root of all labor as well as individual problems.

Desert Episode is a story of war, and the effects of an impending attack upon two company commanders and several minor officers and men. The book is simply written, with a quiet power that holds the characters in the reader's mind long after the last pages have been turned. The reality of the book is undoubtedly due in part to the fact that Captain Greenfield served with the Eighth Army and is describing war as he saw it from personal experience.

Both books are far superior to the average prize novel—which is so often picked because it meets the approval of every man on the board of judges, and hence is too generally appealing to be really powerful.

* * *

WHAT THE INFORMED CITIZEN NEEDS TO KNOW. Edited by Bruce Bliven and A. G. Mezerik. Duell, Sloan & Pearce. $3.00.

The problems facing every citizen of voting age in the United States are so many and so varied that it would be impossible to hope for a thorough understanding of them all. The editors of this book have endeavored to place before the public the opinions of some of the men dealing with these problems. Among the subjects discussed are: The United Nations Charter, America and World Trade, Our Relations with Russia, Jobs For All, Patents and Monopolies, Health Is Everybody's Business, Labor's New Responsibilities, and many others of equal interest to us as Americans and as citizens of the world.

Such men as Stettinius, Secretary of Commerce Wallace, OPA Director Chester Bowles, Leon Henderson, CIO Chairman Philip Murray and Surgeon General Parran have been quoted in an effort to clarify many points which undoubtedly must be understood if voters are to intelligently approach their responsibilities.

While no volume of this type can answer all of the questions or view the problems it presents from every side, *What the Informed Citizen Needs to Know* is at least an excellent point from which to begin. Any book, whether the reader agrees with it or not, that starts people thinking and discussing, is worth far more than the paper it is printed on.

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The only officer's manual that is kept up to date.

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THE CAVALRY JOURNAL

ATOMIC ENERGY FOR MILITARY PURPOSES. By Henry D. Smyth. Princeton University Press. Cloth: $2.50. Paper: $1.25.

This publication, prepared at the request of Major General L. R. Groves, is the full text of the official War Department report on Manhattan Project. It was, of course, a tremendous undertaking, carried out in a magnificent manner. Mr. Smyth has prepared a very thorough and interesting account with the material provided him.

Books On Atomic Energy

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THE CAVALRY JOURNAL

YOUR LEGAL RIGHTS. By Samuel G. Kling. New Home Library. $.69.

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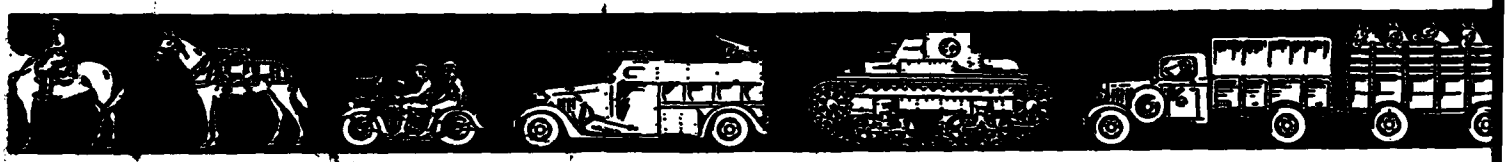
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