

BEYOND THE BEACHES

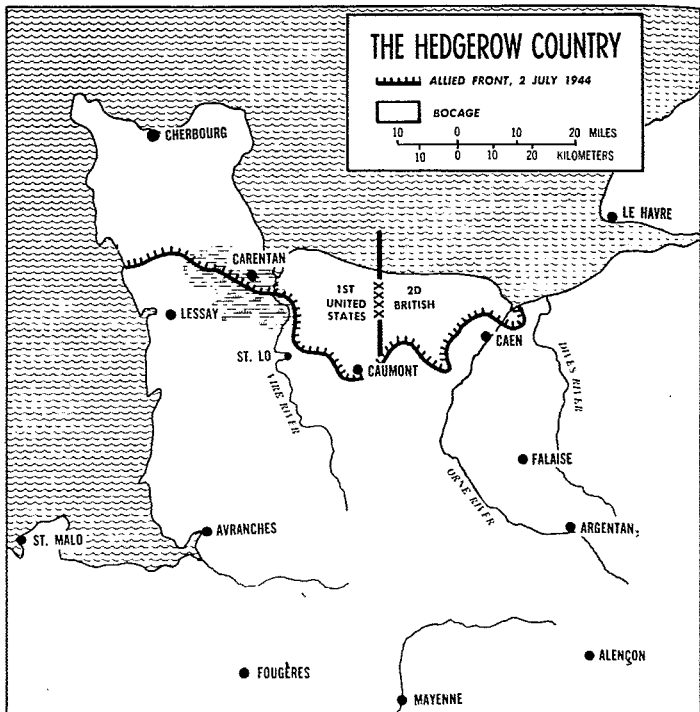
SOMEONE once said that a successful amphibious assault does not end at the beaches. For what good is getting ashore if you can't keep going?

Nowhere was this question answered more tragically than in Normandy in July 1944. The troops had gotten ashore on D-day and had secured a beachhead in the remaining days of June. They had been superbly trained for the landing operation, rehearsed to the point of perfection on the beaches of England. But the amphibious operation was just the beginning. Moving into the interior of Normandy was to prove about as difficult a job as any troops anywhere have ever faced.

There were many reasons why the difficulty was great—the terrain was an obstacle, the enemy was well entrenched, the weather was abominable, and the troops were green. But most of all, the troops were relatively untrained and almost completely unprepared for the job of continuing the invasion once they had gotten ashore.

The *Overlord* and *Neptune* plans governing the Normandy invasion had been so concerned with the problem of getting troops ashore that most of the invasion preparations had pointed mainly toward the initial assault. In comparison to the wealth of material gathered by the armies on the complexion of the coastal region, little attention had been given to the terrain immediately behind. Operational techniques had not been developed, nor had special equipment been devised to operate in the Normandy hedgerows. The combat units had devoted little time in England to train-





ing for the type of warfare that awaited them once they moved off the beaches.

The higher headquarters responsible for unit training might have been more concerned. The nature of the terrain alone warranted special exercises and special training.

The Terrain

The battlefield that awaited the Allied troops in July 1944 was ground of a diversified nature. On the left of the front was the Caen-Falaise plain, gently rolling open country of culti-

vated fields and pastures, dry and firm ground suitable for large-scale armor operations. In the center between the Orne and Vire Rivers were the northern fringes of a sprawling mass of broken ground, small hills, low ridges, and narrow valleys, all gradually rising in height toward the south. West of the Vire River in the Carentan area was a marshy depression crisscrossed by sluggish streams and drainage ditches. On the extreme right, between the marshland and the Cotentin coast, was a cluster of hills

that dominated the countryside and gave the Germans a solid anchor for their left flank.

The most inviting terrain for offensive warfare was, of course, the Caen-Falaise plain. But the Allied troops operating in that portion of the beachhead had been unable to get to Caen, the gateway to the plain and the Seine Valley beyond. This made it necessary to initiate offensive operations in the other portion of the beachhead, in an area most unsuitable for offensive warfare, an area most favorable to the defense.

Hedgerows

Except for the Caen-Falaise plain, the ground along the front was compartmentalized in character. Not only did it impose logistical limitations on the Allies, the ground severely restricted maneuver. The natural features of the area were further emphasized by a man-made feature encountered at every turn. This was the hedgerow which Norman farmers for centuries have used to enclose each plot of arable land, pasture as well as orchard, no matter how small.

The hedgerow is a fence, half earth, half hedge. The wall at the base is a dirt parapet varying in thickness

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from one to four or more feet and in height from three to 12 feet. Growing out of the wall is a hedge of hawthorn, brambles, vines, and trees, in thickness from one to three feet, in height from three to 15 feet.

Originally property demarcations, the hedgerows protect crops and cattle from ocean winds and provide the inhabitants with firewood. Edging each



Infantrymen behind a hedgerow fire on the enemy

field, they break the terrain into numerous walled enclosures. Because the fields are tiny, about 200 by 400 yards in size, the hedgerows follow no logical pattern.

Openings in the hedgerows provide entrance into each field for human beings, cattle, and wagons. For passages to fields not adjacent to a road, there are countless wagon trails winding among the hedgerows. They appear to be sunken lanes, and where the hedgerows are high, the tops over-arch and shut out the light, forming a cavelike labyrinth, gloomy and damp.

From a tactical point of view, each

field is a tiny terrain compartment. Several adjoining fields together form a natural defensive position eche-loned in depth. The abundant vegetation and the ubiquitous trees provide effective camouflage, obstruct observation, hinder the adjustment of artillery and heavy weapons fire, and

the *prairies* seem to be pastureland, although the grass is neither bright nor lush. A base of brown dims the luster like a blight, and this is peat, semicarbonized vegetable tissue formed by partial decomposition in the water, plant masses varying in consistency from turf to slime. Im-



Flooded lowlands hindered Allied vehicular movement

limit the use of armor and the supporting arms.

Marshes and Swamps

Around Carentan another condition added to the problem of waging effective offensive warfare. This was the existence of the *prairies marécageuses*, large marshes sometimes below sea level. Open spaces that seem absolutely flat, they are breaks in the hedgerow country, and provide long vistas across desolate bogs. Five major swamps and many smaller marshes comprise nearly half the area of what is called the Carentan plain.

From the height of an adjacent hill

passable in the winter when rain and snow turn them into shallow ponds, the marshes in the summer are forage ground for cattle. Because the land is treacherously moist and soft, crossing the bogs on foot is hazardous and passage by vehicles impossible. Numerous streams and springs keep the earth soggy, and mudholes, stagnant pools, and a network of canals and ditches close the marshland to wheeled traffic altogether except over tarred causeways.

Adjacent to the marshes and comprising the other half of the Carentan Plain is hedgerowed lowland suitable

for farming. Barely above the level of the swamps, the lowland frequently appears to consist of islands or peninsulas, wholly or partially surrounded by marshland. The excessive moisture of the lowlands stimulates growth to the point where the luxuriant vegetation is almost tropical in richness, and the hedgerows, as a consequence, are higher and thicker. Because of a high water table, the ground is hardly less soft than the neighboring marshes.

Area Is Flooded

Since the swamps are impassable to a modern mechanized army, the hedgerowed lowland of the Carentan plain, although of precarious consistency, had to sustain the projected Allied offensive operations. But the coexistence of lowland and marsh presented strictly limited avenues of advance. To proceed inland the troops had to move within well-defined corridors blocked by huge hedgerows.

The Germans had emphasized this natural condition by flooding much of the moist swampland and transforming it into lakes. They had constructed concrete dams to keep freshwater streams from reaching the sea and had reversed the automatic locks of the dams originally constructed to hold back the sea at high tide. In the summer of 1944 most of the marshland was covered with water, not only because of deliberate flooding, but also because of the large amount of rainfall. The insular or peninsular character of the corridors of advance was thereby intensified.

To the Germans who held superior ground on the hills that ring the marshes, the corridors of advance were obvious. With excellent observation of American movements, the Ger-

mans were able to mass their fires with accuracy and effectiveness.

Offensive Operations

Before the invasion a few Allied officers had looked beyond the landing. In the main they were convinced that it was difficult if not impossible to wage effective offensive warfare in the hedgerow country against a strongly established enemy. The poorly armed French Chouans late in the 18th century had utilized the hedgerows and the swamps to fight an effective guerrilla war of ambush against the superior armies of the Republic. And there was no reason why the Germans, firmly dug in, could not do the same despite their deficiencies in numbers and in equipment when compared to those of the Allies. But the Allied command expected enough progress to be made on the Allied left through Caen to outflank the hedgerow country and facilitate advance in that unsuitable area for offensive operations.

Failure on the left made necessary an attack on the right, and American troops in that area prepared to jump off across the damp spongy ground of the Carentan plain. An advance of some 20 miles across the waterlogged terrain west of Carentan would get the American troops on firm dry ground, terrain suitable for offense by mechanized forces.

Most of the Americans facing the hedgerowed and marshy terrain by now were aware of the difficulties, but the opposite had been true before the invasion. Then, American officers had known little of the hedgerow country. Few had seen hedgerows, and air photos had given no real appreciation of what they were like. If American commanders had not been able to visualize hedgerow fighting, most of the soldiers had not even been able to

imagine a hedgerow. Not until the American troops entered the hedgerows in June did they begin to have an idea of how effectively the terrain could be used for defense.

Special Studies Made

The hedgerow fighting in June was so difficult that many units made special studies of the problem. Most concluded that the principles of tactics taught at the service schools applied in this terrain as elsewhere. The task was to pin the enemy down with a base of fire and maneuver an element along a covered approach to assault from the flank. In Normandy the lateral hedgerows marked the successive lines of advance, the positions for a base of fire, and the enemy defensive positions; hedges parallel to the line of advance served as covered approach routes.

A refinement emerged in this technique as tanks were added to infantry, both operating toward a short objective and in accordance with a simple plan. The objective was always the next hedgerow. The plan was relatively standard. As it usually worked out, a tank platoon supporting an infantry company fired through the lateral hedge marking the line of departure. The tanks sprayed the flank hedgerows and the far side of the field, while the infantry, under this covering fire, advanced along the flank hedges to the next lateral row and cleared the enemy out at close range.

With the field thus secured, one section of tanks moved forward while the other remained at the rear to eliminate enemy troops that might suddenly appear from a concealed point or an adjacent field. White phosphorus shells from the 4.2-inch chemical mortars and artillery could be

brought to bear on stubborn enemy groups.

Costly Process

Although this seemed very well in theory, it actually was not so easy. Advancing from one field to the next and clearing out individual hedgerows was a slow and costly procedure. It exhausted the troops and brought many casualties. Yet the plodding technique seemed necessary because more rapid movement only bypassed enemy groups that held up the elements that were following.

Several drawbacks complicated this simple type of small unit attack. One was the difficulty of moving tanks through the hedgerows. The openings in the enclosures for wagons and cattle were well covered by German anti-tank gunners, and the appearance of an American tank prompted an immediate reaction. Although it was possible for a tank to climb the smaller hedgerow banks, the tank's most vulnerable part, the relatively lightly armored underbelly, was thus exposed to fire. Consequently, before a tank could protrude its guns and advance through a hedgerow, it was necessary for engineers to blast a hole through the hedgerow wall and open passage for the tank. The explosion immediately attracted German attention, and anti-tank weapons were not slow to cover the new opening.

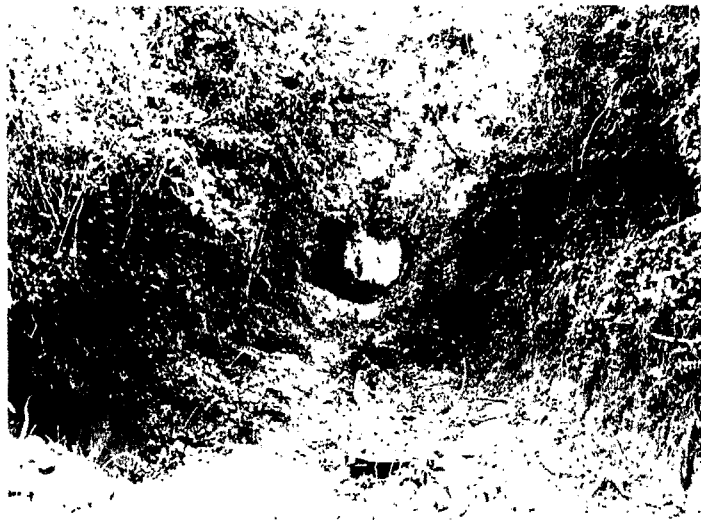
In search of a method for speeding up the advance of armored units through the hedgerows, American units developed a number of ingenious devices. One of these was the tank dozer, which ordnance units created by mounting blades on the front of ordinary *Sherman* tanks. Although an effective weapon, some of the hedgerows proved to be so thick that it became necessary for engineers using

satchel charges first to open a hole, which the tank dozers later cleared and widened. Because this use of demolitions and tank dozers was time consuming, the search for other and faster methods of punching through the hedgerows went on.

The climax came when a sergeant in the 102d Cavalry Reconnaissance Squadron welded steel scrap from a

tankers a morale lift, for the hedgerows had become a greater psychological hazard than their defensive worth merited.

The sunken roads between hedgerows provided another hazard. They were usually so deep that they screened men and light vehicles from observation. They were perfect for ambush. Even the highways of the re-



U.S. Armor Photos

Sunken roads proved perfect for ambush

destroyed enemy roadblock to a tank to perfect a hedgecutter with several tusklike prongs, teeth that pinned down the tank belly while the tank knocked a hole in the hedgerow wall by force. This device, named the Rhinoceros attachment, sliced through the earth and growth, throwing bushes and brush into the air and keeping the nose of the tank down. The hedgecutter was important in giving

gion, narrow tarred roads, lent themselves to defense. They were adequate for the American mechanized forces, but the hedgerows lining them gave excellent concealment to hostile troops.

Close Range Fighting

The fields were so small and the hedgerows so numerous that the opposing troops fought at very close range. Americans armed with the M1 rifle, a weapon more effective at long

ranges, were, therefore, at a disadvantage. Submachineguns, more useful for clearing hedgerows at short ranges, and rifle-grenade launchers, particularly suitable for firing over hedges at short distances, were not to be had in adequate numbers. White phosphorus shells, effective in clearing hedgerow corners of enemy strongpoints, were also in short supply.

A serious hindrance in the hedgerow country was the lack of observation posts. Counterbattery fire was difficult to adjust because of the limited observation. Small cub planes, organic equipment of artillery units, were excellent for reconnaissance, observation, and adjustment of fires, but rain and overcast skies frequently kept them grounded.

The flat area of irregularly shaped fields made it impossible for the troops to anticipate the pattern of the hedgerow enclosures. Hedgerows and fields all resembled each other, and few terrain features existed to serve as general objectives, as geographical markers, or as guiding points. Small units consequently had difficulty identifying their map locations. They often became confused on direction. Constant surveillance by higher headquarters and frequent regrouping of units were necessary in the interest of maintaining the correct orientation toward objectives.

Tank-Infantry Coordination

Another complication was the absence of smooth-working tank-infantry-engineer-artillery teams. Preinvasion training had not developed them, and instructions during combat, however exact, could not produce them in short order. Many infantry commanders did not know how to use tanks properly in support, and many tank

commanders did not realize how best to render assistance.

Developing operational procedures and techniques between the infantry and close support tanks could not be left until their arrival in the combat zone. And the infantry divisions had not had sufficient training with separate tank battalions, even though the latter were normal division attachments. The only thing that could be done was to retain the same tank battalion in attachment to the same division for the entire campaign. Eventually, as mutual confidence developed, tankers and infantrymen became aware of the individual peculiarities, limitations, and strengths of each other.

Communications

Perhaps the greatest problem hampering tank-infantry coordination was that of communication. How could an infantry platoon leader taking cover in a ditch make known his wants to a commander buttoned up in his tank? Because voice command could not always be heard above the sounds of battle and the noises of motors, hand signals had to be worked out, smoke signals and pyrotechnics prearranged. Microphones or telephones connected with the tank intercommunication system were attached to the outside of tanks by signal companies. But the development of smoothly functioning combinations had to wait the evolution through combat of elements accustomed to working in unison and with a minimum of overt direction.

Added to the difficulties of the terrain was the weather. Clammy, cold rain through most of July kept the swamps flooded, slowed road traffic, concealed enemy movements and dispositions, and left the individual soldier wet, muddy, and dispirited.

There was not much that could be done about the weather. But the training in England before the invasion should have anticipated the problems that the terrain would impose. More tank-infantry training with special attention to communications would have improved coordination in battle. Additional training in close-range fighting would have helped.

As for the hedgerows, there are hedgerows in England, and some of the training areas were located in what might be called the English hedgerow country. But training officers ignored their existence. No special effort was made to teach the troops how to operate effectively in the close and restricting terrain they would find so difficult and dangerous in Normandy.

The result was that the American troops who fought what has since been termed the battle of the hedgerows received their training in that type of warfare during the battle itself. Through this flooded pastoral region of Normandy, an area of 10,000 little fields where German defenders were dug into hedgerow banks, American troops fought from field to field, from

one hedgerow to the next, measuring their progress in yards. Twelve divisions fought in that battle, and they were committed, on the average, for little more than a week. They gained less than seven miles. They suffered more than 40,000 casualties.

The hedgerow fighting that had exhausted and depleted the ranks also made the survivors combat wise. Each unit now had a core of veterans who oriented and trained replacements. An assurance had developed that was particularly apparent in dealings with enemy armor, and it had been proved that even the German tank with the strongest armor was vulnerable to American weapons. Not the least beneficial result of the hedgerow fighting was the experience that had welded fighting teams together. Cooperation among the arms and services had improved simply because units had worked together.

Tested by fire, the troops were trained in battle. But much of the suffering and many of the losses might have been avoided had those responsible for training before the invasion realized that the battle would not end at the beaches.

