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Chapter IV TACTICS

Section I. GENERAL TACTICAL DOCTRINES

1. BASIC DOCTRINES.

An outstanding characteristic of the German nation is it's fondness for everything connected with militarism. This is based not only on traditional sentiment but also on long-range and intense education that glorifies the military spirit. This gives the German military leaders the essential foundation for aggressive military operations.

The Germans believe that only the offensive can achieve success on the field, particularly when combined with the element of surprise. German military literature, for the past century, has emphasized the need for aggressiveness in all military operations.

The Germans have been thoroughly aware of the psychological component in warfare and have developed systematic terrorization to a high degree.

At the same time they have placed considerable reliance on novel and sensational weapons such as the mass use of armor, the robot bomb, and the super-heavy tank. Their principal weaknesses in this regard have been their failure to integrate these new techniques with established arms and tactics - German field artillery, for example, did not maintain pace with German armor - and their devotion to automatic weapons at the expense of accuracy.

A highly trained officer corps and a thoroughly disciplined army are the necessary elements to implement this aggressive philosophy. German tactical doctrines stress the responsibility and the initiative of subordinates. The belief of former years that the German army was inflexible and lacking in initiative has been completely destroyed in this war, in which aggressive and daring leadership has been responsible for many bold decisions. Yet, while the Germans have many excellent tacticians,

they tend to repeat the same type of maneuvers, a fact which has been fully exploited by Allied commanders.

The German specialization in particular types of warfare such as mountain, desert, winter, or the attack on fortified positions, showed thorough preparation and ingenuity. At the same time, the Germans had been quite willing to learn from their opponents and on numerous occasions have copied Allied tactics and weapons.

2. RECENT TACTICAL TRENDS

From the time when the German Army was forced on the defensive by the Allied armies, German tactical doctrines have undergone modifications such as renunciation (except in unstated instances) of air support, and the substitution of linear defense for elastic offensive defense.

The primary goal of Germany today is to gain time and to achieve victory in a political sense, since the Germans are no longer capable of a military victory. Of necessity their military operations now supplement this effort and have become a large-scale delaying action.

3. EXERCISE OF COMMAND

The U.S. and German doctrines applied in exercise of the command are virtually identical. The Germans stress the necessity of the staff in assisting the commander to evaluate the situation and in preparing and disseminating orders to the lower units. They emphasize that the commander should be well forward with his units not only for the purpose of facilitating communication, but also because his presence has a salutary effect on the troops.

Section II. RECONNAISSANCE

a: PURPOSE.

The purpose of reconnaissance and the types of units employed to obtain information are similar in the U.S. and the German Armies. German tactical principles of reconnaissance, however, diverge somewhat from those of the U.S. The Germans stress aggressiveness, attempt to obtain superiority in the area to be reconnoitered, and strive for continuous observation of the enemy. They believe in employing reconnaissance units in force as a rule. They expect and are prepared to fight to obtain the desired information. Often they assign supplementary tasks to their reconnaissance units,

such as sabotage behind enemy lines, harassment, or counter-reconnaissance.

b. TECHNIQUE.

Only enough reconnaissance troops are sent on a mission to assure superiority in the area to be reconnoitered. Reserves are kept on hand to be committed when the reconnaissance must be intensified, when the original force meets strong enemy opposition, or when the direction and area to be reconnoitered are changed. The Germans encourage aggressive action against enemy security forces. When their reconnaissance units meet superior forces, they fight a delaying action while other units attempt to flank the enemy.

c. CLASSIFICATION.

Reconnaissance is classified by the Germans as operational, tactical, and battle reconnaissance - corresponding to the U.S. distant, close, and battle reconnaissance.

2. OPERATIONAL RECONNAISSANCE (Operative Aufklärung)

Operational reconnaissance, penetrating over a large area in great depth, provides the basis for strategic planning and action. This type of reconnaissance is intended to determine the location and activities of enemy forces, particularly localities of rail concentrations, forward or rearward displacements of personnel, loading or unloading areas of army elements, the construction of field or permanent fortifications, and hostile air force concentrations. Identification of large enemy motorized elements, especially on an open flank, is important. Operational reconnaissance is carried out by the Air Force and by motorized units. Aerial photography units operate at altitudes of 16,500 to 26,500 feet. Since missions assigned to operational air reconnaissance are generally limited to the observation of important roads and railroads, reconnaissance sectors and areas normally are not assigned. The motorized units employed for operational reconnaissance have only directions and objectives assigned.

3. TACTICAL RECONNAISSANCE (Taktische Aufklärung)

a. PURPOSE

Tactical reconnaissance, carried out in the area behind the operational reconnaissance, provides the basis for the commitment of troops. Its mission embraces identification of the enemy's organization, disposition, strength, and antiaircraft defense;

determination of the enemy's reinforcement capabilities; and terrain reconnaissance of advance sectors. Air Force reconnaissance units and motorized and mounted reconnaissance battalions are employed for tactical reconnaissance. Their direction and radius of employment are based upon the results of the operational reconnaissance.

b. AIR RECONNAISSANCE.

Tactical air reconnaissance is normally made from altitudes of 6,500 to 16,000 feet. As a rule, air reconnaissance units are assigned specific reconnaissance areas, the boundaries of which normally do not coincide with sectors assigned to ground units. Reconnaissance planes generally are employed singly.

c. GROUND RECONNAISSANCE.

Sectors of responsibility are assigned to ground tactical reconnaissance battalions. In order to make them independent or to facilitate their change of direction, battalions may be assigned only reconnaissance objectives. In such instances, boundary lines separate adjacent units. The Germans avoid using main roads as boundary lines, defining the sectors in such a way that main roads fall within the reconnaissance sectors. The width of a sector is determined by the situation, the type and strength of the reconnaissance battalion, the road net, and the terrain. In general, the width of a sector assigned to a motorized reconnaissance battalion does not exceed 30 miles.

d. ORDERS FOR TACTICAL RECONNAISSANCE.

Orders issued to a reconnaissance battalion or its patrols normally contain, in addition to the mission, the following:

- (1) Line of departure
- (2) Information concerning adjacent reconnaissance units
- (3) Sector boundaries or direction of operation.
- (4) Objectives.
- (5) Phase lines.
- (6) Instructions for transmission of reports.
- (7) Location of immediate objectives whose attainment is to be reported.
- (8) Instructions regarding air-ground liaison.
- (9) Time of departure, route, and objective of the main force.

e. TACTICAL RECONNAISSANCE PROCEDURES.

When a motorized reconnaissance column expects contact with the enemy, it advances by leaps and bounds. The length of bounds depends on the cover the terrain offers as well as on the road

net. As the distance from the enemy decreases, the bounds are shortened. The Germans utilize roads as long as possible and usually use different routes for the advance and the return.

The reconnaissance battalion commander normally sends out patrols which advance by bounds. Their distance in front of the battalion depends on the situation, the terrain, and the range of the signal equipment, but as a rule they are not more than an hour's travelling distance (about 25 miles) ahead of the battalion. The battalion serves as the reserve for the patrols and as an advance message center (Meldekopf), collecting the messages and relaying them to the rear. Armored reconnaissance cars, armored half-tracks, or motorcycles compose the motorized reconnaissance patrols, whose exact composition depends on their mission and on the situation. Motorcycles are used to fill in gaps and intervals, thereby thickening the reconnaissance net.

When the proximity of the enemy does not permit profitable employment of the motorized reconnaissance battalion, it is withdrawn and the motorized elements of the divisional reconnaissance battalion take over.

Divisional reconnaissance battalions seldom operate more than one day's march (18 miles) in front of the division, covering an area approximately 6 miles wide.

4. BATTLE RECONNAISSANCE. (Gefechtsaufklärung)

a. GENERAL

Battle reconnaissance as a rule is begun when the opposing forces begin to deploy. All troops participating in battle carry out battle reconnaissance through patrols, artillery observation posts, observation battalions, and air reconnaissance units. The information obtained on the organization and strength of the enemy provides the basis for the conduct of the battle.

b. ARMORED CAR PATROLS.

The Panzer division dispatches armored reconnaissance units equipped with armored vehicles and numerous automatic weapons. The armored reconnaissance unit is fast and has a wide radius of action.

Armored car patrols normally are composed of three armored reconnaissance cars, one of which is equipped with radio. An artillery observer often accompanies the patrol so that in an emergency fire can be brought down quickly. This type of patrol usually is organized for missions lasting one to two

days. Tasks are defined clearly, and nothing is allowed to interfere with the patrols's main objective. If enemy forces are met, action is avoided unless the force is so weak that it can be destroyed without diverting the patrol from its main task. If enemy action is anticipated, the patrol is reinforced with self-propelled guns and occasionally with tanks. Engineers and motorcyclists are often attached to the patrol to deal with road blocks and demolitions.

While scouting a woods, a favorite German ruse is to drive the leading car towards its edge, halt briefly to observe, and then drive off rapidly, hoping to draw enemy fire that will disclose the enemy positions.

At road blocks, the leading car opens fire. If fire is not returned, men dismount and go forward to attach tow ropes to the road block. If necessary, the patrol dismounts and proceeds with machine guns to reconnoiter on foot.

A patrol is never split up, but in open country distances between cars may be as much as 200 to 300 yards.

c. OBSERVATION BATTALION AND AIR RECONNAISSANCE.

The German observation battalion locates enemy artillery and heavy weapons positions by sound and flash ranging and evaluated aerial photographs. The Air Force assists in battalion reconnaissance by observing the distribution of the enemy's forces, his artillery, bivouac and movements, reserves, tank assemblies, and any other special occurrences behind the front. In general, air battle reconnaissance is executed under 6,000 feet.

d. BATTLE RECONNAISSANCE PATROLS (Spahtruppen)

The Germans send out reconnaissance patrols consisting of a noncommissioned officer and three or four men, to get such information as the location of enemy positions and minefields. They generally avoid contact and retreat when fired on.

e. COMBAT PATROLS (Gefechtsspahtruppen or Strosstruppen)

These consist of at least one noncommissioned officer and eight men, but are usually stronger. As a rule, the combat patrol is commanded by a sergeant who has under him 15 to 20 men, organized in two equal sections, each commanded by a section leader. These are raiding patrols, and their mission often includes bringing back prisoners of war. Since Allied air supremacy has neutralized German air reconnaissance to a great extent, the Germans have placed increased importance on prisoners of war, especially officers, as a source of

information on enemy strength, dispositions, and intentions.

Combat or other types of patrols are often sent out to test the strength of enemy outposts. If an outpost proves to be weakly held, the patrol attacks, occupies the position, and remains there until relieved by troops from the rear. If the patrol is strongly garrisoned, the patrol attempts to return with a prisoner of war.

f. SPECIAL PATROLS (Spahtruppen mit besonderen Aufgaben)

These vary in strength in accordance with their special mission. Special patrols are sent to carry out such tasks as demolitions, engaging of enemy patrols that have penetrated German positions, and ambushing enemy supply columns.

g. MISCELLANEOUS RECONNAISSANCE.

Engineer patrols are employed to reconnoiter approaches to fortified areas, defiles, or rivers. Artillery patrols, usually consisting of an officer and a few mounted men, reconnoiter routes of approach, observation posts, and firing positions.

h. TERRAIN RECONNAISSANCE. (Gelandeerkundung)

The Germans place great emphasis on terrain reconnaissance, realizing the influence terrain has upon the conduct of operations. Most of their usual reconnaissance missions include terrain reconnaissance tasks. Terrain may be so important at times as to require reconnaissance by special units. Ground and air reconnaissance units give special attention to the road net - its density, condition, road blocks, mines, and demolitions - as well to the terrain itself, particularly tank country.

i. EQUIPMENT AND SUPPORT.

The Germans equip their ground battle-reconnaissance patrols with machine pistols and one or two light machine guns that are used to cover the patrol's approach or withdrawal. Engineers often are attached to guide a patrol through German minefields and to clear a way through enemy wire or mines. Artillery support is given in the form of harassing fire put down just before the patrol reaches its objective. Sometimes the artillery fires into adjacent sectors to mislead the enemy as to the actual area to be reconnoitered. In other instances, artillery and mortars that have registered during the previous day shell during the night the area to be reconnoitered. As soon as the barrage is lifted, the patrol advances under cover of machine-gun fire from flanking positions.

SECTION III. MARCHES

1. GENERAL

The formations and the organizations of the march column in day or night advances are the same in the German Army as in the U.S. Army and are governed by the same principles. For a smooth functioning of the march the Germans stress: systematic training and practice; attention to physical welfare; care of vehicles and equipment; previous reconnaissance of routes; warning orders; and the issue of detailed march orders.

2. ORGANIZATION AND CONTROL OF THE MARCH COLUMN

In order to secure the march column against enemy attacks, the Germans divide the column in the same manner as U.S. doctrine prescribes, namely into Advance Guard (Vorhut), Main Body (Gros), and Rear Guard (Nachhut). German equivalents for the U.S. terms are:

ADVANCE GUARD

Spitze	Point
Spitzenkompanie	Advance Party
Vortrupp	Support
Haupttrupp	Reserve

REAR GUARD

Nachspitze	Rear Point
Nachspitzenkompanie	Rear Party
Nachtrupp	Support
Haupttrupp	Reserve

The issue of orders for march and traffic control is the responsibility of the higher command. Movement by road of formations from battalion strength upward is carried out in the Zone of the Interior at the orders of the Army High Command (OKH) or a headquarters acting on the orders of the Army High Command. In the Theater of War such movements are controlled by Army Headquarters, which issues orders in accordance with instructions from Army High Command or the Army Group. Movements in the areas of military commanders of line-of-communication areas are controlled by orders of the commanders of such areas.

Orders for movement are issued to the formations of fighting troops by the operations group of headquarters; those to supply

services and units in the line-of-communication area emanate from the supply and administrative group.

The Germans set up a well organized traffic control service which is under the orders of the operations group. All traffic control services usually wear orange-red brassards, while the members of the military police are distinguished by metal gorgets.

The Germans allot to each front-line division its own road or sector of advance, usually marked by advance parties. General Headquarters or any other troops directed simultaneously on the same roads, are subordinated to the division for the duration of the move. All-weather roads usually are allotted to motorized or armored divisions, while subsidiary roads are assigned to infantry divisions.

3. CONDUCT OF THE MARCH.

When a German infantry division advances along several routes, an infantry element normally forms the head of each main body. The commander of the main body usually marches at or near the head of the main body. The motorized elements of the division, unless employed on reconnaissance or security missions, are organized into one or more motor echelons which follow the march column by bounds, or move in a column along a separate road. Before the march begins, the division signal battalion lays a trunk telephone line as far forward as the situation permits and extends this line while the march proceeds. The leading signal unit usually marches with the support of the advance guard and establishes telephone stations at important points. In a march along several roads the trunk line normally is laid along the route of the division commander and his staff. In addition to the construction of the trunk line, the Germans stress radio communications to the rear and flanks, as well as the use of messengers mounted on horses, bicycles, or motorcycles.

4. SECURITY OF MARCH COLUMNS.

As a rule, the Germans allot motorized units for the protection of the flanks and rear of march columns. However, a smaller unit, such as a battalion, may advance without security detachments.

The Germans are very much concerned about antiaircraft protective measures and often march in open columns (Fliegermarschtiefe); an advance in deployed formation (Fliegermarschbreite) is seldom practical. Antiaircraft defense is concentrated at important terrain features, such as bridges, crossroads, and defiles. Because of

Allied air supremacy the Germans now instruct their troops to conduct movements and the transport of supplies only at night, and without lights. They also order their troops to leave burned out vehicles standing on the road to attract fresh attacks by enemy aircraft.

Chapter IV TACTICS (continued)

SECTION IV. OFFENSIVE

1. GENERAL

The fundamental principle of German offensive doctrine is to encircle and destroy the enemy. The objective of the combined arms in attack is to bring the armored forces and the infantry into decisive action against the enemy with sufficient fire power and shock. Superiority in force and fire power, the employment of armored forces, as well as the surprise element, play a great part in the offensive.

Coordination between the combined arms under a strong unified command is, the Germans emphasize, an absolute requisite to the success of these shock tactics. This has become more and more true as the Allies have developed effective antitank weapons and have adopted deeper defenses, limiting the self-sufficiency of German tanks. To counter these measures, the Germans have increased the mobility and armor protection of their motor-borne infantry, and have mounted a large proportion of both their direct and indirect heavy support weapons on self-propelled carriages.

In attempting thoroughly to paralyze the defender up to the moment of the tank-infantry assault, the Germans realize that even the most formidable forces are never sufficient for overwhelming superiority on the entire front. They therefore select a point of main effort (Schwerpunkt) for a breakthrough, allotting narrow sectors of attack (Gefechtsstreifen) to the troops committed at the decisive locality. There they also mass the bulk of their heavy weapons and reserves. The other sectors of the front are engaged by weaker, diversionary forces.

In selecting the point of main effort, the Germans consider weaknesses in the enemy's defensive position; suitability of the terrain, especially for tanks and for cooperation of all arms; approach routes; and possibilities for supporting fire, especially artillery. Although the Germans select a point of main effort in all attacks, they usually also make plans for shifting their main effort if they meet unexpected success elsewhere. To allow such shifts, sufficient reserves and a strong, unified command are organized.

An attack along a narrow front, according to German doctrine, must have sufficient forces at its disposal to widen the penetration while maintaining its impetus, and to protect the flanks of the penetration. Once the attack is launched, it must drive straight to its objective, regardless of opposition.

2. TYPES OF ATTACK

a. FLANK ATTACK (Flankenangriff)

The Germans consider that the most effective attack is against the enemy's flank. The flank attack develops either from the approach march - sometimes through a turning movement - or from flank marches. It attempts to surprise the enemy and permit him no time for countermeasures. Since mobility and the deception of the enemy at other positions are required, the flank attack is most successfully mounted from a distance; the troop movements necessary for the maneuver can be executed in close proximity to the enemy only with unusually favorable terrain or at night. Attacks are launched on both flanks only when the Germans consider their forces clearly superior.

b. ENVELOPMENT (Umfassungsangriff)

The envelopment is a combination flank-and-frontal attack especially favored by the Germans. The envelopment may be directed on either or both the enemy's flanks, and is accompanied by a simultaneous frontal attack to fix the enemy's forces. The deeper the envelopment goes into the enemy's flanks, the greater the danger of being enveloped oneself. The Germans therefore emphasize the necessity of strong reserves and organization of the enveloping forces in depth. Success of the envelopment depends on the extent to which the enemy is able to dispose his forces in the threatened direction.

c. ENCIRCLEMENT (Einkreisung).

An encirclement, the Germans think, is a particularly decisive form of attack, but usually more difficult to execute than a flank attack or an envelopment. In an encirclement, the

enemy is not attacked at all in front, or is attacked in front only by light forces, while the main attacking force passes entirely around him, with the objective of maneuvering him out of position. This requires extreme mobility and deception.

d. **FRONTAL ATTACK** (Frontalangriff).

The Germans consider the frontal attack the most difficult of execution. It strikes the enemy at his strongest point, and therefore requires superiority of men and materiel. A frontal attack should be made only at a point where the infantry can break through into favorable terrain in the depth of the enemy position. The frontage of the attack should be wider than the actual area (Schwerpunkt) chosen for penetration, in order to tie down the enemy on the flanks of the breakthrough. Adequate reserves must be held ready to counter the employment of the enemy's reserves.

e. **WING ATTACK** (Flugelangriff)

An attack directed at one or both of the enemy's wings has, the Germans teach, a better chance of success than a central frontal attack, since only a part of the enemy's weapons are faced, and only one flank of the attacking force or forces is exposed to enemy fire. Bending back one wing may give an opportunity for a flank attack, or for a single or double envelopment.

f. **PENETRATION** (Einbruch) **AND BREAKTHROUGH** (Durchbruch)

These are not separate forms of attack, but rather the exploitation of a successful attack on the enemy's front, wing, or flank. The penetration destroys the continuity of the hostile front. The broader the penetration, the deeper can the penetration wedge be driven. Strong reserves throw back enemy counterattacks against the flanks of the penetration. German units are trained to exploit a penetration to the maximum so that it may develop into a complete breakthrough before hostile countermeasures can be launched on an effective scale. The deeper the attacker penetrates, the more effectively can he envelop and frustrate the attempts of the enemy to close his front again by withdrawal to the rear. The attacking forces attempt to reduce individual enemy positions by encircling and isolating them. The Germans do not consider a breakthrough successful until they overcome the enemy's artillery positions, which usually is the special task of tanks. Reserve units roll up the enemy's front from the newly created flanks.

The Germans often refer to this maneuver as "Keil und Kessel".

3. ORGANIZATION OF THE ATTACK

a. ATTACK ORDER.

The attack order (Angriffsbefehl) generally contains the objective of the attack, the disposition of the infantry, unit sectors and boundaries, disposition and support missions of the artillery, location of reserves, and the time of attack. The order is not drawn up in accordance with any stereotyped form, but as a rule follows this pattern:

- (1) Estimate of the situation
(disposition of hostile and friendly troops)
- (2) Mission.
- (3) Assembly areas for the forward companies; objective; sector boundaries; orders for the continuation of combat reconnaissance.
- (4) Instructions for the preparation of the heavy-weapons fire support, especially for massed fire.
- (5) Orders to the artillery for fire preparation and coordination.
- (6) Assembly areas for the reserves.
- (7) Time of attack.)
- (8) Instructions for rear services (medical service and supplies).
- (9) Location of command posts.
- (10) Miscellaneous.

b. SECTORS OF ATTACK.

The width of a sector assigned to an infantry unit in the attack depends on the unit's mission and battle strength, on terrain conditions, on the available fire support of all arms, and on the probable strength of enemy resistance. Normally the sector assigned to a platoon is between 165 and 220 yards. A company attack sector is about 330 to 550 yards. A battalion sector is about 440 to 1,100 yards, while a division sector may be 4,400 yards to 5,500 yards. These sectors also provide the boundaries for the other arms, especially for the artillery in support of the infantry, although the artillery may utilize favorable observation positions in neighboring sectors. This also applies to the heavy infantry weapons.

For large units the sectors are determined from the map; for smaller units, from the terrain. These sectors extend as deep into enemy territory as the plan of battle may require. As the situation develops, changes are frequently made. Important points always lie within units' sectors, unless they are to be attacked by several units. The Germans do not consider it necessary to occupy the whole width of the sector with troops. Open flanks ordinarily are not bounded.

c. FIRE PLAN.

Fire superiority is achieved through coordination of the infantry and artillery weapons. The basis of the fire plan (Feuerplan) is the regulation of the commitment of all weapons. The fire plan includes the following:

- (1) Assignment of combat missions.
- (2) Distribution of observation sectors and fields of fire for the infantry and the artillery.
- (3) An estimate of capabilities of the artillery for effective execution of the combat mission.
- (4) Orders for the commencement of fire and fire schedules.
- (5) Orders for the preparation for massed fire.
- (6) Instructions for ammunition supply.

The Germans stress the coordination of flat and high trajectory weapons so that all dead spaces are covered by fire. Lack of signal equipment however, often hinders the application of this principle.

SECTION IV. OFFENSIVE (continued)

4. CONDUCT OF THE ATTACK

a. GENERAL.

Most of the German successes in the present war have been achieved with armored formations. Years of secret training and equipping were devoted to the development of the Panzer division. The original German blitzkrieg tactics were based on the belief in the irresistible power of tank formations operating independently with the support of dive- bombers. Considerable modifications have taken place in this theory over the past few years. At the present time, the offensive tactics of the Germans are less spectacularly bold than they were in 1939, but the fundamental theory behind them has changed remarkably little, though in their armored tactics they stress more tank-infantry coordination since unlimited air support is no longer at their command.

The main weight of all major German attacks since 1939 was borne by the Panzer division. Where infantry divisions have been employed, they were limited to local attacks on a comparatively minor scale, or to mopping up in rear of the Panzer divisions. The Germans never envisaged a full-scale attack by infantry formations on fixed defenses. German tactics have been to outflank or encircle the main area of the enemy

defenses with tank formations and to have the infantry roll up the defenses from the rear, or to break frontally through the enemy defenses with massed tanks and develop the famous "Keil und Kessel" maneuver.

The Germans learned at heavy cost the futility of charging a hostile antitank defense with tank concentrations and of engaging in tank-versus-tank combat without having superiority in range and armament. They have learned that large formations of tanks cannot achieve a breakthrough, opposed by an effective screen of antitank guns, without the assistance of other arms. Therefore attention has to be given to the combined tactics of tanks and Panzer Grenadiers, the mechanized or motorized infantry who accompany the tanks.

Great emphasis in German offensive theory is laid on the role of the artillery, but in practice the artillery-support role has devolved to an ever-increasing degree on the tanks and assault guns. Nevertheless, the principle that the supporting fire should be concentrated on a narrow frontage where the tanks and infantry are most likely to achieve a breakthrough has been retained.

The fact that part of the enemy resistance is likely to remain undisclosed until the attack has already begun has caused the Germans permanently to decentralize a portion of the field artillery. This tendency has led to the emergence and continual development of the assault guns, whose main function is the close support of infantry and tanks in the attack. Their armor and mobility allow them to operate much farther forward than the field artillery.

The tendency to detach field artillery battalions from their field artillery regiment remains strong. In fact, this tendency is so prevalent that a concentration of massed artillery preceeding an attack seldom is achieved, necessitating, as it does, a great degree of centralized control. The Germans however, replace the massed artillery fire to a large extent with the fire of multi-barreled mortars and rocket projectors, though these latter have not the accuracy of the former.

The Germans make a clear distinction between an attack made from movement and an attack from a prepared position, which is the more common of the two.

b: ATTACK BY MECHANIZED AND MOTORIZED FORCES.

(1) THE ATTACK

In armored-force operations, the Germans stress the need for the concentrated employment, at the decisive place and time, of the entire combined command of tanks and other arms, less necessary reserves. The tanks constitute the striking force of such a command and normally advance as the first echelon of the attack. Their primary mission is to break through and attack the enemy artillery, rather than to seek out and destroy enemy tanks, which can be more effectively engaged by antitank units. The mission of the other arms is to assist the tanks in their advance, and particularly to eliminate antitank weapons. The smallest combat unit in such a force of combined arms is the company.

The basic formation for the tank platoon, company, and battalion are file, double file, wedge, and blunt wedge. The type of formation used for a specific task depends to a large extent on terrain conditions and the strength of enemy opposition. A German tank platoon normally consists of one command tank and two tank squads of two tanks each.

The tank regiment normally attacks in waves, in either of the following manners:

The tank regiment is echeloned in depth, one tank battalion following the other. The regimental commander's location is between the two battalions. This formation has the advantages of a sufficiently wide front (about 1100 yards), and close contact by the company commander of his units in the conduct of the attack. When two tank battalions are attacking, one behind the other, it takes them about half an hour to pass their own infantry.

When the two-battalions-abreast formation is employed, it is almost essential that another tank regiment form the following wave. This formation usually has the disadvantage of being too wide. The regimental commander cannot observe his units, and he has no units of his own behind him which he can commit in a decisive moment. The attack normally proceeds in three waves.

The first wave thrusts to the enemy's antitank defense and artillery positions.

The second wave provides covering fire for the first wave, and then attacks the enemy's infantry positions, preceded, accompanied, or followed by part of the Panzer Grenadiers, who dismount as close as possible to the point where they must engage the enemy. The objectives of the second wave are the remaining antitank positions, positions of heavy infantry-support weapons, and machine-gun emplacements which hold up the advance of the infantry.

The third wave, accompanied by the remainder of the Panzer Grenadiers, mops up.

These three waves now often are telescoped into two, the first wave speeding through the enemy's positions as far as his gun positions, the second crushing the enemy's forward positions in detail and mopping up the opposition not dealt with by the first wave or which has revived since the first wave passed through.

A typical attack formation of this type might be divided up among the Panzer division's units as follows: the first wave, on a frontage of about 2,000 to 3,000 yards, might consist of one tank battalion, two companies forward, supported on the flanks by elements of the assault gun battalion. Close to the rear of the first wave usually follow one or two Panzer Grenadier companies in armored half-tracks. About 150 yards to the rear of the first wave moves the second wave, formed of the second tank battalion in the same formation, closely followed by the remainder of the armored Panzer Grenadiers, who are in turn followed at some distance by the motorized Panzer Grenadiers. The flanks are protected by antitank guns which normally operate by platoons, moving by bounds. The artillery forward observer travels in his armored vehicles with the first wave, while the artillery commander of the supporting artillery units usually travels with the tank commander. Assault guns normally also accompany the second wave.

The tanks help each other forward by fire and movement, medium or heavy tanks taking up hull-down firing positions and giving covering fire while the faster tanks advance to the next commanding feature. Then the latter give covering fire to the former moving forward to their next bound.

Once the first wave has reached the rear of the enemy's forward defenses, it pushes straight on to attack the enemy's artillery. As soon as these positions have been neutralized, the tanks reform beyond the artillery positions and either prepare to exploit the attack or form an all-round defensive position on suitable ground.

The tank commander, as the leader of the strongest unit, is in most cases in command of the combat team, and all the other participating arms (Panzer Grenadiers, artillery, engineers, and antitank units) are placed under him. The Germans realize that a strong and unified command is an essential feature of any military operation. For certain missions, however, tank units are attached to another arm, in which case the tank commander is consulted before the final plans for the operations are made.

(2) INFANTRY-TANK COOPERATION

When the enemy has well prepared positions with natural or constructed tank obstacles, the German infantry attacks before the tanks and clears the way. The objective of the infantry is

to penetrate into the enemy position and destroy enemy antitank weapons to the limit of its strength and the fire power of its own support weapons, augmented by additional support and covering fire from the tanks and self-propelled weapons sited in their rear.

Only after the destruction of the enemy antitank defense can the tanks be employed on the battle line to the fullest advantage.

When the tank obstacles in front of the enemy position are already destroyed, and no additional tank obstacles are to be expected in the depth of the enemy's main defensive position, the infantry breaks through simultaneously with the tank unit. The infantry attack is conducted in the same manner as it would be without the cooperation of tanks. Heavy infantry weapons are kept in readiness to fire at possible newly discovered antitank positions. Of particular importance is protection of the open flanks by echeloning the flank units and employing heavy weapons at the flanks.

In most cases, the infantry follows the tanks closely, taking advantage of the fire power and paralyzing effects of the tanks upon the enemy's defense. The Germans normally transport the infantry to the line of departure on tanks or troop-carrying vehicles in order to protect the infantry and to increase its speed. The infantry leaves the vehicles at the last possible moment, and goes into action mainly with light automatic weapons.

The tanks advance by bounds from cover to cover, reconnoitering the terrain ahead and providing protective fire for the dismounted Panzer Grenadiers. The tanks do not slow their advance to enable the infantry to keep continuous pace with them, but advance alone and wait under cover until the infantry catches up with the advance. Terrain that does not offer sufficient cover is crossed with the greatest possible speed.

The infantry attacks in small formations also by bounds under the fire cover of its own heavy weapons and of the tanks, staying away from individual tanks because they draw the strongest enemy fire.

When a tank company attacks with infantry, there are normally two platoons on the line, one platoon back, and the fourth platoon in reserve. The interval between tanks is usually 100-120 yards. The tank's machine guns usually engage infantry targets at 1000 yards range and under, while the tank guns engage targets at 2,000 to 2,500 yards.

The coordination between tanks and Panzer Grenadiers moving into combat on armored half-tracks is similar to the technique employed in a purely armored formation, since the armored half-tracks are not only troop-carrying vehicles but also combat vehicles. When the terrain is favorable for tank warfare, the Panzer Grenadiers in their armored half-tracks follow immediately with

the second wave, after the first tank wave has overrun the opponent's position. A deep and narrow formation is employed. After the penetration, the main mission of the Panzer Grenadiers is to overcome the enemy positions which survived the first wave.

In attacking enemy pillboxes, the Germans use combat groups consisting of tanks, infantry, and engineers, assisted by artillery. The normal composition of a combat group attacking one bunker is one platoon of tanks and one platoon of infantry reinforced by one squad of engineers. Before the combat group is committed against the enemy pillbox, artillery fires high explosives and smoke shells at the neighboring pillboxes to isolate them, shells the terrain between pillboxes, and conducts counterbattery fire. Under the protection of this fire, the combat group advances close to the pillbox while other infantry units attack the enemy in the terrain between the pillboxes.

One tank squad covers the advances of the other tank squads and the infantry platoon by direct fire against the pillbox, particularly against the observation and weapons' openings. The first tank squad halts under cover whenever possible and covers the advance of the second tank squad.

When the combat group reaches a barbed wire obstacle surrounding the pillbox, the two tank squads have different missions. One tank squad remains in front of the pillbox, and its tanks are driven into a position from which they can overlook the terrain, and watch out for antitank guns and machine-gun emplacements, while the other tank squad (the pillbox tank squad) rolls across the obstacle to enable the infantry and engineers to get close to the pillbox. The pillbox tank squad then fires on the pillbox at close range. The infantry squad meanwhile takes the surrounding terrain and covers the engineers who blast the entrance of the pillbox with TNT.

(3) ARTILLERY-TANK COOPERATION

Artillery support is of decisive importance for the preparation and the successful conduct of a tank attack. A unified command for the entire artillery controls the artillery fire as long as the infantry and tank units are fighting on the same line. When the tanks break through the enemy forward defense lines, the self-propelled artillery or any other artillery battalion designated for the support of the tank unit is placed under the command of the tank unit commander.

The Germans believe that the artillery fire must not check the momentum of the attack. Consequently the heaviest fire must fall well ahead of the tanks or outside their sector.

The mission of the artillery preparation before the attack is to destroy, or at least neutralize, the opponent's antitank defense in

the area between the line of contact and the regimental reserve line. Continuous counterbattery fire prevents the enemy from shelling the tank assembly area and from breaking up the preparation of the tank attack.

The artillery has the following missions before the tank attack:

Counterbattery fire on enemy artillery located in positions which command the ground over which the tank attack is to be made.

Concentrations on enemy tanks in assembly areas.

Harrassing fire on all areas in which the antitank units are located or suspected. Fire is heaviest on areas in which tanks cannot operate but from which they can be engaged effectively.

Adjusting fire with high explosives on probably enemy observation posts commanding the sector to be attacked. These observation posts are blinded with smoke as soon as the attack begins.

Experience has taught the Germans that the flanks of a tank attack are vulnerable. Therefore they assign to the artillery and the rocket projector units the task of protecting flanks by barrages using high explosives and smoke shells.

The artillery has the following missions during the tank attack:

Counterbattery fire.

Blinding enemy observation posts.

As the attack progresses, engaging successive lines of antitank defense, especially areas to the rear and flanks of the sector attacked.

Screening the flanks of the attack with smoke and neutralizing the enemy's infantry and rear areas.

Delaying the movement and deployment of enemy reserves,, particularly tanks.

The Germans stress that this wide variety of tasks must not lead to the wholesale dispersal of effort. The main task of the artillery is at all times the destruction of the enemy's antitank weapons, tanks, and artillery.

Liaison between artillery and tanks during the attack is established by the commanding officers and the artillery liaison group, which normally moves with the first wave. Artillery forward observers, if possible in armored observation posts, ride with the most forward elements. A German field expedient is for the tank unit to take along

a forward observer in one of its tanks. It often happens that the tankman himself has to take over the observation of the artillery. He himself can request fire and shift concentrations when the situation requires such changes.

SECTION IV. OFFENSIVE (continued)

c. THE INFANTRY DIVISION IN THE ATTACK.

(1) General principles for employment.

German teaching envisages infantry divisions being employed to make a penetration in the enemy defensive positions through which armored and mechanized formations can pass. During the course of this war, however, no major attack has been carried out by infantry divisions without the support of Panzer divisions. In fact, more major attacks have been carried out by Panzer Divisions with only a minimum of ordinary infantry elements. Infantry divisions have been employed almost entirely in a role of consolidation, following up the armored and mechanized formations, systematically eliminating centers of resistance by-passed by the latter, or exploiting the latter's success by mopping up demoralized enemy defenses to the flanks of the armored breakthrough - in short, consolidating and holding the ground won by the mechanized formations.

In view of the unspectacular role allotted to the infantry division it is difficult to give information about other than minor infantry tactics, such as attacks on a small scale.

(2) PREPARATION FOR THE ATTACK

The method of forming up for an infantry assault on a prepared position is similar to that employed by the Panzer division. While the infantry is in assembly positions, the artillery makes all preparations for the support of the attack. It draws out hostile artillery fire and executes counterbattery fire against known enemy batteries. Large troop concentrations and especially important targets are taken under fire at great ranges. In order not to betray their full strength and intentions, the Germans withhold a portion of their batteries from these missions. They also try to deceive the enemy as to their intentions by covering other sectors simultaneously with fire. When possible, preparation for an attack is avoided during the day in order to prevent Allied observation. Occasionally, to obtain a success by surprise, the Germans launch attacks without artillery preparation. Surprise attacks are also launched under cover of darkness or fog.

The Germans normally occupy their line of departure by means of infiltration in order to avoid losses. Their orders direct what actions have to be taken when companies run into enemy defenses; when enemy fire is opened from the flank; when an enemy counterattack is launched; when objectives are reached; when companies appear to be getting dispersed; when part of a company pushes too far ahead of neighboring units or is held up.

The heavy machine guns of the rearward company and some of the mortars and heavy mortars are assigned to deal with enemy flanking fire.

The commander of the heavy company is normally at the battalion headquarters, from which he can control the fire of the infantry heavy support weapons.

(3) DEPLOYMENT

(a) FIRST STAGE.

The Germans carry out deployment in two stages. They call the first stage Entfaltung or "shaking out", which is equivalent to the deployment of a march column according to U.S. procedure. In the first stage, an infantry regiment normally deploys down to battalions, although the procedure may go down to companies if a high state of preparedness is necessary. Features of the first stage of deployment are as follows:

Companies retain their combat vehicles until their weapons and equipment arrive at the off-carrier position, which is located as far forward as the situation permits.

The Germans often place only one company forward, the main strength of the battalion being kept under control of the battalion commander as long as possible so that he may deploy it in the most advantageous direction for the attack.

If the condition of the terrain and the enemy fire cause a change in intervals between units, the normal intervals are resumed as soon as possible.

Support weapons are used to cover the "shaking out" phase of deployment and the subsequent advance, the weapons being kept within the march column between companies or behind the battalion.

After the first stage of deployment has been carried out, the leading elements of the battalion may be ordered to seize important tactical features.

When deploying by night or in woods, a careful reconnaissance is made, routes are marked, and strong protection is placed forward. Intervals between units are shorter.

After the first stage of deployment has been completed, the battalion commander marches with the leading elements and normally will send reconnaissance patrols ahead or reconnoiter the enemy position himself. The commanders of support weapons accompany him, reconnoitering for firing positions.

(b) SECOND STAGE.

The second stage, called *Entwicklung* (development), is deployment in detail, which is the final action of the company extending itself down to platoons and squads. Features of the second stage of deployment are as follows:

The companies deploy in depth as soon as they come in range of artillery fire. An advance in columns of files is considered desirable because it affords a small target and the company is easier to control, but before adopting this formation the danger of enfilade fire is weighed.

If enemy fire and difficult terrain necessitate further deployment, the companies disperse in depth by sections. Reserves and support weapons also adopt open formations, but they remain far enough behind to avoid coming under the fire directed at their leading elements.

When the rifle companies are deployed, they exploit all possible cover as they advance, employing column-of-file formations with irregular distances. The leading elements are not extended until they are to engage in a fire fight. The elements that follow continue advancing in file.

In determining when to deploy, the Germans take into consideration additional physical strain placed on men when they march cross country.

(4) TECHNIQUE OF ATTACK.

The infantry attack on prepared positions is made in the same sequence as that of the Panzer division, namely penetration, breakthrough, exploitation by the reserves. In the infantry attack, however, the first phase is a series of local attacks by so-called assault detachments (*Stosstrupps*) with the aim of overcoming key points in the enemy defenses, so that wedges into the enemy's forward positions can be established from which the attack can be driven forward into the depth of the enemy position, or rolling up the positions on either flank of the wedge.

Assault detachments normally are composed of infantry with engineers attached. A typical assault detachment consists of the following: one officer; obstacle clearing party, consisting of two to six men for each lane to be cleared, equipped with small arms, wire-cutters, and bangalore torpedoes and other explosives; embrasure-blasting party consisting of three or four men equipped with grenades and demolition or pole charges. This party may also include, though it may work independently, a flame-thrower party, consisting normally of two men; covering parties, normally two or three parties of varying size from three men with one light machine gun to full platoons; smoke party consisting of two or three men equipped with smoke candles or grenades; supply party, carrying reserves of equipment and ammunition, their strength depending on the size of the assault detachment.

Attacks most often are made at dawn, and are preceded normally by heavy artillery preparation, one purpose of which is to make shell holes which afford cover for the advancing assault detachments as they move forward. When the latter reach the wire obstacles surrounding the enemy position, Very signals are fired, calling for available artillery fire to be brought on the position to seal it off from flanking positions. If, by reason of proximity of the assault detachment to the artillery's danger zone, the former cannot be protected by covering fire, the smoke party may lay a smoke screen. The obstacle clearing party then cuts one or more lanes through the wire, using wire-cutters or bangalore torpedoes. The embrasure-blasting party passes through and attacks the embrasures. Flame throwers, if employed are not intended by themselves to cause the surrender of the position, but to cover the advance of the embrasure-blasting party with its explosive charges which are considered the decisive weapon.

Antitank guns may be used to give close support to the embrasure-blasting party, being manhandled from cover to cover. They will attack the embrasure with armor-piercing ammunition, and also give protection against possible tank-supported counterattacks.

It is probable that several such operations will be in progress on any one sector at any one time before an attack, in the first place to probe for weak spots, and in the second place to keep the enemy in uncertainty as to the final point of main effort of the attack. German feint attacks have often been delivered in such strength or with such violence as to be indistinguishable from the main attack.

Once a wedge has been firmly established in the enemy positions, the second phase of the attack begins. Troops so far held in their

assembly area, or slowly making headway under cover of the artillery fire supporting the first phase of the attack, advance to cut the enemy position in two and to roll up the positions flanking the wedge.

Because the Germans anticipate enemy defenses organized in depth, and because these are unlikely to be fully disclosed until after the beginning of the attack, they do not make detailed plans for close-support covering fire, which would be hard to work out in advance, but tend to decentralize their support weapons and artillery for the second phase of the assault, in which reinforced battalions, companies, or platoons fight their own way forward, independently of their flanking units, until they have gained their final objective.

Attack on lightly defended positions is more similar to the conduct of the attack by the Panzer division. The first phase is likely to be a deployed attack on a two-regiment front, the third regiment in reserve.

The Germans believe that in the advance extended formation of units is advantageous because it forces the enemy to scatter his fire.

To counteract the overwhelming Allied superiority in artillery and planes which frequently knock out the attack before it is under way, the Germans have been known to use the following method: Small groups of less than platoon size infiltrate mainly at night over a period of three to four days into the hostile battle position or at least well behind the advanced positions. During the day the infiltrated groups conceal themselves, but if caught pass themselves off as ordinary patrols to avoid raising suspicion. When the actual attack is launched these units try to give the impression that the defender is surrounded and often cause great confusion.

When the Germans go over from the attack to the defense, even if only temporarily, they concentrate the supporting weapons around the commander of the unit that is to be supported, so that he can control the fire plan.

(5) INFANTRY-ASSAULT GUN COORDINATION

The assault guns are organized in assault gun battalions and are under the control of the division commander.

The Germans regard their self-propelled assault guns as the decisive weapons to be employed particularly at the point of main effort. In cooperation with infantry they facilitate the penetration and breakthrough. These weapons, the Germans believe, complement artillery fire by their ability to follow

the infantry right up to an objective. Their use for small actions before an attack is forbidden, so as not to betray their presence. Surprise is sought by bringing them into position by night and camouflaging their assembly area. Used primarily to neutralize enemy support weapons at close ranges over open sights, assault guns are preferably employed in concentrations; to employ them singly or in comparatively small number is frowned upon by the Germans.

German assault guns advance with or just behind the infantry; they never go ahead of the infantry. When an objective is reached, the assault guns do not remain with the infantry while the position is being consolidated but retire about 1,000 yards to await further assignment.

In close combat the assault guns are rather helpless and therefore it is the task of the infantry to keep the enemy away from the assault guns. Newly-organized assault gun escort batteries have the same task.

(6) ARTILLERY

The Germans employ their field artillery in general support (Allgemeine Unterstutzung), in the same manner as the U.S. Army. The Germans consider the battalion as the firing unit. Splitting up an artillery battalion into batteries and placing batteries under an infantry battalion is the exception justified only when the infantry battalion has an independent mission (for example, flank protection) or when the terrain does not permit unified fire control by artillery battalion commanders. Single commitment of guns is against German tactical doctrine.

Various recent reports, however, describe deviations from the prescribed practice. Normally the Germans do not employ single field artillery pieces for direct fire, as, for instance, the Russians do. But much use is made of roving guns (Arbeitsgeschutz), and of guns firing from alternate positions to make identification more difficult. Standing German orders call for the preparation of alternate firing positions, which, however, are used now only in cases of very heavy counterbattery fire, as the gasoline shortage keeps all movements to a minimum.

The Germans often designate the number two piece as the roving gun, and unlike the other pieces, it normally is not dug in. It frequently changes its position, which is about 250 to 300 yards from the rest of the battery.

The German artillery often engages a target from a lateral position. This deception, particularly identified with

longer range weapons, is extended by employing another gun, often of lighter caliber, in a carefully coordinated attack on the same target. Flash simulators also increase the difficulty of visual location of active guns.

The first step to obtain infantry-artillery coordination is taken in the attack order and is assured by direct contact between the commanders, artillery liaison units (Artillerieverbindungskommando), and direct contact between artillery observers and infantry units.

The Germans also employ forward observers (Vorgeschobene Beobachter), who have the same task as their U.S. counterpart.

The signal equipment necessary for communication between units, liaison units, and observers is only partly organic. The Germans keep most of the signal equipment centralized in the division signal battalion, which allots equipment as needed to the various units.

In the attack the greater part of the artillery supports the main effort. The remainder of the artillery is assigned the mission of flank protection against possible enemy counterattacks.

5. MEETING ENGAGEMENT. (Begegnungsgefecht)

In the meeting engagement the Germans believe that the advantage lies with the side which succeeds first in making effective preparation for the attack and thereby deprives the enemy of his freedom of action. When both adversaries attack immediately from march columns, the decisive factors are the initiative of the junior officers and the efficiency of the troops. The senior commander quickly coordinates the functions of the various officers, while the advance guard secures for him freedom of action and the opportunity for a speedy deployment of his troops.

6. PURSUIT.

U.S. and German tactical doctrines on pursuit are very much alike. Pursuit begins when the enemy is no longer able to maintain his position and abandons the combat area with the bulk of his forces. The object of the pursuit is the complete annihilation of the retreating or routed enemy. Effective pursuit requires great initiative from commanders of all echelons of command, who must not hesitate to start pursuit immediately, even when their troops are exhausted. The enemy must be given no time to pause to reorganize his forces and reconstitute

his defense.

The pursuit is conducted on a broad front by means of fire and movement. When making for distant objectives every effort is made to get around the enemy's flanks and effect a surprise attack in his rear. However, care must be taken that enemy attack on one's own flank does not cause deflection from the original direction.

Fast-moving troops are used in the pursuit. These troops often are organized into pursuit or advance sections. The infantry scatters the enemy and by-passes resisting enemy strongpoints, leaving their destruction to units following in the rear. Part of the artillery places concentrations at the avenues of retreat, while the remainder displaces forward in echelon, providing continuous support for the units in front. The Germans emphasize that a pursuit without the necessary artillery support may lead to disaster. Assault guns travel well forward with the rapidly advancing infantry, their comparatively heavy armament enabling them to crush quickly and decisively any enemy forces attempting to make a stand. Combat aviation bombs routes of retreat and strafes the hostile forces in direct support of the ground attack. Combat engineers repair damaged roads, facilitating the continuous flow of supply and troops.

Pursuit after a successful breakthrough, is regarded by the Germans as an ideal mission for the Panzer division. Panzer Grenadiers in armored half-tracks or in unarmored vehicles and tanks supplement each other in pursuing the enemy. During the advance on roads, the tanks form the point. However, through wooded areas or larger villages the Panzer Grenadiers take over the point. Tanks and Panzer Grenadiers stay close together so that either, according to the situation, can be committed as soon as enemy resistance is encountered. Tanks are normally not used in units of less than company strength.→