

CHAPTER 10

THE DEFENSIVE

SECTION I

ORGANIZATION FOR DEFENSE

GENERAL

■ 597. The general object of defensive combat is to gain time pending the development of more favorable conditions for undertaking the offensive, or to economize forces on one front for the purpose of concentrating superior forces for a decision elsewhere.

Under the first of these objects, a commander may assume the defensive pending the arrival of reinforcements, or he may be thrown on the defensive by inferiority in numbers, disposition, or training. He may take up a defensive position and invite attack as part of a deliberate plan to win the battle by a counteroffensive.

Under the second object, the defensive is usually expressed in the mission received from higher authority. This mission may be to hold a vital area pending completion of the maneuver of other forces to protect a flank, or to contain an enemy force while an offensive is being conducted on another part of the front or in another theater.

■ 598. Our defensive doctrine contemplates the organization of a *battle position* to be held at all costs and the use of covering forces to delay and disorganize the advance of the enemy and to deceive him as to the true location of the battle position. (See par. 610.)

RECONNAISSANCE AND SELECTION OF POSITION

■ 599. The mission, the situation, and the terrain limit the choice of localities where the defense may be offered.

Commanders of large units usually determine the general location of the battle position from the map.

The position on which battle is offered must conform to the object of the defense and should facilitate future maneuver without jeopardizing the success of the defense. It must

force the enemy to a direct attack or a time-consuming maneuver, as a position that can be readily avoided has no defensive value. A flank position must draw the enemy from his original direction of advance.

■ 600. Reconnaissance of the position is as detailed as the situation permits. It includes a study of the principal routes of hostile approach, terrain available for hostile observation, and the corridors most advantageous to the hostile attack. A study of the terrain in which the enemy must carry out his attack will give valuable indications of his possible assembly positions, the location of his artillery, the terrain favorable for attack by his mechanized forces, and the area most advantageous for his main attack.

■ 601. If contact with the enemy has not been made, the commander ordinarily is free to make a detailed *reconnaissance of position*, select the terrain on which to defend, and decide on the best distribution of troops. In this case, the command usually is developed into an assembly position preliminary to deployment for defense.

■ 602. Basing his action on his mission, his personal reconnaissance, the reconnaissance reports of his subordinates, and the available information of the enemy and friendly troops, the commander forms an estimate of the enemy's capabilities and the probable front of hostile attack, and makes his decision regarding the location of the main line of resistance and the regimental reserve line, the employment of the artillery, the assignment of sectors, the strength and location of the general reserve, the antimechanized defenses and other measures necessary for security. Successive reconnaissances by lower commanders fix on the ground the distribution of smaller units and the location of their combat emplacements. Exact information as to the trace of the main line of resistance is furnished to the artillery.

■ 603. In the hasty assumption of the defensive from a march formation, reconnaissance usually must be curtailed and the defense assumed directly from the development.

Depending on the mission and the situation, it may be advisable for a commander initially to attack to seize terrain to his front on which to organize the battle position. In other situations he may employ a covering force, organizing the battle position on terrain in rear.

■ 604. *Continuous reconnaissance and observation* of the enemy's dispositions are conducted to secure the earliest possible indications of the enemy's offensive preparations. Air reconnaissance provides the information concerning the situation in rear of the enemy's leading elements.

■ 605. The character of the *terrain* exercises a decisive influence on the selection of position. Ridges and valleys generally parallel to the front of advance constitute obstacles to the progress of an offensive and are natural lines of resistance for the defense. Such ridges often afford observation and fields of fire favorable for a defense in depth.

Natural obstacles (e. g., river lines, woods, swamps) are important factors for consideration, especially if the situation requires that protective measures be taken against mechanized units, or other mobile forces, such as horse cavalry or motorized units.

Commanding elevations and ridges delimit the compartments of terrain and form the framework of the system of observation, command, and fire control in combat. They determine directly the location of the observation posts and positions of the artillery and other supporting weapons, and indirectly the location of defensive and assembly positions.

As a general rule, long gentle slopes afford better conditions for defense than abrupt elevations. However, positions along commanding heights are suited for delaying action.

■ 606. The *battle position* is so selected as to use the terrain to the greatest advantage. The extent of the position must be appropriate to the available troops.

The most important terrain factors are—adequate artillery observation, good fields of fire, concealment from hostile observation, and the presence of natural obstacles. The relative importance of these terrain factors depends upon the strength, composition, armament, and mission of the defending force, together with a consideration of the enemy's capabilities.

In selecting the forward limit of the battle position, the defender seeks terrain which will permit the most effective employment of the fires of artillery and other weapons. Clear fields of fire for small arms are important and usually lead to its location on a forward slope. Consideration of concealment may, however, make it desirable to select a reverse slope.

Such a location is practicable when possession of the crest to the front is not essential to the observation of artillery fire.

When the forward limit of the position is on the forward slope, the defense areas of front-line battalions may be extended to the rear to include the reverse slope. When it is located on the reverse slope, front-line battalions establish strong detachments from their reserves on the forward crest to fire on attacking troops during their approach to the position.

Observation to the limit of range of the weapons is desired in front of the main line of resistance, as well as within the battle position. Adequate observation posts for artillery are essential. The battle position must be so located that the essential observation will be retained even though the enemy succeeds in penetrating into the position.

Maximum advantage is taken of *natural and artificial obstacles* to stop attack by mechanized units or limit the directions of their movement. Towns, villages, and cities have considerable defensive strength against mechanized attack. They are, however, vulnerable to air attack, especially by incendiary bombs.

■ 607. All parts of a position will not have the same defensive strength. Avenues of approach which enable the attacker to reach the position under concealment or cover are sources of weakness. These avenues of approach may, however, be unsuited for enemy tank attacks. Clear fields of fire over which the enemy must advance for some distance under the defender's fire are sources of strength in a defense against foot troops, but may furnish excellent terrain for hostile mechanized attack. The defender must be prepared to meet that form of attack which the terrain favors.

■ 608. A position combining all defensive advantages will seldom be available. The weak points of a position are strengthened. A short field of frontal fire is compensated by dense flanking fires and heavy mortar and artillery concentrations; exposure to hostile observation, by distribution in depth and construction of dummy works and masks; deficient observation, by increased strength of local garrisons. Persistent chemicals, demolitions, and mines can be used effectively to strengthen exposed flanks and to contaminate and block covered avenues of approach leading into the position.

■ 609. The defense, no less than the offense, must effect *surprise*. The visible lines of a defensive system must not betray the defensive dispositions. They should mask the real defensive organization. Every available means must be employed not only to mislead the attacker as to the location of the position but also as to the strength and disposition of the defending force. Deception, delay, and security are obtained through the use of covering detachments.

TACTICAL ORGANIZATION

■ 610. The defense is built around a series of tactical localities, the retention of which will insure the integrity of the position. A battle position comprises a zone of resistance consisting of a number of mutually supporting defense areas disposed irregularly in width and in depth, each organized for all around defense with trenches, obstacles, and emplacements. Tactical unity is maintained in each defensive area.

A line joining the forward edge of the most advanced organized defense areas is called the *main line of resistance*. It is the line in front of which all elements of the defense must be able to concentrate their fire to break up the hostile attack. The contour of the main line of resistance is thus irregular in trace, with elements on it sited for frontal and flanking fire. A line designated to coordinate the locations and actions of the regimental reserves in the battle position is called the *regimental reserve line*.

■ 611. Between the main line of resistance and the regimental reserve line, company supports and battalion reserves organize the ground. The distance between successive echelons on the battle position (units on the main line of resistance, company supports, battalion reserves, and regimental reserves) should not exceed the effective range of small-arms fire. It should, however, be sufficiently great to prevent any echelon from falling into the zone of dispersion of artillery fire directed against a more advanced echelon. This distribution in depth diminishes the effect of hostile fire and provides for continuity in defensive fires and movement against the enemy, even though he succeeds in penetrating into the battle position.

■ 612. The natural defensive strength of the position has a direct bearing upon the distribution of troops for its defense, both as to frontage and depth. Portions of the front which have great defensive strength can be held with fewer men, or units can be assigned wider sectors, while the reverse is true in weak portions of the front. There is thus a variation in the troops which can be made available for reserves. Close terrain and exhausted troops require a greater density of troops forward toward the main line of resistance.

■ 613. The *width of sectors* assigned to infantry units varies with the natural defensive strength of the various parts of the position, the relative importance of the sectors, the degree of control required, and the number and strength of units available. The necessity for control and the character of fields of fire affect the intervals which may be permitted between tactical localities. Some variation in the width of sectors may arise from the necessity for adjusting them to fix responsibility for defense of terrain corridors. By adaptation of the width of sectors to their natural strength, there results an economy of force which enables the commander to hold out the maximum strength for use as reserves.

■ 614. Sectors are delimited in orders by *boundaries*—lines indicated on the map or ground extending from rear to front. Boundaries are located so that there will be no question of the responsibility for the defense of the key terrain which dominates a critical avenue of hostile approach. While it is frequently impossible to include both the avenue of hostile approach and the adjacent dominating terrain in the sector of the small units, the boundaries of sectors assigned to battalion and larger units should be located to insure unity of defensive dispositions and fires in defense of these critical localities.

Boundaries are extended forward of the battle position to the limit of the range of the weapons with which the unit is equipped. Boundaries may be extended forward to include the outpost line in order to delineate the outpost responsibility of units on the battle position. The extension of boundaries to the rear is influenced largely by the existing road net and routes for movement within the position.

■ 615. The division commander determines the distribution of the *division artillery* and its subdivision for combat (direct

and general support). Since the rapid concentration of artillery fire on important objectives is essential to a successful defense, when the situation permits, control of the artillery under the direction of the division commander is preferable. Every effort is made to meet the hostile main attack with the mass of the artillery fire.

The *echelonment in depth* of the artillery takes into consideration the range of the various weapons, the location of the targets, and the possibilities of neutralization by hostile counterbattery fire. The echelonment is limited by the considerations that the entire artillery must be able to concentrate its fire in close support of the main line of resistance, that the foremost echelon can fire deep in the hostile zone, and that the rearmost can support the rear defense areas of the battle position.

■ 616. The battle position is protected by outposts whose mission is to provide time for the main force to prepare itself for combat, to deceive the enemy as to the location of the battle position, to force early development by the enemy, and to provide a deeper view within the terrain over which the attacker will advance.

Whenever practicable the outposts are located at sufficient distance from the main line of resistance to prevent the occupying forces from being taken under *observed* fire by hostile light artillery. Outposts will ordinarily not be established beyond the effective range of the light artillery of the battle position.

The outpost line of resistance and the ground between the outpost and the battle position are organized for delaying action to the extent permitted by the time and labor available.

■ 617. When forced to withdraw under hostile pressure, the outposts conduct a *delaying action*. Every effort is made to deceive the enemy as to the exact location of the battle position. The withdrawal of the outposts must be so arranged that they neither will interfere with nor be endangered by the fire from the main position. Coordination is facilitated by the use of prearranged signals and previously designated routes of withdrawal.

■ 618. Whenever practicable, an advanced *covering force* is employed in front of the outpost. The mission of this covering force is to inflict the maximum delay on the enemy, to

permit the defender to utilize advanced artillery observation, to permit the laying of mines, demolitions, and obstacles in front of the outpost and the battle position, and to deceive the enemy as to the actual location of the battle position. Similarly, such forces may be employed on exposed flanks.

■ 619. Natural terrain obstacles, such as water courses, heavily wooded areas, and swamps, are particularly favorable areas for the operations of advanced *covering forces*.

The initial position of the advanced covering force and the terrain between this force and the outpost are organized to the extent practicable in the time available.

■ 620. The advanced covering force should be mobile. The use of cavalry, mechanized and motorized troops and engineers is indicated. It should have strong artillery and anti-tank support. Organic artillery may be reinforced by artillery from the main force, temporarily emplaced in advance of the battle position.

■ 621. The advanced covering force fights delaying action in its withdrawal. It avoids serious engagement with the enemy.

■ 622. The direction from which the main attack may be expected and the commander's plan of maneuver determine the initial location of the *reserve*. According to circumstances, it is echeloned for protective purposes in rear of an exposed flank, held in a position in readiness from which it can deliver a prepared counterattack, or so disposed that it can launch the counteroffensive by striking a hostile attack in flank.

■ 623. Large *horse cavalry units* should rarely be called on to defend a position. Cavalry seeks to accomplish defensive missions by delaying action or by defensive-offensive tactics. When required to defend in position, it operates in general as does infantry.

■ 624. *Corps and division cavalry* is employed on reconnaissance missions with especial attention to locating the mass of the hostile force. It may be reinforced by motorized infantry, artillery, and engineers, and employed as a mobile covering detachment. (See par. 598.) During battle it continues reconnaissance and security missions, especially to the flanks. It may be held in mobile reserve or used to harass enemy flanks and rear when the situation permits.

■ 625. *Mechanized* units are not normally employed to hold defensive positions. They may, however, be employed well forward, supported by combat aviation, to cover the occupation of a position by other troops. They employ delaying action to accomplish this mission. (See ch. 11.) Should the situation demand it, they may be required to hold an area pending the arrival of other troops. In performing such a task, they operate similarly to horse cavalry except that larger reserves are withheld initially for the purpose of counterattack. When supporting infantry, they constitute a powerful striking force and are held initially in reserve prepared for rapid entry into combat when an opportunity for a counterblow is presented.

■ 626. *General reserves* may be called upon to relieve units on the battle position, participate in a major counterattack or counteroffensive, extend the flanks of the battle position, or occupy a rear position.

Prior to commitment to a definite line of action, they are held mobile, prepared to participate in battle in accordance with the plan of maneuver of the superior commander. While so held, they are disposed for all around defense against attack by hostile mechanized forces which may succeed in passing through or around the battle position. Necessary measures are taken for protection against hostile aircraft and for countering an attack by troops transported by air.

ORGANIZATION OF FIRE

■ 627. Coordination of the fire of the infantry, artillery, antitank, antiaircraft, and other weapons is carefully planned and expressed in orders. Plans provide for bringing the enemy under effective fire as early as practicable unless the situation requires that fire be withheld to obtain surprise, and for so regulating the intensity of the fire that the enemy is subjected to progressively heavier fire as he approaches the defensive position.

■ 628. The organization of systematic *flanking fire* by machine guns supplemented by other small arms constitutes the basis of defensive dispositions. Adjacent units, in addition to defending their own fronts, mutually cover one another's fronts with flanking fire. Dead spaces in bands of machine-gun fire are covered by the fire of other weapons. Fire effect

is increased by obstacles which hold the enemy under frontal and flanking fire. Sectors of the defensive position especially exposed to hostile fire may be left unoccupied, except at night and during periods of low visibility, and defended by flanking fire from adjacent sectors.

Machine guns are distributed in width and depth in each battalion defensive area to take full advantage of terrain. As far as practicable, their fire should cover the entire front of the main line of resistance with continuous bands of fire. Some machine guns are sited to take under flanking fire hostile elements which succeed in penetrating the main line of resistance. Some of the heavy machine guns are located where they can develop long range fire during the hostile approach without disclosing the location of the main line of resistance.

Artillery fire is coordinated in the defensive plan of fire and is especially concentrated on the critical localities and on ground which is dead to or beyond the range of the fire of other supporting weapons. The effective control of this fire requires good observation and efficient signal communication.

■ 629. All possible measures are taken to insure security against mechanized attack. *Antimechanized defense* is organized throughout the depth of the position. The main effort is made in areas which are favorable to the employment of mechanized forces. Battalion and regimental antitank guns from concealed positions defend the forward part of the battle position, while antitank weapons of higher units are echeloned farther in rear. Positions and routes for these weapons are reconnoitered and the guns are held in readiness prepared for rapid movement to any threatened part of the front. (See also ch. 6 and sec. V, ch. 10.)

Through a judicious combination of antitank weapons and obstacles, aided by artillery fire, combat aviation, and tanks, attacks by mechanized forces are broken up and halted as soon as they are disclosed.

■ 630. The division artillery commander prepares the general plans for the employment of artillery in accordance with instructions of the division commander. Coordination between artillery fires and those of other weapons is essential. It is effected principally through liaison between artillery units and the units they are designated to support. The close sup-

port of the main line of resistance is a governing consideration in the formulation of all artillery plans.

■ 631. The *artillery plan of fire* is based primarily upon the execution of a counterpreparation to break up or cripple the hostile attack before it can be launched. Fire is not opened by the mass of the artillery until targets of sufficient importance are disclosed.

It is important to take hostile artillery under fire at an early moment, to interdict hostile routes of approach, and to dislocate the hostile system of command and fire control.

The artillery of the attacker is most vulnerable from the moment it comes within range of the defender's artillery until it has completed its deployment. During this period, it constitutes one of the principal targets of the defender's artillery fire and aviation. The fire of all available artillery is concentrated to cripple the hostile artillery before it can get into action. *Counterbattery* continues to be the principal mission of a portion of the artillery, especially the medium artillery, throughout the battle.

The corps gives the division instructions regulating the employment of the division artillery in the execution of its more distant missions. The corps reinforces the action of the division artillery and extends its sector of fire in depth by the use of the artillery at its disposal. Long-range destruction and interdiction fire is directed especially on sensitive points in the enemy's rear areas and on his lines of communication (bridges, crossroads, and supply establishments).

■ 632. *Combat aviation* extends in depth and reinforces the fire of the artillery. Air attack against hostile ammunition and other supply establishments, airdromes, railroad installations, and bridges have important effects in delaying or dislocating the hostile preparations for attack. Other remunerative targets for combat aviation are enemy columns, artillery in position, reserves, and mechanized forces.

■ 633. *Antiaircraft artillery* is disposed initially to protect the organization and occupation of the battle position.

When the commander has determined on what front the enemy is making his main attack, the antiaircraft artillery concentrates its efforts on preventing air observation and attack on the threatened parts of the defensive position and on protecting the employment of reserves for counterattack.

If sufficient antiaircraft artillery is available, some units are assigned to the defense of important roads and installations (railheads, ammunition establishments, and airdromes). The antiaircraft intelligence service gives prompt warning of the approach of hostile aircraft to all units concerned. (See par. 67.)

Antiaircraft artillery weapons are sited so they may be employed against attack by mechanized vehicles when this can be done without interference with their normal missions. In the event of simultaneous attack from hostile aircraft and mechanized vehicles, fire must be concentrated against the more dangerous threat.

ORGANIZATION OF THE GROUND

■ 634. The organization of a position is limited only by the time and facilities available. Protection is to be sought in the distribution of defenses in depth and in width, their adaptation to the terrain, concealment from hostile observation, and in the strength of construction. From the beginning, great care is taken to conceal the most important works by *camouflage* or natural terrain features. Measures for increasing the effect of fire and for providing adequate signal communication take precedence over the construction of field fortification.

■ 635. Troops carry out the organization of the position in accordance with a *plan of construction* expressed in orders in the form of priorities. After the location of combat emplacements has been fixed, priority is given to clearing the field of fire, to removal of objects masking our own observation, and to the determination of ranges to points in the foreground. Primary consideration should be given to provisions for camouflaging the works to be constructed. These measures are followed ordinarily by the construction of the various defensive works and obstacles, and by the preparation of routes of approach for reserves and for ammunition supply. Work may proceed simultaneously on several items.

Artillery and heavy weapons units give priority to the construction of *observation and command posts* and *signal communication systems*, and provision for the supply of ammunition. Shelter is constructed for personnel and provision is made for camouflage of ammunition dumps and the protec-

tion of ammunition against the weather. For the protection of guns, more reliance is placed upon camouflage and provision for alternate positions than upon the fortification of gun emplacements.

■ 636. In the construction of *obstacles*, wire entanglements are sited so that their outer edges can be swept by flanking fire. Other obstacles are coordinated with demolitions. All obstacles are covered by fire to hinder their removal. They should be concealed from hostile observation.

■ 637. *Dummy works* serve to mislead the enemy and disperse his fire. To be effective, they must closely resemble genuine works; dummy works easily recognizable as such give the enemy valuable negative information. They must bear evidence of an attempt at camouflage.

■ 638. Channels of signal communication are increased and alternate channels provided. Units are connected by wire lines not only with the rear but also laterally; the importance of lateral lines consists not only in affording direct signal communication between adjacent units but also in making available numerous alternative channels of signal communication between advanced units and the rear. Alternate command posts are selected and organized.

■ 639. *Engineers* are employed to impede the advance of the enemy by the execution of demolitions and by the creation of a zone of obstacles, including mine fields. When necessary, they defend the demolitions and obstacles which they construct. They increase the defensive powers of the other arms by the construction of field works requiring special equipment or training, by technical assistance in other works of organization of the ground, and by furnishing them with the necessary tools and engineer supplies.

They may also be employed in the siting or preparation of rear positions. In emergencies they may participate in the defense as infantry.

■ 640. The activities of the *chemical troops* and engineers are closely coordinated. Persistent chemicals, if to be used, have especial defensive value by reason of the fact that concentrations established before the hostile attack retain their effectiveness during the course of the attack. Barriers of persistent chemicals are placed to protect portions of the

front and flanks of the position and to cover defiles, vital roads, road junctions, and wooded stream lines across or along favorable routes of hostile approach. When these barriers can be placed without hostile interference, persistent chemical mines are employed; when the area is controlled by the enemy, aviation, artillery, or chemical mortars are used. In deciding to use persistent chemicals, the commander must carefully evaluate its effect on his contemplated future operations.

■ 641. The selection of a *rear position* at such distance from the main position that the attacker cannot direct the fire of his artillery upon it, without displacing his batteries, facilitates the conduct of a flexible defense. The extent of its organization will depend upon the situation and the time available. The forces employed in the construction of the rear position must not be obtained at the risk of jeopardizing the defense of the main battle position.

■ 642. The development of a hastily occupied defensive position into a more strongly fortified defensive system is dependent upon the situation and the time and material available for construction. This may take place on a front which has stabilized after an indecisive battle, or is out of contact with the enemy.

■ 643. The development of such a defensive position aims first of all to strengthen the main line of resistance, battery positions, and the command and control facilities of the entire position. The means employed include numerous communication trenches; obstacles, including tank barriers and mines; shelter for troops; observation and command posts, including alternate locations; signal communication; gun positions; and supply dumps. These works differ from those in mobile situations in the elaborateness and permanency of their construction. In areas of resistance in rear of the main line of resistance, permanent works are constructed to limit hostile penetration. All works are concealed or camouflaged.

In the siting of emplacements for defending troops, extreme care must be taken that there are no undefended approaches from any direction that would permit hostile elements to work their way in close enough to destroy the occupants with hand grenades or other close-combat weap-

ons. Provision must be made for protecting the rear against attack by troops transported by air, and by highly mobile forces.

■ 644. *Communication trenches* greatly facilitate the exercise of command, the movement of troops, and the functioning of supply. In moving situations, time will rarely be available for the complete construction and camouflage of such trenches. They are indispensable in the prolonged occupation of a position. They are first constructed over exposed stretches on the routes of approach from the rear; their entrances are conspicuously marked. As a general rule, communication trenches should not be employed as combat emplacements. They should be so sited that they will not indicate to the enemy the location of combat emplacements. Their use, however, as part of a switch position in case the main line of resistance becomes untenable, should be considered.

■ 645. The nature of *overhead cover* varies with the location of the troops to be sheltered. The only forms of protection having permanent value against fire are dugouts and concrete or steel shelters sufficiently resistant to withstand high-powered artillery fire and bombs from the air. Deep dugouts in the front lines do not permit the prompt egress of troops, and in case of attack may become traps. Overhead cover for front-line troops is designed chiefly to afford splinter-proof protection and shelter from the weather. Lack of strength is compensated for, as far as possible, by the increased number and smaller size of the shelters.

■ 646. Overhead cover is an essential means of conserving the fighting capacity of the troops in the prolonged occupation of a position.

Reserves within range of hostile artillery fire and subject to the attack of combat aviation are, as far as practicable, sheltered in bombproof dugouts.

■ 647. In a stabilized situation, the problem of drainage assumes great importance; the siting of works with a view to effective *drainage* is always given due consideration.

■ 648. In addition to the depots of large units, small dumps of ammunition, rations, and materials needed in the construction and defense of the position are established in the sectors of small units.

■ 649. The *priority of work* in the development of a position which is out of contact with the enemy is determined largely by the time required for the construction of the essential works and the extent to which they lend themselves to camouflage. Provision must be made for camouflage before the work is begun. Camouflage is then carried on continuously throughout the work.

After reconnaissance and determination of the method of occupation of the position, command posts, observation posts, signal communication facilities, obstacles, and shelters for the troops are constructed. Adequate forces must be concentrated early on important works requiring a considerable period for their construction. To avoid disclosing the position, the construction of fire and communication trenches may be deferred until troops occupy the position.

SECTION II

CONDUCT OF THE DEFENSE

■ 650. The defense is conducted along *mobile* lines. Mobility is obtained by the use of covering forces, by improving facilities for movement within the battle position, by distribution of forces in depth, and by holding out reserves capable of rapid movement. Covering forces delay, deceive, and disorganize the enemy; units in organized areas of the battle position hold their positions at all costs; reserves maneuver behind the pivots thus established. Mobile and rigid defense are so combined that possession is retained of the areas essential to the maneuver of the defensive forces, the maximum forces are made available for counterattack or counter-offensive purposes, and the enemy is deceived as to the character of the resistance with which he is confronted.

■ 651. The conduct of the defense must be aggressive. It must be prepared to take advantage of errors or failures on the part of the enemy. The *counterattack* is the decisive element of defensive action. It is seldom feasible to hold a defensive position by passive resistance only.

■ 652. The integrity of the battle position is maintained by a combination of fighting in place and counterattack.

Regardless of the considerations which dictated the adoption of a defensive attitude, the *tactics of defensive combat* are essentially to develop the maximum firepower against an

advancing enemy, to reduce our own losses by a better knowledge and utilization of the terrain, and thereby to stop the enemy's advance or throw him back by counterattack.

■ 653. In order to maintain itself in action in the face of hostile superiority, the artillery must fully exploit its mobility. If there are indications that the location of certain batteries has been discovered, such batteries effect a change to one of their alternative or supplementary positions.

In quiet periods, artillery units assigned to counterbattery and harassing missions may be moved to previously surveyed positions for the delivery of fire. This movement, occupation of position, delivery of fire, and return to position are generally accomplished during hours of darkness.

■ 654. When the imminence of the hostile attack is discovered, *counterpreparation* fires are directed upon the hostile attack formations, artillery, and command, observation, and signal communication systems to break up the attack before it starts. A general counterpreparation involving all of the artillery with the command is fired on the order of the superior commander. Local counterpreparations designed to cover only the points threatened by a local attack are fired on the order of subordinate commanders.

■ 655. If the enemy succeeds in launching his attack in spite of the counterpreparation, the artillery seeks to keep him under fire in considerable depth by placing defensive concentrations on his advancing attack echelons and on his reserves, and by continuing counterbattery fire. These fires are delivered on the request of supported unit commanders, or of observers following the progress of the attack with air or ground observation.

■ 656. Finally, defensive concentrations and barrages are fired close to our troops. They strengthen the fire of other weapons covering the most dangerous avenues of approach to the positions. Barrages generally are delivered on pyrotechnic signal from the front-line troops, but may be executed on report from artillery observers that the hostile attack is threatening the integrity of the position.

Since a uniform distribution of artillery fire along the entire front is generally ineffective, plans for the delivery of concentrations and barrages are designed to provide fire on

critical areas or fronts. These fires, especially the barrages, are delivered at a high rate, and involve a great expenditure of ammunition. Hence, it is essential that front-line units carefully consider the emergency in their calls for artillery support.

Provision should be made for reinforcing counterpreparation and barrage fires by artillery normally assigned to other missions, or by the artillery of adjacent divisions.

■ 657. In addition to the artillery, *other supporting weapons* participate in counterpreparation and barrage fires. Their fires are coordinated with those of the artillery in the plan of defense.

■ 658. *Infantry* defends its position by employing all the weapons at its disposal in cooperation with artillery fires, supported by combat aviation, both pursuit and bombardment. As the enemy comes within range, the infantry heavy weapons, including those of units in reserve, are brought into action.

■ 659. A unit intrusted with the defense of a tactical locality *under no circumstances abandons it* unless authorized to do so by higher authority. Important localities on the main line of resistance must be defended to the last man. Local commanders take the necessary steps to maintain their positions, rectifying gaps in their dispositions or fires by the use of their supports. Plans are made for the employment of local reserves. As the area of their probable employment becomes apparent, reserves are moved to be more readily available for action.

■ 660. When the front and direction of the main hostile attack have been determined, the defense takes final steps to meet it. *Combat aviation* attacks those hostile elements which constitute the greatest threat to the defense. *Artillery* and other supporting weapons deliver fires on the attacking infantry. As the hostile attacking elements come within effective small-arms range, and are unmasked by the withdrawing outposts, the defending force increases its fire with all available weapons. Threatened sectors not fully garrisoned are occupied. *Chemical troops*, from positions well forward, supplement the fires of artillery and other supporting weapons with fires on avenues of approach and on known or probable areas occupied by the attacking troops. The bulk

of the available reserves are held mobile, prepared for aggressive action.

As the enemy attack draws closer, machine guns switch their fires to their final protective lines; all weapons participate in the fire fight, until finally the enemy is stopped or driven back.

■ 661. Reconnaissance is conducted and plans are prepared for the employment of *reserves*, based on the probable lines of action which may develop during combat. Reserves must be prepared to occupy a previously reconnoitered defensive area to check a hostile penetration or an envelopment of the position, or to deliver a counterattack for the purpose of maintaining or restoring the main defensive position. Reserves are committed to the position only to the extent necessary to stabilize the situation and establish a firm base from which to launch a counterattack. Motor transportation is used to increase the mobility of reserves.

■ 662. *Tanks* are essentially offensive weapons. They are held in reserve in a covered position out of effective artillery range until the situation is favorable for their employment. They constitute a powerful reserve in the hands of the commander either to engage hostile tanks or to support a general counterattack or counteroffensive.

■ 663. Should the enemy succeed in penetrating or outflanking the position, the defender seeks through *fire and maneuver* to eject the hostile elements which have so advanced. The fire of the supporting artillery is concentrated on the hostile elements which have entered the position. Local reserves, supported by all available weapons and protected by smoke from chemical mortars, *counterattack* against the flanks of the gap to thrust back the enemy before he has had time to establish himself. Such local counterattacks must be launched during the period of temporary confusion and disorganization which occurs when the attacking troops have entered the position and have not had time to reorganize and establish themselves. *This period is relatively short. Consequently, the counterattack must be delivered without delay, on the initiative of the local commander.* The object of such counterattack is to stabilize the situation on that particular part of the position and prevent widening of the gap, or, in case of a small penetration, to eject the enemy. Surprise,

boldness, and rapidity are the principal factors which lead to successful execution. Anticipatory planning to include reconnaissance will facilitate greatly the prompt delivery of the counterattack. If the enemy is given time to reorganize and to place his machine guns and antitank guns in position to defend the ground he has gained, the opportunity to counterattack by local reserves probably has passed. Then only a well-prepared counterattack by larger reserves strongly supported by combat aviation has much chance of success.

■ 664. Should the enemy succeed in penetrating through the position with a strong mechanized attack, it is essential that units on the battle position close the gap thus created without delay, and before succeeding hostile units can exploit the success attained. The shoulders of the salient must be held at all costs. Local commanders must react promptly and on their own initiative rectify the situation.

■ 665. If the enemy has attained such success that local commanders are unable to eject him, the higher commander must decide whether to *counterattack with reserves* at his disposal to restore the battle position, to continue battle on the battle position and prevent further enemy advance, or to withdraw to a prepared position in rear.

Time is required for the preparation of a major counter-attack. Sufficient reserves must be assembled to carry the attack forward. Adequate fire support must be arranged. Assembly positions, zones of action, objectives, and time of attack are clearly specified. Surprise is an important factor. Employment of artillery, chemical troops, mechanized units, and combat aviation is regulated and controlled by the higher commander. Whenever practicable, the counterattack is launched against the flanks of the hostile salient. *Advance planning* for such an operation is essential in order to reduce to a minimum the time required in final preparation.

In reaching a decision to withdraw to a rearward position, the commander must carefully evaluate the time required to reach and organize such a position and the effect of hostile mechanized and air attacks on his withdrawing forces. The rapidity and power with which mechanized units and combat aviation can strike indicate the necessity for the organization and occupation of the rearward position prior to the withdrawal of the forces directly engaged with the enemy. Re-

serves of higher commanders are suitably employed on such rearward positions. To order a withdrawal to an unorganized and unoccupied rear position in the face of attacks by mechanized forces and combat aviation invites disaster for the entire command.

■ 666. When the battle is interrupted by nightfall, combat outposts are established by front-line battalions. (See par. 678.) Provision is made for patrolling and illuminating the foreground and the intervals between defense areas. Front-line garrisons may be reinforced. Machine guns are laid for their final protective fires. Provision is made to place the defensive fires of artillery and other supporting weapons in front of the combat outposts. These fires cover those areas that cannot be reached by rifle and machine-gun fire and should be prepared while there is still some daylight. They are delivered on prearranged signals from the combat outposts.

■ 667. When the enemy succeeds in establishing himself on favorable ground at close range from the main line of resistance, it may be advisable to redistribute the defending forces in depth. In such case the main line of resistance may be shifted to the rear of the zone of resistance, and the original main line of resistance held by combat outposts; or the defense may be transferred to a rear position, in which case the preparations for a withdrawal from action and a renewal of the defense on the new position must be made in advance. (See ch. 11.) Withdrawal to a rear position is as a rule advisable only when the situation clearly shows that the first position is untenable or will soon become untenable.

■ 668. When a stabilization of operations gradually develops, the decision must be made whether to push an outpost forward and continue to hold the present position, making the necessary rectifications; or to hold the old position as an outpost position and transfer the principal forces to a rear position (see par. 641), which then becomes the main battle position. In either case a redistribution of forces is necessary.

Measures are taken for the development and strengthening of the new defensive position. Obstacles are reinforced, additional mine fields are constructed, defense against chemicals is more thoroughly organized, shelter is provided for men and ammunition, and measures are taken to provide for the rest and comfort of troops.

■ 669. Where a stabilized situation develops or a defense continues for a prolonged period, the necessity for conservation of the fighting power of the troops requires provision for the periodic *relief of units* in line. For the sake of continuity in the execution of the plan of defense, it is as a general rule advantageous to avoid relieving the artillery and the infantry at the same time.

The relief is preceded by a detailed reconnaissance of the sector by officers of the relieving unit. If time permits, all commanders down to and including platoon leaders should visit the position prior to the relief. Commanders familiarize themselves not only with the disposition of the defending force, but with the known hostile dispositions on their part of the front. Arrangements are completed for the transfer of supplies and special equipment to be left on the position by the unit relieved. Sufficient guides are detailed from the unit to be relieved to meet each infantry platoon or similar element of the relieving force and conduct it to its position.

■ 670. *Secrecy* in planning and conduct of the relief is essential to its successful accomplishment. The relief should be carried out under cover of darkness, and in sufficient time to permit the bulk of the relieved force to be beyond artillery range prior to daylight. Careful planning and proper supervision will prevent congestion of incoming and outgoing troops at critical points.

■ 671. The execution of the relief takes place under the direction of the commander of the unit to be relieved; he remains responsible for the defense of the sector until the relief has been completed.

SECTION III

TERMINATION OF THE DEFENSE

■ 672. An attacking enemy, through his own maneuvers, losses, errors, exhaustion, or other cause, may be placed in such an unfavorable position that superiority passes to the defender. The latter then has a prospect of success in a *counteroffensive*, which aims at a tactical decision, the defeat and possible destruction of the opposing force. It is conducted as an offensive operation. (See ch. 9.)

■ 673. Should the situation change to one requiring a retrograde movement, the operation is conducted as indicated in chapter 11.

SECTION IV

SECURITY IN THE DEFENSE

■ 674. Prompt and continuing *security measures* are taken in those directions from which the enemy is capable of attacking. Measures for counterreconnaissance are taken by all troops and agencies in order to screen from the enemy the preparations and dispositions made for defense.

■ 675. The enemy will seek to avoid disclosing the distribution of his forces and the front of his main attack until his deployment is completed. The defense must gain contact with the enemy at the earliest opportunity and maintain such contact in order not to be taken by surprise. Every available means of reconnaissance is employed to locate the enemy and determine the direction of his advance and the distribution of his forces. Additional information relating to the outlines of the enemy's dispositions and the direction of his main attack are sought during the delaying action of the covering forces.

■ 676. If the outpost is at a considerable distance from the battle position, the foreground of the battle position is temporarily occupied by *combat outposts*, detailed from each battalion holding a sector of the main line of resistance.

■ 677. The *mission of the combat outposts* is to provide local security and gain time for troops responsible for the defense of the main line of resistance, and to deceive the enemy regarding where the main resistance is to be encountered. As long as the main outpost position is held, combat outposts of battalions on the main line of resistance may be relatively weak. The approximate strength of combat outposts may be directed by the higher commander. When there are no friendly troops in front of them, combat outposts maintain close contact with the enemy.

■ 678. As a rule a combat outpost is established by each front-line battalion or squadron in contact with the enemy. When battle is interrupted by nightfall, combat outposts push their patrols forward in close contact with the enemy. The action of the combat outposts in adjacent sectors is coordinated by adjacent and higher commanders.

SECTION V

ANTIMECHANIZED DEFENSE

■ 679. Defensive measures against mechanized units comprise special weapons, or the special use of existing weapons, natural and artificial obstacles, organization of the ground, and a warning system. (See ch. 6.) Antimechanized defense must be organized in depth.

■ 680. The antitank gun is of first importance in antimechanized defense. Employment of antitank guns is based on a minimum of guns in position initially to cover obstacles and as a first echelon of defense, and a maximum of guns as a mobile reserve. Based on information of hostile mechanized forces, reserve guns are moved rapidly to previously reconnoitered locations and so disposed in depth as to permit timely and powerful reinforcement of areas threatened by hostile mechanized attack.

Guns intended solely for antimechanized use are kept concealed until their special target appears; their effectiveness is jeopardized if their location is prematurely disclosed. Close-in protection of antitank guns must be provided by other troops.

■ 681. Weapons whose primary missions are against objectives other than mechanized units are used also against mechanized vehicles to the limit of their effectiveness. Small-arms and machine-gun fire has a limited effect, interfering primarily with the enemy's observation. High explosive and incendiary hand grenades are effective against certain types of armored vehicles.

■ 682. In the use of all direct laying weapons, fire against mechanized vehicles is withheld until they have come within effective range.

■ 683. All supporting *artillery* must be prepared to assist in antimechanized defense. In both offensive and defensive action provision should be made for the rapid concentration of as much artillery fire as possible on all areas favoring the assembly and maneuver of mechanized units, particularly on any defiles leading to such areas. Antitank weapons furnish the main defense against armored vehicles. However, when a strong hostile mechanized attack is imminent, light artillery

may be moved to positions from which to counter the hostile mechanized vehicles by direct laying.

■ 684. *Antiaircraft artillery weapons* are suitable for use against mechanized vehicles. Every effort is made to assist in antimechanized security by siting antiaircraft artillery weapons so that they may be employed against mechanized attack. In the event of simultaneous attack by hostile aircraft and mechanized forces, fire must be concentrated against the most dangerous threat. For maximum effect against mechanized vehicles, special armor-piercing ammunition must be provided.

■ 685. *Large tank units and armored divisions* are effective means to counter hostile mechanized and armored forces. They must be used offensively in large groups on definite counterattack missions, usually for maneuver to deliver a surprise blow against the flanks and rear of the hostile mechanized force. Their employment must be closely coordinated with and supported by ground forces, antimechanized means, and combat aviation.

■ 686. *Combat aviation* is a powerful weapon against mechanized forces. Bombing, chemical, and direct fire attacks will be effective under many conditions. It has the mobility and fire power to strike and break up mechanized threats before they arrive within range of artillery and antitank guns.

■ 687. *Chemical agents* may be used to restrict possible assembly areas for armored units, to cause casualties to units in movement, and to render difficult the removal of obstructions or repair of demolitions. Ordinarily persistent chemicals will be most effective, unless their use will interfere with subsequent operation of friendly troops. Under such circumstances the use of lung irritants, tear, sneeze, or vomiting gas may be advantageous.

Improvised combustibles and explosives thrown by individuals against the most vulnerable portions of enemy armored vehicles are valuable means of supplementing close-in anti-mechanized defense.

■ 688. *Mines* are an effective means of defense against mechanized forces. They can be laid or buried without prohibitive expenditure of time and labor. They usually are laid in irregular checkerboard order, in three or more rows, avoiding

any strictly geometrical pattern. Mine fields are installed within the defended area as well as in front of it.

Mines are useful for quickly blocking defiles and favorable avenues of hostile approach. The location of mines must be coordinated with natural or artificial obstacles and with the fire of antitank guns and other weapons. They should be concealed, supplemented by dummy mine fields, and covered by fire to prevent removal by the enemy.

Mine fields, contaminated areas, and obstacles restrict the movement of the troops which they are designed to protect. A record must be maintained of the location and extent of such obstacles so that the necessary precautions may be prescribed for the safety of troops.

■ 689. *Natural obstacles* to mechanized attack include buildings and walls, water courses, lakes, marshes, mountainous country, stumps, rocky ground, and thick woods. Few areas can be classed as tankproof. Undue reliance on natural obstacles must be guarded against. Guided by these considerations, the defensive possibilities of terrain must be studied constantly from the viewpoint of antimechanized defense in order to utilize existing natural obstacles to the maximum.

■ 690. *Artificial obstacles* consist principally of mine fields, antitank ditches, post obstacles, barricades, and demolitions. (For details, see FM 5-30.) The location of artificial obstacles must be coordinated with natural obstacles and with the fire of antitank and other weapons. The main effort in the construction of artificial obstacles is made on those parts of the front possessing natural obstacles which are susceptible of improvement; the bulk of the antitank guns are placed to cover the avenues favorable for tank action. It is important that obstacles be covered by fire to prevent hostile crews from removing the obstructions. Obstacles located well to the front or flanks at critical points where the fire of antitank guns or artillery is impracticable may serve to canalize, halt, or delay mechanized units, thereby providing favorable targets for combat aviation. Removal of obstacles can be impeded by contamination with persistent chemical agents. In general, obstacles, demolitions, mines, and persistent chemical contaminations are located where the enemy will come upon them suddenly and be unable to avoid them.

If the hostile mechanized attack succeeds in entering or breaking through the battle position, it must be stopped, thrown back, or destroyed, either by antitank units, by mechanized counterattack, or by both means. Effort is made to break the hostile forces into small groups which can be destroyed more easily.

■ 691. It may be impracticable or inadvisable to direct the main effort of the counterattack against the enemy's mechanized force. A mechanized attack once launched and initially successful proceeds with such rapidity that an attempt to direct countermeasures against the mechanized vehicles may result in a direct pursuit rather than an attack. A counterattack against the base or flank of a salient may often be more effective than one against its point.

■ 692. A counterattack directed at the rear of a mechanized attack will usually meet other mobile supporting troops rather than mechanized units.

Such a counterattack employs all available arms, including the mechanized forces of the defender. It has the characteristics of a mechanized attack, that is, it leads with mechanized units and exploits with motorized, horse, and foot troops. It seeks to close the gap created by the hostile mechanized force and to isolate and eventually destroy the enemy's advanced elements, including his mechanized forces. However deeply these last may penetrate and however great the damage they may do, once their supply lines are cut they will be immobilized and, in the end, destroyed.

■ 693. All available *fire support* is used in the counterattack. If the counterattack is directed against the enemy's mechanized force, this fire support should be strong in antitank cannon.

■ 694. *Supporting combat aviation* is used at the crisis of the action to the limit of its availability. It may be directed against enemy front-line units in direct support of ground units engaged in counterattack, or to cause confusion in rear areas, interfere with maneuver, and disrupt routes of communication. It is employed on missions which further the attainment of the objective of the supported forces. It is not used on missions divergent from this purpose.

■ 695. The counterattack is conducted by units initially in reserve. The introduction of enemy mechanized forces into the situation affects the composition, location, and equipment of these reserves. They should be highly mobile and strong in mechanized and motorized elements and antitank weapons. They should be located to permit timely and rapid movement toward any point where an enemy mechanized attack may be expected.