

The Three Arms

Combined in Defense

Course In Organization and Tactics.

Lecture No. 11,

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In warfare the question of the adoption of an offensive or of a defensive role is dependent upon many considerations. The discipline of troops, their training, their morale, questions of public policy, strategical and tactical considerations, racial and national temperaments and characteristics the terrain, armament and equipment, all are important and have to be considered.

War is a very old institution. The means by which it is waged, the principles of strategy and tactics, are founded & experiences of the past. Tactics are continually changing and the tactics of today are but the outcome, slowly developed, from the days of bows and arrows,

The improvements in firearms and the introduction of smokeless powder are probably two of the most potent factors in the evolution of modern tactics. To these also might be added the adoption of uniforms of neutral tint; the effect of which is to render the wearer less distinguishable, and consequently less of a target.

Combat has for its object the accomplishment of a definite purpose by force of arms, while frustrating the designs of the enemy, and is either offensive or defensive. Improvements in firearms have added greatly to the powers of the defense, Their increased range, accuracy, and flatness of trajectory compel

the assailant to deploy at a much greater distance than formerly and he is, in consequence, subjected to fire for a longer period of time. Add to this also, well concealed trenches and smokeless powder, thus rendering it exceedingly difficult for the assailant to locate the exact position of the defender, which formerly was clearly outlined by the smoke of black powder, and the advantage to the defensive because of modern firearms and smokeless powder is evident.

Decisive results, however, can be obtained only by the offensive. The passive defense at best only parries the enemy's blows for a time. Sooner or later an unprotected spot will be touched, and defeat will result. This leads naturally to the statement that the defensive should be adopted only locally or temporarily, with a view to the eventual assumption of the offensive,

National characteristics and the morale and discipline of troops, however, play an important part. The temperament of some nations is such that the defense is their natural role, while others gain most and are better on the offensive. Raw and undisciplined troops, or those whose morale has been shaken, might be able to give a good account of themselves on the defensive, but be totally routed on the offensive.

A great many English writers, in view of their experience in South Africa, lay great stress on the strategical offensive and the tactical defensive, that is, so maneuvering and placing one's own forces in such a position as to compel the enemy to attack.

The losses which troops inflict in battle are produced almost entirely by firearms and the efficacy of fire depends upon its accuracy, its direction with reference to the objective, and its volume. This efficacy is obtained by instruction in the use of the weapon, fire discipline, knowledge of effect of ground,

sufficient control to direct the fire, and by the number of rifles or pieces in action and the rapidity with which they can be fired, although increase of rapidity beyond certain limits impairs the accuracy and diminishes the efficacy of fire.

Of almost equal importance are the measures which should be adopted to diminish the effect of the enemy's fire; On the defensive this requires intrenchments, which greatly reduce the amount of exposure; the concealment made possible by smokeless powder; intelligent occupation of the position; and use of the ground. In any event the best protection is afforded by an accurate and powerful fire on the enemy. To attain this superiority of fire no fixed rules can be laid down, for conditions are never the same, and if laid down they would have to be modified according to the circumstances of each individual case,

Whatever the reason for adopting a defensive attitude it certainly involves the disadvantage of the loss of the initiative. A partial compensation may be found in an effective system of observation, and of rapid transmission of intelligence, ample reserves free to move to the threatened points, and strong rallying positions in rear of the line of defense.

Co-operation of the three arms is as important to the defense as it is to the attack, the object being to secure superiority of fire prior to the counter attack or in the offensive return.

The defensive has the choice of the position. This should be selected so as to afford shelter to the defenders and compel the assailants to pass over open ground where they may be subjected to heavy fire. The strength of the position may be increased by field fortifications. Some of the trenches and their occupants may be concealed, thus forming an ambuscade, and subjecting the enemy to a fire, the

origin of which is difficult to locate. Furthermore, the trenches may be made untenable for the assailant by arranging for enfilading fire and cross fire from other trenches farther to the rear. This has been particularly well emphasized at Port Arthur. A great many of the positions taken by the Japanese have been found untenable because of the fire from other Russian positions. Ranges in the foreground can usually be measured and marked and an ample supply of ammunition, food and water placed in the trenches. The defender's troops are and remain under better control. Their fire can be concentrated on important objectives. The aim of the defenders should be much better than that of the assailants who cannot, as a rule, fire their rifles from a rest, and who, moreover, are unsteady from the exertions of the advance. The loss of the defenders, who are behind cover, should be small compared with the casualties of their opponents who must pass over open ground, and, finally the morale of the defenders is subjected to less strain, for they can make effective use of their weapons long before the enemy's superior forces can come near enough to imperil withdrawal from the position. Machine guns can open such a terribly rapid and accurate fire on the advancing troops as to make certain zones practically impassable. The flat trajectory of the modern rifle enables the defenders to sweep the ground more effectively. It is practically impossible to shoot a defender out of his position providing it has been properly occupied and intelligently fortified. In order to avoid serious losses all the defender has to do is to lie down behind cover.

A resolute and simultaneous advance on both front and flank of a position, made after thorough preparation by, and with the effective accompaniment of artillery and infantry fire,' will generally be suc-

cessful, and it is in this respect that the defender has to be most careful. With a comparatively small number of men the assailant may hold the defender in front and swing a large force to the Rank or rear, although this is more difficult than formerly as the range of modern weapons makes an exceedingly long detour necessary, especially if the defender's flanks are being properly reconnoitered. This appears to be the underlying principle of defensive tactics of today. Scattered along a broad zone of ground, points offering a poor field of fire held in strength, while more open terrane is defended by mere detachments, the army awaiting the attack obliges the enemy to undertake toilsome marches which cannot be brought to a conclusion in one single day. During the night the defenders, enjoying the advantage of full knowledge of the theater of combat and having far shorter distances to traverse than their antagonists, can extend their line to meet a flank attack, can change the direction of their front, or can quietly withdraw should their position have become untenable. And this is directly attributable to the fact that, armed with the weapons now in vogue, troops in dispersed formation are almost invulnerable against direct attack if they have a satisfactory field of fire.

The preliminary dispositions to be made on the defensive as on the offensive are more than ever closely connected with the configuration of the ground; the commanding general varies his combinations according to the summary knowledge which he has of the enemy's situation, but he should not lose sight of the fact that for the defense it is the ground which gives to the fire its greatest value, and for the attack it is also the ground, which, with its obstacles and irregularities, admits of advancing out of sight of the enemy.

As strategical and perhaps political considerations must be taken into account in the selection of a position, it will often fall short of perfection from a tactical point of view. The manner of occupying it will vary with the nature of the ground, and with the strength and character of troops available. It is therefore impossible to apply fixed rules in the occupation of a position; the only reliable guides are the good judgment of the commanding officer, a thorough knowledge of the effect of fire and of the value of ground, and appreciation of the results obtainable through timely assumption of the offensive.

The commander should keep in view the defense of his line of retreat and make preparations facilitating local counter attacks, the decisive counter attack, or the offensive return, when necessary.

The position selected should fulfill as many of the following conditions as practical :

1. Good view to the front, the flanks, and in the position itself. This is necessary to enable the defender to watch the approach of the enemy from a distance, and thus make arrangements in ample time to meet his attack.

2. Clear field of fire to the front and flanks, from commanding ground if practicable.

3. Extent suited to the size of the command.

4. Location such as to force the enemy to make an attack or abandon his advance.

5. Ground in front such as will impede the progress of the assailants, but without cover against fire, and unfavorable for intrenchment by him.

6. Concealment from view of the enemy and shelter from his fire, for all the defender's forces. If no natural features exist which will conceal the defender's forces the facilities at hand should be utilized for the making of artificial cover,

7. Flanks resting on ground either naturally strong or capable of being made so artificially.

8. Sufficient depth of position and good communications laterally and to the rear, in order that reinforcements may be readily sent to any part of the line, and so that all movements within the lines may be freely made and without confusion. If necessary? covered ways should be provided for the defenders to enter and leave the trenches,

9. Favorable conditions of ground for assuming the offensive in the decisive counter attack.

10. Water of good quality in sufficient quantity for the needs of the troops. This is most important; particularly if the position is to be held for some time, for if there is none within the position, or the supply becomes exhausted the force can expect to hold out for but a brief time. If no natural supply exists wells may be dug, and if recourse cannot be had to wells, tanks, barrels, or other receptacles should be provided and filled, and so placed as to be protected from fire.

11. Line of retreat running straight to the rear, behind the center of the position, In case a flank position, parallel to the enemy's line of advance is assumed, the flank nearest the enemy should rest on an impassable obstacle and the ground should permit of a line of retreat perpendicular to the front for some distance in rear of the position. If the line of retreat can be covered from the fire of the enemy, and especially from his view, so much the better.

Other considerations particularly if the defenders expect to remain in the position for some time, are the supply of fuel, and grazing for the animals. These are only minor, yet are such that may have to be taken into account at times.

It will probably be impossible to find a position which will answer all the above requirements, but the

-more nearly the position fulfills them the better it will be.

Prior to the occupation of the position a careful examination must be made of the ground in the vicinity, particularly with reference to the following details :

1. The best line to be occupied by the infantry.
2. The best position for artillery.
3. The probable positions of the enemy's artillery; ground affording cover for the development of the attack, most favorable lines of attack of the enemy, The most favorable lines for the advance of the enemy are on ground favoring the co-operation of the three arms, especially the support of the advancing infantry by artillery and long-range infantry fire.

4. The weak flank of the position and the most favorable ground for the counter attack.

5. Ground for the reserves, for the general reserve, for the mounted troops, and for rallying positions in case of retreat. Commanding ground from which the enemy can look into, or infilade, a part of the position, is highly dangerous for the defense.

The position of all reserves, and, if possible, their lines of advance, should be screened from view of fire, so that their action, which should be directed so as to menace the enemy's line of retreat, may come as a surprise.

If there exists in front of the position ground dangerous for the defense advanced posts should be established to prevent this ground from falling into the hands of the enemy. These may be in the nature of outposts, to give warning in ease of attack, to prevent reconnaissance by the enemy, to prevent his guns from approaching too closely, but to fulfill their requirements they should be strongly fortified and flanked by the fire of infantry and artillery. If too far to the front they become a source of weakness and.

had better not be included in the general line of defense.

Instead of advanced posts, and to conceal the main position as long as possible, advanced lines may be established in front of or beyond the flanks of the main position, and may be useful in causing the enemy to make a false deployment or cause him to come under the fire of the main position unexpectedly, but care should be taken that the line of retreat therefrom will not be such as to mask the fire from the main position. Such advanced posts or lines would seem to be especially desirable in night attacks so as to give due warning to the defenders of the approach of the enemy.

The immense advantage to the defensive due to modern firearms and smokeless powder is greatly increased if the defenses are concealed. The amount of work that can be done on the trenches depends of course upon the time and tools available and the nature of the ground.

It also depends to some degree upon the extent of ground occupied and the nature of the defense. It goes without saying, however, that troops should intrench themselves as thoroughly as possible by utilizing to the fullest extent all natural and artificial cover available.

Trenches should be so located as to obtain the greatest effect of fire and every effort should be made to make them as inconspicuous as possible. The fresh earth from trenches forms a very distinct line which must be neutralized by covering it with grass, sod, branches, etc., so as to make it harmonize with the background and hue of the surrounding country.. They should not be constructed so as to bring the guns or troops against the sky line. One object to be attained is to conceal the position and thus compel the enemy to work in the dark as it were.

All natural cover available should be utilized for supports and reserves but if not sufficient, they should be protected by intrenchments.

The trenches must have good communication with the rear, and, if necessary, and time is available, covered communications should be made.

Communications leading to the rallying position should be numerous and excellent.. If none exist they should be constructed, and if those that do exist are poor, efforts should be made to put them in good condition.

The necessity for a thorough and complete system of signaling within the position itself is also imperative in order that the commander may be in immediate touch with all portions of his position.

In addition to improving and intrenching the position itself the front should be cleared as far as the time and the means will allow so as to afford the enemy no possible protection or cover. Entanglements should be erected in order to hold the enemy under an annihilating fire within destructive range. Barbed wire is particularly efficacious for this purpose. Care should be taken not to make the entanglements too conspicuous at a distance, but they should be so placed and constructed that the enemy will come upon them in the nature of a surprise,

The ranges to all points in the front and on the flanks should be ascertained and marked and troops made familiar with the distances. The artillery should pay particular attention to this. This knowledge is one of the peculiar advantages of the artillery of the defense, thus enabling them to bring a preponderating and converging fire upon the enemy's infantry and artillery without loss of time.

Notwithstanding the increased strength which the new arms give to the defense of positions, the defender cannot assume a defensive attitude that is purely

passive. The first cause of the weakness of the defense will always be the uncertainty as to the point where the enemy will make his principal efforts, consequently a large portion of the force must be reserved to parry the attack where directed,

In the occupation of a position for defense it is presumed that the defender has so maneuvered and has so selected his position that the enemy is limited to certain lines of advance, but it must be remembered that an assailant will not make a frontal attack if there is any possible means of getting to the flank or rear. The defender is therefore more or less uncertain as to where the principal attack will be made. He has, in consequence, to extend his front as much as possible in order to interfere with the enveloping movement and compel the assailant also to extend his front to such an extent as to hamper the unity of his attacks and the combination of his efforts.

The defender is aided in this by modern magazine fire arms and smokeless powder, for, with the aid of intrenchments, he is able to securely hold a much greater front than formerly. The result is that the ratio of strength of force to the extent of ground has undergone a transformation. The greatest strength necessary to defend a position must depend upon the greatest strength that can be brought against it.

The practical experience of the British in South-Africa, according to Major Baden Powell seems to show that troops well intrenched can keep off a force of eight or ten times their number. Other British writers place the strength at from one to four men per yard of front. It must be remembered though, that the Boer war was in many respects a peculiar one. What conclusions have been deduced from the Manchurian campaign are as yet unattainable, In view, however, of experiences to date it may be safely assumed that, if well intrenched, one man per

yard of front will be sufficient. When the strength of the defense and attack is spoken of, it must not be forgotten that, nowadays, strength implies amount of fire, rather than number of men.

The troops of the stationary defense, have less need of reserves than the attacking forces, whose successive attempts require to be fed and renewed by fresh troops. The troops of the defense stand in greater need of reserve supplies of ammunition than reserves of men; it is sufficient to form partial reserves of the latter, place them close to the first line, where they are intended to fill up the gaps caused by the fire.

Whether the line should be held by the men shoulder to shoulder as it were, or in detached posts along the line mutually supporting one another, is a question open to much argument. It is seldom that any position is equally strong at all points. Some points are weak and must be held in force, while others are naturally strong and a few men will suffice. Care must be taken, though, not to unduly prolong or disseminate the line. The troops charged with the stationary defense have not the independence of maneuvering which is necessary for attacking troops; they are confined to the ground they are occupying, and their different elements should not be so separated as to make it impossible for two neighboring elements to establish a cross fire at good range or to mutually support one another. If the line is unduly prolonged or is too weak at any point the defender runs the danger of having his line pierced.

Major Baden Powell in his book "War in Practice" says: "Long extended lines will usually be necessary to prevent the enemy from outflanking the line of defense. Yet the actual length or extension between individuals and groups will greatly depend:

on the strength of the position, and the numerical strength of the enemy.

“Long range weapons enable a line to be more widely extended, for with rifles only capable of doing damage at 200 yards, every 200 yards of the position will require careful guarding. Now, if a gap of 600 or 800 yards be left, or lightly held, no adversary would advance through it without coming under a heavy cross fire from each side.”

“For this reason, if the position be not over a mile or two long, it may be best to put almost the entire strength at the two flanks, holding the intermediate part very weakly. An attack on the center would then be exposed to a cross-fire from both flanks; while an attack on either flank would be met by a strong opposition. ”

“If, in a big position a naturally weak spot occurs, it may be advisable to purposely leave it unguarded. The enemy may break through; but, the contingency being anticipated, he may then find himself in a very awkward position. ”

“It will always be advisable in defensive operations to deceive the enemy as much as possible. The less he can discover the position of the works, the whereabouts of the guns, and the strength of the garrison, the better. ”

“It is most fatal in defensive operations to crowd the force in a small space, Directly men get together they form a target, and when a concentrated fire is brought on them, the casualties are sure to be great. The mutual support derived from being close together is of no avail against bullets; quite the contrary, Even though intrenched or behind good cover, this still applies to some extent.”

As soon as possible after the examination of the position, the commanding officer decides upon his plan of defense, and communicates so much of it as

may be necessary to the troops. The line is divided into sections, the troops, with the commander, assigned to each section, the time of occupation of same indicated, as well as the location of the commander's headquarters.

In the defense the troops will generally be divided into two parts; one for the occupation of the intrenchments, including the local reserves; the other, the general reserve. As the local reserves form a line by themselves we may say that in the defense, as in the attack, the troops should be in three lines, and are:

1. The first line or firing line.
2. The second line. (The local reserves.)
3. The third line. (The general reserve.)

Because of the destructive effect of modern fire-arms, the protection afforded by cover, and the fact that success largely depends upon the amount of fire which can be brought to bear, the first line should be strong, closely backed up by the supports and local reserves. It stands to reason that it is best to have as many rifles as possible in the firing line. "It is a fundamental principle of defensive tactics of today to cover the greatest extent of ground which can safely be taken up, and to bring the greatest number of rifles into play."

The infantry should not be exposed to view or fire until absolutely necessary to meet the advance of the enemy. They should reserve their fire as long as possible. Long range fire, against an invisible enemy, may do considerable damage, and it no doubt will have to be indulged in to relieve the nervous tension of all, but, if fire can be reserved until the assailants are comparatively close, a sudden 'storm of bullets, coming in the nature of a surprise, and particularly if the enemy has no cover, may serve to render him panic-stricken. Another advantage of the

reservation of fire is that if fire is indulged in too early, it will tend to disclose the position too soon, and thus favor the enemy's attack.

The supports are posted, very close to the firing line and are intended to replace casualties therein. The distance they should be in rear cannot be given with any degree of accuracy. It depends entirely upon the terrain. They must be under cover near enough to promptly replace men disabled on the firing line.

The local reserves should be as small as is consistent with reasonable security. Their function is to reinforce portions of the line that are being subjected to the heaviest attack; to make short counter attacks against local flanks of the enemy, when, by turning in on an advanced position of the defense, such flanks are exposed; to guard the flanks of the first line in time to meet the charge.

The position of the local reserves cannot, any more than that of the supports, be definitely prescribed. It depends entirely upon the terrain, which may favor their being placed very close to the line or at a little distance back of it. They should be in groups and as close to the firing line as practicable, but, if possible, must be placed behind effective cover and not more than 200 or 300 yards from the firing line. "A part should be placed under cover in echelon behind the flanks so as to be ready to meet flanking movements on the part of the enemy, "

Major Baden Powell brings out a very pertinent point regarding the reinforcing of the line. He says, "such an act as reinforcing (in the ordinary sense of the word) a firing line under fire is most undesirable. With far-reaching rifles a range of a hundred yards more or less makes but little difference, and if the attack is being very strongly pressed on one point of the defense it will usually be possible to bring up

reserves to some point on the flank whence they can open a telling fire, without pushing them to the original firing line. For again it has to be remembered that a pressing attack only means that a mass of fire is being directed upon part of the line. It is no good reinforcing that with more men; the reinforcements would be sure to suffer heavily if they advanced up to it. The only proper mode of reinforcing is to 'bring a greater amount of fire to bear on the enemy.'

The general reserve is as a rule composed of all three arms and is held together under cover well to the rear under the immediate orders of the commanding officer to guard against any unforeseen contingencies that may arise. "It is to be used to protect the flanks of the lines in front, to meet a flank attack by the enemy, to make flank attacks on the same, and to cover the retreat of the troops in front if they are driven back."

It is usually posted in rear of the center so as to be readily available to move to any part of the position necessary, but it may be placed in rear of a flank, or divided and placed in rear of both flanks, although this latter formation is one which would in all probability be taken very seldom as it tends to disseminate and consequently weaken a force provided for unseen emergencies and which must necessarily be strong and kept well in hand. It is the body intended to parry the main attack of the enemy, or to carry out the counter attack. In case of the counter attack it will probably be placed in rear of the flank where it is intended to carry it out. Its position should be concealed as long as possible.

It must be remembered that the role of the troops of the first line is that of the stationary defense. If judiciously posted and under good cover they can stand off many times their number. More-

over, their independence of maneuvering is limited, and they should devote themselves to the defense of the position they occupy. On the other hand the general reserve is a body held back to be thrown forward in a counter attack upon the enemy at the opportune moment, or which can be quickly moved to the threatened point to block the main attack. Consequently, it should be of such strength as to be able to bring to bear a sufficient force to overcome the assailant's efforts; destroy his attack, and complete and follow up a defeat, or cover up a retreat. From one-third to one-half of the entire force should therefore be placed in this general reserve. One-half seems to be the consensus of opinion among recent writers.

Cavalry plays a very important role on the defensive. "The danger to the defense is to remain continually menaced by an unexpected attack; troops waiting on the defensive ought to be protected from afar; to the front, on the flanks and in rear by mounted scouts who patrol continually in order to watch the folds and cover of the ground by means of which the enemy might conceal his march,"

Incessant reconnoitering, not only by scouts and patrols, but by larger bodies, should prevail well out to the front, and on the flanks and to the rear. Every effort should be made to ascertain the strength, dispositions, and line of advance of the enemy, which information should be promptly reported or signalled to the defender so as to enable him to make his dispositions in time to meet the attack where directed. The enemy should be harassed in every way possible. Particular attention must be paid to the enemy's cavalry to prevent his gaining knowledge as to the defender's position.

If this duty is well performed by the cavalry the defender should be prepared to meet the attack

wherever directed and to make his dispositions and select his ground for the counter attack in ample time.

A considerable portion of the cavalry should be assigned to the general reserve. The commander thus has at hand a force with which he can rapidly reinforce any part of the line, maintain communication with all parts of the field, protect the flanks and prevent hostile reconnaissance, and if the assailant is repulsed he has at hand a force with which a rapid pursuit can be made, which, if efficiently and vigorously performed may turn defeat into a rout. If the assault is successful the cavalry can perform valuable service in covering the withdrawal, preventing the active pursuit by the enemy and delaying him until the rear guard can be formed.

Where a position is very extensive relatively to the force which holds it, bodies of cavalry posted at intervals may prove of value in hurriedly reinforcing sections of the line which the enemy is about to penetrate, or to fill gaps which have occurred in the line.

Cavalry, such as ours, which can fight effectively mounted or dismounted, is an invaluable factor to a force acting on the defensive.

The assumption of the offensive as a rule implies a superiority in men, or morale. It would therefore seem to follow that the artillery of the defense unless equal to or superior to that of the offense should reserve their fire until they can intervene with telling effect in the fight.

The lessons of the Boer war have taught conclusively that great attention must be paid to the concealment of the guns. This, with the aid of smokeless powder, renders it extremely difficult for the guns to be discovered by the assailant. If the artillery of the defense allows its position to be discovered early

in the fight it will probably be reduced to silence long before the critical stage shall have been reached, when its aid is most necessary.

In their advance to the attack the assailing infantry must necessarily expose itself and offer good targets for the defender's artillery at known ranges previously ascertained. But if the artillery thrusts itself into the action too early it may find itself beaten and crushed before these precious opportunities present themselves. If the assailant's artillery advances into the open early and offers a particularly attractive target the artillery may be justified in commencing fire, but as a general rule, it may be stated that their fire, should be reserved until the assaulting infantry compels the defenders to disclose their position. The sudden opening then of concealed guns will in all probability have a tremendous and decisive effect.

The fact, too, that the defender has to cover all possible lines of attack and the probable position of the enemy's artillery leads naturally to the dispersion of the defenders artillery. Emplacements should be more numerous than the guns of the defense and a portion of the defender's artillery held in reserve ready to be rushed to them as occasion demands. Moreover, these emplacements should be so located as to facilitate a concentrated and converging fire on the enemy, either against his artillery or his infantry.

Unless the defender is equally as strong in artillery as the assailant it would seem best to forego the duel, for the position would otherwise be disclosed too soon and the artillery crushed by a preponderance of fire from the assailant. It must be remembered, though, that opportunities for flanking or oblique fire should not be neglected, nor the bringing of a cross fire on the advancing infantry, nor of firing on the assailant's artillery if he forms a particularly good target.

If, however, the defender is equal to or superior to the enemy it would probably be highly expedient to enter upon a duel. Guns of high power and great range lose their value if they do not open fire upon the enemy while he is still far distant.

One fact vividly brought out by modern warfare is the value of concentration of fire and the defender should be able to get the maximum benefit in this respect. His guns are nearly all stationary and ranges are known. By pre-arranged signals, or better still, by a telephone or telegraph installation, he should be able to concentrate his fire instantly and simultaneously upon any point indicated. The beneficial use and the telling effect of such concentration has been conclusively proven by the Japanese.

It is believed that machine guns will form a most effective weapon in future warfare especially on the defensive. Machine guns concealed and well entrenched can bring such a hail of lead to bear as to practically annihilate anything that comes within range. On the defense -the supply of ammunition is not a cause of anxiety and these guns will therefore form a most valuable aid and adjunct to the infantry,

The horse artillery should be kept with the general reserve from which place it can be readily sent to any part of the line. Its most valuable use will be in conjunction with the cavalry in meeting a flank attack, in the counter attack, in covering a retreat, or in the pursuit of the defeated assailant.

Experience has demonstrated that a pure defense, although it may be victorious at all points, produces no decisive result and is inexorably condemned to be barren. A defense which can bring the assailant to a standstill before the front, can gather the fruits of its existence only on the condition that it takes the offensive in the fight which it will carry on, under

favorable conditions, with a large part of the enemy's troops; this is the object of the counter attack,

It is deemed advisable at this point to distinguish between the counter attack and the offensive return, which terms are frequently used indiscriminately.

The counter attack is directed against the enemy's attack, that is, it meets him before, or at the moment of arrival at the defended position. The term is also applied to the attack made after a prior defensive attitude and directed against troops not previously engaged; for example, in turning the flank of an attacking force. This is called the defensive counter attack, although properly speaking, it is the assumption of the offensive."

"The offensive return consists in the assumption of the offensive by the defender with the purpose of recovering ground just captured by the enemy, and of returning to the original position."

The ground for the counter attack should be selected beforehand, if possible, and the general reserve, which delivers the counter attack, so placed as to be ready and able to deliver the attack at the opportune moment.

At what points of the enemy's line the counter attack should be delivered cannot be answered specifically. Generally speaking though the flank seems the most desirable. "The counter attack cannot be fully developed on the very ground occupied by the stationary defense, where it runs the risk of hindering the troops in position and masking their fire; the flanks of the defensive line are better suited as a maneuvering zone of the counter attack." Here the reserve will find the necessary facilities for taking the offensive against the opposing flank of the enemy, thus indicating that the flank of the enemy is the natural and most favorable object.

As to the moment for making the counter attack it is impossible to say. That is a matter of leadership. If made too soon the defender loses the advantage of shelter which he has hitherto had; if made too late, the impetus of the enemy may be too much to be overcome. Generally speaking the best time would appear to be when the enemy's assault has failed or while it is trembling in the balance.

Formerly the counter attack meant the assumption of the offensive with the bayonet. Nowadays, counter attack is not necessarily by bayonet or hand to hand, "The best form of counter attack would undoubtedly, in nine cases out of ten, be a steady ceaseless musketry fire, which will be more deadly; more rapid, and, as a rule, more far-reaching than a charge with the bayonet.

An engagement may be said generally to have three distinct phases, viz., the preparatory stage, the decisive action, and the completion,

The preparatory stage may be said to include all that part of the engagement from the time of opening, that is when the assailant first commences the attack, until the fire of the defense causes the enemy to waver; or until the defender is ready to deliver his counter attack. It includes all the maneuvering on the part of the defender to meet the attack and the preparation for the counter attack.

"For the defense the decisive action may consist simply in a definite repulse of the enemy's principal attack, followed by local counter attacks, or in an offensive return by the general reserve to recover lost ground, or in the assumption of a vigorous offensive by the general reserve against the enemy's flank while he is engaged in the frontal attack."

The completion consists in the pursuit, if the assailant has been repulsed, or in the withdrawal, if the defender has been unsuccessful,

In a general way the action in the defense will be about as follows: Prior to, or at the beginning, of the advance, the assailant's artillery will probably open fire in order to prepare the way for the infantry attack by endeavoring to discover the exact location of the position, and to locate and crush the defender's batteries. If it is decided to reply to this fire the artillery duel results. If the enemy's columns can be seen, designated guns are directed to fire upon them. The other batteries reply to the enemy's artillery. When the assailant indicates the place of his artillery concentration the reserve batteries are brought up. As the enemy's guns come within effective range a converging fire is brought to bear on them, and, as his batteries advance special attention must be paid to the batteries in motion at the same time keeping down the fire of the echelon remaining in position. Even at the distance at which the duel takes place attention must be paid to the enemy's infantry whenever a good target is afforded. As the assailant gradually approaches and gets within decisive range the artillery of the defender should pay sole attention to his infantry and endeavor to crush it,

If the defender decides to decline the duel he will not open fire unless especially favorable targets are presented. Designated batteries, in any event, should fire upon the enemy's infantry whenever they appear and afford a good target, make them deploy as early as possible and thus delay the advance. When the defender declines the duel, and except for particularly desirable targets, fire should be reserved until the enemy has arrived within decisive range when fire should be opened from all guns.

The infantry also should reserve its fire so as not to disclose the trenches until a murderous fire can be brought to bear. As the assailants approach the position and prepare for the assault the firing line should

be reinforced from the local reserves so as to meet the charge of the enemy. If the assailants succeed in gaining a position threatening a line of defense, or penetrate that line, a counter attack becomes necessary. The sooner it is made the better, so that the enemy may not have time to reinforce the ground he has gained. Such local counter attacks are the duty of the local reserves and are made upon the initiative of the officer in command of the sections of the defense. The pursuit should not be carried far; when the enemy has been driven off the troops should reform and return to their positions.

In the meantime the cavalry should be incessantly scouting on the front and flanks and driving back reconnoitering parties of the enemy.

The general reserve is also being maneuvered and placed in position for the counter attack which is delivered at the opportune moment, preferably against the enemy's flank while he is engaged in the frontal attack.

If the enemy should be successful all the cavalry and horse artillery should at once be thrown into the fight to check him, while intact infantry and artillery should occupy the rallying position to cover the withdrawal. A rear guard should be formed as soon as possible, the enemy's advance in the meantime being delayed by the cavalry and horse artillery. Strong flankguards will be formed and occupy good defensive positions protecting the line of retreat against the inroads of the enemy.

Should the assailant be repulsed the defender should at once take up as vigorous pursuit as the number and condition of the troops will permit. The cavalry and horse artillery endeavor to gain the enemy's line of retreat. Even if unable to pursue, the infantry and artillery should continue to pour in a

heavy fire upon the retreating enemy as long as possible.

There yet remains to be considered night attacks, and in these the defense has a big advantage on account of the difficulties incident to the movement of troops at night, the danger of losing their way, etc.

If outpost duty is well performed a complete surprise is almost impossible. One disadvantage that the defense has is the difficulty of rallying shattered troops at night, so that the successive echelons of the defense should, therefore, not only be placed in positions favorable for the assumption of the offensive, but arrangements must also be made enabling them to form their ranks with the least possible delay; Time can be gained by covering the front and flanks of the position with obstacles,

At night but little reliance can be placed upon rifle fire by the assailant, and it will be his effort to close with the defender. If the defender, however, can install search lights, or in other ways illuminate the line of advance of the enemy, he has a tremendous advantage for he can use his infantry and artillery fire with effect upon the attacking enemy. The assailant cannot use his artillery as the element of surprise would then be done away with and he would also endanger his own troops by firing. The fire of the defender's infantry should be by volleys.

If the assailant reaches the position reliance must be had on the bayonet by both attacker and defender. The local reserves should charge at once. They should not fire but should charge repeatedly. If necessary, the general reserve must make a final effort to dislodge the enemy. If unsuccessful in this the troops should withdraw in the best order possible to the rallying positions and endeavor to drive the assail-

ant out by a rapid and concentrated fire as soon as it is light enough to distinguish friend from foe.

HERBERT J. BREES,

December 8, 1904.

Captain, 1st Cavalry.

Compiled from the following authorities which have been freely used and quoted:

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Lieut. General Boguslawski. (Translation).

Tactics of the Three Arms, by General Kessler
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QUESTION SHEET

Lecture No. 11.

1. How and why has the power of the defensive been increased? Why is a passive defense indecisive? What particular disadvantage has the defensive and how is it partially compensated?

2. What are the advantages of the defensive?

3. What conditions should a defensive position fulfill.

4. What examination of the ground must be made before a position is occupied, particularly with reference to what details?

5. What means may be taken to watch and protect the front of a position?

6. Why should troops on the defensive intrench? Where should trenches be located? How made inconspicuous?

7. What communication should exist within the position itself?

8. Why is it necessary to clear the front of a position? Of what value are entanglements?

9. Wherein lies the principal cause of the weakness of the defense, and how is this provided for?

10. Upon what is the greatest strength necessary to defend a position dependent? Generally speaking, how many men per yard of front are necessary?

11. Should the line be of the same strength at all points? Why?

12. How many lines are there in the defense, and what constitutes each?

13. What is the object of the supports and what is their position?

14. What are the local reserves, their strength, functions, and position?

15. Of what is the general reserve composed, where is it posted, what are its functions, and what is its 'strength'?

16. Give the duties of cavalry on the defensive?

17. Why should the guns of the defense be concealed and reserve their fire?

18. If fire is reserved, however, what opportunities must not be overlooked?
 19. When is it expedient for the defender to enter upon the artillery duel?
 20. What is the position of the horse artillery, and what are its functions?
 21. What is the object of the counter attack? What is the counter attack? The offensive return?
 22. When and upon what point should the counter attack be delivered?
 23. What are the different phases of an engagement? Describe each.
 24. In a general way describe the action in the defense.
 25. What steps should be taken by the defense to guard against and to meet night attacks?
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4 "Whatever arguments may be drawn from particular examples, superficially viewed, a thorough examination of the subject will evince that the art of war is both comprehensive and complicated; that it demands much previous study, and that the possession of it in **its most approved** and perfect state is always of great moment **to the security** of a nation."

WASHINGTON'S LAST ANNUAL MESSAGE.