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SECRET. T.40.

Not to be taken into the trench

## EXPERIENCE OF THE RECENT FIGHTING AT VERDUN.

The serious and regrettable reverses sustained at Verdun during October and December have led me to issue the following orders :—

### 1.—CONSTRUCTION OF DEFENCES.

The principles laid down in the text-book "Construction of Defences" (*Stellungsbau*) have proved sound. Single lines of trenches do not suffice. A fortified zone must be constructed, organized in depth, allowing of a stubborn defence of an area even after the capture of fragments of its lines of defence.

The rearward portion of this zone will, therefore, consist of a system of strong points, machine gun nests, etc., merging towards the front into an increasingly closer meshed network of trenches. The individual trenches, machine gun nests, etc., must afford each other mutual flanking support.

Deep mined dug-outs in the front line trench will be absolutely prohibited. They simply form man traps and will, therefore, be blown up wherever they exist. The place for the majority of the dug-outs (which should be of concrete and be well distributed and masked) is in the rearward lines and in the intermediate zone. Vast subterranean accommodation is only admissible for reserves far in rear.

Of greater importance than a wide obstacle covering the front line trench, which will, in any case, always be destroyed in a serious attack, is the construction of a number of obstacles within the fortified zone, namely along the communication and switch trenches, and farther in rear, forming a part of the strong points. These obstacles form the meshes in which an enemy who has broken through is caught, and which prevent him from surrounding the portion of the garrison which has held out in the front line.

Difficulties will be added to the enemy's reconnaissance and artillery work, by the construction of the greatest possible number of targets, and by making them difficult of recognition (also of dummy defences).

At Verdun, where there were too many dug-outs in the front line trench, a proportion of the infantry did not get out of them quickly enough. A close-meshed network of trenches was lacking, as were also obstacles running perpendicular to the front.

### 2.—OBSERVATION.

Observation both for artillery and infantry must be assured even under the heaviest fire. This is not the case when, as at Verdun, observation is mainly carried out from the front line trench. It is preferable to construct a network of observation posts located at points in rear. The view from one post must supplement that from another.

In addition, constant observation of the enemy's activity, from balloons and by artillery and infantry aeroplanes (contact patrols), must, of course, be absolutely guaranteed.

Finally, one must insist that infantry quartered in deep dug-outs and shelters protect themselves effectually against surprise attacks by posting look-out men and by frequent visiting rounds. The large number of unwounded prisoners shows that this was not properly done.

### 3.—METHOD OF HOLDING THE POSITION, AND THE INFANTRY BATTLE.

As pointed out in the "Defensive Battle" (*Abwehrschlacht*)\* (see more particularly paras 6, 13 and 15), a stubborn defence alone will not lead to the desired result.

The front line trench cannot be too thinly held. Distribution in depth is essential, even for a company. Each strong point must have its definite garrison which will be responsible for holding it.

Only isolated machine guns will be taken into the front line trench; they will usually be kept in carefully selected positions behind the front line, concealed and posted chequer-wise, frequently in hollows, which are difficult to detect from the air and cannot be reached by the artillery; their main task is to open a surprise, flanking fire on an enemy who has broken through. The operation of bringing machine guns into position, and relieving them, will be specially supervised.

Reserves must also know their way about the sectors of the Divisions on their flanks. When fighting conditions permit, a certain tactical situation will be assumed, schemes will be set and manœuvres carried out over the actual ground. Tactical work in the front line position

\* Not yet captured.



and tours of inspection must be exacted from senior officers, from the battalion commander to the higher commander or the latter's staff officers. In certain circumstances, the regimental commander, just like the battalion commander, must personally lead forward his reserves. No one, from the counter-attacking squads of the front line garrison down to the Divisional reserves, is to wait for orders to counter-attack, but each will *act on his own initiative*.

During *training* the following must be practised and supervised:—

The counter-attack, from that of the counter-attacking squads of the front line garrison to that of the larger reserves.

The measures to be adopted by the front line garrison, while awaiting the counter-attack of the formations in rear, against an enemy who has broken through and is surrounding this garrison.

The action of the emergency garrisons posted in machine gun nests and strong points.

At Verdun these arrangements partially broke down. Units in rear showed a lack of offensive initiative. Portions of the foremost fighting lines which were gallantly holding out, were left in the lurch by those in rear, and fell victims to the enemy.

#### 4.—THE ARTILLERY BATTLE.

As in the preceding case, if proper arrangements are made for the battle, the enemy's attack can be anticipated.

Nevertheless, at Verdun, artillery support appears to have been lacking.

It is not quite clear to what extent the enemy's artillery was engaged by our own. To engage the enemy's artillery (with the help of aeroplane observers) is, however, the principal and most effective means of fighting a defensive battle to a successful conclusion. Should this succeed, the enemy's attack is absolutely paralyzed.

When the enemy's infantry attack is imminent, fire must be more and more concentrated on the enemy's infantry as well.

In so doing, it is not advisable to direct a destructive fire on successive portions of the enemy's position chosen arbitrarily. Fire will preferably be directed on to points where work is in progress and where effect against living targets may be expected. The same holds good for harassing fire, for which, in certain circumstances, gas shell are particularly effective.

For both kinds of fire, observation and supervision are the main factors for obtaining effective results (*see above*).

The destructive fire to be directed on the enemy's front line trenches will be increased, both as regards the number of batteries engaged and the expenditure of ammunition, in proportion to the increase of the enemy's fire on our infantry lines. It will be increased to annihilating fire as soon as a maximum rate of fire on the part of the enemy, or other signs, denote that the attack is about to be launched. From this time onwards, the mass of the artillery, even including the 21 cm. mortars, will concentrate fire of the utmost intensity on the enemy's starting points and assembly trenches, so as to annihilate the troops held in readiness for the attack before they can move to the assault. Arrangements must be made for annihilating fire to be broken off like barrage fire, but, in any case, only on receipt of an order from a senior officer (battalion commander).

During these short phases of the battle, there is to be no thought of economizing ammunition.

This procedure does not debar *individual* batteries from simultaneously continuing to sweep valleys and ways of approach, so as to prevent reserves from being brought up. At such moments, also, it is advisable to neutralize sections of the enemy's artillery by using gas shell.

It is the duty of all artillery commanders to acquire a practised eye and ear, and to utilize every means of reconnaissance and observation to gauge accurately the moment at which the maximum intensity of fire should commence. In no circumstances should this increase of fire take place only when the infantry ask for barrage fire, as, in that case, the most effective period for engaging the enemy's infantry, the period of assembly, is missed. On the other hand, the duration of annihilating fire will, naturally, always be strictly limited.

When the enemy's attack is launched, barrage fire will finally be opened automatically. Barrage fire is purely a means to repel an attack. The artillery must, however, assume the offensive not only against the enemy's artillery, but also against his infantry. Acting on their own initiative, artillery of all calibres and also the *Minenwerfer* will devote their main strength to seeking and engaging the most favourable targets and not merely to putting up a purely mechanical barrage.

Well organized barrage fire, important as it is, does not necessarily by itself afford absolute protection. The enemy may either run the gauntlet of our barrage or else draw it before the attack, and, at the decisive moment, endeavour to neutralize it by opening fire with gas or high explosive shell. Or again, he may make a detailed study of the lie of our rather mechanical barrage, with the result that he will find points which are less heavily shelled than others and will make his way through them with few casualties.

It thus follows that the barrage must be flexible, *i.e.*, it must be mobile so as to correspond to the probable movements of the enemy.

Observation and fire control (*cf.* para. 2) must be also aimed at during the annihilating and barrage fire. This will generally be achieved by transforming automatic and spontaneous unobserved fire as soon as possible into observed fire. For this purpose, it is often possible for



the aeroplane observer to fly at a low altitude, far behind our own line and as though perched on a giant observation ladder, and communicate with the batteries in action not only by wireless, but by means of the simplest signals. Only thus will it be possible to engage fleeting targets and to punish immediately any imprudence on the part of the enemy—batteries moving across the open, infantry advancing or concentrating without cover.

But even making allowances for considerable improvement in our artillery work, the infantry must clearly understand that artillery can only relieve them of a part of the defence, and that, finally, it is the infantryman who has to repulse the enemy at close quarters with machine gun, rifle, hand grenade and trench mortar.

#### 5.—ARTILLERY COMMAND.

The long ranges, combined with the difficulty of obtaining a general view of the country, necessitate the general allotment of targets and fire control being carried out by the higher command, from the Group of Armies downwards, even for artillery under Divisional commands. The higher commanders must issue precise instructions for the artillery battle and must not hesitate to go into details when it is a question of co-operation between neighbouring sectors. The Division, for its part, must *daily* define the tasks for its artillery (*see* para. 23 of the "Defensive Battle"). Fire control practices must constantly be held. If, in addition to the issue of precise orders, there is a thorough supervision of the work of all grades (down to and including the observers), the artillery will prove equal to its task.

#### 6.—RELIEFS.

Timely relief is very important (*see* the "Defensive Battle," paras. 9 and 18); it can only take place gradually, and requires the most careful preparation. The infantry has frequently, for example, to relieve the unit farthest in rear, and then gradually work forward until the front line is reached. Regiment must hand over to regiment, and battalion to battalion, etc. The out-going commander may only leave the position with the consent of the commander who is relieving him. This method should ensure that during the actual relief there is always one unit in the position which knows the ground, and that the in-coming unit gradually obtains a knowledge of the position.

The relief of artillery, other than Divisional, demands special attention, and experience shows that this matter often receives less consideration.

During pauses in the fighting, batteries belonging to Armies and Groups of Armies must be withdrawn, which will also give them an opportunity to overhaul their material.

The same principle holds good for pioneers and other auxiliary services.

#### 7.—MORAL, CARE OF TROOPS, AND SUPERVISION OF COMMANDERS.

The number of prisoners (which was unusually large for German troops), some of whom evidently surrendered without offering serious resistance and without suffering heavy losses, shows that the moral of some of the troops engaged was low. The reasons for this require most careful investigation. The whole spirit of the German infantry must be revived by means of training and the strictest drill, as well as by educating and instructing the men. It is a matter of vital importance to our Army that the proper steps be taken.

This question is closely allied to that of looking after the troops in regard to clothing, food and quarters, adjustment of work and rest, equitable allotment of leave, as well as the personal example of all ranks. I particularly wish to emphasize the fact that under the extraordinarily difficult fighting conditions at Verdun, this latter point is just as important for fighting efficiency as are correct tactical decisions.

The supervision of officers, particularly of the more senior officers, must be searching, and the above mentioned matters must also be taken into account. Any officer incapable of doing his work will be summarily removed from his post. Long leave, given in time, will frequently suffice to enable officers suffering from nervous strain to recuperate and return to their work.

#### 8.—TROOPS AT REST.

Troops which have been withdrawn must be given facilities for rest and training. The necessity for bringing them up to dig trenches is an evil which cannot be completely avoided.

Training and inspections alike must reflect the spirit of the foregoing. The attack will also be practised by higher formations.

As remarked in para. 7, training for battle is not sufficient by itself, but must be combined with drill. The experience of war confirms the principles of our peace training.

(Signed) V. HINDENBURG.

#### PRÉCIS OF AN ARMY ORDER ISSUED BY THE GERMAN 1st ARMY.

An order issued by the German 1st Army, dated 11-1-17, with reference to the above, lays stress on the following points:—

(a) The garrison of the front line trench should be reduced to a minimum: one man to every 6 yards (*see* (b) below).

(b) Only a few deep dug-outs should exist in the front line trench, sufficient to accommodate a minimum emergency garrison. The scale should be one dug-out every 55 yards, to hold a group (*i.e.*, one N.C.O. and eight men) or two dug-outs every 110 yards to hold two groups each. Larger dug-outs to hold more than two groups will not be constructed in future in the front line trench.



(c) **The existing dug-outs** in the front line trench should be **reduced** to the scale laid down above, by dismantling them, by nailing up the entrances, or by digging a new front-line trench in front of the existing one, where the enemy's line is not too close.

(d) **The depth of these dug-outs** below ground should, if possible, be reduced by constructing them of concrete, steel and girders. In no case may they be a greater depth than that required to provide 20 feet of earth cover.

(e) During an intense bombardment, **observation** will be effected from posts in rear of the front line trench or by individuals momentarily issuing from the dug-outs in that trench.

(f) **Strong, wide obstacles**, arranged chequer-wise, must be erected in front of the 2nd, 3rd, 4th, etc., trenches of the first line position, particularly in front of the deep dug-outs; similar measures must be taken in front of the positions in rear.

(g) **Look-out posts** must always be manned even in the rear trenches and positions.

(h) **A trench** must be provided **in front of the deep dug-outs for the supports**; this trench must be easily accessible and defended, and should be wired.

(i) **The emergency garrison** of trenches behind the front line trench will not take part in counter-attacks.

(j) **Machine guns** will be sited mainly outside the trenches, particular care being taken that all hollows running perpendicular or parallel to the front can be brought under fire.

(k) Every infantry commander must have **a reserve** at his immediate disposal, with which to counter-attack.

(l) As soon as an attack is expected, all **supports and reserves** must be held ready under cover at the points where they are to be employed in counter-attack or defence. They cannot be formed up methodically, and in time, if they are only brought up after the enemy has attacked.

In the case of operations of some months' duration, the above-mentioned formation must be constantly maintained, in spite of the hardships involved.

(m) Arrangements are to be made for switching **artillery** fire rapidly on to an enemy who has broken through. This can be done by direct laying or by fire control from a good view point, which must be close to the batteries.

(n) **Single guns, sections and batteries** will be pushed forward to open harassing fire, and these will also be employed against "**Tanks**" as required.

GENERAL STAFF (INTELLIGENCE),

GENERAL HEADQUARTERS.

28th February, 1917.