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THE TACTICAL EMPLOYMENT OF PACK ARTILLERY—THE INFLUENCE OF ARMAMENT ON THE QUESTION.

By Major K. A. KNAPP, R.G.A.

IN an article, which appeared in the JOURNAL of the Royal United Service Institution for February, 1906, I discussed the methods of tactical employment, for which pack artillery is especially suitable under modern conditions of warfare, and I would now develop the subject further by a consideration of the equipment with which that nature of artillery should be armed, in order to effectively carry out the rôle of immediate auxiliary of infantry. Pack artillery could not afford infantry the close and effective support which they require, unless armed with a suitable equipment, and this they do not possess while equipped with the existing gun. Mounted, as it is, on a carriage, which is not provided with means of absorbing recoil, the 10-pounder B.L. is quite unsuited to modern tactical conditions.

To give infantry effective support, batteries of pack artillery require an equipment which is suitable for :—

1. Searching ground behind cover at decisive ranges.
2. Firing from hidden positions at decisive ranges.
3. Firing with safety over the heads of the attacking infantry up to the latest possible moment in the assault.

Q.F. guns and magazine rifles have rendered the use of cover, both by the attack and defence, so essential that the spade will, in future, be extensively employed in providing this protection. Infantry, well-entrenched, are chiefly vulnerable to a searching artillery fire, and it is only by effective fire of this nature that the hostile infantry will be driven out of their positions, or forced to keep their heads down under cover during the later stages of the attack. It is further necessary to maintain this artillery fire against the enemy's infantry positions up to the latest possible moment in the attack, so as to prevent the enemy bringing a heavy and well-aimed fire to bear against the assaulting troops, until it is too late to break the force of the assault.

Gun equipments are, by their nature, unsuitable for this purpose, even if provided with recoil-absorbing carriages and quick-firing in the full acceptance of the term; for a high muzzle velocity and consequent flat trajectory of shell preclude the possibility of their effectively fulfilling any of the above-mentioned requirements. The howitzer is really the only weapon capable of giving the infantry close and effectual support, as it is specially designed for high-angle fire, by which alone the desired results can be obtained. The angle of departure is so steep

that shell can be fired at short ranges from positions hidden by high intervening obstacles, and the steep angle of descent not only enables ground immediately behind cover, and trenches to be thoroughly searched, but also allows of fire being maintained with safety over the heads of advancing troops far longer than is possible with the direct fire of guns.

As a pack transport equipment, howitzers possess the further advantage over guns, that they can be made to throw a shell more powerful than that of a gun of similar weight, because the length of shot travel necessary for accuracy is much shorter in the former than in the latter nature of weapon. In view of the recent great advances made in the construction of *matériel*, it may be hoped that the manufacture of an howitzer equipment, suitable for pack transport and capable of firing a 20-lb. shell with good effect up to a range of 5,000 yards, will prove possible.

If so, an equipment of this nature would also be suitable for the work which pack artillery has to perform in a hilly country, for the difficulty of searching the reverse side of hills, and the powerlessness of the existing mountain guns against hill forts have been experienced often enough on the frontier of India in recent years to give rise to a doubt whether guns are the most suitable form of equipment for hill-fighting. The question, indeed, became a vexed one not long ago, but a strong feeling existed against replacing guns by howitzers, as long as the latter were represented by short range weapons of little power. The matter will, however, present a different aspect, when a howitzer is manufactured which has greater shell power than the gun, and a range sufficient for the tactical conditions of hill-fighting, as well as those of modern warfare in more open country.

The tactical employment of pack artillery as the auxiliary of infantry should, therefore, be considered, as applied to batteries armed with suitable howitzers, and not to mountain batteries armed with the existing unsuitable equipment. The subject, then, resolves itself into the question, whether batteries of pack artillery armed with howitzers, or batteries of wheeled artillery are the more suitable to accompany infantry in the attack, as accompany it they must to within decisive gun range, if they are to give the infantry timely and effectual support, when and where they want it.

The evidence of the Russo-Japanese War shows how necessary this close support of infantry is. The Japanese commanders quickly recognised it and used their batteries of pack artillery extensively for the purpose, pushing them forward with the infantry to decisive gun range. They found that pack artillery is often the only nature of artillery which can, during an action, change its position or advance in support of infantry by daylight; it is not easily stopped by fire, and an animal shot does not bring a gun to a standstill. Whether by replacing casualties with spare animals, or by getting the guns into action by hand, the Japanese mountain batteries managed to work their way forward to short ranges in spite of losses. At critical periods of the attack they were often to be found in action just behind the firing line, where their presence gave great moral support to the infantry, and on several occasions the fire of their low-power guns, used as howitzers, produced decisive effect upon the Russian infantry in their trenches.

On the other hand, the Japanese heavy and field artillery were rarely able to afford the infantry effective support. This was not due so much to inferior *matériel* as to the changed conditions which Q.F. guns have introduced on the battle-field. The ranges at which the heavy and field batteries come into action now in the early stages of the fight, are so long (effective gun ranges extend up to 4,000—4,500 yards) that it is not possible for these guns to afford infantry the necessary support from the positions they first occupy. Their fire from long ranges has neither sufficient moral or destructive effect upon infantry in trenches, and it is difficult for artillery commanders to closely follow the progress of the attack from such distances.

Any change of position to closer ranges by daylight is practically impossible for wheeled artillery in the face of Q.F. guns, as the risk of being annihilated, when limbering or on the move, is prohibitive. On several occasions during the war attempts were made by both Russian and Japanese field batteries to change position under fire, but in most cases these attempts ended disastrously, and the field artillery of both Armies was gradually forced to the conclusion that it is impossible for field batteries to manoeuvre by daylight in the face of hostile artillery without courting disaster. As a result, the Japanese field artillery seldom afforded their infantry close support, and yet it is fair to assume that the field gunners of the Japanese Army were animated with no less courage and enterprise than their infantry.

The experiences of the war in Manchuria have thrown much light upon the modern conditions of warfare, and to talk of those experiences as abnormal shows a want of appreciation of the changes which Q.F. guns have introduced in tactics. There are few lessons to be drawn from that war, which are not applicable to any theatre of operations, whether in Europe, Africa, or India, and one that should not be neglected is the necessity for close support of the infantry in the attack.

The evidence seems conclusive that if pack artillery is not available, the infantry will often have to make the assault without effective artillery support, and this will almost inevitably result in terrible losses before the assault can succeed. To wait until the heavy and field guns silence the hostile artillery—a difficult matter when guns are protected by shields, and further cover is provided for the detachments by entrenchments—or obtain so decided a superiority that batteries can move forward to decisive ranges with comparative safety, is impossible; it would generally end in the attack fading away through its own efforts.

Moreover, it is no easy matter to establish superiority of fire where the opposing forces of artillery are fairly matched, and once the main forces of artillery become engaged, the artillery duel is likely to continue throughout the battle. Even when one force is inferior to the other in gun power, and superiority of fire is established by the stronger, there will probably be no finality to the artillery duel; for the weaker artillery ceases fire with the batteries which are in danger of being overwhelmed, and detachments are withdrawn under cover to await a favourable opportunity of re-opening fire. An attempt at moving forward would be just such an opportunity, and might lead to loss of the advantage which the stronger artillery has already gained.

As the war in Manchuria progressed, the Japanese infantry gave up looking to their field artillery for close support, and, when pack artillery was not available, fought their way forward to the assault unsupported. In every case they eventually succeeded, after suffering terrible losses, and in spite of the extreme exhaustion which days of continuous fighting at close quarters and the hardships adherent thereto, viz., want of food and water, cold, continual strain, etc., produced. One may fairly say that the wonderful stamina which carried the Japanese infantry through these hardships had as great a share in their victories as the intrepid bravery and dogged determination which finally crowned their efforts at assault with success.

Though British infantry are second to none in the world for intrepidity and resolution, it is doubtful whether they, or the troops of any other civilised Power, possess a stamina and power of endurance equal to that of the Japanese. And as in addition the number of trained soldiers that we possess is strictly limited, it is advisable to provide our infantry with the certain and effective support of artillery on the battle-field, in order that they may have every chance of winning victories before the strain of incessant fighting passes beyond their powers of endurance, or the severity of their losses reduces them below the number sufficient for the task in hand.

As recent events have proved that pack artillery is the only means by which this necessary support can be assured, it is to be hoped that the desirability of adding some batteries of pack artillery to each division of the field army will be recognised before long. A brigade of three batteries per division is the proportion required; the batteries should be attached to infantry brigades during fighting, and independent of the bulk of the artillery, which must be divisional and employed in engaging the enemy's artillery with their concentrated fire.

Though under the orders of infantry brigadiers, and moving with the infantry, these howitzer batteries will be able to render valuable assistance to the heavy and field guns in their duel with the enemy's artillery. From the advanced positions, which they occupy, their high-angle fire will tell with much effect against the enemy's shielded guns, and the batteries should be used for that purpose, until they are required to turn their fire against the enemy's infantry positions. The Japanese utilised the fire of their mountain guns in this way and produced considerable effect in spite of the unsuitability of their equipment for the purpose.

Close communication between brigades of infantry and batteries which are sufficiently mobile to go wherever infantry can go, will be easy, and general officers commanding these brigades will be able to ensure the speedy application of the fire of their batteries against the enemy's infantry position, when and where it is most required. The infantry would derive the greatest moral support from the knowledge that the effective and opportune assistance of artillery is thus assured to them.

With the close support of the infantry provided for by batteries, whose chief rôle is to bombard the enemy's infantry positions, the fire of the heavy and field artillery, in so far as it can be spared from keeping down the fire of the enemy's artillery at the time of the assault, would be best employed in cutting off the point of attack. This is a method of support which could be carried out effectively without

change of position, and might exercise considerable influence on the assault by preventing the enemy from bringing reinforcements from other parts of their position to the point threatened.

I venture to think that the foregoing offers a satisfactory answer to most of the objections raised in the criticism, which appeared in the *JOURNAL* for May, 1906 (pp.721-3).

It is not my desire to claim for pack artillery merits outside its own sphere. There is no question that the bulk of the artillery with the field army must be medium field artillery, but it is well to consider in the light of recent experiences, whether batteries of that nature are suited to fulfil all the requirements of the modern battle-field under the normal conditions of warfare, as claimed by the writer of the above-mentioned criticism.

As the necessity for closely supporting infantry increases with each improvement in war *matériel*, so, too, does the difficulty of providing for that support with the existing means become greater. The power of movement of wheeled artillery under fire is now limited by more than difficulties of ground, and the advantage of rapidity of movement, which horse and field batteries have hitherto had over pack artillery, is now discounted by the greater power of movement which, under the new conditions, the latter possesses on the battle-field.

Each nature of artillery has its useful purpose, and in these two articles my aim has been to show what a powerful factor for success pack artillery may prove to the field army, when it is re-armed with a suitable equipment.