

year. He has been on the Staff as brigade-major of the home district, and commandant of the instruction school at Wellington barracks; served as brigade-major of the 1st Brigade, 1st division, in Egypt in 1882, was with the Guards' Camel Corps in the Soudan in 1884-5, including the action at Abu Klea, wears the Egyptian medal with three clasps, the bronze star, and the 4th class of the Medjidie, and has been Military Attaché at St. Petersburg since May, 1886."

Major Mayne on Infantry Fire Tactics—IV.

(Concluded from Page 404.)

In the attack, a premature opening of fire only lengthens out the fight, diminishes the offensive spirit, and may cause an exhaustion of the ammunition when the closer and more important ranges are reached at which the battle is decided. The French defending the village of St. Privat, which formed the French right at the battle of Gravelotte (18th August, 1870), had to retire before the German assault for want of ammunition, although they had practically annihilated by infantry fire a previous assault on the same village. Hence the attack should try and get as close to the enemy as possible without suffering undue losses. But even in open country, fire should not be opened in a general manner by the attack until the medium ranges are reached, at all events for troops armed with the Snider rifle and carrying the very limited supplies of ammunition which heavy ammunition entails.

In the defence, however, fire may be advantageously opened at the long ranges, especially if the conditions for effective long range fire are present. The defenders would, or should, always know the ranges of various prominent objects in front of them, and they have, as a rule good opportunities for observing the effect of the fire.

But in temporising actions or in false attacks, fire may be opened at long ranges; also if there is no Artillery or if the Artillery arm is weak, Infantry may open at longer ranges than usual to prepare the way for its own attack; but in this case a large supply of ammunition should be provided and special troops detailed for the long range firing.

But it must never be forgotten that as a rule too much is expected of Infantry fire. Always remember that at all ranges over the short ranges, efficacy of fire can only be obtained by a relatively long-continued collective fire concentrated on objectives specially selected on account of their offensive or defensive importance at the moment.

(2, 3.) As regards the amount of ammunition to be expended and the number of men to be employed in the firing line to expend it in a reasonable time, we must remember that the moral effect of losses inflicted on an enemy is greater, as those losses are more quickly inflicted. This is one reason for employing as many men as possible. On the other hand we must not have so many men exposed as to cause undue exposure to and losses from the enemy's fire, until the effective ranges are reached. When such ranges are reached, we must seek to avoid losses not by mere formations, but by the destruction and demoralization of the enemy. At this period of the fight, boldness and not caution is real prudence. When long range fire is indulged in, as many men as possible should take part in it to arrive as rapidly as possible at the desired result.

(4.) As regards the choice of objectives, it is very necessary to remember that in the long and medium ranges the fire of large portions of the firing line should be directed on certain stated targets, and that each man should not be allowed to fire at a separate target.

The difficulty lies in the selection of the objects to be fired at and in apportioning the different objects selected to different parts of the firing line. The means of effecting this latter point we shall deal with presently. But the general rule for the choice of objectives at any given moment is to choose such parts of the leading portions of such fractions of the enemy's troops as are the most dangerous for the time being—i. e., which for the time being constitute the chief danger to be guarded against. The most advanced portions of the enemy are as a rule the most dangerous, as they draw the other portions after them. Hence they should be crushed. A frequent change of the objectives scatters the fire, so when you have chosen an objective, fire on it until you have destroyed it, or at least paralysed its action, for some time. Choose for preference objectives in front of your own men before selecting others to the right or left in order to assist the advance of neighbouring troops. If the enemy's leading line is checked or offers a bad target, then choose suitable objectives to the right or left or in rear of his leading line. In cases of doubt choose as targets those objects which can be most easily hit. But as a rule the usual mark to aim at is the smoke of the enemy's rifles and artillery. In choosing objectives we must let the question of range (involving effect of fire and errors of estimation of range), atmospheric conditions, slopes of ground, etc., have their full weight. The officer commanding the firing line apportioned the targets to the different parts of the firing line during the pauses in the fire.

(5.) As regards the range and elevations and number of elevations to be used, much has already been said, but it cannot be too strongly remembered that the efficacy of all fire depends more on the range being known than on the individual skill of the men in firing. The worst shot may hit if the range is known, but the best shot will not hit if the range is wrongly estimated. Hence the value of carefully watching the effects of the fire, and of making any suitable corrections to the elevations employed.

The effects of the inclination of the line of sight and of atmospheric conditions must not be forgotten in ordering the elevation to be used.

In cases of doubt use too low than too high elevations. If either side is advancing always undersight for the supposed range, and only alter your elevations by at least one hundred yards at a time.

Against charging cavalry only use the 400 yards elevation and aim at the hoofs of the horses.

(6.) As regards the observation of the fire we must remember that in a well-directed fire half the bullets will fall short, and consequently the dust produced by bullets fifty to seventy yards in advance of the object is not a proof that the fire is too short, though no dust in a favourable soil for observation is a certain indication that the fire is too long. If you are to one side of the men firing, say on the right of them, then a too short fire will appear to fall to the left of the mark, and a too long fire to the right of it, even if its direction is good. This fact must be carefully remembered.

With regard to estimating the ranges, the German practice of "range-finding squads" is worthy of imitation.

(7.) The question of the kind of fire to be used is of very great importance, for it is greatly affected by considerations of human nature and of the means of handling troops under fire. There are two kinds of controlled fire: 1, individual fire; 2, collective fire—(a) volley firing, (b) mass firing.

Uncontrolled fire will come of its own accord when the moral and mental strain of battle becomes too great for control. Hence it need never be ordered. Every effort should be made, indeed, to avoid such firing. We have only to deal with controlled firing, and we can control collective firing either by employing volleys or by employing mass firing (which is really only a more perfectly controlled individual firing than the individual firing we have already considered) of a limited number of rounds (four at the most), when the fire must cease until ordered to be renewed after a slight pause.

In individual firing the trigger is pressed directly the alignment is obtained; in volley firing the alignment, when obtained, has to be maintained until the order to fire is given. As this is not easy to do, and as some men are, more or less, disturbed by hearing the sudden command to fire, the result is that in peace experiments deliberate individual firing has always given better results than volley firing. The advocates of volley firing say that though this is the case on the practice range, yet the reverse will be the case on the battle-field, for the men will be kept in hand better when volleys are fired. Here is a delicate question of human nature. My own impression is that it requires highly disciplined troops to use volleys under an effective fire, for during the frequent pauses they will hear the enemy's bullets and the sound of his fire, whereas individual firing, by making a continuous noise, prevents this. Further, volley firing at even medium range requires more control than can be expected from any but highly-trained troops.

Volleys should only be fired by companies in close order, or half companies in rank entire, or sections in open order. Other units are too large for the purpose.

Other advantages are claimed for volleys, such as economy of ammunition, facility for changing objectives and elevations, especially when the target is charging cavalry, etc. But these advantages can be equally claimed for mass firing conducted on the lines to be presently indicated.

Now volley firing, however good in theory, requires for its execution the maintenance of the organic units. Hence volleys are only practicable so long as these units are maintained intact, which will only occur when close order formations are used (as in savage warfare), or so long as the enemy's fire has not necessitated heavy reinforcing. But when the organic units have been broken up by losses or have been mixed up by an advance under fire or over rough ground or by heavy reinforcing, then volleys cease to be practicable for ordinary troops and become very difficult to execute with highly trained troops.

Consequently volley firing should be confined to the longer ranges before the organic units are mixed or broken up. Indeed, they are essential at such ranges to enable the effect of the fire to be properly watched and the elevations corrected if necessary. But after a while, when volleys are no longer possible, mass firing must be resorted to. Many German writers will not even rely on the men stopping the firing of their own accord after three or four rounds, but rely on the use of a shrill whistle for this purpose, an instrument which every officer and