

cover much more important than it was in the days of the Peninsular war.

Artillery fire and infantry fire have been developed in three principal directions. The useful range is much longer, the accuracy, at all ranges far greater, and the possible rapidity of fire increased to an extraordinary degree. Let us see how these tell in a battle, and especially how they influence the staff formation in line.

In forming a line of battle, whether for attack or defence the best positions will be occupied by artillery, without refence, to the line of the infantry. The guns will not frequently moved, because the effect of their fire is not materially influenced by the addition or subtraction of a few hundred yards in range. It is by no means certain that the artillery will fire at what is straight in front of them. Indeed, the reverse would be the case if the enemy were advancing in line. The gunner knows very well that the fire of his gun will be sufficiently accurate so far as deviation to the right or left is concerned; his only difficulty is with the under and over. An advancing line therefore, would be receiving a shell fire, not as much from its direct front as from that diagonal direction which is expressed technically as "*en echappe*," or even almost directly from its flank. Batteries three or four miles apart could cross their fire upon a line advancing to attack, and the fire would be felt as coming from both flanks. What then becomes of the "thin red line"? It suffers as a column with a narrow front, but, very deep, would suffer from direct fire. Exactly the same principle is applicable, though in an inferior degree, to the fire of infantry, now that bullets fly with great velocity and striking effect to distances even of 2000 yards. Let us not be misunderstood, we are not advocating long-range infantry fire, but only pointing out that the bullets fired directly against an advancing enemy will frequently range as far as a second line of reserves, and that a small body of infantry occupying a position on the flank of an advancing line will range perhaps, along its whole length. Two special instances of artillery fire employed as we have above described happened to fall under our observation at the manoeuvres. On the first day, the 6th of September, Codford Hill was held by the right of the Northern Army, which was attacked on its right flank by Horsford's advance, at the same time that the troops occupying Codford Hill were being shelled by Southern batteries on the other side of the river, both in front and flank of the defenders. The lines on Codford Hill were distinctly visible to the gunners of Major King's battery, which was playing upon them under the most favorable circumstances possible for artillery fire—namely, in the direction of their greatest depth. Again on the last day, when Brownrigg's Division turned the left flank of the Northerners, and placed 18 guns in position there, no officer, of whatever school, who saw the Northern brigades advancing against the other Southern Division and exposing their left flank directly to the fire of Brownrigg's guns at ranges of 1500 to 1200 yards, could fail to be struck with the want of adaptability of the line formation to the case in question. The Umpires on the Southern side declared that two Northern Brigades must have been thrown into such dire confusion as to be practically valueless for battle during a considerable time. Now the same work performed by the artillery on this occasion might have been done by infantry, if only they had been a little nearer than the batteries were. There was no help for it, if the line of formation were to be

preserved. The fault did not rest with the officers who were leading the brigades, for they are forbidden to deviate from the instruction contained in the drill-book, and as they had, without doubt, received orders to advance no choice was open to them. If it be asked in what formation could they have moved under the circumstances, we reply, in no definite formation at all, but exactly as Col. Baker advanced his light cavalry on the last day of the manoeuvres of the Southern Army near Blandford—namely, by sudden rushes in loose order, across every open space, and by massing together wherever a little cover afforded by a wood or a hill gave opportunities. It so happened that the guns were able to fire at a ranges very short for them, but even if another 500 or 1000 yards had been added, their fire would still have been destructive under the circumstances, while it would have been perfectly useless against troops in proper order. So much for the power given by increased range.

With regard to accuracy the development of modern fire tells against troops standing exposed or moving in any formation whatever, and whether the fire be from front or flank. In combination with increased rapidity the great accuracy of modern rifles renders an advance across the open in either line or column a simple impossibility if the defenders are attacked in front and lie down or shelter themselves behind the thousand-and-one accidents which occur in every field of battle. The three movements together—long range, rapidity, and accuracy—may be said to have this effect upon modern tactics, that it is no longer necessary as a rule for the defence to occupy with troops open spaces under view of the enemy; for, in the first place, the enemy will not choose them for his advance, and if he aid the fire of the artillery and infantry of the first line from sheltered situations would so shatter him that he would fall an easy prey to what ever might come next, second line or reserves.

We arrive, then, at certain principles derived directly from the increased power of modern artillery and small arms. The old formation for battle, with two beautifully-arranged lines occupying the extent of country covered by them when deployed, is no longer right, and so far as the science of warfare is concerned, may be called barbarous. If this be granted, it is manifest that neither attack nor defence can be conducted with any hope of success in a formation based upon the principles hitherto understood and carried out by the stiff British line. Further remarks upon infantry tactics especially upon the merits of an habitual system of attack or defence, must be reserved for another article.

(To be continued)

LIEUT.-COL. VILLIERS.—We were to day informed by a gentleman well posted in military matters connected with this District that yesterday, commenced the eleventh year of Col. Villiers' duties as Brigade-Major of this Division, and obtained the following statistics of the relative strength of the Volunteer Force ten years ago and at the present time, which cannot fail to be entertaining to those of our readers who take an interest in the working of our citizen soldiery. In 1862 the Seventh Military District composed the Counties of Wentworth, Halton, Lincoln and Haldimand, and mustered only 890 men of all ranks in the active force. In the year 1864 the Counties of Brant and Norfolk were added, and in 1868 the six

counties above named were, under a new military division of the Dominion, made into the Second Brigade Division of Military District No. 2. The force of this Division now consists of:

	Officers.	Rank and File
5 Troops of Cavalry	15	200
2 Field Batteries of Artillery	8	150
1 Garrison Artillery Co.	3	55
4 Battalions of Infantry	110	1,430
4 Battalions of Rifles	113	1,485
Making a total of	249	3,320

Thoroughly armed and equipped, and ready for action at a day's notice. Besides the above, comprising the Active, or Volunteer Force of the Division, Brigade Major Lieutenant Colonel Villiers has now the organization of thirteen regiments of Sedentary Militia, ready to act as a reserve to the volunteers in case of an emergency. While the above figures shew to what an extent the military spirit has developed in this Division and with what alacrity our young men have responded to the call to qualify themselves for a soldier's duty, it also speaks very strongly in favor of the staff officer, to whose exertions much of this success is due and also exhibits the very popular favorable impression with which he is regarded by all ranks in the Force. We cannot allow the occasion of the tenth anniversary of Colonel Villiers' appointment to pass without congratulating him on the success which has attended his work during the past ten years, and express the hope (in which we are sure we will be joined by all our readers) that he may long represent the staff in Hamilton, unless it be that promotion to a higher command, which is always dear to a soldier, should remove him from amongst us.—*Hamilton Times*.

"The altered position occupied by the cavalry of the present day," says the *Army and Navy Gazette*, "is the subject of an article in the *Vedette*. Their task now is stated to be, firstly, the strategical service, which embraces the duties of exploration, taking measures for the safety of the army, and skirmishing, secondly, the tactical service of engaging with the enemy's cavalry, pursuing small bodies of infantry, and following up a decisive victory. This demands from the officers great intelligence and foresight, as well as a knowledge of topography. They must be men, too, accustomed to the saddle, and to all kinds of fatigue and hardship. Another important use of the cavalry is to discover the weakness and mistakes of the enemy; for without well-led cavalry, an army gropes in the dark, cannot rely on any decided victories, or turn the disorder of a retreat into a flight. One cause of the disarrangement that has fallen upon this arm of arms, is that it has been used without regard being paid to the increased excellence of fire arms. Instances of such noble but extravagant deeds are numerous. The charge of the cuirassiers at Aspern, of Murat's Horse at Krasnoj in 1812, and an Englishman will add, the Balaklava charge. In his work on cavalry, the Arch Duke Charles remarks that 'the general to whom the field marshal intrusts the cavalry on the day of the battle should not suffer his masses to be divided at the representation of any other general in order to render a fruitless and fragmentary assistance. In such a case the infantry lose their self reliance, and the cavalry do not decide the battle.'