

"alone;" and again "experience has proved that, in general actions, cavalry charges, except against cavalry, are indecisive, unless supported by infantry." It would even appear that squares are no longer absolutely necessary to repel any but the best cavalry, for Col. Hamley goes on to say that—"Impressed by the difficulty of keeping battalions in squares under the fire of improved Artillery, the French appear to approach the conclusion that squares should be altogether abolished, and that infantry should meet the attack of cavalry in line. So long as the line is secure on its flanks this might perhaps be judicious against cavalry accompanied and supported by artillery, though it is likely that the best cavalry would generally break a line of infantry by a direct attack. But if the flank of the line were exposed, it would be impossible in any formation except a square, to resist well manœuvred squadrons."

It is probable that, in a war with America, we should have but little occasion to resort to squares, as the enemy's artillery would in all likelihood be fair, while there is but little doubt that his cavalry would not be 'the best.' In the late American war, the cavalry on either side was confessedly unfit to take its place in the line of battle, and it is altogether unlikely that it has since improved, or will do so in time of peace.

Let us, however, hear what Col. Hamley has to say *pour encourager les autres*. The first result of his researches which meets the eye is perhaps scarcely complimentary to modern cavalry, for it is an opinion that no army since the time of Frederic, "Has possessed a cavalry leader or a body of horsemen, who could claim any superiority over Scid-litz and his squadrons." The passage is too long for quotation entire, but it is implied that, as a general rule, modern cavalry has been deficient in "The resolute home charge" which was once the characteristic of the arm.

But he proceeds to say "In the last great wars originated the notion which now prevails that cavalry cannot break infantry; though it is clear that in no formation can infantry really withstand a cavalry charge pushed home, and that when horse fail to break foot, it is from moral, not physical causes."

I scarcely believe myself that an Anglo-Saxon Infantry in four deep square (of course I speak of highly trained and disciplined troops) is capable of being broken even by a similarly trained Anglo-Saxon Cavalry, all conditions being equal, yet the following idea is one calculated to put the best infantry on their mettle. "Squadrons should be drawn up in the rear of each other, with intervals equal at least to their length. The leading squadron, on failing to break the enemy, wheels outward, and is followed by the next, and so on in quick succession. This series of charges may frequently shake troops that have stood one or two stead-

ily. But it is inexpedient to form the cavalry column more than four or five deep; for if that number of charges fail, it is not likely others would succeed, especially as the preceding squadrons will have left in front of the infantry a rampart of fallen men and horses."

Supported, however, by artillery it is distinctly stated that cavalry should destroy infantry, unless the ground were broken and favorable to the latter. For the cavalry manœuvring on the flanks, would force it to form squares, which could not be long maintained under the fire of the guns."

And it is implied that cavalry attacks supported by infantry ought to succeed, and, possibly, with such support, would have succeeded at Waterloo.

Much stress is laid, especially since the introduction of breech-loaders, on the deadly nature of the fire which would meet an advancing enemy, the rapidity of breech-loading has added strength to arguments of this kind, which however date from the first introduction of *armes de precision*. Yet I think men who are, so to speak, carried away by musketry and target practice are somewhat inclined to overlook, or rather to attach too little weight to conditions which, on the field of battle, would materially modify the otherwise unquestionable advantages of good shooting.

And first of these—especially in favor of cavalry is rapidity of movement. "Cavalry" says Col. Hamley, can with ease move over 1000 yards, ending with a charge, in 3 1/2 minutes. The speed of its motion would ensure it against numerous or accurate discharges either of guns or infantry. Closing with the adverse line, it would have no more to fear from rifles than from muskets; and good cavalry has seldom been repelled by fire alone, but rather by the steady aspect of the serried line."

The "Operations of War" was published before the army was equipped with the Snider. Still the rapidity of fire is only a modification (an important one no doubt) of the conditions therein discussed, and it scarcely affects the range. The same is true of the introduction of the Snider as compared to the Enfield, as is observed by Col. Hamley, of arms of precision compared with the old musket—"The changes are not radical—but are only modifications of previously existing conditions."

"The fire of Infantry (says Col. Hamley) has extended its effective range from less than 200 to 600 or 700 yards. At 200 yards it is twice, at 400 six times as effective as formerly."

These estimates of effective range may of course be now increased; still only to a certain degree; and I will conclude with another quotation, which, combined with that relating to the speed of cavalry advancing to the attack, goes far to prove that the prospects of that arm of the service are far from desperate.

"At first sight it would indeed seem that an advance against a line delivering such a fire would be impossible. But there are many circumstances to modify this conclusion."

"First.—The calculation of the efficacy of rifle fire is based on the practice made by men firing singly at targets. File, or platoon, firing is very inferior in effect."

Secondly.—From 150 yards downwards the fire of Infantry, and from 1100 yards downwards the fire of Artillery, is not more destructive to troops than formerly."

Thirdly.—In action numerous circumstances lessen the effect of rifled arms. The adjustment of the weapon must be constantly changed in firing on an approaching object; and within the ranges of the old musket and the old field gun, the new arms are not more effective than their predecessors. Therefore, while within those ranges the effect is not increased, beyond them the effect of fire on moving bodies is uncertain. In almost all districts there are hollow ways and dips in the ground which may shelter troops even in what at first may seem to be a plain. Finally the smoke of artillery and musketry, to which dust or fog may often be added and the stress, moral and physical, of sustained conflict, are all of them influences which greatly diminish the effect of weapons requiring a clear range, and a deliberate adjustment."

CORRESPONDENCE.

MILITARY SCHOOLS.

To the Editor of THE VOLUNTEER REVIEW.

SIR:—Your able and well timed article, in the Review of the 12th instant, on the subject of a Staff College, or advanced Military School; exactly meets the ideas of many, who like myself, are anxious to complete, as far as possible, our military education. Useful as the military schools have been, the standard has not been sufficiently high to meet the requirements of field & staff work, and many who have taken first class certificates in the schools of instruction at present established, earnestly desire the means for further practical instruction. A three months course in such a college as you propose, would go far towards supplying this recognised want, and I feel convinced that were such a college established, numbers would eagerly avail themselves of the privileges which it would accord,—and that in a short time the country would be provided with intelligent and instructed field and staff officers.

I regret to say that the working of the Military Schools is not altogether satisfactory, from the want of a recognised standard of examination, as the schools change from one Regiment to another. For example the Military School in this City has passed through the hands of four regiments. At first the standard was high, and the ex-