



I. The Armament and Organization of Cavalry and Their Influence on its Tactics: II. Suggestions for Obtaining Cavalry Reserves

Major S. Boulderson

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LECTURE.

Friday, April 5th, 1878.

GENERAL SIR T. MONTAGUE STEELE, K.C.B., &c.,
manding Aldershot District, in the Chair.

I. THE ARMAMENT AND ORGANIZATION OF CAVALRY AND THEIR INFLUENCE ON ITS TACTICS. II. SUGGESTIONS FOR OBTAINING CAVALRY REFORMS.

By Major S. BOULDERSON, 17th Lancers.

I WISH it to be understood that this is not a lecture properly, but merely a paper, for it seems to me that a lecture implies opinions given are those of a person well qualified to teach an authority on the matter, and to such a position I do not at the moment presume to aspire: my object is simply to put the subject very shortly and imperfectly before you, and to elicit either at some future time, the opinions of men able to judge, with a view to correcting my own errors, and of doing good to a service in which I am proud to be a member.

With regard to armament and organization, the points upon which I wish to raise discussion and to throw light are as follows:

1st. Firearms. Whether cavalry throughout should be armed with them, or only partially so in each regiment.

2nd. Whether the difficulty can be got over, or lessened, of the employment of mounted infantry; and if such corps are ever useful, what is the proper place for them in our military system?

3rd. Respective value of the lance and sword, separately, and with or without firearms.

4th. What is the best armament for British cavalry?

5th. The effects of these different armaments and organizations on cavalry tactics.

Armament.

In January last, Mr. Graves, 20th Hussars, in his paper on "Equipment,"¹ entered into the question of the armament of cavalry, but until I had written my paper, I had no idea of the contents of it.

¹ See Journal, vol. xvii, No. 94, page 120, *et seq.*

his; it is, however, a subject of such importance, that I think it bears fuller investigation and discussion than he, amongst the subjects, was able to give it.

Mr. Graves sums up his opinion of the proper armament of the cavalry, in these words. "It is my firm belief, that the front rank of all regiments should be armed with lance and revolver, and the rear rank with sabre and carbine."

Now I have quite independently come to a somewhat different conclusion, the difference consisting in my agreeing with his proposal for revolvers. Instead of revolver in the front rank, I would have the sword, as I think the lance should be separated from it, and that revolvers are dangerous.

Firearms.

A great many cavalry Officers, no doubt with great reason, think it is a mistake to put firearms into the hands of the cavalry. It will be found at the critical moment handling their firearms in the ranks charging; but against this it may be said that so long as cavalry are used, our rule never to allow any man to fire mounted meets the objection.

If, however, the recommendations of revolvers are accepted, the weapons which are very apt to be fired off mounted and in the slightest provocation, the objection remains in full force. An Officer once told me that he has seen men in our cavalry, fire in the ranks, without any orders; and just fancy for a moment in which lancers used the revolver; how many shots would hit the man fired at? Would not bullets be flying in all directions, and if so, would it not be a case of "save me from my friends"? There is also the danger of being cut down if you miss your man; further still there is an awkwardness about a lancer using a revolver; he must either sling his lance on his arm, or hold it across his back in his bridle hand, either way being dangerous to his command. If he insists on using his pistol, might he not drop the lance? Yet it is generally admitted that firearms are necessary either in the front or out every regiment, including lancers, as at present in our cavalry by partial armament with them in each regiment; or again, in certain corps, such as mounted rifles, the Russian dragoons, and the dismounted work.

During the 1870-71 campaign, the German Uhlans were armed with chassepôts to protect themselves against the Franc tireurs, &c., and I believe the Russian cavalry have had considerable difficulties in the firearms of the Bashi Bazoos in this last campaign. The pistol has therefore gradually given way to the rifle or carbine, which I think must be accepted as the proper firearm.

Pistols.

Nevertheless, should it be decided at any time to give the front rank of Lancers, or any part of them, pistols again, I would recommend a single-barrelled breech-loader, to be carried on the right

man, the object of the pistol being to protect the man if killed, and never to be fired mounted, except for the purpose of an alarm on outpost duty, &c.

It is an unfortunate circumstance that no pistol, unless heavy, could be made to fire the Martini-Henry ammunition being so great that no man's wrist could stand it. Mr gunmaker, I understand, tried it, and the man's wrist broken.

The Russians, I am informed, have had many accidentals with their revolvers in this last war.

Now, if no pistol is carried by the front rank, in fact those men could carry half the ammunition for the rear rank, and for patrol or vedette duty, one lancer from the front rank, and one rank man with carbine, could be detached together. The reasons given, I believe it is better not to put fire arms in the hands of the front rank at all, but if you give carbines to the rear rank only, you will have as many as you can use, and in the hands of the best shots, and the most intelligent men.

Again, when formed up in double rank for a charge, the man behind can well fire off his carbine through the first rank, seeing the enemy, and if he attempts to touch it, would be shot by the serre-files behind him.

Mounted Infantry.

It must be understood that I do not advocate the abolition of mounted infantry in the place of cavalry, for I believe that to be a bad cavalry and indifferent infantry. But having war in prospect, I am admitted that we may have to furnish three corps of mounted infantry in Great Britain, and that six cavalry regiments per corps are necessary. I say that they can be raised from the infantry of the line and perhaps even from the volunteers, far quicker than could be done for this I have a plan to suggest. I propose, therefore, that the cavalry force is no larger than at present, and that arrangements not made to supplement it from India, and that when we are called upon to enter on a great war, we might have three regiments of mounted infantry as divisional cavalry for the third corps, if used at all, I think their proper place. As this question of mounted infantry comes under the head of tactics, it will be discussed in another part of the work.

Many authorities object strongly to mounted infantry, and Schellendorf, in his second volume "On the Duties of a Staff," is very decided in his opinion against mounted infantry.

Again, many think very highly of them, judging chiefly from the experiences of the American War, and advocate the use of mounted infantry as *éclaireurs*, leaving the cavalry proper armed only with lance and sword, employing them chiefly for shock combat in the support of the mounted rifles, which are to be considered as cavalry, and the ears and eyes of an army; but, in my humble opinion, it would be a mistake to push out mounted infantry (cavalry or dragoons if you will) to the extreme front, and expect

form these duties—horsemen, the most highly trained and reliable, are alone capable of playing this rôle. The Russian dragoons, which have been organized as mounted rifle dragoons were armed with long rifle, sword, and bayonet, have been re-armed with the Berdan breech-loading carbine rifle, retaining both sword and bayonet. The armament points to the tactics, and I maintain that the tactics of the should be those of infantry, able from their mobility to support cavalry, or infantry, as may be required.

Now, if it is ever decided that this sort of regiment is in our Service, I wish to point out a plan for raising a few regiments from four to six months, without drawing on the cavalry or a horse. Call for volunteers from the line, the militia, or volunteers, taking only drilled men, who can shoot, and of good character; give them infantry Officers who can ride (the majority is non-commissioned officers), and attach them to companies, say one squadron to each regiment, to learn their duties and to ride, &c.; I am sure, from my previous experience, that the men selected, they will learn this in four months.

To give an example:

In the spring of 1857 (the Mutiny year), Sir Sydenham organized a corps, called the Peshawur Light Horse, composed of 200 Europeans, and 100 natives; half the Officers came from the line and half from the cavalry; the Europeans were English picked from all the four regiments in his division, viz., the 17th, 70th, and 87th regiments; the equipment and trained cavalry were all ready for them; and in four months they were taught and were immediately sent a march into the district, and out some time, thus becoming shortly very efficient as cavalry.

This proves, I think, that infantry soldiers can be taught to be mounted infantry would require in four months. Major-General Sir John Ross's 20th Hussars, who belonged to this corps the whole time, can bear me out.

Respective Value of the Lance and Sword.

The lance is the best and most deadly weapon, for all purposes, in pursuit, or in single combat, which our experience and observation will show (its bad point being in the *mêlée*); its use is also very great, as was shown by the 9th Lancers in the 1857 mutiny, where the mutineers used to throw themselves down on the ground, hide their firearms, and then jump up after the cavalry passed, and fire at them; they used also to cut and wound the horses as they passed, who were not able to reach them. The lance is however, invariably run through them; and so terror inspired by the Delhi spearmen, as they were called, the enemy used to begin to run when they were miles away. The 20th Hussars they cared very little. The lance is spoken favourably of by Captain Hozier in the 1866 campaign. If all this is admitted to be true, you will find that early in a campaign, the moral effect of the lance weapon will make itself felt by those possessing it, as against

without it. It follows therefore, that if we are pitted against Russians, for instance, who have their front ranks all armed with the lance, except the Dragoons, we should be at a disadvantage at first encounters, at any rate, and the superiority of our men would tend to restore the balance.

I wish to dwell particularly on the moral effect of the weapon of the infantry even having a high respect for it. Napoleon held the lance to be the physical force as three to one, and no one knew more about that than he did. The Germans also thoroughly believe therefore, if by any means the *morale* of one cavalry can be ever so little over that of the other, those means should not be neglected.

The question of *morale* decides which cavalry shall have the greatest extent of country, and the consequent advantage ensue to its own side.

Some people argue that, because the French have entirely abandoned the lance, it is fair to suppose they had good reason; but their objection, in my opinion, is simply because they are not naturally good riders and it is generally admitted that the lance, to be effective, must be in the hands of a good rider. Now are we not good riders as a rule, and if so, are we to throw away the weapon which is especially adapted to our national characteristics?

If anyone doubts our being able to use the lance, let him witness our annual competition, and I am sure he will be convinced.

Then why handicap our men by giving so few of them a weapon which they are quite competent to use?

The proportion of lancer regiments in our own and foreign armies is as follows:—

English—1 to 5.

Austrian—1 to 3.

German—1 to 3.

Russian—All regiments except dragoons.

France—None.

The proportion, therefore, is decidedly against us.

The Sword.

As to the sword, it is an excellent weapon for all purposes equal to the lance in the charge and in certain cases, although it is true that the lance cannot possibly do without it; it seems to be a necessary adjunct; in the *mêlée* the lance requires its support (for of this, I refer you to Mr. Graves's paper). Why, then, not give the sword in close support to the lance?

I therefore come to the conclusion, that lance in front rank and sword in rear rank is the best arrangement; but now, as I came to the conclusion that firearms should only be carried by the rear rank, I propose a second weapon for the front rank, and I think it should be the sword. A lance is liable to stick in the enemy's body, or in that of his own men, and be pulled out of the man's hand, and be broken; it may hinder its work, but still the owner is defenceless; and what so good a weapon as the sword, that is probably going on, as a sword to fall back upon

I prefer the sword to the sabre, as the point is the attack
sisted on. I look upon a sabre to mean a more curved blade
sword.

The best Armament for British Cavalry.

To sum up, therefore, I consider the best armament for
cavalry is (provided a majority is so armed), lance and sword
front rank, sword and carbine in the rear rank. This seems
dispose at once of the question of over-armament of lancer
and of the extra weight of the three arms; and the more they
examined, the more, I believe, will all difficulties be found
appear.

The only objection I can foresee is, that it may be said, the
front rank men, when employed as vedettes, &c., to give
without a firearm? My answer is, never employ a front
without his rear rank man, who has a carbine; and out of this
reliance would grow, similar to the much-praised one that
exist between front and rear rank in the infantry.

It may not be generally known that our lancer regiment
armed with lance, sword, and Martini-Henry carbine in
the objection to this being, according to some opinions, that
over-armed and over-weighted, and has no easy way of getting
his sword and lance, on dismounting to fire.

Last year I had command of my regiment at every
divisional field-day, and during the summer manoeuvres, we
was frequent occasion to use the sixteen carbines per squad;
we then had, and in one squadron we tried a new sword-
from the right shoulder and passing to the left side, with
which the sword was placed loose, and an extra leather frog
the saddle into which the sword was transferred on dismounting;
this sword-belt was also attached the ammunition pouch, and
pence pouch for ten rounds, carried on the girdle. I am sure
all the men who tried this belt said it made their shoulders
if ball ammunition had been carried it would have been worse.

Now, if a lighter sword were issued it could be carried
waist-belt through a frog, and thus be removable. Two
getting rid of the lance were tried, one by placing the butt
bucket of the stirrup and strapping the pole to the wall
stands upright, but in woods becomes very inconvenient;
by the man who leads the dismounted man's horse, slinging
on his bridle arm. This last arrangement does well enough
if the horses are not fresh, but I had to give strict orders not
this pace for fear of accidents. Yet I maintain that fresh
on service they would be steady enough), if you were to
amongst them, the men could not manage them with a lance
arm, and would run their lances into each other, or into
That is why I argue that a man with a carbine is better
lance.

Nevertheless, I consider our present armament very good
you can excuse the weight of the three arms, and, cons

small proportion of lancers in our service, we are per-
are.

Foreign Armaments.

France (see armed strength of) had up to last y
armed as follows:—

Cuirassiers—sword and revolver.

Dragoons, chasseurs, hussars—sword and carbine on
ciple, the latter being slung over the men's backs.

No lancers.

Austria.—I cannot obtain the information, but eleven
regiments were lancers up to 1873.

Germany had up to 1876 (see armed strength of) cui
and pistol, with exception of sixteen men in each squ
carbines.

Dragoons and hussars—sabre and carbine.

Lancers—lance, sabre, and pistol, with exception of
in each squadron who have carbines.

Since then they have been armed throughout with c
every man has lance, sword, and carbine like ourselves.

On dismounting, the lancer removes his sword and fi
lance and the sword to the saddle with his surcingl
butt of the lance in the bucket. This, however, is a
both in mounting and dismounting.

Russia.—The armed strength of Russia is a trans
Austrian edition of 1871, and is of no use now. From
mation—not official—I learn that the cavalry through
dragoons, are armed with lance, sabre, and revolver in
sabre and carbine in the rear rank.

The Cossacks have usually lance, sword, and gun.

The Effect of these different Armaments and Organizatio Tactics.

The more the matter is examined, the more it will l
questions of armament and tactics are intimately conne
tell me how a regiment is armed, I will tell you what it
to be.

To take a plain case, if you give a mounted man a rifle
he is a mounted infantry soldier; but if you give hi
carbine he is at once a hussar. Now suppose one of o
ments before we had firearms engaged with a hussar
hussars would have had the power of attempting to hol
front with firearms, while they attacked them, mov
Plenty of ground can be found where such tactics cou
with advantage. The lancers, on their side, must defe
portion of the hussars, and then threaten the horses of
men before they can get rid of their fire, which may be
behind a ditch or other obstacle in comparative safety.

Now, if we take the lancers armed with carbines, the
enemy's fire; and I think so highly of the lance, and

that my belief is that the mounted lancers could afford to form a single rank, thus showing a superior front to the enemy, in numbers, and consequently having the power to attack him and front at the same time.

I think lancers are especially suited to single rank formation. Our rear ranks are still kept too close to bring their lances into position of the charge with safety to their front rank men, and do charge, with their lances at the "Carry," and so might be by a swordsman before they knew where they were.

Now, as to mounted infantry or rifles in conjunction with cavalry, I have before said I think their place is as divisional cavalry; they are under the hand of the corps-commander, to be despatched on a raid if required; and if not so used, they are better than cavalry proper to take care of the flanks of their own army and to assist in turning the flanks of the enemy. They can support any threatened point; they can be pushed to the front at the commencement of an action, to support the corps' artillery, and pressed, before the infantry comes up; and, finally, during a retreat into an enemy's country they can keep connection between the rear and the front, which is ahead, and the infantry divisions, supporting the front, so that no serious hindrance occurs to their forward march.

In a letter to the *Times*, published in that paper on 22nd June, 1866, Captain M'Calmont, speaking of Mr. Forbes's proposal for a Reconnaissance Corps, says:—

"Sir Garnet Wolseley's suggestion in the 'Nineteenth Century' to increase, as I understand it, the numbers of light cavalry and to form a corps of mounted infantry is a very different thing. Under the present organization their assistance would be valuable, while they do not supersede the regiments already highly trained for their present purpose of 'scouting.'"

This supports my view of the divisional cavalry being better than infantry.

Suggestions for a Cavalry Reserve.

Discharge by purchase has recently been stopped for a time, and as its being re-opened, I would suggest that a man purchasing his discharge should be obliged to enter the Reserve.

If this had been done during the five years ending December 31st, 1865, my regiment, the 17th Lancers, would have had 146 men, the 18th Dragoon Guards 160 men, the 5th Dragoon Guards 157 men, and the 6th Dragoon Guards 146 men, all of the average service of three years in the ranks belonging to the regiments. These three regiments are on the foreign service establishments, and the reduced establishments follow the 2nd Dragoon Guards 110, 7th Hussars 87, 19th Hussars 69, and 3rd Dragoon Guards 146, all of the average service of three years; and it must be borne in mind that men who purchase their discharge usually come from a higher class in life than the ordinary soldier, and are, therefore, better educated.

Just fancy how comparatively comfortable a regiment entering on active service, with such a reserve to fall back on

Instead of which there is no Reserve at all.

Now, I think it quite possible, that if you offer to take men on proper terms you will get some of them.

I propose, therefore, after medical examination, to offer any men who have purchased their discharge within time, returning them the money they have paid, with option of joining their own or any other regiment they claiming their discharge free at the end of the war; being at once to count their previous service towards good conduct while serving, and on discharge to be given deferred previous service, as well as the time of their service during the war.

They will have thus a monetary inducement, both on joining and on discharge. I maintain that it is not dear, but cheap, to do for such men.

They should also be told that if married, their families are to have an allowance during their absence, for these families are to be allowed to enter a barrack; and no chance of getting the men thrown away. To show the endless work entailed on the staff in these days, I may mention that 434 men have been sent to the front in the five years named.

When I had nearly finished my paper, my attention was attracted by a lecture delivered by Colonel Evelyn Wood in this Institute in 1873, on "Mounted Riflemen," and on reading it my head fell to the ground; it, however, supports the view I have taken perfectly independently formed, and points out better than I could have done the effect that armament has always had on the tactics of cavalry. I propose, therefore, to read you a few extracts. Colonel Wood says: "The late Field-Marshal Sir John Burgoyne wrote: "The advantage of mounted infantry to the greatest advantage is as yet unexplored."

Colonel Wood adds: "He goes on to record his opinion that cavalry troops should not be allowed to grow into cavalry. It was worthy of consideration whether cavalry should not be divided into two perfectly distinct services; one of heavy cavalry in reserve with an army in the field; and the other to be divided into two divisions, and to partake more of the characteristics of infantry than of the hussars of the present day."

He also adds: "Before our next war, the following points are to be decided:—

"1stly. Shall a portion of each cavalry regiment, or some of them, be converted into mounted riflemen? or

"2ndly. Shall some system be adopted to enable a small number of light infantry soldiers to move with mounted corps?"

"I think all thinking soldiers are agreed so far; it is only necessary to ascertain which plan is the more suitable for the British nation. I venture to argue that to attempt to convert mounted cavalry soldiers into anything like equal to infantry would be as unsatisfactory as it must be. Speaking of Frederick the Great, he says: "After the battle of Mollwitz, where his cavalry was thoroughly beaten, he laid down the following rules for its guidance:—

“ ‘ 1st. Cavalry Officers awaiting an attack will be cashier
“ ‘ 2nd. The attack is to be made without firing, the last
“ ‘ at a gallop.’

“ It was natural that the French cavalry should copy the
“ who had abolished all firing, but they appear to have copie
“ comprehending that the duty of a dragoon, properly so
“ quite different from that of a cavalry soldier. Under L
“ better known for his misfortunes and cruel fate than for hi
“ genius, the dragoons were transformed into cavalry.”

Colonel Wood adds in another place : “ It appears to me
“ only those Officers who have led cavalry into action, and
“ their demeanour when actually striving for life, who are
“ to decide whether or not the constant use of firearms do
“ not injure their dash. Unfortunately there are not man
“ but one of the few, in writing on this subject, thus
“ opinion : ‘ Cavalry must be armed with firearms, but i
“ ‘ infantry, it will very soon lose faith in the sword and l
“ ‘ will become quite useless as cavalry. You will never ge
“ ‘ do what they did at Balaklava and Rezonville.’ There
“ known story of a British cavalry Colonel, who flung his pi
“ pool of water when parading his regiment before going int
“ a forcible hint to his men to trust to *l'arme blanche*. In
“ 1854, at Beuseo, nearest Bucharest, Major O'Reilly, leading
“ cavalry, being about to charge some Cossacks, rode along
“ and found every man with his lance slung, his sabre in the
“ and his pistol cocked. When he induced them to put by th
“ and charge, the Cossacks were so unprepared for this
“ manoeuvre that of about 600 only half-a-dozen attempted t
“ while the others fired their carbines and fled. I argue, if
“ your cavalry to depend chiefly on firearms, you will not ge
“ charge ; and for cavalry, considered as such, Frederick's
“ still good.

“ General Rosser, one of the most distinguished Confeder
“ of mounted soldiers, wrote in 1868, three years after
“ ‘ Cavalry was not used on the battle-fields as under Ney an
“ because it was not cavalry.’”

He quotes Colonel Hamley and says : “ Until the exact p
“ an enemy is accurately known, the cavalry will be pushed o
“ to 50 miles in advance of the Army. To obviate the risks
“ to this arrangement mounted infantry must accompany th
“ In the advance from Sedan on Paris, 4th September, 187
“ Von Moltke recommending the Commanders of the 3rd Arm
“ Army of the Meuse ‘ to send cavalry far to the front, an
“ ‘ it by horse artillery and infantry in carts.’”

And he concludes his lecture by saying : “ It may have o
“ some of you, if this idea is feasible, why do not the G
“ carry it out? The conditions of our political life render :
“ ordinary action by the Government difficult. Suppose
“ mander-in-Chief and the Secretary of State for War are
“ the advisability of creating in the regular Army some suc

“ I have suggested. After consulting with his co-
 “ Minister learns that a band of well-intentioned b-
 “ Members of the Legislature will oppose any increase
 “ Estimates, of whatever nature; so he goes to his milit-
 “ and says: ‘ I quite agree with you about these rifle
 “ ‘ cannot add sixpence to the estimates; so if you must
 “ ‘ corps, you will have to reduce another regiment.’ ”

Lieut.-General BEAUCHAMP WALKER, C.B. : It would be a very g-
 remarkably good a paper as the one we have just heard should pass into
 out some cavalry soldier saying something about it. I do not say that
 have heard from Major Boulderson, but I have seldom heard in this I
 suggestive paper, or one containing sounder and less wild ideas. (
 points it is remarkably good. As regards the question of arming c
 arms, I think that Colonel Wood, in the paper he quoted, seems to ha
 wrong idea on the subject. He seems to think because you arm ca
 arm therefore you intend them to use their firearms on the field
 but a madman would think of such a thing. I know the French
 perfectly remember old Sir Thomas Hawker, Colonel-in-Chief of
 Guards, telling me that the most successful charge he was ever enga
 by the regiment with which he served in the Peninsula against a l
 which moved up in line, halted, gave fire, and knocked over a cert
 his regiment, and then, as he said, “ We were into them long before
 “ up their carbines.” Therefore, it is manifest that using carbines c
 is nothing short of insanity. The wonder would be how anybo
 such an idea that such a use of it could be admitted by a cavalry
 ever, would go very far with him in saying that in the present da
 uses to which cavalry is now put, a very large proportion, if not tl
 armed with a firearm of long range. I do not suppose that any
 much stronger prejudice on that subject than I did. When I first
 career, after having been for eleven years in the infantry (of course
 about cavalry), I set to work to study the subject; I had to ask the
 me information, and to read and search for the experience which
 late in life. I formed the strongest possible opinion against the p
 ing cavalry generally with carbines, because I found that the c
 arming cavalry (unless it was the most disciplined of cavalry, whe
 as well trained as his Officers) was that they would not cut in—t
 fire the carbine than cut in with the sword. In 1860 the preser
 Magdala desired me to inspect a regiment of native cavalry in Ir
 friend Walter Fane, which did good service afterwards. I fou
 armed throughout with the carbine. I went straight to Sir R
 reported extremely well as to the general drill and appearance of
 I said, “ Sir, only think, the Government of India have given all
 “ You may rest assured these fellows will never charge home; th
 “ European Officers, and the end will be, they will stand off as fe
 “ fire their carbines, instead of cutting in with the lance and the s
 Napier, after consulting with other Officers in Calcutta, gave me
 morning to disarm that regiment, with the exception of twenty-
 squadron. But the times have changed. In those days we did n
 importance to keeping the enemy dark as to our intentions, as
 have gained a good deal of experience during the last two contin
 shows that if you intend to do any good you must keep your own
 and at the same time you must know what your enemy is about.
 it is now the custom to push bodies of cavalry to very great distan
 on the flanks of armies moving in the field, so as to form a veil to
 them. In the performance of this duty, circumstances frequently c
 not only succeed in detecting what the enemy is doing, but if th
 in the use of which they can employ a portion of their force, the
 enemy re-taking the points which they have seized upon. In f

important points of advantage which by their mobility they have gain that purpose the greater part of all cavalry should in the present day be a firearm of sufficiently long range to compete with infantry up to a distance; in fact, up to the distance to which most sensible men think it ought to be confined. In armies where you have a very large force of cavalry you can afford to be extravagant, you may indulge in such expensive luxuries as cuirassiers and lancers, but in small armies the greater portion (if not the whole) of the cavalry ought to be armed with a carbine. I was not aware until Major Boulderson told us just now in his lecture, that the whole of the Prussian lancers were armed with a carbine, and I am very much surprised to hear it. I gave up the lance in Berlin in April of last year, and I really since have failed to follow the custom of the armament of the lancer; I can only say what was the case while I was in the Prussian Army. The question was under discussion for two years, and every possible way of carrying the carbine and lance was tried. The Emperor was extremely opposed to the use of one of the smartest of their Generals, Field-Marshal Von Manteuffel; he agreed that for purposes on which lancers might be employed, as with the cavalry, it was necessary that they should be able to hold what they got, and that themselves being driven off by small and indifferent bodies of infantry. In the place they armed them with the French Chassepot cut short. The Prussian Army know so well the value of the possession of a good firearm, that they used to collect the Chassepots off the field of battle, substitute them for their carbines, and carry these long rifles slung across their backs.¹ They tried carrying the carbine slung over the left shoulder; that was also condemned, for the same reason. I have been for the last six or eight years passing the whole of my holidays in deer-stalking, and I unhesitatingly condemn the practice of carrying a carbine, or whatever it may be, in that manner; it is a most disagreeable and uncomfortable way, not to speak of the horrible manner in which it spoils you. I found that if I strapped it so tight that it did not knock about when I rode, it exerted a most painful pressure on the chest. If I slung it loosely, it was black and blue from the trigger-guard striking on the hip. The Prussian Army returned to the old mode of carrying the carbine, like ourselves, on the back. Major Boulderson mentioned the difficulty of dismounting. The Emperor tried at a parade before the Emperor in the spring of 1876. The sword was loosened, the lance left in the bucket on the off side, the sword placed in the saddle, hilt to the front, on the near side, in the same way as the Spahis carry their swords, and the surcingle was then buckled over both lance and sword. The lancers were taken by the centre men of threes, the rights and lefts dismounted in regular service; but I had no idea until I heard it from Major Boulderson that they had attempted to give the carbine to more than thirty-two men per squadron. I doubt the lance is a most formidable weapon, but the question that I have in my mind is whether, with the extremely small force of cavalry that we have, it is so extravagant as to have any large force of lancers. I do not think we should have the whole of the front ranks of our cavalry by giving them the lance, but we should have too many lancers in proportion to the number of men who had the lance. We should have too many lancers in proportion to the number of men who had the lance, to mounted infantry, of which we have heard, in my opinion they are not worth anything nor the other; they are not good cavalry, and therefore are not worth taking independent duties as bodies of cavalry, and they certainly to the disadvantage would be spoiled as infantry. I do not think, therefore, in a small army, that it is a force which is necessary for us to have. You may improve your cavalry, as the Germans did on certain occasions, by collecting carts and wagons of infantry in those carts along with the cavalry. In that way they are not worth anything, but the greater part of the successful expeditions, when great hurt was done to the enemy by destroying railways, blowing up bridges, getting possession of the enemy's cutting off convoys, was performed during the war of 1871 solely by being armed with good carbines, and being also good cavalry, accustomed to long distances, accustomed to look after their horses, and to know what

¹ After the war various modes of carrying the carbine were tried. The Prussian Army carried the carbine perpendicularly on the off side. This was rejected as an inconvenience when going over rough ground.—B. W.

out the whole business, were certainly more efficient than any infantry detached for the same service could have been. In Germany a most efficient system is now carried out by which the non-commissioned officers and a certain number of men in every regiment of cavalry are specially instructed in the use of tools for destroying railways. I applied to be allowed to see the instructions distinctly and positively refused by the War Minister. I am much obliged for listening to me, but I really felt almost ashamed, knowing the great example Major Boulderson has taken, that no cavalry soldier should say a few words at the end of his lecture.

Colonel Lord ELDON, M.P. : I have waited in hopes that some cavalry officer would have spoken on what I venture to think is one of the most important questions which could be brought before this Institution, namely, how cavalry are to be employed in the future. It happens, reference has been made to Colonel Evelyn Wood's lecture largely quoted from by Major Boulderson, and it happens that I was in the ranks at that occasion, the late Sir Hope Grant being present. I gather from Major Boulderson's lecture that he is in favour of arming cavalry in different ways, according to the position of the men in the ranks ; that he would arm the front rank with sword, and pistol, and the rear rank with carbine and sword. I was under the impression that everything was tending, both in cavalry and infantry, to a changeableness of ranks ; that in the infantry, by turning to the "right" the front rank should become the rear rank, and the rear rank the front rank, and the same sensible change was going on also in the cavalry. There are many occasions when it is desirable that a change of front should be made, and it is the impression that any idea of keeping front and rear rank distinct and different, as proposed by Major Boulderson, belonged to a time gone by. What was the origin of front and rear rank? Simply that as a man shows his best teeth, and if he has decayed teeth he would rather not show them, the picked men were put in the front rank and the scrubby men in the rear. In those days of pipeclay you tried always to keep your best men in front, and I venture to think I am borne out in stating that the tendency of the modern tactics is to get rid of these distinctions of front and rear rank, and that therefore the system based on the assumption of the continuance of the old system falls to the ground. The question rather is, what the whole of your cavalry should be armed with, lance, sword, or pistol, not being a cavalry Officer, and only a civilian might venture to give an opinion, and if I speak at all on military matters I speak on ground that in military matters ordinary common sense comes into play. Cavalry soldiers are nothing more than hunters of men, and principles which apply to the ordinary tactics of hunting beasts apply equally to the tactics of hunting men. I say any man who hunts beasts where he has to bring his common sense into play is justified in giving an opinion on common sense matters with reference to the tactics of hunting men. Let us assume that the whole of your cavalry is to be armed with the same weapons ; I mean to say that there is no distinction between front and rear rank. I do not say whether it should be armed with lance or sword, or pistol, but I certainly think we are greatly indebted to General Walker for the weight of his opinion and experience, not only in the English Army, but in all the armies, he having occupied the responsible position of military attaché ; the result of his experience is, not only that we should give a fire to the cavalry soldier, but that it should be of the longest possible range, as against a face dead against what Colonel Evelyn Wood proposed, viz., the corps of mounted infantry. It was perhaps rather rude, but no sooner had Colonel Evelyn Wood finished his lecture than a great many of those present felt that they were objecting to the view he took, and no one more so than that distinguished Cavalry Officer Sir Hope Grant ; he was the first to denounce the idea of these foot-soldiers on horseback only. I think he said "men taken out of the ranks and taken to be foot-soldiers." Sir Hope Grant's view was as, I think, would be that of most of us, that the cavalry description, who are to be the *éclaireurs* of the Army, should be the best horses and armed with the best weapons. His Royal Highness the Duke of Devonshire, at the meeting of the National Rifle Association last year, said it was as much the duty of a cavalry soldier should shoot well as it was that an infantry soldier should

Now shooting well not only means shooting with accuracy at a hundred yards, but that he should shoot as well at long distances as an infantry soldier. And as to the question, assuming that it is desirable that a cavalry soldier should have a firearm, whether it should be a carbine or a more powerful description I think it is a matter of plain common sense, assuming that they are firearms, that if they can, with convenience to man and beast, carry a rifle will shoot as well as the arm which the infantry carry, they will be more in the field thus armed than if—because hitherto a carbine has been common to the cavalry soldier—he is still to carry that arm, with which he is opposed to an infantry soldier beyond a certain range. The Secretary of War the other day said the Martini-Henry carbine, which the cavalry had, was more accurate at a thousand yards than the Martini-Henry rifle. A man who knows anything about shooting knows that this is manifestly true. On my way here I went into Mr. Wilkinson's, the gunmaker's, and measured the respective lengths of the Martini-Henry carbine and rifle. One is eleven inches longer than the other, and any man who knows anything about shooting that the man who is armed with the carbine which is eleven inches shorter than the rifle, if he is to meet a man armed with that rifle which is a short weapon for the long run either be killed or run away. That is absolutely certain as a result of the shooting qualities of those two weapons. Therefore, correct the word "carbine," and that if you are to give a fire to cavalry soldiers that it should be the best they can conveniently carry. This is the question of carrying. The Secretary of State for War also said as to adopting the Martini-Henry carbine that in the recent war either the Russians or the Turks—probably the Russians—were asking for a shorter weapon on account of the inconvenience of the longer one. That entirely depends upon the method of carrying. There was a model cavalry corps, unfortunately now extinct, viz., the Mounted Rifle Volunteers, and on the occasion of Colonel Evelyn Wood's visit had here its colonel, Colonel Bower, with the equipment of the corps. He put on a block, got on it, showed how the long rifle could be carried with the convenience in the Namaqua bucket; and I can myself speak practically or because I have tried it by going over fences and through spinnies, and for the rifle is fixed to the saddle it is no inconvenience to the rider and no obstruction to the free use of the sword arm. This is probably the simplest possible way of carrying a rifle. It is not an invention of Colonel Bower's, but Bower, when employed by the East India Company at the Cape to buy an acquaintance with the Namaqua bucket, as used by the Kaffirs to carry things on horseback, and there can be no doubt that they did so in the way most convenient to themselves. Nothing can be more intolerable, as General Walker has told anybody attempting to attach the gun to himself. I have been a deerstalker, and the one thing one tried to do was to put the weight of the gun on the horse, and not on one's self. That is what is done by the Namaqua bucket in the most convenient manner, and when the cavalry soldier wants to use his rifle he gets it at once. I happened to succeed Lord Spencer on the Small Arms Commission, the result of which was the selection of a long-range rifle, handy and light, and I would do for all branches of the Service. Up to that time there had been a rifle for the infantry, another for rifle regiments, a carbine for the artillery, another for the artillery, besides a rifle for the Navy. We thought as practical it would be an immense thing for the Service, for economy, supply of arms, and other reasons if, instead of having all these various arms, we could have one suitable for all purposes, and this the Committee succeeded in doing, therefore, very sorry when I saw that the intention of the Committee had departed from, and that we were going to have for the cavalry a carbine of the Martini-Henry rifle, which the Committee intended to answer all purposes. In conclusion, I would only say that I know that there are strong advocates for the carbine as against the rifle; that they are afraid of the mounted infantry. It is not a question of their being mounted infantry, but making them the most efficient cavalry you can for all the purposes for which they are likely to be used, and I venture to think the long rifle is more useful, in the whole extent and work of a campaign, than a carbine that will carry mu

distances. We are now all armed with breech-loaders. This same question the infantry rifle and carbine really is in principle a renewal of the old : used to have in this room from time to time upon the question of breech-loaders. I heard His Royal Highness the President, when : at a meeting of our National Rifle Association, and when we were adoption of the breech-loader for the Army, say: "Be very cautious " adopt the breech-loader for the Army, because the ammunition will " expended that it will be difficult to keep up the supply." There was prejudice against it for those reasons. Sadowna came and swept the way away, and I suppose there is not a man in this kingdom who would wish a regiment armed with muzzle-loaders against a regiment with breech-loaders that time when I found any man who was hesitating and anxious to muzzle-loader, I used to put this question to him: "Suppose you a " with an army of 20,000 or 50,000 men; you say you are in favour of " loader; you know you are going to be opposed to an army equal to " all other respects, but which will be armed with the breech-loader; " you take?" The answer invariably was: "Oh! under those circumstances " choose the breech-loader." I use that as an illustration of this present between a long and short range arm for cavalry. If any gentleman is the carbine for cavalry, instead of the infantry rifle which the Commander, I would put the same question to him. He knows he has a command, and that he will be opposed by cavalry equal to his own in every regard, as regards the *morale* of the men, equal in number, and in long range rifle. I would ask any man in his sober senses if he had to be so armed, would he choose the long rifle or carbine for his own men? but one answer, and I venture with all due respect to say, talking as a cadet, I hope trying to talk common sense upon a common sense matter, *cadet* it is put in that way to gentlemen who argue in favour of short range arms. I, therefore, hope that we may see our cavalry carrying rifles essentially cavalry, doing all that cavalry are able to do now, and a good deal. It would require this, however, that their clothes should be a good deal of trousers not so tight as they now are, because I often see cavalry soldiers that unless their trousers are made of leather or elastic, I do not see how they can get on or off their horses. That is the only other practical change that would be necessary, but I hope that these changes will be brought about, trust that Major Boulderson will forgive a civilian for venturing to express which materially differ from those he has expounded. At the same time, I offer my thanks as a member of this Institution to him for having brought the subject before us, for I believe few things more important can be discussed.

Lieut. GRAVES, 20th Hussars: Lord Elcho has differed rather with Major Boulderson as regards the arming of the rear rank differently from the front rank, in principle that the rear rank ought to be able to do exactly what the front rank can do. We go "sours about;" but I think we move now in the cavalry more by "about" of troops than by getting the rear rank in front, and I think this is a great advantage. I quite agree with Major Boulderson in saying the rear rank should be armed with carbines, for the simple reason that scarcely any regiment use more than one-third of its firearms at any one time. The very strong reason why the rear rank only should be armed with the carbine is this: when we come to a point which we want to hold, and the order is "numbers," or "even numbers with carbines, dismount!" it should be a chance whether the odd numbers or even numbers may or may not be the shots in the whole squadron; the carbines ought to be in the hands of the shots, they ought to be picked men, and ought to be drilled and taught upon their carbines that the retention of the point depends more upon them. Their place then ought to be in the rear rank. If the rear rank were armed with carbines we should have a sufficient number of carbines continuous throughout the whole Service. Speaking of revolvers, the gallant lecturer says: "the moment of a *mêlée* in which lancers used revolvers, how many " actually hit the men fired at." This is not a matter of theory; the American War gives us facts upon which we can go, and I hold in

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or two cases which supply a telling answer to the lecturer's question. In 1864, a fight took place in Virginia between a squadron of Federal cavalry with the sabre, and a squadron of Mosby's armed with the revolver; the latter was one man killed and several wounded, and the loss of the 24 men killed, 12 wounded, and 62 prisoners; 36 killed and wounded I think that speaks for itself. In a similar fight the sabres lost 2 wounded, 54 prisoners and 80 horses, the Confederates, who were armed with revolvers, lost not a single man. However, the Commander-in-Chief has directed that all the details of regiments of cavalry upon the war strength that is a step in the right direction which is supported by the facts of the revolver carries the Henry-Martini bullet with a 23-grain charge of powder, a very useful weapon with the exception of the method of unloading the cartridges. It is very cumbersome in that way. On the other hand, how many would be killed in a *mêlée* where the sabre or lance is used? At Egmont-op-Zee, two troops of English cavalry charged 500 French on the off; the French rallied and charged again; however, the result of both was the loss on the English side of 3 killed and 9 wounded. The fact is not cut. I forget who it was said that in the charge of the Guards at Waterloo was like so many hundred hammers coming down upon as many smiths, a proof that our sabres as a rule do not cut. In the whole of the Franco-German war out of 65,000 killed on the German side, only 218 were killed with the sabre and clubbed musket and lance. The killed by the sabre in six months' war, including Woerth, Vionville, and Sedan, together with on the Loire and the northern provinces, as well as all the outpost service over nearly half of France, was six, notwithstanding that there were 400 engaged. Therefore, if we are going to do any work in the shape of cavalry in active service, I think the revolver is the weapon for the future. I also believe it is quite sufficient to arm the rear rank only with carbines. I agree with Lord Elcho that it ought to be a weapon of the longest which can be carried. With regard to mounted infantry with rifles, that is a question of theory, but of facts. It is not a question what we think, but whether they might make bad cavalry and worse infantry, but will be done when they have been tried. In the American war, General Sherman had 10,000 of this arm under his command, and, as Sir Garnet Wolseley read a paper here last January, they were bad cavalry; however, they were used to take up and hold strategical points in such a way as to do great use. Sheridan made of them when dealing with General Lee's rear guard at Lynchburg is very striking, but then they were thoroughly instructed in the use of their arms, and they were the means of 6,000 prisoners being taken, 16 guns and 400 waggons. He was pursuing and came in contact with the rear guard of his opponent. He engaged them with a small force and sent the rest of his mounted infantry round; they went in rear of the rear guard, cut the main body, and took up a position upon a river under very favourable circumstances, and the result was that the whole lot were taken prisoners or were done by bad cavalry and only middling infantry. I was told at the other day that the men coming for enlistment were very small. The men we want for that particular work. Our hussars scale an average of 140 lbs each; now I maintain that that is not the weight for an hussar or for a mounted infantryman, and for that particular arm, mounted infantry. They should be the best obtainable, and I dare say many infantry Colonels would be glad to get good charactered men of small size and light weight. I see from the Exchequer's statement last night that he has spent 210,000L in purchasing horses. In supposing we have no war, what will be done with those horses? The Government have a very good opportunity of forming three or four corps either of cavalry or mounted rifles, and there are many Officers very glad to volunteer for service in them. It would not occasion an expense of men to existing battalions, and I believe would be a very good thing to take it, as I look back upon history and mark the failures of great armies through want of cavalry, that that is the point where we shall : a very small force of cavalry; we cannot afford to turn it into infantry

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convinced of what Lord Elcho says, although the only point I have any is with reference to using the long rifle, whether it can be so slung or that it is not an inconvenience to the man mounting and dismounting, I with the carbine as slung in the bucket now it requires a man to be tok especially with those very tight trousers which have been mentioned, I can very difficult thing to get a man into the saddle, but at the same time it can be carried as well as a short one, there is no doubt the long one is in ferable. I do not at all like the idea of having the front rank arm weapon and the rear rank armed with another. I think those days gone by. If you have your front rank armed with one, and your rear with another, it may do very well, supposing all your men are on parade happen in war that your front rank men are half killed, or if you carbines, and those men are killed, you lose the use of them; whereas if you all armed in the same way the squadron leader has only to say, "I want men to go to the front," and those men are available for the purpose weapons they have to use. Of course, my friend Major Boulderson, he thinks it high treason for me to oppose him very vehemently, but I have to the conclusion, that really in our Army, lancers should be done away lance is a very good weapon, and there may be cases such as those in India where no doubt it is most valuable, and there are a great many the lance is a very formidable weapon. But then we must look at the difference between the lance and the sword. If I recollect aright there were two the Austro-Prussian war. On one occasion the Austrian lancers were Prussian hussars, and the Prussian hussars rode them down. On another it was *vice versa*, the Prussians had lancers, met the Austrian's hussars Prussian lancers rode the Austrian hussars down; proving that it is not a matter of weapons but of men.

General WALKER: And place.

The CHAIRMAN: Exactly; so that with our small force of cavalry I thinking a lancer is an expensive arm for us to have. As it is at present has to use his lance, he has to be taught the use of his sword, and also his rifle. You are asking a man to attain almost perfection in the use of weapons, where, as every one knows, it requires a very considerable service to make a man able to use his lance, and when he uses his lance as a swordsman, and on other occasions to be a good rifleman. It is asking do more than the great majority of men are able to do, and, therefore, I am afraid the lancer would be jack of all trades and master of none. With the mounted infantry there is no question, if we could have them, the occasions where they would be very good, but I am not quite certain mind whether, if the money is to be spent and the men to be obtained, it would be a far greater advantage to our Army to have them as cavalry and not as infantry. I am very doubtful upon that fact. If the money is to be spent for having more cavalry. There are such instances as those that Lieutenant mentioned, in which no doubt they were very valuable, and did great service in the American war; but there is a feature that has come out very strongly in the last wars, and that is the use of the spade for an army in position, when an army takes up a position, entrenches itself, and occupies the position, the mounted infantry are not of very much use. Mounted infantry may be used to raid, or to charge an enemy's position on different occasions, but in the field where you have 200,000 and 300,000 in the field, a small portion of mounted infantry will be of very little use, more especially where you have an enemy which no mounted infantry could come anywhere near. Those are all the points I have to make, and I will, on your behalf, thank Major Boulderson for his interesting lecture.

Lord ELCHO: May I ask General Walker a question? I have heard that the Russians are now armed with lances.

General WALKER: They have been for many years.

The CHAIRMAN: General Walker was aide-de-camp to Lord Lucan in the Crimea, perhaps he can tell us whether at that charge of heavy cavalry, when the 1st and 2nd Brigades of the 1st Cavalry Division, under the command of Lord Scarlett and our heavy brigade went into that mass of Russians as a heavy

into butter, most of the Russian cavalry were armed in regiments or in lances.

General WALKER: I know they had lancers, because I was employed in the campaign, and I believe I was the first person who ever counted the Russians; they had sixteen squadrons armed in a certain way.

Lieutenant GRAVES: What pace were the Russians moving at?

General HODGE: When the heavy cavalry charged in, the Cossack regiments that went in. It so happened my regiment was in reserve and came in almost to the rear.

General WALKER: My impression from memory is—it is difficult to answer questions on the spur of the moment—that the sixteen squadrons of regular Russian cavalry which I saw day after day were all hussars, and there were about 500 Cossacks who carried the lances. I think the regiments of regular Russian cavalry which I saw day after day were pretty close to, were all hussars, to the best of my recollection. If it is I should like to make one short remark, in answer to your own very apt question of the campaign of 1860, where the Austrians and Prussians came out to fight, I do not think it matters when you come to heavy men whether they are lancers or swordsmen, because the men who go the greatest pace, and cut in with determination, will probably ride the others down. I have asked General Hodge permission to advert to one of the most notorious instances in war where heavy men were supposed to have gained the advantage. It was the day when General Hodge's father was killed. The story is supposed always to prove the superiority which the lancers exercised over hussars; I heard the whole story from an eye-witness. It seems that a body of French lancers debouching from a narrow street stuck themselves between two walls. The 7th Hussars charged them and were received on the points of the lances, and spitted like fowls; but the Life Guards rode them down afterwards, when they were foolish enough to come out from between the walls, but not till then. It was not until they were into the open, and gave the Guards the opportunity of charging on equal terms, that they were ridden down. While they stuck themselves between the walls they themselves into the phalanx they obtained the great success which they gained over the 7th Hussars. It was somewhat similar in the case of a very famous battle that took place between Prussian dragoons and Austrian lancers. The Prussians had a great advantage as long as they remained in the narrow street, the Austrian dragoons being somewhat worsted in the commencement of the fight, but the lancers were foolish enough to come out from their point of vantage, and the dragoons rode them down. Therefore it is very hard to say in a down-up fight which has the best of it. Lieutenant Graves made a slight mistake in his opinion about the Prussian dragoons being heavier men than the hussars. Prussian dragoons and the hussars are the same sized men.

Lieutenant GRAVES: I referred to our hussars generally.

General WALKER: If it is any consolation to gentlemen here, I may say that the Prussian dragoons and the hussars weigh about 1 lb. to 1½ lbs. more than ours do on an average; I really do not know which it is. There is not much difference of weight in the equipment of the two armies; our light cavalry are as nearly as possible of the same weight, for the dragoons are light c