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Royal United Services Institution. Journal

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/rusi19>

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Published online: 11 Sep 2009.

To cite this article: Captain C. Halford Thompson H.P., R.A. (1887) Volunteer Field Batteries and how to Horse Them, Royal United Services Institution. Journal, 31:140, 413-438, DOI: [10.1080/03071848709416412](https://doi.org/10.1080/03071848709416412)

To link to this article: <http://dx.doi.org/10.1080/03071848709416412>

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The Journal
OF THE
Royal United Service Institution.

VOL. XXXI.

No. 140.

Friday, April 22, 1887.

MAJOR-GENERAL SIR ROBERT BIDDULPH, G.C.M.G., C.B., R.A.,
Inspector-General of Recruiting, in the Chair.

VOLUNTEER FIELD BATTERIES AND HOW TO HORSE
THEM.

By Captain C. HALFORD THOMPSON, h.p., R.A., Hon. Major 1st Volunteer
Devonshire Brigade R.A.

For years past those who rule our Army have steadfastly set their faces against any attempt on the part of Volunteers to form field artillery, utterly regardless of the fact that there is a good deal more than a mere risk that at the moment when an invasion of this country is attempted, we may be absolutely denuded of all regular field artillery, and have to meet the enemy with a very untrained army of Militia and Volunteers, who, instead of being able to look for the support of a powerful field artillery to make up for their want of training, would have to face the enemy with hardly a single gun to back them. The vast expense of permanently keeping up a larger field artillery in this country puts that method of getting out of the difficulty out of the question. I am thankful to see that at last the authorities seem inclined to look into the question of the possibility of forming efficient Volunteer field batteries, and as one of the few who have had any real experience in this matter, I have written the following paper, in which I propose to show—

1st. The absolute necessity of organizing a force of field artillery, apart from the batteries of Royal Horse Artillery and Royal Artillery on home service.

2nd. The possibility of forming Volunteer field batteries which shall possess sufficient "mobility" for above purpose, and the best mode of ensuring a supply of serviceable horses for such batteries.

My first point does not require much demonstration to any one who knows the present strength of the horse artillery and field batteries of the Royal Artillery on home service.

There are eight batteries of horse artillery, thirty-nine field

batteries, and six dépôt batteries on the Home Establishment.¹ If engaged in a foreign war, after deducting those serving at the Cape or in Egypt (both which stations are supplied from the Home Establishment), almost the *whole* of the remaining batteries would have to go abroad, leaving only the dépôt batteries in this country, which could not be counted on as of any use in repelling an invasion of England.

At first sight it would appear that in such an emergency as the disposal of nearly all our field artillery on active service abroad, their place could be taken at home by forming batteries from the men who had passed into the Reserve from that branch of the Service, but such a use of the Reserve would be impossible. So far as the field artillery are concerned, the Reserve would do no more (if so much) than fill up the batteries to their war strength and replace casualties, bearing in mind that a large proportion of these batteries have to be completed from four to six guns, thus requiring a corresponding increase of men.

The system of service in the artillery is different from the line in this respect, for enlistment with them is for twelve years, seven with the regiment and five with the Reserve, but at the end of the seven years every man has the possibility of remaining (with the approval of his Commanding Officer) the rest of his time *with his battery instead of passing to the Reserve*, and so many avail themselves of this, that the Reserve is, as I have above stated, no more than sufficient to complete the batteries, and could not be looked to for any assistance in forming batteries for home defence.

I have stated that in case we are involved in a European war, the whole of our available home force of horse and field artillery would be required for foreign service. In proof of this I will merely point out that we could hardly engage in such a war without placing in the field two Army Corps of 35,000 men each, and that the recognized proportion of guns for that number of men would be 3 per 1,000, or 105 for each Army Corps—210 in all, which is equivalent to 35 batteries of 6 guns each, or 210 guns, whereas our *entire* force on the Home Establishment is only 47 batteries, or 282 guns, with 6 dépôt batteries, which cannot be included in the calculation. Of the 72 guns remaining, 6 are now employed at the Cape, leaving 66 guns, or 11 batteries, to meet—

(a.) The possibility of some portion of the Army being required in Ireland.

(b.) The chance of more than two Army Corps being required in the field.

(c.) A demand from India for more field batteries.

(d.) The necessity for increasing our forces at the Cape and in Egypt on the outbreak of war.

I feel certain that even should the artillery of the regular Army, using all its Reserve, be able to place every gun in the field, it will be admitted that they will not have a battery to spare for other than

¹ After allowing for the alteration in the establishment by reduction of five batteries of horse artillery.

the above-noted objects.¹ Granted, then, that the country will virtually be denuded of regular horse and field artillery, what have we to replace them? Literally *nothing*.

An invasion attempted at such a time (and it is *the* time, if ever, when all must allow it will be attempted) would find our Militia and Volunteers forming the bulk of the forces to oppose it. As it was said, in a discussion at the United Service Institution some years ago, "The presence of the regular troops may be, in the first moment of invasion, considered an accident, and their functions should be of manœuvre as a reserve, to consummate the defeat prepared by the resistance of the Militia, to which we must now add, of the Volunteers."

The great improvement in the efficiency of Volunteers since the above words were spoken (in spite of the little encouragement they have met with) has made such a struggle less unequal than it would have been, but it is an old axiom in war, that with an untrained and badly disciplined army the proportion of artillery should be much greater than with an army of veterans. We have 340,000 Militia and Volunteers. Deducting from this amount the garrison artillery who would be employed in manning our forts, we have an army left of nearly 300,000 men, who, according to the ordinary proportion of three guns per thousand, ought to have 900 field guns, but who really from being untrained troops ought to have more, whereas they simply *would not have a single gun*. Under such circumstances what chance would they have against the picked troops of a European nation? and depend upon it no invasion will be attempted except by picked troops.

There is another reason too why the absence of field artillery will be fatal to us, viz., that it will prevent our making head against an enemy when he first attempts a landing. *This* is the time when an invasion may be nipped in the bud, but *not* without field artillery of the heaviest metal that is compatible with being brought into position without great difficulty.

A battery of 20-pr. Armstrongs would at such a moment be invaluable. Once let the lodgment be made, and the advantage will all be on the side of the most disciplined troops.

This brings me to my second point, viz., the possibility of forming Volunteer field batteries, and of ensuring a sufficient supply of serviceable horses for them.

For some years past I have commanded a battery of Volunteer artillery which till now has been armed with 20-pr. B.L. Armstrong guns, but the "powers that be" have just thought fit to order me to return the 20-prs. to store, making the battery an ordinary garrison

¹ I see that Mr. Stanhope, in his speech upon the Estimates, states that "after providing for wants of two Army Corps we should have *fourteen* field batteries left which would be used to form a small-arm ammunition column."

I conclude Mr. Stanhope includes the dépôt batteries in his calculation, which I think cannot safely be done.

The providing for the needs of the Army in the shape of an "ammunition column" makes it still more unlikely that there will be any field batteries to spare.

battery, in spite of the very strong recommendation of the Officer Commanding Auxiliary Artillery in the district that we should be left *in statu quo*.

Although the guns were for some years left in my charge, I received an order shortly after taking command to return my harness to store. I then set to work to adapt the shafts of the guns and wagons for the use of farm horses using their own harness, and I found that by a most simple arrangement, consisting of a short chain attached to the off shaft passing over the hollow of the pad of the shaft horse and hooking on to a loop on the near shaft, any horse could be put into the shafts with his ordinary cart harness on. The near horse (wheel) and the leaders were of course attached in the

ordinary way. The general appearance of the turnout is very slovenly looking to any one accustomed to the beautifully fitted harness and splendid equipment of our horse artillery, but for all that it is efficient though rough, and more than that, it is much more suited to the class of horses employed than military harness, however well fitted, would be. Before my military harness was returned to store, I had some parades, and found that the horses had the strongest objections to their unaccustomed gear, while harnessed as I have described I have kept up an average of 4 miles an hour on a march of 8 miles out, and after drill a similar distance home again in the same time. The horses were driven from the limber box ordinarily, and led where accurate driving was required.

To this proposal the query will be raised, how are you going to ensure getting your horses if you are wanted for service? and it is to answer this objection that I have really been induced to write this article, for it does seem at first sight a fatal one.

The arrangement is as follows, viz. :—Contracts with neighbouring farmers, of which the following is a copy. It will be noted that in these contracts 10s. a day was paid for hire of each horse, the owner foraging them, but as in this paper it is proposed that forage be found for his horses by the Government, the cost of hiring has been calculated at 8s.

No. 8 Battery, 1st Devon Artillery Volunteers.

AGREEMENT between J N , of Farm, Broad Clyst, Devonshire, and Captain C. Halford Thompson, and his succes-

sors in the command of No. 8 Battery, 1st Devon Artillery Volunteers. The said J N agrees to supply the following horses for the use of No. 8 Battery, 1st Devon Artillery Volunteers, whenever they may be required, or to supply other horses of equal value in their place, in the event of their being in the opinion of the Officer commanding the battery no longer fit for service. The terms on which the horses are to be supplied shall be ten (10) shillings per diem for each horse for each day or part of a day that they are retained for, and in the event of the battery being called out for service the Commanding Officer thereof shall have the absolute right to purchase the horses hereinafter referred to at a price of 45*l.* (forty-five pounds) for each horse, and in the event of any of the horses not being in the opinion of the Officer commanding the battery fit for service, the said J N shall supply another horse in its room at the same price of 45*l.* (forty-five pounds), such horse to be sound and fit for service to the satisfaction of the said Officer commanding the battery.

Description of Horses hereby Supplied.

No.	Age.	Sex.	Colour.	Distinguishing marks.
1	6	Mare	Grey	Black points, star on forehead.
2	7	Mare	Grey	Black points.
3	7	Gelding	Bay	Black points, star on forehead, near hind coronet white.
4	8	Gelding	Bay	Black points, off fore and near hind coronets white.

This agreement shall continue in force until the thirtieth day of June, 1886.

Signed at Exeter this twenty-seventh day of May, 1885.

C. HALFORD THOMPSON.

J N

These contracts, which were of course stamped, I have never had any difficulty in getting taken up to the extent I want, and I am certain that no difficulty would be found in getting them taken up throughout the country, and probably at a lower rate for the hiring than I have given if the owners could be informed that the horses would be required for eight days every year at the end of September—a time when their crops are in, and when they would be glad enough to be making money by their horses instead of their standing idle. As to the clause in the contract referring to purchase, I never have found an objection raised to it. Farmers as a class are men who know what is best for their own interests, and have to look at the position from two points of view—

(a.) An annual return for hiring out their horses, with the saving

of their keep while out, and the chance of having to sell them, should invasion be threatened, at their present market value, instead of the enhanced price that such a crisis would ensure him.

(b.) No present transaction or incoming, but a chance of selling the horses at say double their market value when invasion is threatened.

I think all will agree that the Devonshire farmer is right who accepts the proverbial "bird in the hand" as being better than "two in the bush."

I am of course aware that the class of horses I am alluding to would not be suited to the ordinary work of field artillery; they are not fast enough, and are altogether too heavy, but for the work which Volunteer field artillery would be put to they are thoroughly suited. Such batteries would not be wanted to perform intricate manœuvres; all that they are or should be required to do is to bring the guns to a suitable position. They must have speed enough and be tractable enough in harness to move along a road without getting in the way of other troops, and agricultural horses *working in their own harness* are well fitted for this. As for manœuvring, I will even go further, and say that in an enclosed country like England it is doubtful whether *any* battery would be able to leave the roads except for short distances.

According to the latest Census Returns, there are 2,000,000 horses employed in agriculture, and 1,000,000 employed privately or in trade, making a total of 3,000,000 altogether, and in a recent paper by Colonel Ravenhill, R.H.A., Inspector and Purchaser of Remounts, read before the United Service Institution, the writer calculated that out of this vast number only 70,000 horses would be really available for Army purposes, *i.e.*, for the regular troops, after deducting, to use his own words—

"Those too young or too old, the too small, too big, and those unsound or otherwise unfit." In this number, he says, "are included the high-fed London carriage horse and the well-stalled hunter," but the truth is Colonel Ravenhill *flies too high*. If it is a necessity of war to have evenly matched teams and highly-bred horses, he is right; but I confess I do not believe in such a necessity. I remember that in a seaside town in the north of England it is the practice to always harness a big horse and a pony side by side in an omnibus, and though it looked odd I can vouch for the pace they used to rattle along and the amount of work the horses did. I do not advocate the "Redcar Omnibus" principle for general use, but I do say that it is possible to be too particular. Anyhow, I am rather glad, for the sake of the object I have in view, that such an authority as Colonel Ravenhill *excludes* agricultural horses from the supply of the regular army. That being so, there can be no objection to Volunteer field batteries drawing their supply from that source, and I will now briefly state how I think these batteries should be formed. For our 300,000 Militia and Volunteers we *ought* to have at the very least 100 batteries of six guns, which would be ten batteries for each of the seven English, the Scottish, Welsh, and North Irish Divisions. Each battery would

require 75 horses as per following Table A; so the total number wanted would be 7,500, a number that, under the system I propose, there would be no difficulty in raising out of the total of 2,000,000

TABLE A¹.—*Showing Number of Horses required for a Volunteer Field Battery.*

	Total No.
Six guns and wagons at four horses each	48
One forage wagon at four horses.....	4
Three store carts for tents, &c., at two horses each	6
One sergeant-major.....	11
One quartermaster-sergeant	
One drill-sergeant.....	
Six sergeants	
Two trumpeters	
Spare horses	6
Grand total	75

agricultural horses, if it was energetically taken in hand. It would also involve an increase of the Volunteer artillery of about 12,000² men, for it would not be desirable to decrease the number of Volunteer gunners who are so sorely wanted to man our coast batteries. But here again I consider no *real* difficulty would arise, for these batteries would undoubtedly be popular, and the increase would tend to reduce the present deficiency in numbers existing in the Volunteer Force, amounting to over 40,000 men. I think, too, that it would be possible to engage men for them who would undertake to be present for eight days' training in the autumn of each year, such training to take place at a *fixed* period—say the end of autumn, and I would make this a definite part of their engagement when enrolled. There is no difficulty in getting men in the Yeomanry to attend a week's training, so I do not see why this difficulty should be insuperable. Of course during the time they are out they would have to be *paid*—and *well paid*. If these batteries are to be formed there must be an end to the miserable cheese-paring system that the Government have hitherto adopted in dealing with Volunteers. I am quite aware that in advocating *payment* for Volunteers I shall raise a storm of criticism, but the Government pay Yeomanry when they are out for training, and why should they object to pay Volunteers under similar circumstances? Depend upon it the respectable artisans of this country *cannot* leave their work for eight days' training without pay, and *they* are the men we want for these batteries, and they are the men, too, who would be invaluable if the batteries are called out for actual service.

I should like, where possible, to see them commanded by retired Officers of the Artillery. I am sure there are many such who would

¹ This table does not include Officers' horses, which they would themselves provide. The forage wagon and store carts would carry the tents and whole camp equipment of the battery, as well as two days' forage.

² The strength of each battery is shown in Table B at end of paper.

gladly accept the command, but they *could* only do so (except in rare instances) if the command involved no expenditure out of their own pockets.

The guns of these batteries would be parked at their respective headquarters; and here, again, some outlay would be necessary in the first instance to supply proper gun-sheds and a suitable drill-shed for each battery, for the Volunteer gunners would of course drill there throughout the year. A sergeant from the field artillery would be attached to each battery as instructor. I would strongly urge that the guns themselves be of moderate weight only. A corresponding gun in weight to the Armstrong B.L. gun of 16 cwt. would be quite heavy enough. If too heavy a gun be used it would not be possible to take up a position far from a road. I consider the Armstrong 40-pounder, which has been talked of for such a purpose, is much too heavy, being more than double the weight. The nearest gun in weight to the 20-pounder Armstrong is the 25-pounder rifled muzzle-loading gun of 18 cwt., and, as a good many of these guns have been made and will soon be superseded in the regular Service by breech-loaders which have again taken the lead in the ever-changing kaleidoscope of our artillery, I would suggest these guns being issued for Volunteer field batteries. It would be desirable that all these batteries should be armed with the same guns; and there are not sufficient 20-pounder Armstrongs in existence for this purpose, very few of that sort having been made. Moreover, the 25-pounder R.M.L. gun is a better one in every way.

The batteries should be distributed about the country places not in any case more than 40 miles or less than 25 miles from the place where their annual practice is to be carried out. They should be far enough from each other to ensure their not clashing with one another in getting contracts for horses. For instance, I would propose that the ten batteries in the western district be distributed as follows, viz. :—

Headquarters.	Annual practice to be held at
Exeter	Okehampton.
Honiton	Exmouth.
Barnstaple	Lynmouth.
Taunton	Burnham.
Wells	Burnham.
Monmouth	Newport.
Ashburton	Okehampton.
Tavistock.....	Okehampton.
Tiverton	Exmouth.
Truro	St. Ives.

The object in putting the batteries from 25 to 40 miles from their practice ground is to give them two days' march from headquarters to the place where they hold their practice, their eight days' training being thus employed four days on the march and four days (including halt for Sunday) at practice ground. The batteries would carry everything with them, including forage and camp equipage. The latter

(camp equipage) and the blankets for both men and horses would be part of the equipment of the battery. Only two days' forage would be carried with the battery as it would be replenished at the practice station.

Each battery should be a distinct command under a Major, the whole ten batteries of the brigade being under the command of a Lieutenant-Colonel who would be detailed from the Royal Artillery. Volunteer Officers would not be promoted to the command of the brigade, but, to compensate them for this loss of promotion, they should be allowed to have brevet rank as Lieutenant-Colonel and Colonel after a certain number of years' service, such rank to be REAL and not the mere sham which "Volunteer honorary rank" at present is; the holder of the brevet rank to take command of "mixed detachments" in virtue of it.

The Royal Artillery Lieutenant-Colonel would also act as Inspecting Officer.

The Adjutant of the brigade would be expected to see that the contract system with firmers for the horses of the different batteries of the brigade was properly carried out, and a proper register kept of them.

Officers commanding batteries would account direct to Government for all payments to their respective batteries, and in the event of their batteries being called out for service would purchase the horses from the contracting farmers.

I have appended tables to this paper showing the estimated cost of a battery under my proposed system. It will be noted that I have put the Capitation Grant at 2*l.*—a slight increase on what the Government now propose to raise it to. It would be necessary to allow the Commanding Officer to draw two-thirds of his Capitation Grant in advance and the balance immediately the year is completed, and not make him wait, as is now the case, till six months after the Capitation Grant has been earned. It is this, more than anything else, that has deterred half-pay Officers of moderate means from joining the Volunteers; for to keep a battery (such as the one I now command) going, it is absolutely necessary for the Commanding Officer to be in debt to his bankers. It really comes to this at present: with Volunteers the clothing and equipment of each man have to be found and paid for; but the Government pay back nothing for 18 months. With these proposed field batteries no one would take command on such terms.

It will be seen from these tables that the total cost of one Volunteer field battery would be 69*4l.* 14*s.* per annum, and of a brigade of ten batteries 7,987*l.* The cost, therefore, of the 100 batteries would be under 80,000*l.* per annum. Surely a very small sum to a nation like ours, if they can once be got to look upon it as a "national insurance." I notice that in the speech I have already referred to, Mr. Stanhope stated, "I must honestly say I should be very glad to have more field batteries." I hope by this paper I have shown it is possible to have them, and, even if the Government are not disposed to try any experiment of this sort on a large scale at first, they might at any rate form a brigade of ten batteries to give it a fair trial.

TABLE B.—*Showing Strength of a Battery as proposed in this Paper, and Cost of Calling it out for Eight Days in each Year.*

No. of each rank.	Rank.	Pay per diem.	Total of one day's pay.	Total of eight days' pay.	Remarks.	
		s. d.	£ s. d.	£ s. d.		
1	Major	..	..	..	{ No pay estimated, vide remarks in paper	
1	Captain					
3	Lieutenants ...					
1	Surgeon	3 0	0 3 0	1 4 0		
1	Sergeant-Major					
1	Quartermaster-Sergeant	2 6	0 2 6	1 0 0		
6	Sergeants	2 0	0 12 0	4 16 0		
6	Corporals	1 6	0 9 0	3 12 0		
6	Bombardiers...	1 3	0 7 6	3 0 0		
2	Trumpeters ...	1 6	0 3 0	1 4 0		
92	Gunners	1 0	4 12 0	36 16 0		
120	..	..	6 9 0	51 12 0	Total of pay.	
114 rations (exclusive of Officers) at 1s. per man per day				45 12 0		
Grand total of cost of pay and rations ..				97 4 0		
Cost of 75 horses' forage for eight days at 1s. 10d. per horse per day				55 0 0		
Hire of 75 horses at 8s. per day per horse.....				240 0 0		
Expense of camping grounds				30 0 0		
Grand total				422 4 0		

TABLE C.—*Total Annual Cost of a Volunteer Field Battery and of a Brigade of Ten Batteries as proposed in this Paper.*

Capitation Grant:—	£ s. d.	£ s. d.
120 Officers and men at 2l. each	240 0 0	..
Extra grant for five Officers and eight sergeants at 2l. 10s. each	32 10 0	272 10 0
Cost for calling out for eight days per annum. (Vide Table B)	422 4 0	422 4 0
Total cost of one battery.....	694 14 0	694 14 0
Total cost of brigade of ten batteries as above.....	6,947 0 0	6,947 0 0
Ten drill-sergeants at 6s. per annum for pay and allowances	650 0 0	..
One Adjutant	260 0 0	..
„ travelling expenses.....	100 0 0	1,010 0 0
Grand total for ten batteries	7,957 0 0	7,957 0 0

To this must be added cost of ammunition for practice and of the first cost of tents and blankets. The whole cost of clothing and equipping the battery would be paid for out of the Capitation Grant; out of which would also be paid the interest on any money expended on erecting drill-sheds.

Colonel SHAKESPEARE: I have had the honour of commanding the volunteer field artillery of Middlesex, so that I can tell you what the volunteer field artillery can do, and probably there is no man living who can tell you more about it than I can. Some years ago, I think during the Franco-Prussian War, there was an outcry as to the deficiency of field artillery. I wrote a letter in the "Times," the result of which was that I was asked to take the command of the volunteer field artillery of Middlesex. My answer was, that the whole question of volunteer field artillery seemed to me to be ridiculous, and I laughed at it. They then said to me, "Will you come up to London to look at us?" I went, and they had a parade for me of twelve guns at the Wellington Barracks. I looked at them with a most scrutinizing eye; I did not care about their being splendidly turned out, clean, bright, polished, and all that sort of thing, but the effect was that I soon said, "There is work in these men and horses," so I took the command and went to drill on Tooting Common, and I was surprised to see what they did. I took them down to the Brighton review. They halted at Redhill, and got down to Brighton without an accident of any description. We were billeted there on the Saturday and Sunday, and we fought what I call the battle of Brighton on the next day. I was very anxious about the matter, and particularly wished to have my own opinion well supported, and therefore I asked General Lindsay to let me have two Officers of the field artillery as my aides-de-camp. He gave me Colonel Tod Brown and Major Hobart, just the men I wanted. I had the command of the whole of the volunteer field artillery of the defending force. After a certain time we had to retire. I had placed eighteen guns in action on Wick Hill, and we had to retire. My two aides-de-camp said to me, "They will never get over that ditch, hedge, and bank," but I replied, "You shall see what they will do;" and they did get across. I do not mean to say they got across without some of their teams being down, but I have seen Royal and Horse Artillery teams down, but they all got up again. Those guns ascended Redhill in splendid style. I said to the Officers, "Look out, and when you see the opportunity give the advancing enemy a parting shot." They got up to the top, and Earl Wemyss admired the splendid style in which they went up that hill. Nothing whatever went wrong that day. We marched back to London, nothing went wrong, not even a saddle gall or a collar gall. There was a great deal of writing to the "Times" about it at that period, and it was said to me, "Look at your harness; you are sure to find collar galls." I laughed at the idea, for I took special care that the horses wore their own collars, the omnibus collars. They were omnibus horses of London. All the harness was artillery harness, except the horses' collars; that was the way we did it. Then they said, "Oh! but you know the omnibus horses will never stand the noise; they will never stand when the guns fire." "What!" I said, "the London omnibus horse won't stand the noise? Why he is just the very horse that will stand noise." The whole question was fought out at that time. There was a deal of bitterness about it, and I will tell you why. The Government had made up their minds to abolish volunteer field artillery. I think it was Colonel Creed, of the Indian Horse Artillery, who commanded the Middlesex Artillery before I did so. I did not know when I took command that the Government had made up their minds, but they had done so and decided that the volunteer field artillery should be abolished. We got through the Brighton campaign in splendid style, and Earl Wemyss was so much interested in the matter that he used to come out to drill with me and ask me to take the guns out to Tooting Common and Wimbledon Common. We went down to Wimbledon on several occasions. There is some very ugly ground behind the butts, and Earl Wemyss was very anxious to see how we could get over that ground. It was very broken ground, full of holes, furze bushes, and that sort of thing. I trotted the guns across the place. It is true some horses went down, but they got up again. I will not enter into the question

of expense and that sort of thing, but the fact was, I got my horses entirely from the omnibus contractors of London, and I paid them 10s. a day for each horse. They never failed to supply me with splendid horses. I can only say, as far as my humble opinion goes, that I believe a volunteer field artillery would be a most efficient force. The driving is the real difficulty, but I used to teach driving in the Duke of Wellington's Riding School, and in proof of what I say I can tell you that we never had an accident. I have said very much the same sort of thing in this theatre before when Earl Wemyss was in the chair. You know how he has written on the subject, and even in January last there was a letter from him in the "Times" calling attention to the splendid turnout of the "Shakespeare" field artillery. One drawback from which we suffered was this. It was very much desired that one battery should go to the autumn manœuvres. First of all came the question of expense, but that was entirely got over. But then came the question of fourteen days. A great many of my men were well-to-do men of business, solicitors, and men of that sort. They would have enjoyed the affair very much, but they said, "Where will our business go to? We cannot go for that length of time. If it was a question of war, there would be no business to do and we could attend to it, but in times of peace we cannot give up our time to go out to manœuvres." If I ever can say a word in support of the most efficient turnout of volunteer field artillery, I will always speak it for general good, since other batteries can be made equally efficient.

Major-General H. BRACKENBURY, R.A.: The subject which the lecturer has introduced to us to-day is one of national importance. The lecturer occupies an irresponsible position; I speak with the responsibility which attaches to me as the head of the Intelligence Department of the War Office, and I think it may be of some interest to this audience gathered here to-day if I state how this question which has been brought before us bears upon the great national scheme of defence that has been lately matured at the War Office, and which is known to the public generally as the Mobilization Scheme. In order that I may make you understand clearly what this Mobilization Scheme is, and of what it consists, I must first very briefly state what are our necessities in case of war with a great maritime Power. Our first great line of defence is our Fleet, and the duty of that Fleet, as recognized by the Admiralty as well as ourselves, is to go out into the high seas, to seek the enemy's ships the moment they leave their ports, and to send them to the bottom of the deep. The duty of our Fleet is not to defend our dockyards and our commercial harbours at home, it is not to defend our Imperial fortresses and coaling stations abroad. That duty falls upon the Army; and unless our Imperial fortresses and our coaling stations abroad are properly fortified and properly armed, and their armaments properly manned, our Fleet cannot keep the sea. Unless our dockyards at home are kept absolutely secure from the enemy our Fleet cannot keep the sea; and if our Fleet cannot keep the sea, the whole of that enormous commerce, which is the life-blood of this nation, will be swept off the sea. Unless our Fleet can keep the sea, within three months the inhabitants of the British Isles will begin to die of starvation, for the food supplies necessary for existence will not be forthcoming. There are also certain commercial ports which it has been decided must be defended not only as harbours of refuge, but as ports which are the termini of the great lines of the food supply of this country, to which our food supply must be brought, and in which our cruisers, for we must cover the sea with fast cruisers in case of war, must be able to take shelter. Having said that much, I may next add that all of us who have had to think this matter out seriously are convinced that it is utterly futile to think of attempting to guard every portion of the enormous shores of these islands. We must concentrate our forces, we must select the points which are to be defended, and we must then have one great concentrated system of defence against that enemy who having succeeded, which God forbid that he ever should, in sweeping our Fleet off the sea, should effect a landing with say 100,000 men crowded together in swift steamers, and thrown rapidly across to this country. How does this bear upon our Mobilization Scheme? The first step which we endeavoured to take was to get laid down definitely by authority what were to be the places at home and abroad which were to be defended. That has been done. Secondly, to settle upon the very best authority what are the garrisons of all arms respectively

which are required in those positions which are to be defended. That has been done. Next, to take the extraordinary and heterogeneous mass of men which constitutes our Army, to examine into it, and to see what we can do with it; first, towards meeting all the requirements for the garrisoning of the points which form the base of operations and the line of communications of our Navy, and which for other reasons it has been decided to defend, and, secondly, towards placing an army in the field. Now, Sir, that was the work of my department for very many months last year, and we gave to it the closest and the most careful attention. The result of our labours, after due consideration by the military authorities, was laid before the then Secretary of State for War, Mr. Smith. Mr. Smith approved in bulk the scheme as it stood; and Mr. Stanhope, his successor in office, has subsequently endorsed that approval. You must all be well aware that these high Officers of State would not approve a scheme of this importance without having given to it the most careful consideration, without having heard from all their many advisers all that was to be said against it, as well as all that was to be said in its favour. Now, Sir, having said that, let me tell you briefly what is the result of our calculations. First of all, I will take the garrisons. We considered that it was desirable as much as possible to set free our regular troops for service with the field army, and that our garrisons at home should be to the utmost possible extent supplied by the militia and the volunteers. We have utilized not the whole of our militia infantry, not the whole of our volunteer infantry for the garrisons, we have scarcely used any regular infantry at all for those garrisons. We find that after using the whole of our militia artillery for the garrisons, and a very large portion of our volunteer artillery (and I will speak in detail of this in a moment), we are, for garrison purposes, unless we bring a number of volunteers from the extreme north and centre of England down to the south, still some 3,000 garrison artillerymen short for the defence of these islands. Here comes in a very important point, to which I invite attention. In the event of war with a great maritime Power becoming imminent, it would be absolutely necessary for us to establish our garrisons in those places that are to be defended before the actual declaration of war. At the present day, certainly within twelve hours of the declaration of war, torpedo-boats might appear in Portsmouth and Plymouth harbours, an enemy's cruiser might appear in any of the commercial ports that have to be defended, and serious damage might be done. I may say, then, speaking of all these matters after careful consideration with my colleagues, it is my deliberate opinion, that the garrisons must be established in these places before the actual declaration of war, if the war then imminent be with any great military Power near at hand, and that of course is our greatest danger. How long will those garrisons have to be maintained? Throughout the continuance of the war. And, now, seeing before me many distinguished volunteer Officers, I will ask them whether it is possible that the whole of any one of their volunteer corps could be maintained in a garrison distant by rail an hour or two hours from the place where the men live. Could they be taken as a body of troops, put into a garrison, and the whole of them kept there during the continuance of a war which might last for many months? We consider that that is practically impossible. And the basis upon which our scheme has been worked is this—that one-half of the volunteers actually living in any seaport to be defended may be considered always available for garrison duty. We have taken no Volunteers for any of these defensive purposes who live at a distance of more than two hours by rail from the port to be defended, and we have considered that only one-fourth, or in some peculiar circumstances one-third of those Volunteers who live at any distance by rail from the place to be defended, would be constantly available for garrison duty during the continuance of a war. This is the basis upon which we have counted the strength of the Volunteers. We have not assumed that the whole Volunteer force is available for garrison duty during the continuance of a war, but we have assumed that one-half of those who live in any seaport to be defended, and from one-third to one-fourth of those living at a distance from it, would be actually permanently available for garrison duty throughout the continuance of a war. We have, of course, assumed that the whole of the Militia and Yeomanry are available if necessary. The Yeomanry we do not use for garrison purposes; but the whole of the militia artillery are available. And I again repeat that after using every

militia artilleryman in the United Kingdom, every Royal garrison artilleryman in the kingdom, and every volunteer artilleryman on that basis of one-half to one-fourth of those living within two hours' by rail, we show a deficiency of very nearly 3,500 garrison artillerymen in the defence of this country. Now, I think the gallant Officer who has given us this lecture will understand why it is that his corps, which is at Exeter, which is very close to Plymouth, is told off to form part of the garrison of Plymouth. The garrison of Plymouth requires in case of war 5,300 artillerymen. The very greatest number of regular artillerymen that can possibly be spared for that is 1,100. We can only count upon 500 Volunteer artillerymen out of the 1,200 who are actually living within two hours' distance; and the remaining 3,700 have to be provided by bringing Militia from all parts of the United Kingdom. We have had to utilize all the Volunteers possible. Every volunteer artilleryman living within a reasonable distance of any port to be defended has had to be used, and still we have the great deficiency I mentioned of over 3,000 garrison artillerymen for the defence of the United Kingdom. Now, Sir, I come to the next point which I think will interest you. After making provision for the garrisons in the best way we could, still showing this terrible deficiency of garrison artillerymen, what surplus of troops does there remain? We have, I am happy to say, the regular troops for two army corps, infantry, cavalry, Royal Artillery, Royal Horse Artillery—after the conversion of a larger proportion of Royal Horse Artillery to Field Artillery than any other army in the world—we have infantry, cavalry, artillery, but we had not Engineers to complete two army corps; neither had we the Commissariat and Transport companies necessary; but I am glad to say that in the Estimates of this year there appear the sums necessary for the Engineers to complete two army corps, and for seventeen additional companies of Commissariat and Transport corps to enable us to put those two army corps into the field. That is one of the results of working out this Mobilization Scheme. Well, Sir, we have found after making provision for the whole of the garrisons in the United Kingdom and abroad, after bringing up our troops to war strength abroad, and after putting two army corps into the field, that there remains a small surplus over. There remains a very small surplus of regular infantry, some 5 battalions, 49 battalions of Militia, representing about 36,000 men, and 112 battalions of volunteer infantry, representing about 90,000 men. As regards cavalry there is a surplus of 7 regiments of regulars at disposal, and 39 regiments, or about 11,000, yeomanry. There will be of field artillery, as the lecturer has stated, absolutely none, except the depôts, and, therefore, I say that this subject that has been brought before us to-day is one of the greatest national importance. The Secretary of State has decided that to each of the twenty-one corps of volunteer artillery living at such a distance from the seaports that they have not been utilized in our Mobilization Scheme, he will give four guns of position. That would give to us eighty-four field-guns of position. But, Sir, a number of these corps are in Scotland, far away, and those that are not in Scotland are in the northern portion of England. It is especially in the south of England that volunteer artillery is most wanted; and those eighty-four guns, however useful they may be, would not, everyone must admit, be in any way whatever an adequate proportion of artillery for the 40,000 regular and militia infantry, and the 90,000 volunteer infantry who remain. These represent 130,000 infantry, and the proportion of 3 guns per 1,000 would be 390 guns, and not 81. In the Estimates of this year there appears the money taken for giving the 81 guns to those 21 corps, and I sincerely hope that the Estimates of future years may see the money taken for giving 390 guns to the volunteer corps who may be raised to man them. There is at present, I believe, a deficiency of 23,000 volunteers on the estimated number allowed, and I trust that we may succeed (and I believe that the authorities of the War Office are alive to the importance of this) in so regulating the number of Volunteers to be raised that we shall make our volunteer army like every other army, one which consists of a due proportion of the several arms. I do not propose to follow the lecturer into any of those details as to questions of horsing the guns and so on which he has laid before us. But I may say this, that all information of this nature which is given in this form is of the utmost value, because it enables the authorities of the War Office to weigh the cost of introducing, I will not call it an experiment, but any system of

this kind which is proposed, and it also enables them from testimony, based on practical experience of the possibility of making a really efficient field battery of Volunteers, to consider whether it is worth while to spend this money—whether they can get for it an article which will represent value for the money spent. My personal opinion is strongly in favour of having a large force of volunteer field artillery. I say that unhesitatingly, and I believe it is not until we have such a force that we shall really be able to consider these shores of ours safe from invasion. The cost of a single field battery of Royal Artillery is little less than 13,000*l.* a year in time of peace. There are, I know, many men, for whom I have the highest respect, who advocate that volunteer field batteries should not be raised because they will never be equal to batteries of the Royal Artillery, and who have the fear that, if these volunteer batteries are raised, the number of batteries of Royal Artillery will be reduced. Sir, I have not this fear. I believe that we have now established a definite unit of two army corps of regular troops, up to which we shall work constantly, and I believe it is hopeless to ask the nation to provide batteries of Royal Artillery in time of peace over and above what is required for those two army corps, in order that they may take the field with the volunteer infantry in time of invasion. Therefore it is that personally I advocate in the strongest manner the raising of a sufficient number of volunteer field batteries to give us three guns per thousand for the infantry which will remain after our two army corps and our garrisons have been provided. And therefore it is that I obtained permission from the authorities at the War Office to attend before you and to make this statement.

The CHAIRMAN: The President of the Council has received a paper from an Officer of the Royal Artillery, who is unable to be present, and the Council thought it would be agreeable to the meeting to hear this paper read before the discussion was further continued. General Erskine is in charge of the paper and will read it to us.

General ERSKINE: I may preface the reading of this paper by stating that it is the rule of this Institution that when a paper has been read and is being discussed it is not desirable to have written communications from gentlemen who are ready to express their opinions but are unable to attend personally. Every rule, however, has its exceptions. On coming into the Institution to-day this paper, which I have in my hands, was placed before me, and I think that as it is written by an Officer of the Royal Artillery of considerable experience and ability, it is desirable that the contents of it should be made known to the meeting: I will therefore with your permission read it.

Remarks by Colonel Richardson, R.A. :—

The title of the paper is misleading, for though Captain Thompson does in one part advocate a lighter gun than that likely for some years to come to be supplied to the Volunteers, yet the body of the paper is devoted to the method of raising and working what is certainly not and never could be an efficient *field* battery. A field battery to be of any use as such must be mobile—otherwise it is apt to be an encumbrance, especially in an enclosed country such as ours—and I think that a battery sufficiently mobile to be ranked as a field battery is more or less an impossibility to Volunteers recruited and maintained as our Volunteers at present are. It is enormously expensive, and requires constant training. I by no means say that Volunteers could not raise and establish an efficient field battery, but to do so they would have to volunteer the whole of their time and I think much of their purse. It would be cheaper for the country to establish an extra regular field battery, which could be sent anywhere, than to pay for a volunteer field battery even though the pay of the men was left out of account.

But I think there is an unsupplied want which the Volunteers can meet, and meet somewhat in the way Captain Thompson indicates. In India there are heavy batteries, not field batteries, armed with heavy guns, whose pace is a walk, which can practically go anywhere that field batteries can go, and which have proved that they can do so. They are moved by elephants and oxen, so at all times their pace is slow—but their presence would often prove of the greatest use to an army. Wo

have no elephants and very few draught oxen in England, but we have very powerful horses which India lacks, and I believe that it is in the line of these heavy batteries that volunteer artillery would shine.

In the event of the invasion which Captain Thompson mentions, such batteries would make it extremely disagreeable for an enemy to land, and again, supposing him to have done so, would rapidly render a village in which he might intrench himself untenable. The Royal Artillery have no organized heavy batteries at home, so that the Volunteers would not be hampered by any cut and dried methods, but might, as they did with rifle shooting, lead the regular Army in a struggle for improvement.

Of course for such a battery the best armament would be guns of the siege type, but as these are scarce, it is possible that the Volunteers would have to content themselves till they proved what they are capable of, with guns of position, and probably at first the 40-pr. Armstrong R.B.L. would be their weapon, though the sooner they could get a moderately heavy howitzer added the better.

I would suggest that the line they should take, should be to form really efficient heavy batteries of position combined with light siege batteries. For this purpose horses such as Captain Thompson tells us to get would answer admirably. To make up for the lack of elephants, steam power must come into play, and probably most volunteer corps could produce artificers quite capable of working a steam sapper, but on ordinary roads the horses would move the guns, ammunition, and intrenching tools. It should be the aim of such a battery to intrench its guns with extreme rapidity, and for this purpose many extra men would be required to those actually working the guns. These would be reliefs to the gun detachments, and should perhaps be carried with their intrenching tools at a greater pace than the guns could move—say at a slow trot; that the positions might be in a forward state of preparation by the time the guns arrived.

A wide scope for ingenuity is offered to the Officers of volunteer corps in the invention of efficient methods of moving the guns, conveying men, intrenching tools and ammunition, and in working out the best method of intrenching guns of position with the least labour, and I believe if such batteries as I have indicated commend themselves to the Volunteers, we should soon have much to learn from their experience.

Colonel F. S. HILL, C.B., M.P., Glamorganshire Art. Vols. : I have listened with very great pleasure to the paper which has been read by Major Thompson, and which has put in a very concise form his experience in a matter of very great importance. I have listened also with extreme pleasure to General Brackenbury's explanation of the Mobilization Scheme which he has been engaged in carrying out, and which I am sure we all rejoice to think has received the attention of the authorities. I venture to offer a few observations upon the subject under discussion, as having had the honour of commanding a brigade for twenty-three years, during some portion of which time I was in the possession of field guns. I am very glad indeed to hear the encomiums which Colonel Shakespeare has been good enough to pass upon those batteries of volunteer field artillery which he has commanded. My own experience very much confirms what he has said. There can be no doubt whatever that we shall all admit the want of artillery, which indeed has been acknowledged by everybody, not excluding the Minister of War, and which again has been emphatically referred to by General Brackenbury. No doubt if field artillery could be supplied by batteries of the Royal Artillery, that would be the best solution of the difficulty; but I am satisfied there is no Minister, past, present, or future, who would dare to get up and propose the necessary vote for such an expenditure of money; therefore I think we may conclude that we must look to the auxiliary forces to supply the deficiency. I do not think that General Brackenbury has taken into account one very important factor of the volunteer artillery force upon which we might rely in case of war. There is a very large number of men who have passed through our ranks and who have not forgotten the drill which they have learned, and who, if necessity arose, would flock back to us. You may look upon the present volunteer artillery as merely a nucleus. I am afraid to say, speaking of my own regiment, how many men have passed through it, but I should think something like 8,000; I am perfectly satisfied that Officers and men would offer their services most readily,

and in that way the deficiency of some 3,500 men which General Brackenbury has mentioned would be made up. This would also be a solution of the difficulty as to the possibility of volunteers giving up the necessary time for going into garrison and remaining there until peace was concluded. I think nowadays the probabilities of protracted war are not very great, but no doubt there would be considerable difficulty in getting the requisite number of men to go into garrison upon mere rumour. But the difficulty would be solved, I believe, by what I call our reserve men, and we should be able to provide from the volunteer artillery any amount of artillery that might be required. I think the requisite force might be provided in such a manner as to relieve the pressure of continued employment. Speaking for my own regiment, I feel I could guarantee that there would be a constant supply of something like two-thirds of our present number, which I could always undertake to put into garrison. We want artillery for different purposes; we want men for our forts, and we want movable guns for the purpose of preventing a landing. Prevention is far better than cure; and no expense, no trouble would be too great which put us in such a position as to render a hostile landing impossible. I myself have a strong feeling that if a landing were once permitted, we should have a very disastrous time before us before we got rid of the invader, although no doubt we should do it eventually. The difficulty of moving guns about to prevent a landing is that you must have a living organization. You cannot organize a movable battery in a moment; you must have your horses at hand and your men at hand, and therefore their position must be kept constantly ready. You can add to your garrison artillery, but you cannot add to your mobile artillery. I found, as regards the field guns, that I had no difficulty whatever in working them. The men took very great delight in the drill, and they attained a considerable amount of efficiency; in fact, there were some detachments that I would not have been ashamed to have paraded at the headquarters of the Royal Artillery itself. There was, no doubt, the question of the drivers, but we managed to get over that by securing some old drivers of artillery, which we had no difficulty in doing. These were supplemented by postillions, grooms, and men of that kind. The result was, we never killed anybody, and we never had an accident. We got the horses, it is true, with great difficulty. I took the horses out of cabs and omnibuses wherever I could; and if I had only had money to enable me to have arranged to have some horses constantly, I could have turned out a field battery that perhaps would not have compared with those of the Royal Artillery, but at any rate would have been very respectable, and would have been far better than some of the Continental batteries of field artillery which I have had occasion to notice. As it was I was able to move about, to perform all sorts of manœuvres which the Royal Artillery have to do in actual war, and to move the guns about with a body of infantry, working them both together. Eventually my field guns were called in and my opportunity was lost. I entirely agree with what has been said as to the desirability of having field batteries, and I do not think the number which Major Thompson proposes is too great. But I do not agree with him as to the mode in which he proposes to provide these batteries. I do not believe that it will be desirable to establish what I may call a rival branch of the artillery service. I think it would be much better for the field batteries to be provided by existing brigades. For instance, one field battery might be authorized to every six batteries of garrison artillery. That battery would be under the supervision of the commander of that particular brigade, and it would be a great assistance to the brigade to have this field battery; it would be a kind of promotion for both Officers and men to be posted to that battery. A rival organization would thus be avoided, and instead of it you would have something in your midst which would be an incentive and encouragement to the men to do their best. One field battery to every six garrison batteries would give seventy-one batteries. I think there are certain portions of the coast where there might be additional field batteries authorized, and that would come to something like the number that has been suggested. If it were done in the way I propose, the whole would be under the command of the Colonel of Royal Artillery commanding the district, who might assemble the field batteries occasionally for united drill, if deemed desirable. I hope whatever may be done may take this direction. Then, again, comes the question of storing these guns. I think it is important that sheds

should be provided, wherein guns can be stored, and most brigades already possess them. My own brigade has excellent headquarters, with all the arrangements for keeping harness and everything that could possibly be desired. On the question of having the battery out for eight days, no doubt the suggestion is a very good one, and might be done every other year, horsing the guns six times, as formerly, in the alternate years. But if called out for eight days' continued service, the men should be paid for it. We hear a great deal about the inexpediency of payment to Volunteers, but the lecturer proposes it at the rate of a shilling a day. Now, I do not think it is much inducement to a man to go out, if you ask him to give up four or five shillings a day and offer to give him a shilling. If you want drivers to be taken to Woolwich to have occasional drill, or if you insist upon having these field batteries out for eight days, you must be fair and pay the men in a more liberal manner. I believe when the Royal Mining Engineers are called out they have much higher pay; but it seems to me mere mockery to talk of paying men with a shilling a day. You may ask them to perform any extraordinary duties, and they will give their time; but you cannot expect a man to starve his family for eight days for the sake of his country. With regard to guns, I believe that the 9-pounder rifled muzzle-loading guns are now discarded from the Royal Artillery in favour of 13- and 16-pounders; and those guns would be probably obtainable in sufficient numbers to do all that I want. If we cannot have both wagons and guns at once, I would suggest that we might at all events have the guns. That will give us a chance of drill, and pending the arrival of the wagons and more complete equipment, we might at any rate have the guns. I strongly hope that something will be done in the way of giving us guns, and I believe it would be a very strong incentive in the way of encouragement to the men. I am satisfied my plan would work. It is a mere question of money, not a very large amount either. I venture again to say that the country may thank Major Thompson for the able manner in which he has brought the subject forward.

THE EARL OF WENTFORTH: As my friend Colonel Shakespeare, without knowledge of my presence, referred to me, I should like to say one or two words upon the very interesting subject which has called us here to-day. I have listened with very great attention and pleasure to the paper read by Major Thompson, a paper I consider in itself very valuable and useful: but it is even more valuable and useful in the result which followed, which is that we had what I do not hesitate to say appears to me to be the most important and valuable military statement that has been made in my recollection within or without the walls of Parliament. What is it that we have all been endeavouring for years to get brought about? It is that the military power of this country should be organized by those who are responsible for the safety of the nation. We have been knocking for years and years in vain, no matter who has held the key of that office, at the doors of the War Office without result, and now happily we have a statement made, and its great value is that it is made by the authority of the Secretary of State, a statement made by General Brackenbury, whom we know to be an Officer of great military experience, a man of great ability and in high position, as the head of the Intelligence Department; and that statement so made I hold to be valuable and comforting in the present and most hopeful as regards the future. It is hopeful to me as regards the future because General Brackenbury, under the Mobilization Scheme, when he has to allot all the different arms and forces we have in this country, finds that deficiency which we have been in vain, in this room and elsewhere, endeavouring, in the Press and by every possible means, to impress upon the Government, which is that you have lots of men, excellent troops no doubt, but that you are deficient in the main elements which constitute forces in the field—in commissariat, transport, and with no artillery whatever. Colonel Shakespeare has referred to what he did with reference to field artillery. You find General Brackenbury, when he comes to allot all these troops, finds that he must have recourse to the Volunteers for field artillery. He has told you that they have taken this year provision for 80 guns, that they require some 200 more, and that next year he hopes further provision will be taken to equalize the guns required with the forces that will then be in the field—the Volunteers and Militia. Colonel Shakespeare has the merit of having shown to the authorities, as I can vouch, what can be done with field artillery. He

has referred to what they did at Brighton, also to what they did at Wimbledon. I do not think he did quite justice to what they did there. It was immediately before the Dartmoor manœuvres. At the back of the cottage at Wimbledon there is a deep ravine, a boggy bottom with a ditch, and a narrow road with a ditch on each side of the road. When they were at the top of the steep part of this ravine I said, "Now, Shakespeare, do you think you can take your battery across that?" He said, "I do not know, but we will try." They did so, and the way they had to traverse that gully was with one of the wheels on the path and the other in the ditch the whole way down; then they had to cross the boggy ditch at the bottom. The horses and guns got bogged, but Colonel Shakespeare said, "Flog the leaders," and the leaders pulled the whole thing out, and they went safely across. I said to him, "People may say what they like about the inefficiency of volunteer field artillery, but I will engage that no horse nor field battery of Her Majesty's artillery at Dartmoor will go more successfully through a worse bit of ground than you have done to-day." For some reason or other—I do not analyze motives—the fact remains that whereas every encouragement possible should have been given to Volunteers to increase their field artillery in proportion to the number of infantry who would have to turn out if ever there were an invasion, cold water in every possible form was thrown upon it, and not only that, but they ended by abolishing first my friend Colonel Shakespeare and then our field artillery. I quite forget what it was he said or did, but Colonel Shakespeare somehow got into hot water with the authorities, doubtless through excess of zeal, and one day he came to me and said, "What am I to do, I am in trouble with the War Office?" Having heard his case I said, "If I were you I should put my resignation in their hands; they cannot possibly accept it." Well, he did put it in their hands, and they did accept it, I have no doubt to his astonishment, it certainly was to mine. That was followed by a General Order abolishing volunteer field artillery. The only question on which I beg to differ from Major Thompson as regards the capabilities of this force is as to their power of moving. I have told you what Colonel Shakespeare showed they could do at Wimbledon. We saw what they did at Brighton. Major Thompson seems rather inclined to think they must stick to the roads. We have heard the big 40-pounder field guns referred to which showed so well at the Brighton Review; they were not confined to the roads. General Erskine saw them as I did at the Brighton review under Lord Clyde. They were drawn by agricultural horses, with agricultural harness; their regular drivers in their smock-frocks drove them; and I know for a fact that those horses and guns from the time they were harnessed in the morning to the time they were unharnessed in the evening went over 32 miles of ground. Was it simply upon roads? Nothing of the kind. They manœuvred up and down those steep Downs at Brighton and took up whatever position the Officer in command of the artillery told them to take up. I believe that if instead of giving them the cold shoulder the Government requested the Volunteers to form a volunteer artillery, whether of big guns of position or batteries such as Colonel Shakespeare so efficiently organized and commanded, such a request would be heartily and enthusiastically received. I think further it should be remembered in connection with the Mobilization Scheme that there is an enormous reserve of men who have passed through the ranks of the Volunteer Force. I am not in favour of going with an organization which costs large sums of money when a great deal can be done at no cost at all. I am perfectly certain the authorities have nothing to do but to say this: "We wish to form a reserve of Volunteers of different arms, we do not ask them to do more than to turn out once a year in plain clothes and show that they exist. We do not want men above a certain age." I am perfectly certain if that were done the proposal would have a reception that would astonish the Government and astonish the nation. It is several years ago since I moved for a Return of the number of men who had passed through the Force. My good friend Major Macdonell of the "Volunteer Service Gazette" can probably bear me out as to what the figures were, but I think it was from 600,000 to 700,000; it is certainly nearer a million now, and of these we could get some 400,000 men certainly who would be perfectly capable of bearing arms, and who, I am sure, if appealed to, would readily do so. In conclusion, I have only to express a hope that General Brackenbury's statement will be widely circulated. I think it

is most important that it should be so, because it is most comforting, and if it is comforting to us at home it will not be comforting to those who may think of disturbing us from abroad.

Colonel RAY : The few remarks I propose to make will be rather upon the paper itself than upon what we have heard a great deal about this afternoon, viz., whether it is expedient to have volunteer field artillery or not. I think after all is said and done the whole question really resolves itself into this : Is there really sufficient regular field artillery or is there not ? If there is, there is nothing more to be said. Major Thompson, if he thought so, would not, I am sure, have given us his very interesting lecture. But, on the other hand, if there is not, and the time comes for an invasion or an attempted invasion, and field artillery has to be improvised in some way, which it surely will, is it not better in the meantime to do what we can to be in a more prepared state ? In the statement of the Secretary of State for War which appeared in the "Times," I daresay you will remember he said that after allowing a certain number of volunteer artillery for the garrisons and forts on the sea coast, there would be 12,000 men inland, whom he proposed should become field artillery. He also stated what has been repeated this afternoon by General Brackenbury, that he proposed to issue eighty-four field guns. In the "Times" it was distinctly stated "field guns;" it appears from what General Brackenbury has said that they are to be guns of position, or heavy field guns. I would ask, when the Royal Artillery are armed with the new breech-loading field guns what will become of the 20-pounder breech-loaders, of the 25-pounder muzzle-loaders, of the 16-pounders, the 13-pounders, and the 9-pounders now used by the Royal Artillery ? Will all these guns be returned into store at Woolwich ? Why, in the name of common sense, should they not be made use of and issued to the Volunteers ? There will be hundreds of these guns lying idle. I think the question of horses is not a difficult one. About twenty years ago the 3rd Middlesex Artillery, to which I have the honour to belong, used to take to reviews from twelve to thirty light field guns. The duty devolved upon me of finding horses for those guns at reviews. We used to pay not 10s. but 5s. a-day ; we had the Government harness for a time, using the farm collars. We tried for two or three years, when the guns and harness were taken away, to use farm harness with our heavy guns, but I must say that it proved a failure ; directly we got on hills or bad ground it broke in all directions. We had a number of short straps made 8 to 10 inches long, some with buckles at both ends, and with these we had to repair the harness temporarily. We applied for the loan of Government harness but did not get it again until within the last few years. In those days when we had field guns it was always said that we could not find efficient drivers for them. We did find efficient drivers, and in this way : we put an advertisement in the paper for twelve retired drivers of the Royal Artillery or mounted corps. We advertised in one daily paper and in two local papers, and the result was to that one advertisement we had about eighty replies. We paid these men like bandsmen, and clothed them when they turned out. They understood the manœuvres ; they had all been drivers in the Royal Artillery, and at an inspection of the field battery mounted the Inspecting Officer told me he could not understand how it was that our drivers did so well. Of course I did not tell him. There is another thing I should like to remark upon, that is the suggestion about having Volunteers out for eight days, and paying them. Now, I must totally disagree with that suggestion : Volunteers must be Volunteers and nothing else. I have not the slightest doubt that if men are wanted they will turn out. They turn out for nearly eight days at Shoeburyness without pay, and if they were really wanted they would no doubt do it. I think one particular way of threshing out this question might be if the Council of the National Artillery Association could be induced to take the matter up, and have authority to hold meetings and take evidence on the whole subject, and report upon it. They have the machinery for so doing, and it would be possible to obtain reliable information in this way.

Captain LAKE : General Brackenbury, being obliged to leave, has asked me to give a few figures which he omitted in his speech. He told us that the total requirements of garrison artillery for the home fortresses and seaports and the fortresses and coaling stations abroad was about 3,000 men more than our present strength. He wished to have added that in the Estimates for this year 900 of

these are provided for, and in next year's Estimates 900 more will be provided. So much towards supplying that deficiency of 3,000 men. In addition to this, for the coaling stations in the East 217 native artillerymen have been enlisted of the nature of Lascars, though not serving under the same name. I should like now to refer to a remark which fell from Colonel Hill when speaking of volunteer batteries of position. He said he would like to place heavy batteries at various places along our coast which could oppose and prevent the landing of an enemy. I think it may be regarded as certain that an enemy attempting an invasion of England will make straight for London. If London were once in the power of an enemy, our defence would everywhere be paralyzed. That being the case, can it be wise to scatter our forces by placing heavy batteries all round our coast at the many points where a landing might be effected, and would it not be far better to concentrate our forces round London, to have them in such positions that supposing an enemy had landed we could interpose our concentrated strength between him and his prey? Look at the same question from another point of view. A landing in force could hardly take place till our fleet was either swept off the seas or so seriously crippled as not to venture to engage the enemy and his convoy. That being the case the landing would be covered by the heavy guns of an enemy's fleet, and I do not think it is likely that any batteries of position could so successfully cope with the heavy guns of a fleet as to prevent or even seriously delay a landing.

General GOODENOUGH, R.A. : Lord Wemyss referred to the cold shoulder which had been offered in times past to the efforts made by the volunteer field artillery. I believe from what we have heard to-night it is pretty clear that those days are over. No doubt this discussion is one which will be largely read by Volunteer Officers about the country, interested in the subject, and I think possibly it might be useful to them if they could gather from the discussion some indications of the main points to which attention should be directed in establishing field artillery. Reference has been made to manœuvring guns, and I should like to say in my opinion that a very little amount of manœuvring drill is required for field purposes: but on the other hand, although manœuvring and galloping about and trotting about in the field is not much required, yet the power of going at a good pace along roads will always be requisite for anything at all approaching field guns of position. I remember, on the first occasion that I was ever engaged, I was acting with a body of men as escort to a battery. It was drawn by bullocks, commanded by the late General Enderby Gordon, and his conclusion at the end of the day was, how impossible it was to do anything with field guns drawn in that way on account of the utter inability to get a spurt out of them. It is generally necessary that you should be able to move your guns rapidly at some stage of the operations, and therefore, I think any development of the system of employing farm horses which are led by men on foot would not give satisfaction. In the long run I think it would be necessary that Officers should provide for the horses being driven by postillions. They must be able to trot along the road some distance, perhaps a mile or two, two or three miles, as far as their condition will enable them to do, and that cannot be done unless the men are mounted as postillions. The remark made by Colonel Hill, I think, chimed in very much with the reflections I made upon this subject when in command of the artillery of the south-eastern district. I had there an excellent corps of volunteer artillery, at Brighton, and they had had at one time some field guns. I could not help being impressed with the thought which I was glad to hear repeated by Colonel Hill to-night, that in towns where you have a large corps it is easier to provide therefrom one or more batteries of field artillery, rather than that the whole of a scattered corps, or the whole of a corps should attempt to devote its energies to that branch. It is not always easy to find Officers who are willing to go to the expense of providing themselves with horses, but in a large corps of six or eight batteries in a town, not only are horses more easily got for the guns of suitable quality, horses from omnibuses, vans, and so forth, but you are also likely to find a proportion of Officers with means who are able to mount themselves, which is not always the case in a scattered country corps, where the difficulty of finding a body of Officers able to

undergo the expense would be very great. I know at the present time one of the chief difficulties Volunteers have to contend with is that of finding Officers. The expenses are considerable, and there are many corps which have great difficulty in getting Officers to serve.

Captain TODD, 3rd Middlesex Artillery: The representative of General Brackenbury I think has proved the case of this paper more than any words that can be uttered by anyone here. He has stated that we are not likely to have a fleet firing away at our fortifications, yet all his scheme is on the organization of garrison artillery. He says most likely we may be fought in London, but anyone who knows anything about boxing does not know where he is going to be fought, and so he learns the general practice of his work and prepares himself for that work, so as to defend himself at any particular point at which he may be attacked. I argue that every artilleryman ought to be used to horses, every artillery corps ought to have sufficient 20- or 40-pounders, every man and Officer in those batteries should know thoroughly the use of horses and of those guns and how to move them, so that if we are attacked on any particular spot we shall be ready to meet that attack. I have been connected for twenty-seven years with infantry, cavalry, and artillery, and for the last fifteen years I have had the honour of holding a commission in the 3rd Middlesex Artillery, and Colonel RAY, who is present, will bear me out in my statement that I know something on this subject. What I say is this, that we should have guns of position, and that every artilleryman should know how to move them at any given moment. We should be so prepared that, like Captain Shaw, when there is a conflagration reported to him by telegraph, we should be able to go off at once and do our duty. If we are not prepared like that, we are not an army, and we are not prepared properly for the defence of our country. But what is the use of having a valuable property like the British Empire, unless the country will pay the necessary insurance, whatever it may be? We are always met by the word "Treasury!" The Treasury has nothing to do with it. Had the Volunteer Army been left entirely to themselves they would have proper organization and equipment instead of being placed entirely in the hands of a prejudiced school of officials that has said, "You shall never have field guns," because that is what it amounts to, and had it not been for indomitable patriotism, pluck, and endurance in good report and in evil report, we should never have been where we are now, but the whole force would have vanished. It is said that we are not capable of moving our guns, but I think if we can take 20-pounders and 40-pounders over ground such as at Portsmouth and round Portsea, we are capable of taking them anywhere. On the last occasion, when I was at Portsmouth, we took a road of our own, we rode across fields and we got into our position two hours before we were wanted. We were always up with our guns when we were wanted. What more do you want? If you want volunteer field batteries to present a fine appearance you must expend a great deal more money upon them. We don't say one word against the Royal Horse Artillery, or the Royal Artillery; we honour and admire them because we know the time, the trouble, and the expense that is required to make those Officers and men the perfect machines that they are. We, however, are so thoroughly handicapped that we are stopped from being field artillery and from having mounted work of any description. We have always been sat upon by the authorities. Yeomanry cavalry and field artillery seem to be a *bête noire* to them, and even guns of position, and they want to put us all on foot. We have often heard of organization schemes, beautifully rendered, as General Brackenbury has rendered his scheme to-day, but I do not believe in it. There can be no scheme large enough for us until every man in this country shall be prepared to defend the country in some branch of the Service. I would say if a man was not an efficient volunteer, or artilleryman, or did not belong to some branch of the fighting forces, then let us have a conscription on those men who will not do their duty. Let a certain number be taken and let those pay a certain sum of money to others to take their places, if they won't go into the fighting line themselves. I believe that many would support a volunteer field artillery, and would put the force into such a perfect condition that every

regular might leave the country and leave us to account for any enemy who landed on our shores.¹

Major DOUGLAS JONES : At this late hour I will not say all I would like to on this important subject, but will confine my few remarks to my experience in Canada. When in that country I had the opportunity of observing the Canadian Militia, whose field artillery is second to no other arm in point of efficiency, and yet they only do, at most, 12 days' training every year. I have seen them with their 9-pounder guns manœuvre with fair precision, go past the Inspecting Officer at a trot, and even at a gallop, though of course I would not advocate such a proceeding. The guns are horsed by farm horses and ridden by farmers who at the end of their training perform very fair driving. I have seen them on field days go across country in an efficient manner and do very useful work indeed, taking up positions with celerity and with a good eye to ground. Now what Canadian farmers can do, surely we can do, and I hope a force of volunteer field artillery will soon be established.

Major THOMSON : I will not say very much in reply at this late hour. One thing, however, I wish to say with reference to the remarks made by Colonel Richardson. I hardly agree with him as to my having applied a misnomer in calling this a paper upon volunteer field batteries. Before I was in the Horse Artillery, I myself belonged to what was known in India as a heavy field battery, recognized by Government as such. The word heavy field battery is quite as well known as light field battery, and it is perfectly correct to speak of volunteer field batteries, although the guns used could not be possibly lighter than the present Armstrong 20-pounder. I strongly object to guns of the huge type which are what Colonel Richardson evidently thinks the only things Volunteers should be allowed to have. I do not believe those guns would have sufficient mobility, and one great point as regards these batteries is that they should have some mobility. I never meant that they should not be able to leave the roads. One speaker evidently thought I intended that those batteries should never do so. My great point is that they should be able to do so when occasion arises, but as I said in my paper, really this country is so enclosed, that though you may be able to manœuvre your guns in all kinds of extraordinary places, as described by Colonel Shakespeare and Lord Wemyss, the greater part of the ground you cover will have to be roads, and the great point is that you should not be in the way of regular troops. The objection generally raised by the Royal Artillery to the Volunteers having field batteries has been that they would block up the roads, and therefore these batteries must have mobility enough to be able to get over the ground at a fair pace. The question of expense raised by Colonel Richardson is fully answered by what General Brackenbury has said. I spent half an hour this morning in trying to find out what the cost of a regular field battery really was, but I see he says it costs at least 30,000l.² a year. That is quite a sufficient answer to the question of the possibility of increasing the Royal Artillery in this country, and it shows that if you are to have a larger reserve of regular artillery you have got to look to Volunteers, and to Volunteers only. It is perfectly impossible that you could keep up a sufficient force of regular artillery to meet the need that would arise if an invasion of this country were threatened. I am exceedingly glad to find that General Brackenbury has spoken so much in

¹ The Inspecting Officer of Artillery (Lieutenant-Colonel Bailey, R.A.) for the Home District wrote to Colonel Lord Truro, on 13th April, 1882, to convey to the corps under his command how much gratified he was by—1st. The strong muster of the 3rd Middlesex Artillery at Portsmouth Review, on the 10th instant. 2nd. The large number of guns horsed and brought into the field. 3rd. The appearance and discipline of the batteries and escorts. 4th. The hearty, zealous, and careful manner in which all ranks threw themselves into their work, and the way in which the 20-pounder and 40-pounder guns were handled and brought into action over difficult ground, were also deserving of the highest commendation.—G. T.

² Originally stated, but corrected to 13,000l.

favour of having volunteer field batteries. I think the speech that we have heard from him to-day is of the very greatest value and one we are all very glad to hear. I wish more attention had been paid to-day to the question of contracts with the farmers for their horses. It is all very well to say you can get those horses. We have had the experience of several Officers who have turned out on various occasions with volunteer field batteries, and no doubt you can get the horses; you can get them to-morrow, but would you be able to get them if some threatened invasion were before you? In the first place the horses would go up enormously in value. Under my system you would have the certainty that you could provide those horses at a certain cost, and you would be sure of having them. I do not think it at all follows that you will have those omnibus horses that the speakers alluded to, always ready. At any rate not when invasion threatens, and that is what I want to meet. I am exceedingly obliged to you for the attention I have received.

The CHAIRMAN: In closing this discussion I think I shall be expressing the general feeling of the meeting that the paper which has been read this evening is one of great importance, and not only of great importance but I think most of those present will agree that the views expressed by Major Thompson have been expressed in a moderate and reasonable way, and not in any way which, as is very often the case when propositions are made, defeats itself by its extravagance. I may say that much because I think what Major Thompson has suggested is in great measure feasible and not beyond the resources of the country, and when I say the resources of the country, I mean not what the country can do, but what the country as represented by the Legislature is prepared to do. One is apt in a meeting of this sort to deal with these questions too much from an individual point of view, that is to say, purely professional. We have to consider not only what aspect it bears in a professional point of view, but also the aspect it bears in a political point of view, because we must remember we can do nothing unless the Houses of Parliament consent to adopt it; and therefore we have not merely to agree amongst ourselves or the Army generally, as to what is the best thing, but we must educate our masters to agree to it also. The reason I say this is because I think Major Thompson assumed the invasion to take place under the most unfavourable circumstances that could possibly happen for us: that is to say, two Army Corps were to be abroad, and the Navy was to be absent or defeated. I think practical politicians would tell you at once that they could hardly admit the possibility of a very grave invasion in force, while we had two Army Corps abroad on the Continent, because in the first place it is an understood thing that we should not embark in any enterprises on the Continent except in alliance with another great Power, for our two Army Corps would not be sufficient by themselves. There would then be three great Powers, two on one side at least and one on the other engaged, and we can hardly suppose such a disturbance will take place on the Continent without some of the other great Powers being more or less in benevolent neutrality towards us. There is only one Power which could invade us under those circumstances, not being engaged, that is France. If France joined with America, a thing which we trust is far distant, that would be a very formidable combination against England, because it would place our fleet in the worst position in which it could be placed. I only mention that because it is a thing to be assumed. I quite admit that for academical study it is right to assume it, but I do not think practical politicians will altogether endorse it. As to the point about the payment of the men when they came out for training, I think Colonel Hill was quite right in the view that he took, namely, that one shilling a day would neither be accepted, nor acceptable, that men of that class would rather come for nothing than receive one shilling. I think that is a weak point in Major Thompson's scheme. When we remember that the Yeomanry are paid 7s. a day, I think that shows nearly the estimate which must be made for payment. It would very materially increase the expense if we have to pay 6s. or 7s. a day. With regard to the Yeomanry we must remember that when they were put on their present footing and were paid on coming out for training they were a very small force—between 10,000 and 11,000 men; the number under training rarely reaches 11,000. That is a very different thing to 220,000, and I apprehend that had the Volunteer Force been in existence

at the time the Yeomanry were first called into being, the Yeomanry would have been paid but would have been put on the same footing as the Volunteers now are. I think Colonel Ray's mention of the artillery volunteers coming up to Shobury-nese without payment is very *à propos* to the point. I mention these things because I feel that they are the things which swamp any scheme. No one who has studied public opinion can fail of being aware that at the present moment there is a very strong feeling in the House of Commons that the maximum of the Army Estimates has been reached. I do not say whether it is right or wrong, but one takes note of these things, and there is a very strong feeling in the House of Commons, just as much on one side as the other. I do not think it is a party question, but it is the general feeling. These things have to be noted, and of course the more you raise your estimates of the cost of these proposals, the greater is the difficulty thrown in the way of their adoption; and however much we may sympathize with the expression of one gentleman who addressed us that he did not care for the Treasury, yet still the Treasury have got the keys of the money, and unless we are prepared to turn burglars, we shall hardly get it without their consent. As regards mobility and the field-gun question, I would only suggest that if an invasion were attempted at all, it could only be attempted in very large force, and that a single battery, or two or three batteries, if there were so many in the neighbourhood, could not by themselves make a successful resistance. It is not the question of a few boats' crews, or of a cruiser coming along and sending boats' crews on shore to burn or plunder,—that is a very different thing,—but an invasion would be covered by a flotilla of gunboats and very powerful naval artillery which would sweep any such opposition altogether away. That is a practical military proposition which I think will not be denied. Nor could we afford to fritter away our units in that sort of way. What we should require would be to concentrate our positions in such force that we should hem in the enemy if they once made a landing, so that they could not advance without taking the positions we had prepared. We could not afford to lose a battle, and we should be obliged, therefore, to concentrate our forces in some advantageous position. It is no secret that positions have been selected around London to cover London from every possible point on which a landing could be made, and it is in that direction we should want the volunteer artillery,—we should want guns, and men men with those guns of position,—we should want them to go to the places prepared for them, and to occupy them and fight there. General Goodenough alluded to the bullock batteries in India, and of course any one will see that they were comparatively of small value. But the conditions would be very different: we should not be pursuing an enemy from one place to another,—it would be a very big business, and we should occupy defensive positions. As regards the guns, I quite agree it would be desirable to have lighter guns than 40-pounder guns. When you have 40-pounder guns the supply of the ammunition becomes a very much more serious matter, and when you have a very large force on a comparatively restricted front, the roads would get blocked to such an extent that everything you could do to diminish your transport would be desirable. I have no doubt the guns suggested by Major Thompson would be sufficient for all practical purposes. I will not now trespass longer on your time. I think I may assume that I may convey to Major Thompson the thanks of the meeting for his paper. I think we are equally bound to thank those gentlemen who have taken part in the discussion which you will all agree has been very interesting and I trust will bear good fruit.

Major THOMPSON: I should like to take the opportunity of saying one thing on two points that have been raised. I believe myself the Volunteers would not require the very large payment that has been supposed by some speakers. Speaking for myself, I am quite confident that a battery could be raised on the terms suggested in Table B.¹ I also want to call your attention to that one point about

¹ With regard to cost of volunteer field batteries, I wish to point out that even if the pay for the eight days be raised 3s. per head above what I have allowed in Table B to all ranks, it would only increase the estimate by 14,400*l.* for 100 batteries, and still leave the entire cost under 95,000*l.*

the guns belonging to particular corps and not to separate brigades, which have been advocated by some speakers. I think that for purposes of concentration it would be far better that you should have brigades of field artillery than that they should be isolated batteries belonging to garrison brigades. Moreover, my experience is that we can get men to join these batteries who will not join garrison ones.

General ERSKINE: Would you allow me as Chairman of the Institution to thank you, Sir, for taking the chair, and also to express the acknowledgments of the Council to the Secretary of State for War for having permitted the head of the Intelligence Department to come to this theatre and to make the very important statement to which we have listened this afternoon?