Royal United Services Institution. Journal

Publication details, including instructions for
authors and subscription information:

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

Notes on Musketry Training of Troops

Captain H. R. Mead ^a

^a D.A.A.G. for Musketry , 2nd Circle, Bombay
Command

Published online: 11 Sep 2009.

To cite this article: Captain H. R. Mead (1899) Notes on Musketry Training
of Troops, Royal United Services Institution. Journal, 43:253, 233-263, DOI:
[10.1080/03071849909423581](https://doi.org/10.1080/03071849909423581)

To link to this article: <http://dx.doi.org/10.1080/03071849909423581>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the
information (the "Content") contained in the publications on our platform.
However, Taylor & Francis, our agents, and our licensors make no
representations or warranties whatsoever as to the accuracy, completeness,
or suitability for any purpose of the Content. Any opinions and views
expressed in this publication are the opinions and views of the authors, and
are not the views of or endorsed by Taylor & Francis. The accuracy of the
Content should not be relied upon and should be independently verified with
primary sources of information. Taylor and Francis shall not be liable for any
losses, actions, claims, proceedings, demands, costs, expenses, damages,
and other liabilities whatsoever or howsoever caused arising directly or
indirectly in connection with, in relation to or arising out of the use of the
Content.

This article may be used for research, teaching, and private study purposes.
Any substantial or systematic reproduction, redistribution, reselling, loan,

sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

THE JOURNAL

OF THE

ROYAL UNITED SERVICE INSTITUTION.

VOL. XLIII.

MARCH, 1899.

No. 253.

[Authors alone are responsible for the contents of their respective Papers.]

NOTES ON MUSKETRY TRAINING OF TROOPS :

NECESSITY OF CARRYING OUT THE TRAINING UNDER
ACTIVE SERVICE CONDITIONS, SHOWING HOW OUR
PRESENT SYSTEM FAILS IN THIS PARTICULAR, AND
SUGGESTING MODIFICATIONS IN THE COURSE TO SUPPLY
THE DEFICIENCY

*By Captain H. R. MEAD, D.A.A.G. for Musketry, 2nd Circle,
Bombay Command.*

Thursday, January 26th, 1899.

Major-General A. FITZROY HART, C.B., *p.s.c.*, Commanding
1st Infantry Brigade, Aldershot, in the Chair.

THERE is no doubt that, notwithstanding the late pacific utterances of the Tsar, the whole question of the state of efficiency of our Army, whether for the defence of the country or for the protection of our interests in every quarter of the globe, is receiving more attention than at any former period, not only at the hand of the military expert, but also at that of the general public.

In this connection the great subject of an organisation which will enable us to obtain and prepare the large numbers of men and officers whose services have become necessary to carry out the duties, even in peace-time, of our constantly expanding Empire, has naturally received the lion's share of attention.

It is obvious, however, that whatever schemes may be taken in hand to increase the numbers of men available, we shall have to rely in the future, as in the past, more on the excellence of our material, and on its thorough training, than in the provision of large bodies of troops. The importance of musketry in the training of troops does not need to be insisted on ; but there are signs, such as Lord Roberts's able speech, made some time ago, on the present method of training ; a letter in the *Times* on the shooting capabilities of our men ; and others,—which tend to show that a short review of our methods of training, with a view to

seeing how far they go to fitting our men for the stern test of war, may be of service.

The notes on which the following remarks are founded were collected whilst doing the various duties of D.A.A.G. for Musketry in India for a period of some two-and-a-half years. Towards the end of this period the Tirah expedition took place, and the accounts of the fighting were naturally followed with peculiar interest by one, who, while not having the luck to serve with it, might yet claim to have something to do with the training of some of the juniors at the front.

In India, the musketry staff officer has peculiar advantages in studying the results of musketry training, as he is not only an instructor, but an inspector; thus for six months he is at the school inculcating the principles, and getting into touch with the Regulations and the newest ideas; and for the next six months he is travelling round his circle and seeing how some twenty to thirty regiments carry out the course, viewing the field-firing, and keeping in touch with the troops and their difficulties and necessities. He also has the advantage, which is denied to his comrade holding a similar appointment at home, of seeing two separate systems of instruction carried out under his immediate supervision (the second being that carried out under the native regulations). So that if he is of the least observant disposition he cannot but be led to speculate on the results obtained by different methods of training and on improvements which might be introduced into either course.

The state of efficiency to which the musketry training has been brought may be gauged in one of two ways:—1. Actual field service. 2. By the best imitation we can make of it, viz., field-firing.

With an Army which is being continually employed in different parts of the world on active service, it is certain that we have unrivalled opportunities of testing the value of our system, and it would naturally be thought that a perusal of the various editions of our Musketry Regulations would show that the results of the experiences gained at different times and under different circumstances had been carefully noted and embodied in them.

Undoubtedly we have made great strides in the last fifteen years or so, but this advance has been mainly due to the writings of one officer (Major Mayne), and, moreover, it is based on the results of wars of other countries; whilst our own experiences, though surely more valuable as being, in the first place, more recent, and in the second place as dealing with our own men and what they have effected under active service conditions, have been totally neglected.

After field-firing or manœuvres it is usual to have a discussion of what has been done, for full reports to be written, and the troops to be told of the results and warned to avoid the mistakes which have been detected; but in the case of active service operations it would seem that the advantages of this course of action have been generally overlooked, or that the reports and criticisms which have been furnished have never reached those to whom the perusal would have been a benefit.

Take the Boer war as an instance—has that resulted in our men being taught to fire at moving and vanishing objects under service conditions?

What lessons have been embodied in the Regulations as the result of our experiences in Egypt or the Indian frontier?

It is therefore to be hoped that in the case of the Tirah expedition a departure will be made, and that the lessons to be learnt will be clearly noted, and embodied in the next Indian annual musketry report, at any rate.

This, however, is not available at present, the only resources at our disposal being narratives published by individuals, newspaper reports, and what we may have gathered from pumping the more fortunate individuals who got up to the front. Notwithstanding, however, that our sources of information are necessarily limited, it may still be of value to examine shortly how our troops have got on under this last test to which they have been subjected, and see whether our methods of training have brought about results with which we may be perfectly satisfied, or whether there have been faults and shortcomings which it would be well to set ourselves to remedy. In some respects it must be admitted that the test has been a severe one. A particularly mobile enemy, perfectly trained in guerilla warfare, and for the most part admirable shots, they have certainly furnished us with very difficult targets and made the conditions under which we have operated against them as severe as possible.

This, however, for our present purpose is an advantage, for if our musketry training has been found to come out of this test satisfactorily, it may be safely assumed that it would stand the ordeal of service carried out under more civilised conditions, and in a less difficult country.

Now it is acknowledged on all hands that the behaviour of the troops has been excellent, and that the fire discipline and control have been decidedly good. At the same time we hear of the Afridis in some cases inflicting losses on us, when not in any overpowering numbers, at long, medium, and decisive ranges. The losses on our side have been heavy, and it may be said heavy in proportion to the losses which we have inflicted in return.

It may be admitted that this is partly due to the fact that in fighting a foe as savage as the Afridis have proved themselves to be, that the precautions we have been forced to adopt to prevent prisoners falling into their hands, and even to recover the corpses of men who have fallen in action, have resulted in the loss of five rifles for each man put out of action, and in addition to the formation of a number of solid bodies of men engaged in carrying their wounded comrades to the rear, which in their turn have afforded a particularly vulnerable target to the enemy's sharpshooters.

The remedy as regards tactics is outside the scope of our present subject; what chiefly concerns us here is our apparent failure by our fire to keep theirs under, and thus prevent the serious losses which have undoubtedly occurred.

It will be convenient at this point to quote a few passages which I have noted when reading two or three accounts of this campaign, which seem to me to show up the difficulties our troops encountered and in part perhaps how they were insufficiently prepared to meet them.

1. "Lockhart's Advance through Tirah," page 190.—"As long as the tribesmen are as well armed as they are now, and as long as they are such skilful marksmen, with abundant ammunition, and thorough acquaintance with the country, so long will troops operating against them suffer from well-directed fire at long ranges, and be fired into at night without being able to bring their foes to bay."

Again in the same book on page 249, we find :—"Fortunately there were no more casualties in the Yorkshires—for both British and Native regiments had taken a leaf out of their opponents' book, and become most skilful skirmishers. To do so, however, requires *time*, especially for troops brought up to the campaign from districts in India, where the nature of the country is entirely different; but *sooner* or *later* all the troops had adapted themselves to the conditions which this guerilla warfare demanded."

Now if we turn to the account of the Malakand Field Force, by Lieutenant Spencer Churchill, we find on page 285 :—"The tribesmen would dart from rock to rock, exposing themselves only for an instant, and before the attention of a section could be directed to them, and the rifles aimed, the chance and the tribesmen would have disappeared altogether. Better results were obtained by picking out good shots and giving them permission to fire when they saw their opportunity without waiting for the word of command."

On page 184 of "A Frontier Campaign," by Lord Fincastle, the following occurs :—"In fighting of this sort, firing by volleys proved useless and a mere waste of valuable ammunition; while our crack shots, accustomed to taking a deliberate aim at a more or less clearly defined object, were at a disadvantage when compelled to rely solely on snapshots at a rapidly moving foe."

In contrast to these, I will give two more extracts from Lieutenant Churchill :—"The terrible losses inflicted on the tribesmen in the Swat Valley show how easily disciplined troops can brush away the bravest savages in the open." Again, in his description of the night attack on Nawagai, he writes :—"The fire of the British was, however, crushing; their discipline was admirable, and the terrible weapon with which they are armed, with its more terrible bullet, stopped every rush. The soldiers, confident in its power, were under perfect control. When the enemy charged, the order to employ magazine fire was passed along the ranks. . . . Nothing could live in front of such a fire. . . . Valour, ferocity, fanaticism availed nothing. All were swept away. The whistles sounded; the independent fire stopped with machine-like precision, and the steady section-volleys were resumed."

These extracts all agree in showing up the difficulties of hill-fighting against skilful skirmishers and riflemen, also in the capacity of our troops to meet and defeat the same foe whenever he tries to meet us in the open, or attempts shock tactics.

Our inferiority at present in skirmishing and in firing appears to be generally admitted, nay, more, it seems almost as if it was accepted as natural, and at any rate as far as regards the shooting, without a remedy.

Is this, however, the case? If we can show that our men have not been trained to shoot under conditions similar to those by which they have been generally tested in this campaign—if, moreover, it is established that where they have proved more successful and inflicted heavy losses, it has been because the enemy have, as at Nawagai and in the Swat Valley, and again in the Soudan at Omdurman, provided our men with the class of fighting to which their training has made them accustomed—shall we not be justified in concluding that though severe losses were unavoidable in a campaign of the nature of that just concluded on the Frontier, that they were due not only to the difficulties themselves, but also to the want of training of the troops in delivering their fire under the conditions of active service?

To investigate this it will be necessary:—1. To lay down what is required of our men and their leaders, in order that they may be fit to take their share of work at once on the commencement of service. 2. To investigate how far the training they receive now tends to fit them for this purpose.

Now, in firing at an enemy who is an adept at taking cover, and only exposes himself when taking aim or in moving from one position to another, some of the qualities we require in our men are, for individual fire, quickness of eye to spot his position and estimate the distance, and quickness of aim combined with accurate marksmanship to ensure hitting an object which is only in view for the briefest time.

For sectional fire we require:—1. On the part of the men, fire discipline, which includes smart and efficient handling of their arms. 2. On the part of the N.C.O.'s, control of fire, which includes the power of rapidly estimating the distance or picking it up by observation, and the correct application of drill to the tactical necessities of the moment.

These are some of the qualities which we should develop in our N.C.O.'s and men. Is our present system of instruction such as will produce and foster these qualities?

We will now glance at Table B of the British and Native Musketry Regulations, which will show us the various practices carried out every year by the men of each Army. (See Appendix A.)

The particular point which must strike us in examining these two tables are:—

1. Nearly the whole of the ammunition, the expenditure of which is laid down by regulation, is fired at fixed targets and at known distances.
2. That practically no practice in firing under service conditions is provided for, or at any rate insisted on.

Of course, it may be argued that in the British Musketry Regulations of 1898 that the further training of the soldier is left in the hands of his commanding officer and company commander, and that these have some

81 rounds per man at their disposal ; we will for one moment, therefore, place ourselves in their position, and see in what manner the ammunition is most likely to be expended.

Firstly, what are the considerations which will influence the company commander ? 1. He is naturally ambitious that his company may attain the position of best shooting company ; in working for this, he is necessarily guided by the views taken by his commanding officer (who decides which is the best shooting company). If the commanding officer is an enthusiast in the practical musketry training of men under service conditions, he may lay stress on this portion of the training ; but as long as there is a figure of merit, it does not appear that he can avoid (unless he is very strong as well as enthusiastic) being guided, in his opinion, to a great extent by the figure of merit obtained by the various companies. What does this result in ?

Simply that since the figure of merit is founded purely on practices in Table B, that the aim of the company commander will be at once limited to the improvement of his men in these practices only.

Bearing this in mind, what should we do if placed in the position of officer commanding company ?

1. Put all possible energy into bringing up the worst shots into line with the naturally better ones in individual firing at fixed marks and at known distances.
2. Although warned by paragraph 35 of the Regulations that the ammunition is not given for the general purpose of previous practice, we shall naturally take as liberal a view as possible of what is meant by a few rounds to be expended in this manner, since previous practice will materially aid us in arriving at a high figure of merit.
3. Since the commanding officer is to make a musketry inspection of the squadron or company, we shall probably practise the men particularly for this ; and it is only in the case of the very strong and enthusiastic commanding officer already referred to, that this will take the form of practice in firing under service conditions.

There is but little ammunition left after these necessities have been provided for.

Now to take the C.O. :—

1. Part of his ammunition is used in the musketry inspection of the companies.
2. Neither company, battalion, nor brigade field-firing is provided for from any other source.

From remarks made in the annual report on the musketry of the British troops in India and the Colonies, it appears that complaints made by several G.O.C.'s as regards the inadequate supply of ammunition for this purpose are intended to be met in future from this source.

So if the C.O. uses only 10 rounds a man for his musketry inspection, there only remain 30 rounds a man for the whole of the field-firing, which no one can even call a liberal allowance.

To sum up:—It appears that given a C.O. who is very enthusiastic and strong, he may be able to divert a small portion of the ammunition to the special practices mentioned in paragraph 13 of the Musketry Regulations, and respond to the invitation to exercise his and his company officers' ingenuity in inventing such as are interesting and instructive to the men; but he is greatly hampered in the task, and a weak C.O., or one who is not deeply imbued with the necessity of practical musketry instruction under service conditions, may let this part of the work slide altogether.

The 1898 Regulations therefore, while apparently giving a free hand to the regimental authorities to improve the musketry of the regiment in any required direction, really hamper them in such a manner that their energies must be mainly devoted to the elementary and preliminary portion of the work. In the Native Army the expenditure of the whole ammunition, with the exception of an allowance of fifteen rounds a man (commandant's allowance) for testing rifles and other contingencies, is strictly laid down. It will thus be seen that in both Armies the recruit, after being grounded thoroughly and brought to a certain pitch of excellence, when transferred to the ranks is merely exercised so as to keep up his powers of shooting under the most favourable circumstances, and never taught how to face the difficulties which are inseparable from active service.

We have shown there are some thirty rounds for field-firing, and it is not intended to belittle the value of field-firing for the instruction of troops in the particulars which we are at present engaged in advocating, but not only is the amount very small, but field-firing should be looked on as the final test of the shooting powers of the troops under service conditions, and cannot in any case take the place of systematic instruction of the men in the use of their weapons against an enemy, or the group leaders in the control and direction of the fire in the confusion of action.

Since the above notes were written, the battle of Omdurman has been fought, and at first sight perhaps the large losses inflicted there may be taken as a proof that though our troops in India may be wanting in some details of training, that in Egypt at any rate their efficiency has been roughly tested and has come out of the ordeal successfully.

The question then arises, whether this comparative success is due to any difference in the method of training or can be traced to the different character of the test to which the troops have been subjected.

As regards the method of instruction, since the troops in India and Egypt alike are trained in accordance with Regulations emanating from Hythe, whilst the instructors are also trained at musketry schools (the main object of which are, according to the Regulations, "to secure a uniform method of instruction throughout the Army"), it is evident that given a similar test the troops whether in India or Egypt should produce fairly equal results.

Now wherein does the difference lie in the test to which the troops were put in each case?

1. In the country in which the operations took place.
2. In the tactics to which the enemy resorted to in each case.
3. In the weapons with which the enemy was armed.

Now at Omdurman we have an enemy operating in comparatively open country in masses, trusting to weight and numbers; whilst in the Tirah they pursue pure guerilla tactics in an unknown and most difficult country, and seldom show in any masses except at night, relying on their rifles and their knowledge of the country to inflict as much damage as possible.

What is the result? The test in the first case fits in exactly with the class of training which the troops have received, viz., the power of delivering efficient, well-controlled volleys at a conspicuous mark, whilst in the second case the test calls for further qualities, as already explained in both those who have to direct the fire, and those who have to deliver it. The result being in one case unqualified success, and in the other comparative failure.

The results obtained by our present system of musketry training, seem then to be confined to this, that our troops both British and Native are excellently and thoroughly taught to hit a target, either individually or collectively at most distances up to 800 yards, as long as they have the distances correctly measured for them by an engineer, have a convenient butt against which they can note the strike of the bullets, and as long as the targets give them plenty of time to aim and do not move about or only at a fixed rate of speed, in a direction perpendicular to the line of advance. As soon however as the targets are inconsiderate enough to appear at unknown distances for very short periods of time, or move about erratically, both Thomas Atkins and Jack Sepoy are wanting in the experience to ensure their hitting it.

What it comes to in short is, that we give our men an excellent elementary training, but we do not finish their education. What would be thought of a man who entered his horse for a steeplechase, but only trained him on the flat; or if he taught him to jump, only did so at a slow canter? When it came to the race, would not the want of training in taking the jumps at speed lose him any chance of winning?

Such being our position; what is it we require to teach our men in order to finish their education?

We want to train them to be proficient in firing at vanishing and moving objects at unknown distances, and under conditions which require great celerity in taking their aim, and power of observing the effect of their shots. In collective firing, the training of the fire unit commanders requires extension in the direction of:—1. Observation of fire. 2. Application of fire tactics.

Now the amount of ammunition and time which is now expended in the musketry training of our men is already considerable, so that it would hardly be feasible to obtain the results we are aiming at by any more extended course.

Surely it may also be conceded that :—

1. When the men have as recruits been once grounded and brought up to a certain pitch of excellence as rifle shots on the range, that it does not require an expenditure of 200 rounds a man a year to keep them up to this standard.
2. That it is not necessary or even desirable that all the men should be crack rifle shots of the Bisley pattern.
3. That instruction in firing, under service conditions, furnishes practice in shooting generally (on the principle that the greater contains the less), and being of patent practical value, cannot but prove interesting to the men, and thus ensure their taking extra pains.

Up to the present we have endeavoured to show that our present system of training our men to shoot, as carried out in the expenditure of the annual allowance of ammunition, fails to make them perfectly efficient in all circumstances; our task now will be to re-allot the same ammunition, so as to supply the training in those points which we noted as deficient.

Proposed Re-allotment of Ammunition to be Expended in the Annual Course.—Before actually detailing the expenditure of the ammunition by the trained soldier, it will be necessary to remark that it is presumed his training as a recruit has been carried out in the most thorough manner, and that he has been brought to such a state of efficiency as will enable him to profit from a more extended course.

In order then to teach the trained soldier to fire with decent rapidity, and to be familiar with the sighting of his rifle for intermediate ranges, as well as for the stereotyped distances to which he has been confined hitherto, he might expend 35 rounds individually at five intermediate distances, according as the captain or wing commander might settle. To avoid confusion he should be taught to fire always with the same sight and at one part of the objective, viz., a full sight at the ground line; hence no bull's-eye would be required and the target might be coloured khaki. The target itself should be of an appearing pattern, coming into view for a period varying with the distance, thus compelling the man to get his aim within a reasonable time, and teaching him to be on the alert to watch for its appearance. The size of the target should be such as to give him a reasonable chance of hitting it (the sizes laid down in the British Musketry Regulations would appear to be suitable).

On an ordinary four-section range, as is generally used in India, four men would fire together, and the whole company could be put through a distance in a comparatively short time. The marking should be one

point for each hit, the results signalled down after each party has fired, as is done in the British course when firing rapid individual.

The value of the practice should be shown by a percentage.

It cannot be disputed that the method in which a man has been instructed in time of peace has the greatest effect on him when he is serving under conditions of great stress, as occurs on active service.

If we teach our men in individual firing to do it in the most deliberate way, and to take as long over their aim as they like, is it likely that on service they will be able to shoot with accuracy, when they are necessarily hurried?

Personally, I am convinced that it is all a matter of practice, and that within limits a man can be taught to fire rapidly and accurately, and that if he has been so taught he will be the better prepared for war.

It is to be noted in connection with individual firing, that in India, at any rate, a vast amount of ammunition is expended in rifle meetings, both district and presidency meetings, and also in preliminary firing before the annual course begins, the ammunition being provided out of regimental rifle clubs and from the sale of empty cartridges and lead; and that in consequence a large amount of practice is afforded to the soldier in individual firing, apart from whatever is allotted to it from the annual allowance.

We now come to *sectional* practices, and which we will divide up into two parts:—1. Range practices. 2. Off-range practices.

For the sectional practices *on the range* we allot 20 rounds to be fired in volleys, and 10 rounds to be fired in independent. The volleys to be fired at intermediate distances between 500 and 800 yards, and the independent at distances under 500 yards.

The targets should be much reduced in size from those used in the annual course of the Native Army, but like them coloured khaki.

The following dimensions are proposed:—

Up to 500 yards	-	-	-	-	2½ feet	×	6 feet.
„ 800	„	-	-	-	3	„	× 8 „
Over 800	„	-	-	-	4	„	× 10 „

All sectional practices should be carried out by the entire company, divided into sections and sub-sections, as on service, simultaneously and concurrently, in order to accustom everyone to the noise and disturbing influences caused by the firing of the neighbouring sections.

All snapping, fitting cartridges, and such like practices being strictly prohibited.

The target appearing being the signal for fire to open, whilst its disappearance in like manner would be the signal for it to cease.

In independent, fire should be stopped by whistle, and turned on another target for a time, or else a volley fired, and then independent resumed. This would constitute the obligatory course on the range.

In carrying out all practices with ball ammunition on the range, more stress should be laid on representing as far as is possible some of the conditions of active service.

The usual way in which collective firing is carried out gives no idea of there being any other object in view than to put as many bullets as possible through an obviously inoffensive and conspicuous target.

Without exaggeration, the general procedure is much as follows :—

The sections which are to fire are leisurely marched up to the firing point, probably halted for some minutes standing, whilst cartridges are handed out and arrangements for their comfort are attended to.

All this time the targets (representing a peculiarly bold but perhaps incautious foe) are staring the party in the face, but taking no other interest in their proceedings.

Finally, as likely as not, the sections commence by snapping a couple of times before proceeding to business (in order to get them steady).

The style of work just described has long jarred on myself personally, as no doubt it has on others; the bugbear of a figure of merit, however, works against more practical methods; the regimental officer thinks that without this coddling of the men they will not be able to get so many hits on the target, and that therefore his shooting will compare unfavourably with others. Three seasons of inspection work have given me now some experience of different regiments, and of the amount of this coddling that they find necessary, and as a general rule I have found that the less there is, the more self-reliant are the men and officers when called upon.

Finally, last year it was my fortune to see a regiment where the very opposite plan had been in operation for some years, and the difference in efficiency was something remarkable; whilst at the same time the figure of merit was quite one of the best in my circle.

In this regiment all the preliminary and elementary work of drilling the men to work together, etc., is carried out at the proper place, viz., the parade ground, and when the company or companies (for they as often as not have two companies firing together at contiguous ranges) come on to the range they at once behave as if the targets really did represent an enemy; they are brought on to the firing points in the formation in which they are required to fire, and commence the practice without a moment's delay. The result being that the men are not kept dawdling about, and take twice as much interest in the proceedings. Also being thoroughly accustomed to the sections or companies on the flank firing at the same time, they take no notice of them, and fire as good crisp volleys under the more difficult circumstances as other corps manage to do when firing each section carefully by itself.

We now come to the second part of the sectional practices, viz., those to be carried out off the range. The importance of these practices does not require to be insisted on, the only question being the provision of suitable ground. It will be well first of all to state roughly what our requirements are, and then see what chance we have of supplying them.

1. *Extent*.—Depends on the number of troops using it at a time, and the nature of the ground behind the targets.
2. *Nature of Ground*.—Depends on what is available, almost any kind of ground can be made of use. If cultivated, arrangements must be made either to fire at such times as the crops are off the land, or to make such arrangements as will avoid damage being done.
3. *Firing Rights*.—These must differ with different places according to local circumstances; in some firing would not be restricted, whilst in others it would more or less.
4. *Proximity to Barracks*.—This again would vary according as ground could be obtained; if some distance, arrangements would have to be made for the troops being encamped and getting through the whole of this portion of the course at one go; field-firing and company training might also be worked in at the same time, with advantage possibly.

I have only touched on these points with regard to England, as in India these difficulties do not exist, or only in a very modified form. In England, however, we see the Government making a great deal of the few small steps that they have up to date taken to secure land for even manœuvring purposes and for ranges. If, however, it is once recognised that the proper training of troops cannot be carried out without facilities for firing on rough ground being provided, a way will probably be found, even if it necessitates legislation.

Of course, it is easier to arrange in India, where there is more unoccupied land, but even there it happens as often as not that part of the ground which is utilised for field firing or manœuvres, is cultivated, and the rights of the *ryat* are as strictly enforced there as at home. It is only the fact that in India the absolute necessity for field firing at any rate is so fully recognised that these difficulties are there got over, generally by paying compensation for actual damage done. The time of year selected is naturally when the fewest crops are standing, but in any case with care the damage done is small, and the full value is obtained in the instruction afforded. In the field firing at Mhow in March, 1898, for instance, the damages came to Rs12, and this though some of the ground was under poppy cultivation, probably the most valuable crop in the district.

Well, having got our grounds available, the next question is, What are we going to do with it?

In addition to carrying out certain fixed off-range practices, which will be detailed later, we want it for carrying out small tactical exercises with ball, and any experiments for which the range is not suitable; in fact, we wish to have these grounds as miniature Okehamptons for the training of the men under service conditions. They should, therefore, be fitted up with a number of pits for working the targets, so disposed that it may be possible to represent a force in any required part of the ground. There should also be a store containing a supply of targets (moving, vanishing, etc., described later), which, together with the pits, would make it possible to represent any action which "the enemy" might

be required or likely to take. These grounds could be gradually constructed by the labour of the troops, and in India a portion of the field-firing money, instead of being allowed to lapse to Government, might be utilised to defray the expenses.

We will now go on to detail the off-range practices, but before doing so it will be well to first see how far we have got towards training the men for active service.

We have now taught them to aim quickly individually, to work hand and eye together, also to note for themselves where their shots are going to, and not to depend on having the exact position of the last shot shown them by a disc on the target. In sectional practices, we have given the men practice in fire discipline, and tested them under conditions somewhat more resembling the noise and confusion of action than they have been previously accustomed to ; in addition, we have taught the unit commanders the elements of fire control, how to maintain it under difficulties, and how to observe the effect of the fire.

We have now to make the men practically proficient at moving and surprise targets (individually), and to teach the unit commanders how to pick up a totally unknown range by trial volleys, and how to apply drill movements to the tactical requirements of the moment, so as to be able to bring his men rapidly into position to fire, and then to be able to deliver the fire with the greatest effect.

Off-Range Practices.—Ten rounds per man expended in skirmishing over the rough practice ground from 600 to 150 yards of the targets (heads and shoulders), which should appear at irregular intervals for periods of 10 seconds at a time, should soon teach the men to use hand and eye together, and their wits to see where their shots were going, and make the necessary corrections. Also being carried out on rough ground the use of rests and cover could be properly taught.

Twenty rounds a man for section volleys at intermediate distances between 500 and 1,000 yards, and 10 rounds for half-company or company volleys over 1,000 yards (neither the distance nor the position of the target being known) would teach the fire unit commander much in the direction of observing and controlling the fire, and also in handling his command.

The targets should be surprise ones, and appear at irregular intervals of time, for a period of 15 to 20 seconds. The first appearance being the signal for the company, which should be on the move, forming in its direction and opening fire.

Independent fire should be practised within decisive limits (up to 500 yards), and for this 10 rounds are allotted and two rates of fire instituted :—

1. Deliberate, the men working in pairs, one observing whilst the other fires, and *vice versa*.
2. Rapid, as fast as they can fire with efficiency, British troops with magazines.

The fire should be altered from one rate to another occasionally.

In carrying out these off-range practices, as free a hand as possible should be allowed ; the superintending officer being encouraged to think

out for himself what particular principles he is desirous of instilling into his unit commanders, and what particular nature of practice he wishes to afford his men. For this reason all details of firing positions, formations, etc., have been purposely omitted.

With the same idea, it might be distinctly of benefit to allow the superintending officer to amalgamate any two or three lots of practices together, so as to form one united practice.

For instance, the 10 rounds over 1,000 yards might be all fired together, two targets being employed (not necessarily at the same distance) and fire directed first on one and on its disappearance on the other. In the same way with volleys between 500 and 1,000 yards any two or three could be combined, and indeed it should be permissible to combine the volleys with the independent, and thus practice changing from one nature of fire to another. Working in this way, a number of useful combined exercises might be worked out by an intelligent commander.

The difficulty of observation of fire is recognised in a short paragraph in the 1898 British Regulations, and a few rules are given for guidance. That it should receive attention is obvious, but how it is to be obtained under the conditions of the present annual course is not so clear. With the exception of field-firing and long-range volleys (the last of which is not obligatory), all the collective fire is practically carried out on the range at known distances, and under these conditions there is really no scope for it. It is hoped that by arranging that the range practices should be fired at intermediate distances, that something may be effected as a preliminary step, by forcing the unit commanders to watch the fall of the bullets and correct the elevation accordingly.

In off-range practices a further advance should result, as now there is absolutely no clue to the distance. In order to teach the method of picking up the range in a systematic manner, a leaf might now be taken from the Artillery Regulations. The method referred to is of course that of the long and short brackets. An instance is given to show how it works. The correct distance of the target is 1,580 yards. The company commander estimates it as 1,400 yards (or takes the distance by range-finder, as the case may be).

Company commander:—"Fire half-company volleys from the right at [the target] 1,400 yards."

The first half-company commander fires with an elevation of 1,400 yards, and naturally goes short.

Company commander to left half-company commander:—"Elevation 1,500 yards."

This volley also goes short, of course.

The right half-company then fires with an elevation of 1,600 yards, and goes just over.

The next correction is to 1,550 yards, which is probably sufficiently close to drop the majority of the bullets about the target; if not, a further correction to 1,575 yards is made.

In this way a range is automatically picked up. The illustration we have given is purposely not too favourable a one, the object being to

show the certainty with which a range can be found, even when the first estimate is a bad one.

The instruction which is now given in fire discipline and control, as laid down in the Regulations, under the form of three exercises, has done much to improve the drill, and give life to it; as also has the introduction of the system of continually opening fire on different objects during battalion drill. It is recognised in paragraph 149 Musketry Regulations that this instruction is a preparation for carrying out collective practices on the range. But as has been shown, the provision of fixed targets, and the fact of there being no time limit imposed in carrying out these practices, has had the result of misleading officers into thinking that this application of drill to fire tactics when on the range is quite a secondary matter.

I have found in the course of my work that this has further resulted in a partial paralysis directly ball ammunition is issued. An instance will perhaps best explain what I mean.

Last year I was asked to prepare a few simple schemes by which the G.O.C. could test the musketry efficiency of the corps in the station in a practical manner off the range. As the time at my disposal in which to get the targets ready was very short, I was limited to particularly simple arrangements. They were as follows:—

I had three pits dug, placed in echelon to each other at a distance of, say, 100 yards apart; each pit had two targets, one in front and one behind.

The instructions to the men working the targets were, on the "G" sounding, to commence pulling them up in turn, commencing with the furthest pit, and with the furthest target. The first target to be in view for 20 seconds and then disappear, the remainder to be in view for 10 to 15 seconds each. The result aimed at was to represent a body of cavalry passing across the front obliquely, each target as it came into view showing the position of the cavalry at that particular moment.

A red flag was put up at the firing point, which was distant some 300 to 400 yards from the nearest target.

A company each from the British and Native regiments in the station were selected to fire, and were placed at some distance from the flag. They were given the following instructions:—

March your company as the main body of an advance guard towards the red flag. When nearing it you will see a target come into view; this represents a body of cavalry crossing your front. You will form in its direction as quickly as possible and open fire. This target will remain in view only 15 to 20 seconds, after which it will be replaced by other targets appearing and disappearing in turn, and representing the successive positions of the cavalry. You will open fire on each target in turn, till your 10 rounds are exhausted.

Well, the company marched up; when they were approaching the red flag the "G" was sounded, and the first target duly appeared. The company was halted and knelt down without forming in its direction, which was rather oblique to its front. Then there was a painful pause,

and nothing further was done till the target had disappeared after the stipulated time. They managed to wake up in time for the second target, but were considerably flustered, and the results were far from satisfactory.

The only reason I could find for the want of promptitude in opening fire was that they were quite unaccustomed to open fire with ball ammunition at once on seeing a target, and were waiting to hear the bugle sound the "Fire," and to get themselves comfortable generally.

The Native regiment made similar delay, and the G.O.C. observed that this sort of thing wanted more practice.

It has been sought to supply the practice, in the proposed course which we have been suggesting.

In addition, 30 rounds a man should be allotted to tactical musketry instruction, the instructor being hampered by no regulations, and only required to formulate some four or five schemes.

These schemes may be varied to any extent, and with the aid of moving and surprise targets of a cheap and simple construction any idea may be carried out with a very fair approach to realism. Generally speaking, the principle to be observed would be that each scheme should seek to be as free of complications as possible, and to teach some particular lesson, or illustrate some particular phase of an action which might occur on service.

As an illustration we give the following:—

The company is sent out to reconnoitre and bring back information of the strength of an enemy which is known to have taken up a position in a certain locality. For this purpose it is extended in skirmishing order with its scouts in front.

The scouts find a few of the enemy extended (represented by gurrals), and open fire. Shortly after a surprise target comes into view, and is taken as a sign that the enemy are strengthening the post, and that in order to obtain any more information it will be necessary to call in the scouts and to thicken the firing line, which is accordingly done.

As the attack develops, a moving target representing a counter-attack on the part of the enemy advances from one flank or the other.

The company commander has then to make his own dispositions to meet and repel the same.

Five to 10 rounds should be expended in each scheme, one or two of which should be carried out during company training, and made to illustrate some particular incident that has cropped up during the course of the previous work. One scheme might well be carried out at the end of the training before the commanding officer as a test of the efficiency of the company.

The schemes just described would take the place most effectively of the old company field-firing. For field-firing in brigade, or for regimental field-firing, we would put aside 40 rounds per man, which should allow of something more realistic being carried out than is possible with the meagre allowance at present available. At the same time it would be advisable to give the G.O.C. a free hand as to its expenditure. For

instance, it might occur that in his command one regiment might be so placed that it was temporarily unable to take part in field-firing with advantage. In this case, he should be perfectly free to transfer the ammunition to other corps which could make a more profitable use of it. Fifteen rounds a man remain to be disposed of to complete the 200. These will serve to meet all contingencies, such as testing rifles, and as a company officer's allowance.

A few remarks regarding surprise targets may be of value. Their use is persistently recommended in the 1898 Regulations, but no description of them or how to work them is afforded, with the exception of a vanishing target worked on an iron pipe, which is a very inefficient one, since it affords no variety in the position of the target after each disappearance, and has other defects.

The general conditions which this style of target must fulfil are:—

1. Simplicity; so that they may be made up in any regimental workshop and kept in repair.
2. Cheapness.
3. Safety in manipulation.

The usual effects we wish to represent by their use are the following:—

1. The firing line coming up into view as the men rise to fire.
2. Supports or reserves coming up to reinforce the firing line.
3. Flank or counter-attacks moving.
4. Cavalry charges.

Generally speaking, by adopting a system of surprise targets, which can be raised and lowered at will from different positions, and a few moving targets, we can represent most phases of an action with sufficient realism.

The surprise Target A (Sketch A) can be worked from a pit or other shelter, and as one man can manipulate three or four of them at any distance up to about 50 yards from the shelter, it only requires a little combination of them to produce any desired result.

Sketch B is a target which has, I believe, been used by artillery, and is useful when it is required to bring a large number of targets into view at once.

Sketch C is the very best moving target I have come across. It was designed by Captain Rodwell, R.H.A., for use at an artillery camp. It has the great advantage of lightness and springiness, and can be worked, in consequence, over any ground. At the Mhow field-firing it was pulled over fields of jowari stubble with long thick stalks with perfect ease. By attaching it to a gun limber or to a pony, it can be brought along at a fast gallop.

Sketch D is adapted from a Russian paper, and would be used to represent the advance of a skirmishing line, where the men sink into a kneeling position to fire after each advance.

All these targets can be easily and cheaply constructed and kept in repair. For India, bamboo is perhaps the best material to form the framework, as it is cheap, light, and strong.

In perusing reports of field-firing in India and at home, I have found that it is very seldom that any but fixed targets are used to represent the enemy. In an attack on a prepared position it is often the case that only the targets representing the supports and reserves are touched, these being often of considerable size, and perpetually standing, naturally draw the fire sooner than the heads and shoulders of the firing line. Of course, in reality these should only appear when it is desired to represent the reinforcements coming up to the firing line; this can only be simulated by the use of disappearing targets.

Some little trouble is involved in working surprise targets, but after one has got familiar with their use this is greatly reduced, and the benefit obtained is ample compensation.

We may now proceed to tabulate the whole course which it is suggested should take the place of the present one.

Individual Fire—Range Practices.

Thirty-five rounds at seven intermediate distances from 200 to 800 yards, with time limit at surprise targets.

Sectional Firing—Range Practices.

Twenty rounds section volleys from 500 to 1,000 yards, at surprise targets, with time limit (whole company practised simultaneously).

Ten rounds independent, under 500 yards, surprise targets.

Off-Range Practices.

Ten rounds individual skirmishing, between 600 and 150 yards, at targets appearing and disappearing at irregular intervals.

Twenty rounds sectional volleys, between 500 and 1,000 yards, at targets appearing irregularly at intervals of fifteen seconds.

Ten rounds half-company or company volleys over 1,000 yards.

Ten rounds independent, at two rates of speed, under 500 yards.

Thirty rounds for tactical musketry schemes under the supervision of the captain.

Forty rounds at the disposal of the G.O.C. for field-firing or experimental fire.

Fifteen rounds commandant's allowance, and for contingencies.

Total—200 rounds per man.

We have now completed our suggestions as to the best way to utilise the ammunition allowed. It remains to be seen whether the adoption of any such course as we have suggested would affect present arrangements in any way.

First of all, it would be difficult, if not impossible, to affix any standard of merit, at any rate for off-range practices, as the conditions under which they would be carried out by different regiments and even companies, would vary in every case. As the range practices are purely instructional and introductory to the remainder of the course, it would not do to judge a regiment by the figure of merit obtained in carrying them out, though it could be easily enough calculated and rendered.

SKETCH B.

SKETCH C.
Front View.

SKETCH C.
Back View.

Rope for raising flap of
target when in motion.

SKETCH D.

Common country cart wheels.

Position of flap when target is at rest.

How, then, is it proposed that the efficiency of a regiment should be judged? By the opinion of the G.O.C., formed after careful inspection, in the same way as is done in any other portion of a battalion's work,—is the natural and only answer.

As it is, the figure of merit is only a guide, and not always a trustworthy one. And if we want to know the efficiency of a regiment as a fighting machine, it is to this authority we must turn for an opinion, which by taking in all the circumstances of the case is the only reliable guide.

As to tabulating regiments in the order of their supposed efficiency, the present annual report of the musketry in India, which publishes regiments in the order of their seniority, and not in the order of their figures of merit, shows that this is now looked at as a matter of smaller importance than it used to be.

One other point affected is the earning and grant of prize money.

The distribution of the grant for range practices would be simple and much the same as at present, but in the case of the off-range practices greater freedom would have to be allowed. In order to assist officers commanding companies or wings in their determination what units and commanders were deserving of prizes under the schemes they had prepared, a system of detailing an officer of another company or wing to assist as umpire, might prove efficacious. It might also prove of advantage in awakening an interest in outside companies as to the nature of the different exercises which different commanders initiated.

I would add that it would be of undoubted benefit if every scheme which was carried out was fully reported on, after it was completed, and those which were found to be of greatest practical value in the instruction of non-commissioned officers and men noted for future use.

So much for our ideas as to the steps which should be taken to make a still further advance in the direction of perfection in musketry training. They depend, of course, greatly on the way in which they are carried out, but to most officers a freer hand will only be an incentive to taking an extra interest in the task of preparing their men for the ordeal of "active service."

APPENDIX A.

STATEMENT SHOWING EXPENDITURE OF AMMUNITION BY BRITISH CORPS, UNDER PRESENT REGULATIONS:—

Table B—British Troops—Individual Range Practices.

No. Rounds.	Target.	Distance.	Remarks.
14	3rd Class	200 yds.	} Deliberate individual firing at fixed distances (known), and without time limit.
14	2nd Class	500 "	
7	"	600 "	
7	"	800 "	
—			
42			

Sectional Range Practices.

No. Rounds.	Target.	Distance.	Remarks.
21	4 ft. × 8 ft.	300 yds.	7 rapid, 7 independent, 7 deliberate volleys.
21	" "	500 "	Ditto ditto.
14	" "	600 "	7 deliberate, 7 rapid.
21	" "	800—200 yds.	Attack practice on range.
<u>77</u>			

(All these practices at fixed Targets—Range known.)

In addition at disposal of Captain - - - 40 rounds.

" " Commanding Officer - 41 "

Grand Total—200 rounds.

APPENDIX B.

STATEMENT SHOWING EXPENDITURE OF AMMUNITION BY NATIVE CORPS UNDER THE PRESENT REGULATIONS:—

Table B—Native Regulations—Range Practices—Individual.

No. Rounds.	Target.	Distance.	Remarks.
7	3rd Class	200 yds.	} Targets fixed, distance known, time unlimited.
7	" "	300 "	
7	2nd Class	500 "	
7	1st Class	700 "	
7	" "	800 "	
<u>35</u>			

Sectional Practices.

No. Rounds.	Target.	Distance.	Remarks.
5	12 ft. × 6 ft.	800 yds.	} Deliberate volleys at fixed targets.
5	" "	700 "	
5	8 ft. × 5 ft.	600 "	
5	" "	500 "	
5	" "	500 "	
5	" "	500 "	Moving.
5	" "	400 "	Deliberate, fixed target.
5	" "	400 "	Rapid.
5	8 ft. × 2½ ft.	300 "	Ditto.
5	" "	200 "	Rapid independent.
<u>40</u>			

Miscellaneous Practices performed on or off the Range (practically always on the range except in case of Field-Firing).

No. Rounds.	Target.	Distance.	Remarks.
10	2 ft. square	100—200	Moving.
5	" "	" "	Vanishing.
10	Optional	600—150	Attack.
10	—	—	Company field-firing.
10	—	—	Brigade or regimental field-firing.
15	—	—	Commandant's allowance.

General W. GORDON (Indian Staff Corps):—I may first say that I was instrumental, after the Mutiny, in introducing the subject of this lecture—the musketry instruction of the troops—into India, and that I was for many years employed at Army Head Quarters in supervising that training. The original regulations for the training of the Native Army were prepared by me, and though the impulse under which the field-firing practice subsequently first came from General Lord Chelmsford, then Adjutant-General in India, I, under the authority of Lord Napier of Magdala, prepared all the orders for that practice, with the sole view of training the troops for actual service in the field. These orders appear to be still in force. The nature of the field-firing introduced in India was largely illustrated at the Delhi Imperial Proclamation Camp in 1876, when a whole division under Sir Donald Stewart, with due proportions of artillery and cavalry, fired with ball. There were many foreign officers then present who were struck with the advantage to the training of the soldier thus practically obtained, and consequently all the principal foreign Armies have also instituted and carried field-firing into their regular practice. I have been too long out of touch with the troops, and with the present editions of the Musketry Regulations, to feel myself able to enter into a discussion of all the details recommended for your consideration by the lecturer. I am sure, however, that they will receive due consideration in India, under the authority of Sir William Lockhart; by Colonel W. Hill, the present able Adjutant-General for Musketry at Army Head Quarters, himself a most accomplished marksman, who also commanded a brigade in the Tirah Campaign, and who is therefore well qualified so far as the Native Army is concerned, to submit the subject to His Excellency the Commander-in-Chief for consideration. But there are two points of principle in the musketry instruction of the Army on which I would submit an opinion. First, the objections to the system of what the lecturer calls “the bugbear” that a figure of merit, and its publication in order thereof, offers to the more practical training by company and commanding officers, in the efficient training of the men for service. In my humble opinion, this system should be much modified, if not got rid of. I felt the objections the lecturer raises before I gave up, in 1878, the position I then held at Army Head Quarters in India. I think the publication of results of the annual course should be given, as in the Army List, by seniority, and that the figure should be confined to the important individual firing at fixed targets only, leaving all collective practices at other distances and objects, to be carried out as the responsible commanding officer may direct. The commanding officers and generals of the present day are in a very different position as regards their capacity to supervise musketry training than they were in the days when that instruction was first started in the Army. All I would suggest is, that generals should base their annual reports of inspections as carried out on a more lengthened acquaintance with the men's practical efficiency in the use of the rifle under service conditions than has hitherto been customary. They could do so

somewhat under the plan the lecturer has submitted—a plan I myself followed when a general officer in command of a district. The second point to which I would draw attention is the length of time lost by the troops in opening their fire, and in getting aim, the dwelling on aim, to which the lecturer refers. Go to the Bisley camp and watch a squad of the finest shots in England firing for the Queen's Prize, and see the time, from right to left, taken in getting into position, and then, after the rifle is in the shoulder, you may often count fifty, as slowly as a watch ticks, before the rifle is discharged. I entirely agree with the lecturer on this point. If the competition at Bisley is to prepare for such shots as the lecturer demands for frontier service in a country like Tirah, the Queen's Prize should be at disappearing targets, and then a limit of time for getting aim would necessarily follow. I maintain that for practical musketry training some important change in this direction is desirable. I think the lecturer must have been somewhat unacquainted with some of the older regulations issued regarding the training of the troops in India under service conditions. In the Indian Appendix of the British Musketry Regulations, published in 1876, and in the Native Musketry Regulations for 1877, the last I prepared, these conditions are especially dwelt on, though perhaps not sufficiently so, both for the collective practices and for field-firing. Firing at moving objects and also at appearing and disappearing targets were then also required to be practised, and in very many places carried out. I have to again welcome the advanced nature of the lecturer's ideas on these important subjects. Some of his recommendations may be found impracticable, but many are so excellent that I hope to see much benefit from this discussion. There is not a single instance recorded during the Afghanistan war of 1878-9-80 of any want of efficiency in the use of the rifle by any troops employed under Sir Donald Stewart and Lord Roberts; neither was the state of the arms (Martini-Henrys and Snedders) nor the condition of the ammunition found in any way defective. I think, therefore, that some of the strictures regarding past want of consideration of service conditions and of neglect are hardly due. By all means let us progress. There can be no standing still in musketry or in everything else. I might offer some further remarks as regards the selection of ranges, the position and light thereon, but I have said enough to show that, in my humble judgment, the training of the soldier for service conditions should not be to make it easy to establish a target figure of merit, but to accustom him to meet all the difficulties for effective fire against a wily and determined enemy in a difficult country and in the varying aspects that light may cause.

Lieut.-Colonel J. G. COCKBURN CURTIS (late Oxfordshire Light Infantry):—The lecturer has shown very clearly how great a hindrance and obstacle is the system of having a figure of merit to the practical training of the soldier for battle-firing. The same arguments and considerations which the lecturer has brought forward apply with equal force, if not greater force, to our system of giving prizes. Our system of giving prizes renders it practically impossible for a war practice to be carried out as if it was really a war practice. It makes it the interest of section commanders and men to evade the very difficulties which it is the intention of war practices to teach the soldier to overcome. There is another very great objection, to my mind, in giving prizes for musketry. It gives rise, in the minds of civilians, to the belief that there is something in musketry which is not part of the ordinary duty of the soldier. My own experience in teaching the soldier is that anything which has a clear reference to his training for war he uses his utmost endeavours to learn; therefore it would be only necessary for a more practical method of instructing the men in battle-firing to be adopted, for the men to take the greatest possible pains in their firing. It will be within the knowledge of most of us that shortly after the regimental musketry specialist—the musketry instructor—was abolished, a very great improvement in musketry took place. Musketry instruction, which was formerly considered

the duty of one officer in the regiment, was then recognised, rightly, as being the duty of all officers. Up to now this principle, curiously enough, has not been considered to hold good in the case of staff officers. What branch of musketry, I would ask, is there which should not be known to every staff officer? I have been a musketry staff officer myself, and therefore know something of the duties which are carried out by musketry staff officers, and I know not which of the duties of the musketry staff officer there is which could not in the Regular Army with advantage be carried out by commanding officers of regiments and by the ordinary staff officers of a district.¹ Were the Hythe instructors appointed from officers who have had the advantage of the tactical training given at the Staff College, instead of, as at present, from officers who are simply good drills and shots, the musketry training for war of the Army would, I think, rapidly improve.

Major F. N. MAUDE, *p.s.c.* (late Captain R.E.), 1st Hampshire Royal Engineers (Volunteers):—I came in just in time to hear a little anecdote which really rejoiced my heart, viz., the description of the field-firing day, when a company marched up, the "G" sounded, the target appeared, but the company was not square to the line of fire, and before it could get into the new front the target disappeared, and nothing was done. For years—I should not like to say how many field-firing days I have attended in India, Aldershot, and elsewhere—I can recall similar instances, and everywhere one noticed the slowness with which the firing bodies got on to their target, and the reason was, as Colonel Curtis just now suggested, that the musketry instructor was one person and the adjutant was another, both working to obtain different results—the former wanted a good figure of merit, and the latter cared only for smartness on parade, and between the two the fighting efficiency was forgotten and fell to the ground. This was before we began to get into field-training ways, before the marked improvement which has taken place in the last few years began to be really manifest. I was a great deal in Germany at the time, and I had much opportunity of seeing the German officers working in what we now call company field-training. There, although the drill is most accurately and precisely laid down, still with regard to firing exercise and words of command, great latitude was allowed to the captain. Where we laid down in the old days that you first of all marched up the company, dressed it, gave the word "At so many hundred yards . . . volleys, independent," and so forth, and then the word "Ready!" they would generally drill simply at the words "Halt!" "Ready!" and as they gave the words "Halt!" and "Ready!" simultaneously you saw every rifle come down horizontally, and the men were ready for anything that turned up. All this time they were drilling at moving targets. They sent out files to different places on the ground, and then changed front or formation, and opened fire from the new alignment, and as they formed up every rifle came down at the "Ready!" each man with his eyes on the object, never looking down. That alone gave a wonderful idea of their drill. After several weeks of this company drilling you can hardly wonder that they were smart and ready when the big manœuvres came on. I was present at these in 1883, and there I recall an instance of the kind of thing that does happen, may happen, and has to be allowed for on service. Two long opposing lines of troops were closing over undulating ground, cavalry patrols had withdrawn, and there was nothing whatever between the two opposing sides. One side came on with the usual skirmishers, a strong firing line with supports and reserves behind. The other side was an ordinary two-deep line marching up the hill ready for anything that turned up. The two lines met at the top of the hill and it was a very curious thing to see what happened. The first line of skirmishers, the

¹ If figures of merit and musketry prizes were abolished, more than half the work now carried out by musketry staff officers and Hythe would cease.—J. G. C. C.

moment they caught sight of the enemy, threw themselves down, and as they did so a roll of the hill concealed their object; but the other side which did not throw themselves down but simply gave the words "Halt!" "Ready!" sent volley after volley into the supports over the heads of the lying-down infantry line, whose fire was masked by the aforesaid undulation. The umpires rode up—Moltke was only 500 yards away—and they put the extended line out of action at once. That gives an idea of the immense power which resides in, as the Yankees say of their pistol firing, the man (*i.e.*, troops) who is "first on the drop." I cannot see the object of drilling troops, if it is to take them, as General Gordon said just now, fifty seconds to get a volley off. But it is a fact, and we know it, that they often do. You want to see a body of troops when it is brought up, open just like a quick-firing battery in action, volley after volley following quickly down the whole line. It could easily be done. There is no reason whatever why we should not train the infantry to actual perfection, each section of a company to deliver its fire as steadily, quickly, and effectively as a quick-firing battery on the coast does now and with the same words of command. With regard to the figures of merit, that question has been a stumbling-block to everybody. If you have a good general, what other figure of merit can you possibly want than the general's opinion? Do you want to see it worked out in decimals? We all know that such comparisons are worthless for practical purposes. The light may be different and everything different. But if Lord Roberts rode up and said:—"You men shoot better than any others in the Army," do you think that we want any higher praise than that? And it would be a move in the right direction the moment we clear our minds of the semi-sporting pot-hunting element. It is the curse of the Volunteers, and has been the curse of everybody for a long time. If we would only realise that the object of all military training is to teach troops to kill the enemy in the field, and not to avoid getting killed themselves, we should get a better, steadier, and far more reliable infantry in action than all the pot-hunting at Bisley and elsewhere will ever give us.

Major POLLOCK (late the Prince Albert's Somerset Light Infantry):—This very interesting lecture to which we have listened this afternoon is one which, it so happens, appeals to me possibly more than to anybody else here, because the subject is one which I chose for an article in the *United Service Magazine* in August, 1897, and I see that a great deal in that article is in perfect agreement with this lecture, and that is to me all the more gratifying. I should like to narrow the discussion a little bit, and bring it down to the elementary matters to which I think the lecturer rather intended it to be confined. I take it that successful shooting in the field and everywhere else depends on three things: the soldier, his drill, and the officer who handles him. The soldier, I think, comes first. Drill cannot make anything of a man who cannot see, for instance—nor can the officer. That is only one example. Now my opinion of musketry training is that you take a recruit, and the first thing you want to teach him is to shoot in the ordinary way—make a mechanical shot of him. Then when you have got him so that he can hit a target, spend plenty of time in letting him try his hand at moving and vanishing, running man, or anything of that sort. But it is an absolute waste of ammunition to set him at targets that run away from him, or at him, or round him, until he can hit a fixed target. In this connection I think that we might learn a great deal from the Volunteers. In the Volunteers a man is not permitted to shoot in the second class until he has made 45 points in the third; similarly, he cannot shoot in the first until he has made another qualifying score in the second. We take a man who cannot hit a target at 300 yards, and run him clean up the range only to pour so much lead into the butt, or the sea, or whatever it may be—anywhere except the target. I should like to see the greater part of the ammunition put practically into the commanding officer's hands, leaving him, in conjunction with the company officer, to settle what individual men are fit for, and to

employ them accordingly. If you have a man who cannot shoot, try and teach him to shoot. If you have a man who can shoot, teach him then to be a field shot. The Boers have a reputation for being wonderful shots—or rather, they used to enjoy that reputation. The reason those Boers were such good shots was because they had constant practice on the veldt buck. But shooting at marks, say a gin-bottle or an ant-heap at 100 yards, the average Boer was nothing very remarkable. I have myself shot successfully against Boers, though I never was a good shot. I can remember an occasion when four British officers, of whom I was one, shot against a Boer and beat his head off. Next day that Boer took us to some favourite hunting-ground where there were lots of buck, and he killed more than all four of us put together—because he was practised as a field shot, and we were not. This is what the lecturer has been telling us, that our men need to be trained as field shots, under service conditions. But it is no use attempting to train a man under service conditions until he has shown that he can hit a fixed mark. Let us go for having the soldier first taught to shoot, and go on making him repeat, repeat, and repeat, as they do in the Volunteers, until he qualifies. A man may have to repeat the third class say three times, and perhaps not get out of it then. Let us try and apply the same thing to the Regulars, and not let men waste their ammunition in shooting at ranges at which they cannot hit at all. There is one particular matter in the lecture which I should like to notice before I sit down, and which is the soundest point of all, I think. It is with regard to abolishing the round bull's-eye in the centre of the target. I believe I can be more brief by reading my own words from the *United Service Magazine* than by attempting to say what I mean, now on the spot. In my article I said this:—"At present we teach men to aim at the foot of the target in combined practices, whilst in individual firing we oblige him to aim at the centre. This does not seem right. More consistent teaching to aim low seems to be desirable." I think General Hart will agree that this is a point which might be insisted on with real advantage; in short, to abolish the round bull, and to put a straight one up the middle in place of it. Another thing the lecturer has pointed out is the advantage of having large-sized targets. We should practise a man in the third class at a full-sized target 8 feet by 6 feet, and thus have the advantage, if he shoots a trifle high or low, or to the right, or to the left of the part that counts, that you can tell him absolutely accurately where his shot has struck. You have a better chance of knowing what mistake the man has made, and you can put him right. If you can show on the target that the shot was high, the man will believe you—because the marker proves it. But if you merely tell the man that his shot went "high right," and he cannot see that it was so, he probably thinks it was "low left," and will not believe that you have seen it through the glass—because you cannot prove it.

General W. GORDON :—May I say a few words more with reference to what Major Pollock has been saying regarding third-class shots? The question of firing up the range by an entire company was very much considered in olden days when I was at Army Head Quarters. It was considered that if on service you took a whole company into the field, you ought to train and practise it as a whole. If a proportion of the men were first class, one-third, say, second class, and very few third-class shots, and you wanted to employ the company as a whole, you could not pick out all the third-class shots and leave them behind. So that in training a company it is essential that all the men should fire right up the range. Then again, the subject of third-class shots is one which I have very much gone into. I had returns prepared to illustrate what a third-class shot really is, and I found that with the few exceptions of "defect of vision" it was caused very often by simply bad health, by being out of form, and that a man could not get out of the third class for that reason. Now a man may be third class one month and may be a very good shot next month, when he has recovered his health. Therefore I think

it would be a great mistake¹ to go back to the system of repeating the practice in the third class. In the last edition of the Native Musketry Regulations I prepared (of course in India we could not for British troops differ from any of the Hythe Regulations), it was laid down that the third-class shot was not to be further practised, as an Army regulation. The commanding officer could give him such further instruction as he thought fit, but that no more returns of third-class shots were required at Head Quarters. I should like to see the name of third-class shot got rid of. I think it is unnecessary for practical efficiency, because the men are quite anxious enough to get out of the third class themselves. They hate the idea of being called a third-class shot, and there is no necessity for calling them so. All the requirements of the Service will be met by leaving them alone and encouraging them at the proper time to do their best.

Lieut.-Colonel Lord RAGLAN (Royal Monmouthshire Royal Engineers (Militia); late Captain Grenadier Guards) :—Major Pollock has already said nearly everything that comes into my mind, for though I agree with much of what the lecturer has said, I also think he has not laid enough stress upon the importance of thoroughly grounding a man in his shooting when you first get hold of him. To my mind, to take a man who is a bad shot at a fixed mark and try to make him a good field shot, is like putting a chisel in his hand for the first time and telling him to make a cabinet. If a man cannot hit a mark when he knows where it is, it is impossible that he can hit a mark under field service conditions. Captain Mead, in his scheme, makes no provision for any firing by the trained soldier at a fixed mark. I think anybody going deer-stalking would have two or three shots with his rifle at a fixed mark before he went out to try and kill a stag. In the same way, a man who has not fired a shot for many months, before shooting at unknown distances ought to fire at something he knows he has a fair chance of hitting. I know that in the Militia, where men who have not handled a rifle for twelve months, are 200 yards away from a third-class target standing up, often miss, even old soldiers who have been good shots in the Army, and if a man misses two or three times he gets his tail down and he does not try again. I am afraid I am repeating what Major Pollock said, but I want to emphasise it, because I believe that the most important point in musketry is to give a man confidence in his weapon by putting him up to shoot something he can make sure of hitting, when he first begins either his recruit's or his trained soldier's course.

Captain MEAD, in reply, said :—There are very few remarks that I have to make in reply. I do not think there is much disagreement with the main argument of my lecture except on small points of detail. Colonel Curtis said something about prizes, and I fully agree with what he said, viz., that the giving of prizes is hardly required at all, and that it would be much better possibly if they were given to the regiment for the general encouragement of shooting, rather than to the individual soldier. With regard to what Major Pollock and Lieut.-Colonel Lord Raglan said about not allowing men to fire at

¹ I am here arguing only in the case of the soldier having been originally, when a recruit, efficiently instructed as such. All recruits should be kept under instruction till their best power as shots is fully developed. I here give an extract from a letter from a *General Officer* lately received, himself long an instructor of a British regiment—an inspector and a commanding officer of a battalion :—“The weak point in musketry instruction in England is the inefficient grounding of the recruit. As you are aware, recruits, especially at depôts, are frequently hurried through their musketry course, as a mere matter of form, and contract bad habits which it is often nearly impossible to eradicate afterwards. The training of Native regiments in India shows a marked contrast. The teaching in most regiments that I have seen of late years is admirable. A man once properly taught can no more forget how to shoot than a man who has once learned can forget how to swim.”—W. G.

moving targets before they had been properly grounded, I had this in my mind when I wrote out the lecture, but I thought it was sufficient when I remarked that the training of the recruit should be such as to ensure this grounding. I think that the training of the recruit should be made very severe, in fact as severe as you like, and that if he cannot come up to a certain standard he is not good enough for the Service. I cannot believe it at all an advisable thing to have your Army trained with one half of it fit for the purposes of war, whilst the other half cannot be brought up to this standard. The whole must be trained as a fighting machine. Therefore I say that the training of the recruit must be such that he is fit to take his place in the ranks and learn the higher branches. One other remark was about the trained soldier firing at fixed marks. In this connection, a point which I think Lieut.-Colonel Lord Raglan did not notice in my lecture was—I am here, of course, relying on my Indian experience—I said the men in every regiment had an enormous amount of pure target firing all through the year, without reference to the annual course. I think if the regiments are left alone you will find that is quite sufficient.

Lieut.-Colonel LORD RAGLAN:—There are many regiments at home we know who are not in a position to do much firing at all.

Captain MEAD:—My experience at home is nil. In India I know many regiments which fire their annual course two or three times in practice before they come to doing it pukka. That has been my experience. Since I wrote my lecture I found an article in the *Pioneer* which may be of interest, as it shows that they are taking some further steps in India in the direction of musketry training for service. The following is a short *précis* of this article. It points out first of all, that musketry training has been much improved in the last ten years, but that there is still room for improvement in the direction of practical training. It goes on to complain that the recent frontier expedition has shown that except in a few instances, as Chakdara and Malakand, it still takes a quantity of lead to kill a man. In addition to the action already taken by Army Head Quarters regarding the training of troops in mountain warfare, it says that more is still required. "We want not merely to train our troops to crown heights, piquet camps, escort convoys, force defiles of kotals, and effect retirements without serious casualties; they must be so instructed that while defending themselves they can inflict heavy losses on the enemy opposed to them, and to effect this they must shoot straight, at the right moment, and in the right direction." New proposals were started in 1895 at the instance of General Gosset, who urged that field-firing with larger bodies than a regiment could not possibly be made effective, owing to want of ammunition. On this, Colonel Hill (A.A.G. for Musketry) made proposals as follows:—1. Men qualified as marksmen two years in succession to be put through a special course (including long-range and night firing). 2. Third-class shots to be put through individual firing twice. 3. In selected stations, regiments to suspend the range practices for the year and carry out field practices in their place. 4. In the last case the money grant to be handed over to the lead and cartridge case fund, as grants in aid to encourage rifle shooting as a pastime. 5. General officers to be the authority to decide whether the proficiency of the regiment and the suitability of the ground would warrant the expenditure of the ammunition in this way. This system is now to be tried in five regiments of the Frontier Force, the distribution of prize-money is to be left to commandants, and a full report is to be furnished on which the continuance and extension of the system is to depend. As may be guessed from my previous remarks, the only point in this to which I take exception, is the elimination of third-class shots from further training. I cannot see how the Army can be trained as a fighting machine if part of it is, and part of it is not, up to the standard. I think more might be done in the training of the recruits, and that they should be practised to a high standard,

and the men who from physical or other reasons are not able to come up to modern requirements should be got rid of.¹

The CHAIRMAN (Major-General A. FitzRoy Hart):—Gentlemen, when the Council invited me to take the Chair to-day I felt a considerable amount of hesitation, because I hold some decided opinions contrary to our present system of musketry instructions. At proper times and places, on those blank pages in his report where the commanding officer has annually to put, and is directed to put, any observations that he is pleased to make on the subject of musketry, I have not failed year after year, when commanding a battalion, to note down my convictions distinctly. But it would be out of place for me to stand up here in public and criticise regulations that it is my duty to see zealously carried out. The subject is so interesting that I could not resist my desire to preside to-day. The lecturer has taken as his subject the desirability of making musketry instructions follow exactly the circumstances of the battle-field. To use his own words, he said, "The necessity of carrying out musketry training under active service conditions." Of course, he means as nearly as we can under those conditions, because we can never imitate the distracting incidents of the battle-field; and, as he has himself shown throughout his lecture, we can never eliminate from the equation of peace and war, those functions that are formed upon consideration of limits of range, ground, and consideration of public safety in firing. The lecturer has provided us with a great deal of very valuable pabulum for reflection, and I have no doubt that what he said will receive the consideration that it deserves from the authorities both at home and in India. We must, I am quite convinced, distinguish in musketry distinctly between what I call *civilian firing* and military firing. Let civilians by all means shoot as they like; let them take their time over their aim, let them be as comfortable as possible, let them lie down on blankets and mattresses, let them have a tent over them if they please, let them smoke the foresight and paper the backsight, and let some of them arrive at a perfection of firing which is really marvellous. We ought to have nothing whatever, as soldiers, to do with that sort of shooting. Those conditions do not resemble the conditions of the battle-field, and it is not our purpose in the Army to produce a small percentage of marvellous shots, but to produce a minimum percentage of bad shots. General Gordon has made some remarks with which I agree. He thinks that the lecturer has not quite done justice to the progress that has been made in musketry, and I must say that if the Hythe books that have been produced during my service were laid out on a very long table and studied, there would be found to be a very considerable and interesting evolution in musketry. The primitive bull's-eye with its rings, on a ponderous iron immovable target, has developed into something bearing some resemblance to a man, and movable; and at the same time instruction has developed from an effort under favourable circumstances to shoot a captive bull in the eye, into an effort under unfavourable circumstances to shoot a fighting man anywhere. With all this the improvement in the rifle has gone on. By efforts of mathematics, and mechanics and chemistry, a very great improvement has been produced in the rifle and in its ammunition. Colonel Gordon, I think, is justified in saying that more attention has been given to the improvement of musketry than the tone of the lecturer would lead us to think, and you will see all through the instruction which is going on now, and in the introduction of vanishing targets, surprise targets, and so forth, that the principle is quite recognised that if we are going to train a man for a prospective season of snipe shooting we certainly should not, with that objective, put him through a course of stalking sleeping crocodiles. I hope that the time is not far distant when the whole responsibility of musketry training will be

¹ I should like to state that my experience being purely Indian, this remark was made when I had the Indian *Native* Army more in my mind than the Home Army. In the case of the Indian Army the recruiting problem is not so acute as at home.—H. R. M.

given to the commanding officers of battalions as thoroughly as is the training in tactics. Certainly the power now exercised of selecting commanding officers makes such a step much more reliable and easy; whereas in the past it might have been a matter, as you can imagine, of very serious apprehension and difficulty. I do not see that there is any more importance in musketry or any more difficulty in musketry than there is in tactics, and I must say, speaking from my own experience, that I feel quite convinced that if the musketry training of my battalion had been handed over to me as fully as was its tactical training, I could have cheerfully undertaken to improve its shooting, in the term of my command, by something like as much again. I should be very glad indeed if the present system of pay for shooting were abolished. I think Colonel Curtis made some remarks upon that subject which met with a degree of applause which leads me to think the meeting will agree with me. Where you have public money to account for, you at once have Government paper, and you know that the way in which that paper is bound up for interment in the catacombs—I mean for disposal in the pigeon-holes of offices—has given it the nickname of “red tape.” This term is perfectly understood. The manly and cheerful exercise of rifle shooting is entangled in, and hampered by, the mass of red tape which accompanies our annual course of musketry. The abolition of the present system of pay for musketry would at once do away with most of the red tape. I agree with Colonel Curtis that a soldier does not want to be paid for doing his military exercises efficiently. We have a voluntary Army in which men—certainly a great number of them—enlist out of a predilection for that kind of work, and I think that where military exercises are satisfactorily carried on, the soldier really enjoys them. I should certainly not object to the commanding officer receiving annually a grant of money, to be disposed of in musketry prizes as he thinks fit, in the way he does in the cheerful and effective system of battalion rifle clubs. Colonel Curtis said that he objected to prizes as administered, but he did not say that he objected to prizes altogether. I think, perhaps, you will agree with me that prizes may be made a very considerable stimulant, and that if a commanding officer had at his disposal funds out of which he could give prizes for shooting, as arranged *according to his own programme, free from red tape*, it would be a very good thing. I should like to make a remark on the subject of teams. Nothing has been said about regimental teams. I think that some of you may have heard what those teams are. In some regiments teams have been kept for duty, I believe, all the year round, and some teams, I have heard, have been even paid and specially fed, and so forth. At all events, what we arrive at is this, and everyone knows it—the regimental team which shoots for a prize is no indication whatever of the musketry efficiency of the battalion which it represents. I am very glad that you have received that result with applause, because it encourages me to think that my remark to follow may take root. What I would suggest as a remedy for this would be the drawing by lot from the trained men of the battalion the number, with a few over, that are required for the team—the few over, in order to allow for any casualties that may occur, and to ensure the impossibility of filling any casualty by a selected man. In that way you cannot, of course, completely eliminate good and bad luck, but you can arrive at something which approximates to a crucial test of the comparative shooting efficiency of the battalion, by which only the conquest of a challenge prize ought to be esteemed. There is another benefit which would come with it. If teams were selected by an appointed committee, by lot, there would be always the danger of there being inferior or bad shots in it, and therefore you would have this great motive all through the regiment of having as few poor shots as possible, from the very fear that some of them might be drawn in the team. Another subject which has not been mentioned, and to which I may briefly call attention, is quick firing. Our instructions in musketry have been mainly devoted to putting control over fire, and very necessarily so, on account of the tendency

of the man to fire away all his supply of ammunition at the greater ranges, and not to have enough when he comes to the more important and closer ranges; but we must not overdo that. There comes a time when quick firing is of the very greatest importance; it is when the enemy arrives, or is approached, to close quarters. There is then a period when the faster the man can fire, the better chance he has of success. In fact, it would probably be that the side would win which at close quarters poured in the most fire. There remains, therefore, for consideration the exercise of quick firing, which of course can be done, and I have done it myself with my own battalion, by using dummy cartridges in order that a man's fingers may get sufficiently expert in working very fast—but, mind you, for only a short time—a limited number of seconds, perhaps. This leads me on to say that I hope it will be considered by the authorities whether *firing from the hip* shall be introduced. We all know that very good shooting can be made from the hip, and it seems to me that if a man can be trained for a critical time of the action, and at very close quarters, to make his shots from the hip, the side which can fire from the hip will have a very distinct advantage over the side which has to bring the rifle to the shoulder. That will lead on to the matter of repeating rifles. Undoubtedly the nation that first introduces repeating rifles will have gained a great advantage over all the others, and all the others will have to follow suit as soon as possible, for the very reason that at the critical time the repeating rifle will do execution that no other rifle can do. Finally, gentlemen, I must remind you that the Commander-in-Chief, besides his own great personal experience, has at his disposal a far greater amount of valuable information than anybody else; and that not what irresponsible persons think ought to be done, but what responsible persons know can be done, is the foundation upon which the regulations are built on which we have to act. I beg, in conclusion, to thank the lecturer on behalf of us all for his very interesting lecture.

ADDENDUM.—I quite agree with Lord Raglan in his remarks upon the kind of arrangement needful to recruits commencing rifle practice. So long as a man is a bad shot he requires a course of elementary instruction and practice. It would be nonsense for men who can shoot fairly or well, and he is fit for any higher course.—A. F. H.

SKETCH OF PITS AND TARGETS (*See page 247*).

Flag from which firing commenced.

Line of advance of company.