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Publisher: Routledge
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Number: 1072954 Registered office: Mortimer House, 37-41
Mortimer Street, London W1T 3JH, UK

Royal United Services Institution. Journal

Publication details, including
instructions for authors and
subscription information:

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

Military Labour

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Published online: 11 Sep 2009.

To cite this article: Captain C. E. Webber R.E. (1870) Military Labour, Royal United Services Institution. Journal, 14:57, 73-107, DOI: [10.1080/03071847009429431](https://doi.org/10.1080/03071847009429431)

To link to this article: <http://dx.doi.org/10.1080/03071847009429431>

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Evening Meeting.

Monday, February 21st, 1870.

REAR-ADMIRAL SIR JOHN C. D. HAY, Bart., M.P., C.B., &c., in
the Chair.

NAMES of MEMBERS who joined the Institution between the 7th and 21st
February, 1870.

LIFE.

Boxer, Edward W. F., Lieut. R.N. 9l.

ANNUAL.

Hope, G. R., Commr. R.N. 1l.

Thompson, F. E., Lieut. late R.N. 1l.

Hill, G. H. II., Ens. late 93rd High-
landers. 1l.

Parker, F. G. S., Capt. 54th Regt. 1l.

Thurston, W. French, Hon. Asst.-Surgeon

3rd Middx. Art. Vol. 1l.

Gun, Henry R., Lieut. R.E. 1l.

MILITARY LABOUR.

By Captain C. E. WEBBER, R.E.

LATELY, as a member of a Court-martial, I was much struck by the following incident. Three healthy-looking young men were successively convicted of desertion. Each had enlisted in May, and run away in the following December. They had one and all probably tasted the pleasures of soldiering in a garrison town, and eight months was not too short a time for them to have obtained a view of their future career, by the experiences to be picked up in a *Dépôt Battalion*.

As each case was rapidly disposed of, the following replies were received to the questions as to what they had been doing while absent.

No. 1. I have been working in London as a shoemaker, and I'm tired of soldiering.

No. 2. I was helping in a tailor's shop.

No. 3. My mother wanted support, so I worked as waiter at a restaurant (*Anglicised*).

With the additional remark that each man's character was *good*, I will proceed from suggestive illustration to my subject.

It being recognized that the employment of soldiers on work connected with their existence as a body, is a question which may be called "one of the day," it is less necessary to offer an apology for bringing it forward within these walls.

Although Colonel Synge, R.E., Sir Harry Verney, Captain Sloane, of the Sherwood Foresters' Militia, and others, have spoken on this subject at the Institution on former occasions, I believe that, from a practical point of view, all that can be, has not yet been said on it.

It has required the testimony of these officers, together with the interest taken in the welfare of the Army amongst men in other circles,

to help in overcoming a state of inertia which has hitherto existed, and from which it has arisen, that the experience gained by the real giants in the work has been lost to their successors.

It is a melancholy fact that in very large or overgrown concerns, the most valuable information collected by the only persons who are capable of obtaining it, namely, the executive subordinates, is lost sight of, from the inability to understand the necessity for it on the part of the directors.

Hence we see, year after year, officers of energy successfully producing results which are the means of increasing efficiency and economy, but of which no record is taken. It is true that the individual has gained in experience, and the public may consequently gain, but that experience is lost with his expiration of service. In another sense, the growth of the body is not in proportion to that of its individual members.

Notably in the question before us, there have been Officers of Royal Engineers who have successfully achieved wonderful success, not the least part of their labour having been in combating the impediments they met with in a system of opposition to all innovation or unusual process. And it is to be deplored that it has not been desirable to these officers to leave behind them any record of their manner of overcoming all sorts of difficulties. This, on one occasion, particularly struck me on hearing Colonel J. M. Grant, R.E., describe his success in economy and efficiency of execution of work, by a successful application of a well-directed scheme to the whole of the works at an engineer station under his charge.

Much that has been written or said is too full of theoretical suggestions or mere statement in favour of the employment of soldiers on what may be called remunerative labour, but little of it would be of use to a practical man in helping him to start it, or aid those in authority in forming regulations of a fostering nature.

Public opinion has likewise influenced such writers as Captain Sloane and Major Bolton, whose suggestions, like those of the Committee of the House of Commons of 1862, bear mostly on the improvement likely to arise in the condition of the soldier, a line of argument which is never likely, I submit, to produce permanent action on the part of those in authority, who will naturally, if they consider the question at all, look on it only with reference to its immediate economic results; a view of the case of which I am not prepared to dispute the propriety, unless it is accompanied by a sacrifice of efficiency.

While, therefore, conscious that the employment of the soldier will improve him, I would meet the purely economic view by making it compulsory on him to perform all labour arising out of his existence. Thus: Given a number of men whose being as soldiers is necessary to the State, the question arises, can they, if their time is properly disposed of and directed, perform all such labour in time of peace, whether that labour is consequent on their training and discipline as soldiers, or on the production and maintenance of the necessities of life?

If it can be proved that this is possible, then it is as incumbent on those who administer this branch of public expenditure, to see that the

labour which belongs to the public service is not wasted, as it is their duty to guard against the loss of any article of public property which labour has produced.

Many writers deal with the work arising out of the status of a soldier under two heads, styling them military and civil. This remnant of feudalism, for it is such, can be traced throughout the whole administration of modern armies. Here and there we find great Commanders recurring to the advantages of an army having learnt to become self-dependent for existence.

There is a strong tendency on the part of undisciplined soldiery to idleness, in which state the man-at-arms of the middle ages kept his attendant, and the sower of the Irregular Cavalry in India is generally accompanied by his wife; but the reverse, produced in the Romans, the most victorious and the best disciplined armies that the world ever saw, capable of acting in every climate.

As a very poor advocate, I am here to-night to ask this Meeting to consider not only the immediate question of the employment of soldiers on constructive works arising out of their lodgment, but also the general one, that every member of the Service receiving pay from the public funds, whether he be on the active or non-active list, if his time is unemployed or wasted on unproductive labour, is a standing evidence of inefficiency; and that every "so-called" non-combatant member of the army, whether he may be styled military or civil, who is paid for the performance of work while a "so-called" combatant member is available for its execution, represents by his salary a direct waste of public money.

The paper read at this Institution on the 17th January, 1868, by Captain Sloane,* concludes with the confirmatory remark, that the reason of the want of success hitherto, has been, that the subject has not been *placed legitimately before the public as an acknowledged and authorized system of the Army*. In this I am glad to have ground for agreement, although I must point out that his statement of the skilled to the unskilled workmen in the Army being as 4 to 6, is the result of statistics upon the basis of which no reliance whatever can be placed. I am in a position to state from accurate information, that the qualified skilled mechanics in the Infantry of the Line do not number, of all trades, more than 7 per cent.

There is most valuable testimony of Captain Sloane's to the necessity of what he calls an "Officer of Industry" in every regiment—a want which it is hoped the results of this discussion will establish.

His paper embodies all that in a benevolent point of view can be urged in favour of the utilization of the soldier's unemployed time, and is confirmatory of the wisdom of what has been already done in India, and in many regiments, by the exertions of individual Officers. But more than this is required to convince people of business-like qualities, that results will be forthcoming which will repay the cost of organizing and administering, and that the public will be credited with all that now goes into the pockets of persons who contract to perform the same labour.

* See Journal Royal United Service Institution, vol. xii, page 1 *et seq.*

I have read lately with great interest a paper by Captain Beazley, 83rd Regiment, entitled "Suggestions for the Land Transport Service of the Army,"* in which he advocates that the regiment shall be the unit, within a certain limit, for the self-supply of all requisites under the head of transport, food, shelter, clothing, ammunition, and hospital.

But to this admirable suggestion he adds that there is "nothing military in providing food, clothing, pay, arms, and ammunition for an army. Even in the treatment of a soldier, either for disease or wounds, medical not military science is required." On the same principle, there is nothing military in the application of *any* science which war has made subordinate to its uses. Hence Captain Beazley advocates a complete supply establishment for the Army, which, on this ground he styles civil and non-combatant; but at the same time advocates the retention, in their old separate form, of all the departments which have been collected under the Control, forgetting that in this, he is retaining the greatest impediment to his plan of making a regiment complete for all these purposes in itself.

Captain Beazley will, I hope, pardon me if I point out to him that what I think he really means, is. He would have the regiment become self-dependent for all that these local departments, with the assistance of labour from civilians and from other branches of the Service, formerly did for it, and only allow the engineer and supply departments to perform exactly that amount of work which the regimental organization is incapable of. I would add, that such a suggestion as his is incomplete if it does not include a utilization of the labour of Officers as well as of men. Whether sincerely or not, we know that regret is often expressed in the Army, that the work of the junior Officers is not more varied and interesting. In such a self-dependent unit as he describes, the Officers would have to share the superintendence of the work consequent on supply; each one taking up a certain branch under the general direction of the Commanding Officer.

Captain Beazley, I may point out, has also failed to describe how he would propose making this extra work dovetail with the existing state of regimental interior economy; a point on which his knowledge ought to have especially qualified him to judge, and one which I hope will draw out some of the experience of those present to-night in the discussion, to which I am tempted to believe some remarks of mine may give rise.

Lieutenant-Colonel Synge, R.E., in a most valuable paper read at this Institution in 1864, on the "Constructive Service of the Army,"† dwells especially on the probable advantages arising to the soldier from his employment on military works, in making him a more useful man in time of war. It is unnecessary to canvass again the many arguments which Colonel Synge makes use of, as it is probable that most present are ready to concede all that he claims in favour of its extension. In relative importance he places the advantages arising from it as follows:—

* See Journal, vol. xiii, page 564 *et seq.*

† See Journal, vol. viii, page 233 *et seq.*

First. From the military point of view, the effect upon the soldier of employment on military works.

Second. From the constructive point of view, the value of military labour in getting work done.

Six years have nearly passed since the reading of Colonel Syngé's paper. If that Officer had been advocating anything new in principle, or stating statistics which suddenly gave wholly unexpected and startling results, it would not be so much to be wondered at, if, like many chimerical projects proposed from time to time, his statements and suggestions produced no effect. Astonishment, then, is not too strong a description of the feelings of the reader and observer of events, when he finds that comparatively few steps have been taken until last year, when the subject was brought prominently before the House of Commons, to give the public service any benefit that might arise from the trial and organized adoption of a system, which, even when Colonel Syngé wrote, was well known and acknowledged to be promotive of benefit to the soldier as such, and of direct economy of expenditure.

As after the lapse of these years the decision on so important a matter still shows no signs of having been matured, and things remain almost in *statu quo* so far as anything like real action is concerned, I hope I shall not be considered wrong in asserting my belief that it is an entire want of faith in the probable success of any project for the performance by military means of work now done by civil labour, which has produced the unwillingness that exists to further the scheme; except, by encouragement of a nature too negative to effectually aid the cause. It is true, that any very rapidly effected changes cannot be expected from great public departments. But in those six years we have seen the gradual introduction of various beneficial reforms in Army administration and in improvements for the benefit of the soldier by the costly erection of gymnastics, reading, and recreation-rooms, &c.; but in no case do we find the Army accounts show, that any result has been obtained by the utilization of the soldier's time, to the saving of public money.

There can be no question that large sums, especially on fortifications, are annually saved, or, in other words, a very much larger quantity of work than the money would have covered if it was paid for civil labour, has been performed; but the public has not yet seen the statistics. Companies of Royal Engineers and a large number of soldiers of the Line are known to be employed throughout the year; and by indirect means, startling results in saving have become known; but how the public purse is credited with these savings is not shown.

I have only to quote the words of an Officer at the discussion on Colonel Syngé's paper, in support of my statement, viz. :

"Under the suggestion of Sir John Burgoyne, with the approval of the Secretary of State for War, and encouragement of the Commander-in-Chief, some of the military works at Dover and Portland are being carried on exclusively by military labour;" and, with reference to a work at Dover, "At the present time two companies of Engineers and a company of the Line are employed in carrying out about three-fourths; and a very large saving is being effected in consequence." Again, "At another station a company of Engineers, assisted by the Royal Artillery

and Line, have been employed completing a work commenced by civil labour. An exact record is kept, and it shows that a considerable saving has been effected."

It is quite open for any one to suggest, that it is within the range of possibility that all the good work thus done is rendered negative by the fact that many of the vices of administration, due chiefly to an obstructive financial policy, so strongly remarked on by Colonel Synge six years ago, are still in full force.

But, Sir, I do not look to a remedy of these (as that Officer seems to have done) as a means for the promotion of the subject now before us; although I believe many Officers are deterred from encouraging it from a fear of finding themselves face to face with the necessity of adapting it to a system of rendering accounts of work done, of a nature so complicated, that it has been hitherto impossible to convince the minds of those who only have the power of reforming, that anything so absurd could continue for so many years to exist.

I find that, for most of my experience of what has been done hitherto, I must quote from statistics of the work done by the Royal Engineers. It will be for my hearers to consider how far these results are applicable in a modified form to the Service generally, with reference to the conclusions I am led to draw from them.

It has been sometimes stated that the employment of military labour is only remunerative on large new works, and that in small repairs there is a decided loss. An investigation of the case, and a very little experience, will prove the contrary, and will show that there can be no good motive in those whose interest it is to keep up the idea. I am led to trouble the Meeting with statistics on this point, as I feel it is of vital importance to the advancement of the "military labour" question that the real commencement should be made on the work which arises daily on the buildings in which the soldier resides, a work which is at his very door, for which I believe skilled labour enough *now* exists within the ranks, and for which, if not done by him, a civilian must be employed.

The statement which I believe goes far to prove that works on repair produce as good results (if not better), as works on large jobs, is as follows:—

At each of two Home Stations works were carried on almost exclusively by military labour, under the superintendence of Officers of Royal Engineers. At the first, the work was of the last-named kind, viz., extensive new works; at the second they were on repairs and small works of renewal. At each, a company of Royal Engineers formed the nucleus for labour, to which was attached for work, soldiers of the Line, both artisans and labourers. The results were as follows:—

	1st Case.						2nd Case.
Average number of Royal Engineer soldiers employed							
daily	..	..	..	..	..	59	53·6
Average number of Line soldiers	..	..	..	..	..	98	15·4
Totals.. .. .	..	..	..	..	..	157	69

	1st Case.	2nd Case.
Total value of the work done, estimated at the War	£	£
Department contract schedules	9,175	4,690
Value per annum of the superintendence, had the work been done by contract.. .. .	360	568
Total by contract	9,515	5,258
	£	£
Actual cost of the work in labour and materials ..	4,636	2,218
Actual cost of superintendence	612	388
Percentage on plant, with current expenditure of same and other expenses	933	30
Total actual cost	6,181	2,636

From this table we get the following results:—

	Shilling.	Shilling.
Contract value of the work per hour of a man ..	1.465	1.028
Actual cost of ditto ditto	.95	.51
Value of percentage saved	35	50

I would recommend these figures to the notice of the Meeting as perfectly trustworthy. They have been compiled from actual results, impartially and accurately taken; and, I need not add, to those acquainted with a year's work of this kind, that they represent no small amount of labour.

It will be seen that the percentage of the superintendence on the expenditure of large works by contract is	3.92
Ditto, military labour	11
On repairs by contract	12
Ditto, military labour	5.8

The agreement in results with actual facts, is a collateral proof of the accuracy of the information on which the figures are founded. Naturally, the superintendence over the day-work of soldiers is nearly three times as costly as that over the work of a contractor where the supervisor has nothing beyond the passing of the work to do. But there is no such coincidence in the works on repairs, which I believe to be a striking proof of what I have elsewhere referred to, viz., the enormous waste of professional labour which arises out of the manner in which the War Office audit requires accounts for such works to be rendered, a form, which although having a business-like character for some purposes, is very objectionable in this, from the difficulty it presents of detecting errors either accidental or intentional, which may arise in its preparation. Instead of, as in the first case, the superintendence of contract work costing one-third of that over the day-work of soldiers, we find it costs more than double, which is, I think, a most encouraging discovery, and an additional argument in favour of the adoption of the

latter system. It can be gathered, that the percentage saved on works in repairs is more by 15 per cent. than on large works, a fact, which, though it may be in part accounted for in these cases by the varying quantities and cost of material used, is also due to an actual economy of labour and material to which the system under which the work was carried on was conducive.

I shall not attempt to enlarge further on the subject of what has been accomplished under the Royal Engineers, as there are others who, from their experience in Canada, at Portsmouth, Parkhurst, and elsewhere, can give most interesting accounts; but I shall in the first instance describe what was done last year by a regiment which undertook the whole of the repairs in the lines which it occupied at the Curragh Camp.

The same might have been done by any one of the six battalions stationed there at the time; but as it entirely depended on the initiative being taken by the Commanding Officer, where no inducement was offered and some trouble entailed, only in one case out of six was there any real work accomplished.

In the summer of 1869 the 1st battalion, 18th Regiment, being quartered at the Curragh Camp, Colonel Call, C.B. (commanding), undertook to execute the fair wear and damage repairs to the buildings in his charge.

For this purpose he drew from the Royal Engineer stores a quantity of tools of each trade as was considered sufficient for the nature of the work.

The regimental monthly inspection having been made, the work on the requisition was detailed by a Clerk of the works, and the quantity of material abstracted from the estimate.

This material was then drawn from the Royal Engineer stores, being credited in the store accounts against the incidental item, and the work was executed.

When Colonel Call reported it complete, the work was measured and the estimate was corrected, to agree with the actual work performed. The value was then calculated from a Contract Schedule (which had been specially prepared) in two amounts, viz., for labour and material. From the value of the material, 15 per cent. was deducted, being the rate at which it was supplied by the contractor. From the value of the labour, 10 per cent. was deducted (being the average local rate), and the remainder divided by 2, in compliance with the regulations, that a soldier shall only receive half the amount allowed for civil labour. The results being added together, gave an amount equal to —, the actual value of material used, added to the value of the soldier's labour. The value of the material drawn by the regiment for the work was deducted from this, and the balance paid on a working pay-bill to the Officer commanding, who arranged his own distribution of it. If there was any balance of material in hand, the regiment drew so much less on the estimate for the next month's work; thus benefiting in money exactly in proportion to their economy of material.

In order that the regiment should be in a position to carry on the superintendence of their own work in future, I obtained the necessary

authority, by consent of the District Commanding Royal Engineer, for an Officer of the 18th, Lieutenant Twining, being attached to the Royal Engineer Office for instruction. This Officer in three months, by giving his whole attention to what was required of him, obtained sufficient knowledge of trades to enable him to look after works in repair in temporary buildings; and will be able to carry them on in permanent barracks, wherever the regiment may be, if he obtains a little assistance at first from the Commanding Royal Engineer. As far as the clerical part was concerned, viz., knowledge of the schedule, detailing, estimating, measuring, and abstracting, Lieutenant Twining was able to perform all that was necessary with the greatest correctness.

The work performed by the regiment in three months, valued at contract rates, was	£27 13 7 $\frac{3}{4}$
The value of the material issued to the regiment.. .. .	£14 0 5 $\frac{1}{2}$
Deduct amount paid to the regiment for the proportion of the above material returned unused into store	£2 2 7 $\frac{1}{2}$
Actual material used in the works	£11 17 10
Amount paid to regiment on the monthly accounts	£6 0 5 $\frac{3}{4}$
Above amount paid for material returned	£2 2 7 $\frac{1}{2}$
	£8 3 1 $\frac{1}{4}$
Total cost of work as performed by regiment	£20 0 11 $\frac{1}{4}$
Saving to public 27 $\frac{1}{2}$ per cent.*	£7 12 8 $\frac{1}{2}$

Only 2 carpenters, 1 blacksmith, and 1 bricklayer were employed on this work, with labourers where required, 3 very good tradesmen from the regiment, viz., 1 carpenter, 1 blacksmith, and 1 plumber being employed at the same time on the Royal Engineer works.

It will be seen that the regiment now has a useful nucleus for the extension of the system, and there is no doubt that the present Com-

* The 1-18th Regiment occupied a square at the Curragh during the period described.

The cost of the work for one quarter was.. .. .	£20
For four quarters it would have been	80
Add for special repair, which might become necessary, and which could not be done by the Regiment	20
Total annual amount required to keep a square of hut barracks in repair by labour of Regiment	£100
Which gives, at 800 men, a cost of, per man	2s. 6d.
Amount generally expended, and most frequently exceeded, on construction of barracks, vide published War Office returns of barrack incidental expenditure..	6s. 0d.

manding Officer will not let it fall to the ground. With the addition of a slater and plasterer, he might undertake the execution of all works in repair in any barrack he may be sent to, including the rendering of all necessary accounts.

As regards the square of huts occupied by the regiment at the Curragh, it should be stated that the usual cost for the incidental repairs during the same period has always been at contract rates not less than £70. From this probably much may be inferred, but I think it may also be believed, that less wanton damage to the buildings was done by the occupiers.

The tools and plant used by the regiment were returned into store on leaving. The new regulation, requiring regiments to carry their tools about with them, ought to be altered. First, because no Commanding Officer will willingly increase the weight of his baggage for this purpose; and, second, because it will be just as easy for the Commanding Royal Engineer or Storekeeper at a station to keep a full supply, to be issued and returned, as to keep a certain amount of tools and plant for issue, of those articles which could not be carried about.

But although there is so much to encourage in the accounts I have given, and in a large number of other cases, I fear that too frequently soldier labour has been employed at a loss to the public. That is, that the quantity and quality of the work rendered by the soldiers for their working pay was defective in comparison to what the same amount of money could have obtained of civilian labour. I fear it is greatly due to such examples, that there is a feeling of uncertainty in high quarters of the success of the scheme.

Although there are more than 30 companies of Royal Engineers employed for probably 250 days in the year, in few cases can any information be obtained as to whether their employment is an extravagance or not. Their working pay, together with that of the soldiers of the Line (numbering some thousands) who are associated with them, probably amounts to not less than £60,000.

It would be a startling revelation to find that the same money spent differently could produce better results. And yet this has been going on for years, and no statistics, comparing station with station or system with system, have been produced to clear this doubt. That money has been sometimes saved, at others wasted, is, I believe, undeniable.

But why, you will be inclined to ask, is not the reason for this difference known, and why are not disabling causes removed? I feel, that with so much difference of opinion on these points, the addition of mine will not turn the scale in any one direction. And, although I am here to endeavour to prove to my hearers that *a saving is a natural result*, I am not called on to speculate as to the causes of its failure to make itself felt.

I have said that a saving is the natural result. It is explainable, in that, if a contractor is paid a sum of money for doing a certain work, that sum covers—

Labour.
Material.

Cost of loss.
Interest on plant.
Superintendence.
Profit.

And the employer must have besides superintendence of his own.

If the employer is his own contractor he saves of this; 1st, the profit; 2nd, the difference between two superintendences and the same amalgamated and, 3rd, in the case where the War Department is the employer, the value of all existing shops and plant which exist and must be kept up whether the works are done by contract or not.

Again, in the particular case in point, a saving of a special nature is effected in proportion to the difference between the pay of the civilian and the working pay of the soldier; but only so far as the existence of the soldier is necessary on other accounts, and so long as work of a more important nature is not neglected.

Here we have the sources of very large saving in every case where a soldier is employed during a portion of the time that he would be otherwise idle; always supposing that his being as a soldier is a necessity.

Now it is evident, that by the word "superintendence," is described what is the source of failure or success to obtain this saving:

If work has to be performed by any of our great private firms, which undertake the engineering as well as the execution of much that they do, it is well known by them that all success will depend on the selection of the superintendents; and being chosen, on the goodwill and co-operation of these men; in carrying out a most responsible and arduous duty. Care is, moreover, taken, that no unnecessary difficulties, except those consequent on all engineering undertakings, shall be met with. Any loss of profit would be due to defective superintendence, but its defects would arise from negligence in the firm to obtain and utilize the best in the best way.

No individual who has to live on his profit would, for instance, be satisfied with accounts of expenditure which were not the most simple and transparent form of statement. Nor would he waste the valuable time of his superintendents in an office chair, when their real field for the promotion of economy was on the works.

There is a difficulty peculiar to the nature of the superintendence of the labour of soldiers, consequent on the line which has been hitherto drawn between what is styled, occupation *on duty* and *off duty*. It may be traceable possibly to the unwillingness of most Officers to increase their work by any responsibility in connection with what is now undertaken by Departmental corps. I am therefore desirous that this Meeting should take into consideration two points bearing on the question, viz.:—

1. That all labour arising out of the soldier's existence, shall, if entrusted to him to be performed, be considered as much a regimental duty as any portion of his work.

2. That the superintendence of all labour shall be undertaken by the soldier's own Regimental Officer; that Officer, or these Officers, being

compelled to qualify for competency, and becoming wholly responsible for the expenditure.

The amount that will be given to the soldier to perform will then depend on—

1. His competency to perform the work.
2. The competency of his Officer to superintend it.

Under the first of these heads is included (a) the question of the soldier's competency as an artisan; (b) whether enough labour of a skilled nature now exists; (c) how it is possible to make duty of this kind dovetail in the economy of a regiment with what strictly pertains to discipline.

As regards his competency, there is only the question, viz., is it possible to enlist artisans who will have become good tradesmen previous to the age at which it is best for recruits to enter the service, or, is it possible to make a man, who, from his age, has not had time before enlistment to learn enough, to become a good workman afterwards? The experience gained in the Corps where men are enlisted as artisans is here valuable. It is found that men who are already good workers are enlisted; that men become good tradesmen after enlistment; and that the long course of military training which they have to go through previous to their earning working pay, is not deterrent to enlistment. These results are produced merely because the work has to be done, and, where they are stationed, Sappers have to do it. Produce the same necessity for any other Corps, and you will find that the works on repair which are always occurring, will be done by Regimental artisans instead of civilians as a matter of course, and that the execution of these works, if properly superintended, will give an opening for these men to improve in their trades, and for others to learn.

That enough of skilled labour now exists in the service to enable a regiment to undertake the repairs of its own barracks I am led to believe from a few facts I have collected. At the Curragh Camp last year:—

The average number of Non-commissioned Officers and men, including sick (of all arms) was	3,094
Of the eight infantry battalions stationed there during the year, the percentage of men declared as belonging to the building trade was	3
After strict trial, the percentage found competent was	75
Of these, the average number employed daily, of artisans were.....	8
" " " " of labourers were	25
(At the same time, the percentage of men of the building trades in one company of Engineers was)	(77)

Neither Cavalry nor Artillery were required to declare the numbers of their tradesmen, nor could they have done much work during the short drill season if they had.

The above figures give nearly six skilled artisans per regiment.

of the building trades, exclusive of the pioneers, who, in many cases, were good tradesmen, but were not lent to the Royal Engineer Department.

Again, at Aldershot, where the strength last year was about—

Cavalry, 4 regiments,
Artillery, 7 batteries,
Royal Engineer Train, 2 troops,
Royal Engineers, 2 companies,
Infantry, 12 battalions,

there were found to be of men nominally belonging to the trade of painter, 114.

In the mounted corps, out of 40, 18 were declared available for work, from three corps only. Of the Infantry and Engineers, out of 74, 64 were available; 82 men in all, 10 being Royal Engineers.

Of the remaining 72, according to previous results, probably 18 would have been fair workmen, which, with the Royal Engineers, would have given a body of 28 painters to do the work of the camp.

Now, allowing that the drill season lasts 17 weeks, and that these men could have been employed 3 days a week for 8 hours a-day, we get $3 \times 17 \times 28 \times 8 = 11,424$ hours of a man, which, at the Aldershot contract rates, represents an expenditure of £628.

But the expenditure at Aldershot per annum on repairs and small works is about £6,466, or £2,114 for 17 weeks. Out of this, from calculation, I conclude that £125 is spent on painting. So that there remains an available force of labour for painting purposes capable of performing work of the value of £503. Thus, out of the 28 men, 5 could have been employed on painting and in repairs, and 23 have been employed on new works.

Again, at Brompton Barracks, Chatham, where the whole of the incidental repairs are carried out by the labour of Sappers who are situated, as regards regimental duty, pretty much as other soldiers, there are 3,620* days of an artisan employed at this work in the year. This barrack is one in which an exceptional amount of work is necessary, and particularly so in proportion to the number of occupants, and yet, only calculating at the occupation numbers in effectives and horses, the days of an artisan required is 287 per cent. Or, in other words, 2 per cent. of the occupants working $143\frac{1}{2}$ days in the year can keep the entire School of Military Engineering in repair.

* These 3,620 days are apportioned nearly as follows to the several trades:—

Bricklayer	514
Mason and Plasterer.. .. .	363
Slater	180
Carpenter and Joiner	1,265
Locksmith and Blacksmith	709
Painter and Glazier	203
Plumber	152
Gasfitter and Bellhanger	204

That these men are in many cases but recruits, is additional evidence of the feasibility of immediate action being taken to establish the same everywhere else.

(2.) With reference to the competency of the Officer to superintend the men's work, much may be said of what exists and might exist. It may be asked: What is the nature of the superintendence? What amount of technical instruction is required to make a superintendent? What is the nature and form of the accounts to be rendered? How is the superintendence to be paid for? And in reply to these questions, I would say, that a man of a constructive turn of mind, with some slight previous knowledge of trades (of which many exist in the Service), could soon qualify himself to look after work of the nature required in repairs and small works. And that with a simple system of rendering the accounts, and a position and pay analogous to that of Musketry Instructor, Officers in every regiment would be found ready to undertake the duty. The acquirement of knowledge, and the opening given for the development of industry for the benefit of the Country and the Army, being an additional inducement.

The Officer of Industries might be selected for his qualifications, and from his having attained a certain standard of knowledge in the Architectural course at the School of Military Engineering, Chatham. When officially recognized, he might be distinguished in the "Army List" by some prefix. He should be under the rank of Captain, unless able to perform both duties. His regimental duties might be confined to attending only the same parades as those at which the artisans under him were obliged to be present. He ought also to take his share of garrison duties, guards excepted. Under the Commanding Officer's directions, he would make the usual monthly inspection of barracks to note damages and repairs. Immediately under him, but still belonging to, and falling in on parade with, their respective companies, would be placed the regimental artisans, of the following trades:—1 carpenter, 1 blacksmith, 1 plumber, gas-fitter, and bell-hanger, 1 bricklayer, 1 mason and stone cutter, 1 slater, 1 painter and glazier, each of these men being specially qualified and known by distinguishing badges, and replacing the present pioneers. These should be exempt from all duty but certain defined parades.

Knowing the qualifications of all other tradesmen in the regiment, and men available as labourers, the Officer of Industries would daily arrange with the Adjutant for the services of assistants to the regimental artisans, according as his work laid out for the next day required it. After a little experience, the roster for regimental duty might easily be arranged, so that all the men of one trade should not be taken together for any single duty.

The Officer of Industries will not be long in acquiring the power of forming an opinion as to whether a lock has been properly repaired, a broken slate replaced in an efficient way, or a piece of flooring put in in a workmanlike manner, and by degrees his knowledge will extend to understanding all the details of joiners', carpenters', smiths', and other artisans' work. With him will rest the charge of all tools belonging to the regiment, or drawn from the local stores, and the

keeping of the accounts arising out of the expenditure on works, and he will be the medium of communication between the Commanding Officer and the Engineer and Control Department, for all transactions arising out of the occupancy of barracks or other buildings.

Although the superintendence of works in the conservancy of dwellings is only here alluded to, it will also be found that other industries, such as tailors, saddlers, armourers, &c., will naturally come under his direction.

I have already sketched in my account of the work done by the 1-18th Regiment the manner in which I propose the accounts should be kept. As a permanent check on the expenditure on repairs, I would propose in addition, that the accounts be certified to, monthly, by the District Commanding Engineer, for payment. Hence it will be necessary for that Officer to have the value of the work done in the period assessed at *soldier schedule* rates, in order to ascertain that the amounts for labour and material, which he is asked to sign, do not exceed that value.

The Commanding Royal Engineer's duty will then be confined, in respect of repairs, to—

(1.) Quarterly or half-yearly inspection of the buildings, for the purpose of ascertaining that they are not deteriorating from neglect.

(2.) Monthly correction, before execution, of the requisition or list of repairs taken down by the Officer making the inspection, to prevent work being undertaken which would cause an excess on the annual authorized expenditure.

(3.) Monthly inspection and assessment of the work performed, previous to certifying to payments, when he will guard against passing work of too extensive a nature, or such as has arisen from damage or neglect.

(4.) Inspection of the barrack at the period of transfer, when he will take down all kinds of repairs not made, and entering them in one list, will assess their value, and, treating them as a charge caused by neglect against the outgoing regiment, will hand them over to be executed by the incoming.

It will be seen by this regimental system, that the corps in some respects occupies the place of a contractor for the work, only at schedule rates which exclude all payments except for labour and material.

A schedule, based on the existing ones in use by the Royal Engineer Department, can be easily made by persons acquainted with the nature of its construction, which will give, against all descriptions of work, in two columns, 1st, the value of labour at soldier rates; 2nd, the value of the material.

I may remark, that there is some resemblance between this and the course occasionally followed in France, where the soldiers of a regiment are allowed to work under a contractor on the repairs of their own barracks, either by the day or by the task; except, that the contractor pays the State for their labour at civil rates. The latter only gives the soldier two-fifths of that amount, retaining the remainder, which is

carried to the credit of the expenditure on military works, and shown as a saving produced by military labour.*

In estimating the amount of clerical work necessary in the superintendence of incidental repairs, it is often lost sight of, that the amount of money expended is no guide.

It is easily understood that, apart from new works, the labour of direction must be estimated by the *number of transactions*, not by their value in money. Thus at a place where the average value of a transaction is 7s., and £700 a-year is expended on repairs, there is very little more labour in superintendence and rendering of accounts than at a station where the value is reduced to 1s., and the expenditure is £100 per annum.

Each transaction represents an item in the requisition for repairs, whether the requirement be the taking down and re-setting a boiler, or merely the re-fixing of a thumb-latch. Their value may vary between £5 and five farthings, but the superintending process is nearly identical in time and writing, irrespective of the value.

In the London Royal Engineer District, these transactions, in 1868, amounted to 11,240 in number, at an average cost of 8s. At the Curragh camp, in the same year, there were 9,860, at an average cost of 4s. 4d.

Having given some idea of what would be required of the "Regimental Officer for Works," it becomes necessary to make some proposition for his payment, in order that his position may be sufficiently improved to induce him to exert himself.

If 2s. 6d. were the amount per diem of extra pay, it would amount to £45 12s. 6d. per annum for each Officer. But as in a Battery of artillery and a Regiment of cavalry, the amount of work would vary from that in a Battalion on account of the extra wear and tear in stables, the remuneration might be made on a different scale, so as to adjust itself to the amount of the work to be done.

Taking the strength of the corps as a basis of calculation and not the expenditure, and counting horses as individuals, but excluding women and children, I propose that the superintendence shall be paid for at one shilling a-head per annum.

If the cost for repairs per annum amounts to an average of 6s. a-head, there can be no question that if the present actual cost of the superintendence due to the same could be arrived at accurately, it would exceed 15 per cent., raising that amount to 7s.

But if military labour produces a saving of 30 per cent. on the 6s., the total expense will be reduced to 5s. 2½d., or a total saving of 1s. 9½d. a-head, amounting to a sum not less than £12,300 per annum on the total strength of men and horses on the British Establishment.

But as, in fact, the ordinary and current repairs to buildings at home and abroad were estimated last year at £201,875, and the establishment for the same year, including horses, was 137,230, we find an expenditure of £1 10s. 8d. a-head. If by our first means of calculation

* Vide Memoire de l'Ingénieur Militaire, par Grivet Capitaine du Génie, page 181.

we arrive at a result which reduces this sum by 30 per cent. to £1 1s. 6d., which, with the proposed expenditure, amounts to £1 2s. 6d., we get a saving of 8s. 2d., or £53,700 per annum. It is probable that the real sum to be saved lies between these amounts, viz., £33,000.

At Brompton barracks, Chatham, there is evidence of the saving being fully up to this, although for want of an estimate of the value of the work at contract rates, its exact amount cannot be ascertained. The expenditure on incidentals amounts to 6s. 3d. on the construction, and 9s. 4d. on the occupation, including the unusual addition of a large proportion of Officers' quarters, an extensive mess establishment, with special schools of instruction, besides stores and sheds not usually attached to an ordinary barrack.

In concluding the subject of superintendence, I am desirous of pointing out a very considerable saving that would ultimately accrue, in the necessity not occurring for the elaborate system of accounts hitherto employed, which takes up the valuable time of professional men in the Royal Engineer Department on wholly unprofitable labour, a system which I have already referred to in terms which can only be justified in view of the example I propose giving.

I have in my possession a copy of a War Department triennial contractor's bill for incidental repairs, amounting to £1,016.

The requisitions on which the work was done were ..	219
Items or transactions therein	1,967
Entries for estimate, including a calculation in each ..	5,724
Signatures of names in full	1,752

In this first stage is included a visit, to see what had to be done in each of the 1,967 transactions; followed by the issue of 219 written orders on the contractor, containing the complete details of the estimate in the same number of entries, viz., 5,724.

In the second stage, the work being completed, a visit to each again, and a measurement registered, contained in 259 pages.

Entries of measurement, including a calculation in each, 5,170.

Third stage, an abstract of the 5,170 results of these calculations on 67 large sheets of paper.

The abstract sheets contain—

Headings copied from the schedule	614
Abstracted quantities, each entailing a calculation ..	3,702
Columns of figures added up	1,418

The effect of this abstract has been to group the 5,170 entries of measurement under 614 heads.

Last stage—the copying of the 614 transactions into a bill in duplicate, calculating out the value on each, and adding up.

In theory this is all done at the same time by the Contractor as a check, but, as a rule, he finds it more expeditious and economical to trust to the Royal Engineer Department calculations.

Thus we have for an expenditure of £1,017—

509 documents, containing
1,687 pages of written foolscap,
25,547 separate entries, mostly consisting of several words
and a calculation in figures, and very nearly
1,800 signatures.

Further, the paper weighs 1 lb. 15 oz. which, with an expenditure probably of £150,000 by contract labour on repairs for the year, gives a weight of 290 lbs., half of which is so much waste paper.

Difficulties in the way of such an organization as I propose, may be expected to be met with in several directions. In the case of Commanding Officers, by a want of co-operation, or by opposition, either of which would materially interfere with success.

In the changes consequent on the Control Department having been inaugurated, we find that the charge of the building in which his corps is located, is to rest entirely in the hands of the Commanding Officer, who becomes the lessor, the Royal Engineer Department acting as house agent, and the Control Department as the furnisher. This is really a very radical change on old institutions, and an advance more than half way to the desired end, for the repair of a building is closely allied with its charge.

It is proposed that the Officer Commanding shall originate monthly requisitions for repairs, as now, but that he shall send them for the inspection of the Commanding Royal Engineer, as before described, and then hand them to his "Officer of Industries" for execution. Immediate and urgent repairs he can perform at once, sending on the document to the Commanding Royal Engineer afterwards.

I think that Commanding Officers will soon find that the advantages are so great in the rapid execution of work, and in the improvement of their men, that, as has happened in the Marines, all who have begun by opposing the scheme will soon give it their cordial support.

The system of "Musketry Instruction," which has now become part of the necessary work of a soldier with such good results, at first was much opposed and thought little of; and it had not the advantage which is now offered, which will ward off much criticism, viz., of being no additional source of expenditure.

The same nature of difficulties may be met from the possible unbelief of those whose position enables them to promote the success of such an undertaking. There may be an idea, that work of this kind cannot be made obligatory. Influences which have personal reasons for the continuance of the present system, may be brought to bear adversely. The details of arrangement may be framed by those who have peculiar views not founded on general experience, and possibly the Accountant's (or, as some call it, the financial) part of the question, which so often mutilates a good measure, may leave an impression on it that will effectually make all chance of success out of the question.

From the soldiers who would fill the position of artisans, no opposition need be looked for, except to the necessity of appearing on parade

in their places in the ranks for inspection and drill at least once a-week. There might be unwillingness to aid in training other men in trades, but this could be counteracted by a system of payment which would offer a premium, in every case of a man having become a qualified artisan under their instruction. There will be complaint at first on finding that the men working with them are taken away for their turn of other duties, or in case of punishment, but from my experience of this, where it has been carried out most strictly, it is a difficulty I believe which habit will soon counteract. In every regiment there will be men who, either from disinclination or bad character, yet smart, clean soldiers, will never be available for work. All grumbling on their part must be disarmed, by taking care that no extra duty falls on their shoulders in consequence of the employment of their comrades. In the natural course of things, we shall hope to see the number of idlers and bad characters decrease. I think it will be found convenient, in most regiments, to make the work of tradesman's labourer an ordinary fatigue, to be supplied from the usual roster for that duty. Artisans receiving pay for their work by the piece, will find it best for themselves to give their labourer a trifle, making the duty popular, and giving the man an insight into the trade.

In mounted corps (it will be said) such a proposal is not feasible. Commanding Officers of Cavalry regiments have told me that they cannot spare a man, and yet we find others stating that their painters could be spared forty days during the drill season at Aldershot. But I anticipate eventually as encouraging results from these as in any case. That the Cavalry or Artillery soldier has time, in addition to his other duties, is proved from the example of the Royal Engineer and Military Trains, in which the men give sixteen or twenty hours of work a week, and yet turn out in perfect order on all occasions. Again, there is less tendency to idleness amongst these men than in the Infantry. And, lastly, I think we shall get the full co-operation of the Commanding Officers, when they find how readily and quickly damages in stables will be rectified, a great source of inconvenience when delayed, as they too frequently are.

The example of the Cavalry barracks at Colchester, which is very complete in every way, is instructive. The average occupation, including Officers and horses, is 914. The average yearly expenditure on repairs, £280. As the material for the repair of this barrack is likely to be very expensive, the above sum would probably not be reduced by more than 20 per cent. with soldier labour, viz., to £224; which, by the Brompton barrack results, represents 1,940 days a year, or 6 days per cent. on 543 men each week.

There are two other sources of difficulty, more serious than those already referred to, viz., in the case of small detachments, and that arising out of sudden and constant moves. Time and necessity can alone be looked to as a remedy. If the system becomes compulsory, these difficulties will be foreseen and provided against; if not, they will be made the excuse for doing nothing. I look very much to the establishment of an "Officer of Industries" to help in overcoming these. He will endeavour, in the case of detachments, to provide

for the work, by seeing that the building trades are distributed as equally as possible in each company. And he will soon be able to instruct the master artisan in each company sufficiently to enable him, with the help of the local representative of the Royal Engineer Department, to do the simple clerical part of the business. Sudden moves, from one old tumble-down barrack to another, as in Ireland, will be given as examples when the troops could never carry out the work. In such cases as, where moves are long premeditated, there must still be an official inspection by the Royal Engineer Department at the time of transfer. At this inspection (as I have already proposed) all *neglected* repairs are to be treated as damages, being paid for by the out-going, and executed by the in-coming. It seems to me that this will work as well in the one case as in the other. It will be always open to the Inspecting Officer to modify his interpretation of the word *neglect*, to cover any unavoidable difficulty arising out of the suddenness of the route. But as soon as the work becomes a regular weekly duty, there need be no arrears of petty repairs, which will be executed from day to day as they arise.

It will have been gathered that I am an advocate of the Regimental system of work. I confess to have been at one time strongly opposed to it, believing that no work could be successful unless the men were placed entirely at the disposal, and under the supervision of the local Royal Engineer Department. From personal experience, and from reports which I have collected on all sides, I have been led to change my mind. As a rule, Commanding Officers grudge their men to the Royal Engineers, and there need be no wonder at it. Where the regimental organization and that for work, are under one head, no difficulties need arise. In the case where they are separated, difficulties, in spite of the best endeavours to the contrary, will occur, resulting in want of economy, and finally in a total abandonment of the mode of working, as hopeless. Of course I must not be understood to apply this to the cases where large bodies of troops are specially employed on large works of ordinary labour.

I am anxious, in concluding, to impress the Meeting strongly with my conviction, not only on this point, but also on the necessity for its becoming a recognized part of the system, that duties which carry with them a special remuneration ought not to be allowed to interfere with those which are obligatory on all. I have narrowly watched the working of both ways, and although I have often seen harm arising from making exceptions in the duty of men specially employed, I have never seen any detriment or real inconvenience in a rigid adherence to the rule I advocate. At any rate, if, as I have proposed, the master artisans are to have immunity from certain duties and parades, their status, as privileged men, should be defined by regulation.

I trust, Sir, that the Meeting will understand, that in confining my observations to one branch of industry only, I have really had the interests of the general question in view, firmly believing that all the parts of the machine are actually in existence, and that all that is wanted is the power to put them in gearing, and set them in motion.

Mr. EDWIN CHADWICK, C.B. : I beg to make some observations upon this very important and interesting paper which Captain Webber has read, because I think I may supply somewhat of what appears to me to be a deficiency of principle in the motive power, namely, the element of self-interest of the workers. I have had some experience in relation to military labour; to trained and systematised military labour, to that of the Ordnance Survey Department, where, as I think, the defect of a deficiency of interest in the work, and its consequent slackness, even under a highly-trained superintendence, was strikingly displayed in connection, particularly, with the Engineer Corps. Some years ago, when as a Sanitary Commissioner, and member of the first General Board of Health, I had to promote sanitary works for the improvement of towns, I was strongly induced by my friend General Colby, who had charge of the Ordnance Survey, on account of the representations which he made as to the superior eligibility of the Engineer Corps, to press the services of that corps upon the local authorities to make the requisite surveys for their drainage works. One ground for my doing so was, that the employment of the Engineer Corps was, as he represented, much cheaper, that their surveys would be better, and the corps having a superior division of labour, could be made more responsible for the work than could possibly be the case with civil engineers. The work must, he urged, be much cheaper, because the privates, the chain men, the Non-commissioned Officers, and the Officers, worked at some half the daily pay that civilian engineers could get trained men to do work for. With this case,—which was all set forth in black and white,—it was a pleasant duty to urge the employment of the corps upon local work. I encountered the hostility of civil engineers, but a number of towns began with the Ordnance corps. But the work, instead of being quicker, was, with all the division of labour and disciplined superintendence, dreadfully slower than the civil work. This was a most serious disaster to our board, as it prevented our having the works of several foremost towns completed, as they might and ought to have been, as specimen towns, to show what might be done, in time to submit to Parliament, when the period arrived for the renewal of our powers. The failure in point of time was a public disaster. But when the bills did come in, they were greatly beyond what we had been led to expect them, in some instances more than double our estimates and more than civil engineers were ready to testify they would have done the work for. Towns refused to pay these demands, and defied battle before juries upon them, and I believe that they never did pay the excess beyond the estimates. The *morale* presented was that which is the opprobrium of the building trades, of enormous bills beyond the estimates, on the faith of which the Service has been included. Now what was this disaster due to? To day work. True, the men were paid at half the rate by the day that civilians were, but they took two or three days to do the work that the civilian does in one. Since this lesson, as I understand, the piece-work principle has been introduced, and I am assured that, under it, twice and three times the amount of work is now got for the same money. I have seen a great deal of work done by soldiers, and my observation leads me to say that the piece-work principle is of very general application, and of special necessity for application to their labour, if you are to get out economical results equivalent to those from civil work. In the instance of the survey work, the superintendence was systematized. In civil work—in railway work, for example—what constant superintendence would get out from the navy twenty cube yards of earthwork a day, the gang's "stint," that piece-work gets out? The military superintended-day-work is the ridicule of workmen of the wage class. I happened to be going down the river, and looking through a glass at some work going on at Woolwich, a workman came beside me and said, "Will you let me look through your spy-glass?" He looked, and saw a soldier painting something; when he said, "There is a day work stroke;" and handing the glass to another operative, he said, "Isn't it, Jem?" "Yes," said he, "it is indeed a day-work stroke, and a very poor one of the sort." Operatives, in going about and seeing soldiers at work, speak of it with ridicule; they stop, and laugh and chaff the soldiers at the way in which the work is done by them. A contractor proposed to reconstruct the huts at Aldershot of concrete and other materials, and declared he would get it done cheaper than the Government or the Army

could do it, and yet he would get it done by the soldiers, if he were allowed to employ them. He would do it, but the officers could not. "And how would you do it?" I asked. "By piece-work," he replied; "I would soon get them into the way of it." What a spectacle had we, and Europe, of our sending out a civil works corps to construct a road, whilst there were spadesmen in the ranks who saw their brother navvies doing the work at six or seven shillings a-day, which they in the ranks could and would have done if they had been allowed to do it at piece-work! I am confident that if that common principle of self-interest were duly brought into play, you might have an enormous amount of public work done by the ranks of the Army. Let the work be put up to contract to be done at piece-work by the men, and I believe they would form themselves frequently into gangs, or with their Officers to overlook them, and would do the work at a great deal less price than the work could be done by civilians. The piece-work principle is applicable to Officers as well as men. If any public work is required, let the Engineers' Officers of any rank send in plans and estimates for it, and if the plans are accepted, let the planners have the execution, with a percentage on the results; and let them engage the men at piece-work to do it. On this principle much might be got, with great advantage to the public as well as to the Force. But the paper does not develop one topic which I think of very great importance with respect to Army work, namely, the outdoor work—letting the men out to do civil work. The cases of the men tried by court-martial for desertion, cited by Captain Webber, are illustrative of the topic. They were men of good character. One of them said, "I have been working in London as a shoemaker, and I am tired of soldiering;" that is to say, they were wearied of the barrack routine, and desired not idleness, but work. Well now, might we not let the men out upon long furloughs to do civil work for themselves to a very great extent? Why, in the case of the Engineers themselves, I observed some evidence of Colonel Kean to the effect that they had from those highly-paid men frequent desertions; and the cause of the desertions was, that there was some special civil engineering work to be done close at hand, for which the men get, for the time, seven shillings a day. The men of otherwise good character, probably like those mentioned by Captain Webber, deserted from three shillings a day in order to get seven shillings. Why should they not be allowed to go on furlough, even at some inconvenience to get that money, and return? Why should we not let men go out on long furloughs who are "tired of soldiering," that is to say, of doing nothing, or only wearisome, and wasting, and enervating routine work, and find profitable employment? Why detain them in the purgatory of a monotonous, wearying routine, when they would probably return gladly periodically to exercises of active interest, such as volunteers enjoy? That is done abroad—in Sweden, for one example, as I know. I know at one time it was done here. In my inquiries as a Commissioner of Poor Law Enquiry, and afterwards in Poor Law administration, into the causes of pauperism, I found that the Army contributed a heavy contingent of pauperism, and that the disbanding of a military force was attended by an addition to the pauper force, the pensioners included, a great portion of the pension-money being almost worse than wasted from the mode in which the pensions were paid. I found Army pensioners a regular item in almost all pauper rolls;—so regularly, that on looking over one roll, in one of the suburban parishes, I said, "You have not got any pensioners on the pauper list; have you no pensioners in your parish?" "Yes, we have," said the parish officer; "but the pensioners are old Guardsmen; they have been used to work in the Service, and now they are pensioners they continue to work, and they get their own living." I was struck with this incident, which directed my attention to the subject; on which I made official representations. There are Continental examples of the practice—that of Sweden I learned most about, of letting men who can find work for themselves go out on long furloughs, with the condition of coming under colours for a part of the year, to keep up their exercise; being an extension of our Militia system. In Sweden, about two-thirds of the force is frequently out on leave, to the great relief the country and the benefit of the men, and with anything but detriment to the effective force. If the men of good character who deserted, from being "tired of soldiering," and returned to productive

work, had been let out on furloughs, they would probably have gladly returned to the ranks for a part of the year, as a change from civil work, or on account of any slackness in it. On such a system, which would be better than the usual short terms of recruitment, you would get a far higher and better order of recruitment than you now get. In the instances of which I have had accounts, the men engaged in productive work are really fresher and stronger for service than those who are kept in barracks, in camps, and cantonments, where they are comparatively enervated and demoralised, as the penal returns and the hospital returns show. Such is much of the experience of Prussia, as well as of Sweden and of the Northern States of America, where there will be no lack of force when the trained men are brought again under colours. In Sweden, as I am informed, so systematically is the principle applied, that there are nearly two-thirds of the first regiments always out on furlough. In a city like Stockholm, if a merchant ship comes, and it is required to be unloaded immediately, they go to the guard-house and get a sufficient force; it may be a corporal's guard, or a company with a serjeant, and the ship is unloaded in a very short time. The guard-house is a sort of labour mart for getting a great deal of the miscellaneous labour of the town, and I have no doubt a larger amount of the miscellaneous work in this metropolis might be done in this way by soldiers better than by the Commissionaires. The men would find out work for themselves which nobody else would find for them. The principle of letting out men systematically for civil service would, I submit, be equally applicable to Officers, and especially to Officers of the scientific corps for any length of time, only calling them under colours for short stated periods to maintain their professional habits. I think the restraint to this, by the present practice of seconding, of requiring Officers to leave active and invigorating and profitable civil work, and practise in the direction of labour, and return to inferior barrack work or no work, and only enervating routine, is proved to be pernicious and indefensible. In India, as well as in America, active civil occupation, and productive occupation, in peace, is proved not to deteriorate but to augment aptitudes for work in war. In the Northern States of America, after continued trials, they were driven to the scientific corps for commanders, and of their successful and most distinguished Generals I believe there was not one who had spent an exclusively barrack, or camp, or cantonment life, and who had not been engaged in some sort of productive civil work in time of peace. As an all-prevailing principle, that of piece-work is to be contended for in the Service as the prime mover, and systematised, and the most free permission to occupation in private service. These principles I venture confidently to assert, from experience and observation, would conduce to our military force, as well as largely to the public economy.

Colonel SCHOMBERG, C.B., R.M. Artillery: I should like to say a few words upon this subject. I think in so interesting a question, facts are what we want. During the last three years I have had an opportunity of having a great many men at my disposal; I speak now of the Marine Artillery. I have not had the returns of the work done last year, but in the years 1867 and 1868, out of an estimate by contract of £6,500, the soldier-labour made a saving of nearly £1,600, about 25 per cent. The work was very various. The barracks were repaired and kept in good order. Two batteries were thoroughly repaired to represent sections of ships. One battery to carry a 12-ton gun, and two 6½-ton guns; the other, lighter guns. The guns were pivoted and placed there. One or two stores were roofed. The main drain was extended. New schools were half built. When the reduction of the corps took place, I was obliged to remove the men from the schools in consequence of requiring them for drill. A parade ground was made and levelled, and various other works were carried out. I will give you a list of the tradesmen employed. A superintendent serjeant (who received extra pay of two shillings a day), bricklayers, plasterers, masons, stone-sawyers, carpenters, slaters, smiths, plumbers, glaziers, fitters, painters, white-washers, labourers. In the laboratory, other repairs were carried out which are not included in this return. Military machines, gun-carriages, and platforms, &c., were repaired, employing wheelwrights, armourers, and others. A theatre has been constructed entirely by the men—scenes painted by the officers. I believe a Frenchman says a soldier's duty is to wait and brush his clothes. I think while he

is waiting, a good many of these works might be done. Moreover, while these works were being carried out, the usual drills were not interfered with; and we embarked 600 men last year. But I think that no system for the employment of military artificers can be carried out thoroughly without localizing corps and regiments. I do not think you will get any system of work or instruction in regimental schools into satisfactory operation until this change takes place. However, that point is wide of the present subject. But I am certain you will never get good work from the men, nor will you ever train them as efficient workmen, until the corps are localized.

Dr. STALLARD: I desire to make one or two observations upon this subject as a civilian, and one who probably has seen a little of various organizations in different parts of the country. If Colonel Schomberg had not alluded to the Marine Artillery barracks at Portsmouth, I was about to allude to them as strong evidence of what may be done by military labour. Still, great as is the work there, and admirably as it has been done, I must say that I think there is still more to be done. I think Colonel Schomberg has hit the main point; it is this, that unless you localize the regiments, you will never be able to carry out any great system of work, the men will have no interest in it. It appears to me that there are one or two other points which have not been alluded to in the paper, which I regard as preliminary to anything like a general system of employment in the Army. I have* elsewhere pointed out the absolute necessity for providing something more domestic in the character of barrack accommodation for the soldier. I believe without privacy and something like domestic life, it is impossible to give the soldier the necessary motives for acquiring property, and for really benefiting himself and his own social and moral position. I do not think that with the present mode of life there are sufficient motives presented to the soldier for working really. I also thoroughly agree with what has been said by my friend on my right (Mr. Chadwick), that all work in the army must be done on the principle of piece-work. I have often, like him, observed and smiled at, as a civilian, the way in which, for example, a fatigue party goes to carry coals from the stores. About twelve or fourteen men are sent to do what two or three would very well accomplish if they are paid for it. A corporal and a certain number of men go along, and as soon as they turn the corner of the parade-ground, they set down their baskets and begin to chat. They often stop two or three times. I have often seen this at Aldershot. It is not an unreasonable thing for them to do; the men have no interest in what they are doing, therefore they do not hasten over it as they would do if they were paid for that work. I maintain, therefore, that no system of employment will ever succeed unless it is a regulated system of compensation for actual work done. Then, there are other things which stand in the way of work in the Army even far before this, and which I do not think have been sufficiently noted in the paper before us. I allude to the notion of what is necessary in the shape of discipline, parades, guards, and sentries. Now I must say, as a civilian, looking at it from a civilian point of view,—I daresay gentlemen will pardon me, I know these are perfectly heretical opinions for me to hold,—but it struck me certainly in two or three cases it was a ridiculous sight to see an Officer with a guard of twenty men at a place like the entrance to one of the barracks at Dover. There is an ascending staircase, there is an Officer's guard there of some twenty men. I ask you whether any gentleman thinks it necessary to employ twenty men and an Officer to do the business of that particular place? It seems to me a waste of human labour to keep up men for the purpose of doing certain routine work, keeping them up three nights in the week from their beds, for doing what would be infinitely better done by two paid men. I take the example of the Royal Factory at Woolwich. I believe two policemen take charge of the gate. There are many thousands of people who go in and out during the day, and there is a great deal to be done, and two policemen do all the work of that gate. I have seen men standing over a gun at Dover in the same useless manner. And the worst of it is, it seriously interferes with

* On the Construction of Barracks in relation to the physical and moral Condition of the Soldier.

anything like continuous labour; it is these little duties which interfere so much with the useful and continuous employment of the men. I do not deny that a great deal can be done, as shown by the Marine Artillery and the Royal Engineers. But at the same time I am convinced that before anything advantageous is done, there must be some alteration in the notion that it is necessary to keep a soldier at a continual round of little irritating duties. There are some other points which I should like to have mentioned; but I think we shall all agree that it is absolutely necessary we should have some change in this respect. I believe nothing would so contribute to the health and the general popularity of the Army, as to really give men the opportunity of going into it for the purpose of getting genuine employment, and to do real work for which they shall have a fair amount of pay. Let men come in for a short period, and they will come in in times of emergency, and they will get a moral and physical training, both in matters such as have been brought before us to night, and in various branches of trade. I hold it is perfectly competent for a regiment, and should be the business of a regiment, to provide itself with every possible thing for its own internal economy, clothes, boots, and all the necessaries which may be required. I hold it to be perfectly possible to do so. It has been demonstrated in the case of the Marine Artillery, which Colonel Schomberg has told us of. There, in addition to doing all these things that he has mentioned, the men have a large amount of time for enjoyment; they have billiard-rooms and other things besides. I do think the money of the country will be better expended in making some attempt to cultivate useful labour than in setting up gymnastic play-grounds, which teach the men to do nothing. I do not wish to make any improper remarks upon the gymnastic play-grounds; at the same time I should be sorry to see them placed before the question of real and honest hard work. I do believe if that were done there would not be the same need for gymnastic buildings. I think if the same energy and the same money were devoted to really turning the industry of the men to account, the country would get the advantage.

Colonel FLETCHER, Scots Fusilier Guards: There are a few words I should like to say on the subject of Captain Webber's interesting paper. I have gained some little experience during the last few months by watching the course that has been pursued with reference to military labour by a portion of the second battalion of the Scots Fusilier Guards at the Tower. During the time the battalion has been stationed there, many of the men have been employed under the Royal Engineers both as mechanicians and as labourers, and not only do I think the labour performed has been to their advantage in the way of discipline, but the medical officers have mentioned that in consequence of the men being so much employed in the open air, their health has improved. The battalion has also attempted another mode of labour which I think requires some notice. The men have been instructed in the principles of field engineering; they have been employed in the Tower ditch in throwing up portions of redoubts and of batteries, in making gabions and fascines, in constructing portions of the first and second parallels, and in other works comprised under the term of "field engineering." In this way their time has been fully occupied.

Sir Wm. CODRINGTON: Were they paid?

Colonel FLETCHER: No, certainly not. The men were selected for the work, two from every company, who when the course had been completed, were relieved by two others selected in the same manner, and as a proof that the men liked the work, I would mention that there were many volunteers for it. I have seen the men working in the Tower ditch with hands blistered and sometimes bleeding, and yet there was no grumbling; on the contrary, the men were interested in what they were about. It was something new, and at the same time they felt that they were learning their duties as soldiers.

I see a few difficulties in the way of employing soldiers in trades. One is the jealousy it might excite outside. The mechanics are jealous of soldiers working at trades, lest they should take the bread out of their mouths. Another difficulty lies in providing suitable clothes. If men have to be frequently on parade, where they are expected to be perfectly smart and clean, they do not like to get their clothes dirty. There is also this difficulty, that there are a great many men who enlist into the Army who are constitutionally idle, and who have been forced to enlist from

their unwillingness to work in any other way. These men are not necessarily bad soldiers. They may very likely have been fast sort of fellows who would not put their hands to hard labour, and have consequently joined the Army under the idea that there would be nothing to perform.

To turn to another portion of Captain Webber's paper, he alludes to the project of appointing an Officer to superintend the trades. The description of duty that such an Officer should be required to perform, ought I think to be extended.

I think there should be in every regiment an Officer to take charge of the "field engineering." The infantry ought not to be dependent in time of war upon the Royal Engineers for instruction in the ordinary requirements of "field engineering." An Officer ought to be in charge of the "field engineering" as well as in charge of the trades. And one or more good non-commissioned Officers ought to be instructed as foremen of works.

An observation was dropped by a gentleman just now with regard to the advisability of permitting the men to go out and do work for themselves during the time they are serving as soldiers. In a minor degree this has occasionally been done by allowing the men to take part in the harvesting. There is another observation I should like to make before sitting down. At the Guard's Institute a short time ago, the plan was tried of instructing soldiers in trades. A room was fitted up, carpentering tools were furnished, and a man was paid to instruct; but the scheme was not found to answer. The reason was, that the men had to dress and go out of barracks in order to get to the Institute, and consequently would not take the trouble to change their uniform for a working dress or fatigue jacket to learn a trade. If you want a soldier to learn a trade everything must be perfectly easy to him; men must work in the barracks, and they must see that there is remuneration for their labour. I think an attempt is going to be made to have the minor repairs in barracks done by soldiers. One difficulty I foresee is, that there may be some slight objection to the men who are employed as tradesmen being struck off duty. Still, when men see that they are charged less for barrack damages, and that barrack repairs are done cheaper than under the former system, they won't greatly object to their comrades being struck off duty to insure such results.

Captain СОГОМВ (Adj., Limerick Artillery, late R.M.A.): With your permission, Sir, I will make one or two remarks in reference to the paper before us. In the first place I wish to endorse Captain Webber's opinion with regard to the voluminous documents required in connection with military work. I would supplement his illustration by reference to the very case quoted by Colonel Schomberg, of repairs done by the Marine Artillery. These repairs were done by our own men under the superintendence of a serjeant. That serjeant was under a civilian clerk of the works, who received a guinea a day; he, in his turn, was under another civilian engineer of the dockyard four miles off. A lock in my company-room wanted repair. I had to send to the Field Officer of the week a requisition involving my signature; that requisition had to go to the Commandant, it involved his signature; it went to the barrack master, involving his signature; it went to the clerk of the works, it involved his signature; the clerk of the works entered it and sent it down to the dockyard, four miles off, and at the end of a fortnight—it came back. I sent the requisition for this lock in January; I repeated it every month till May, and it was repaired on the 21st June. The cost of that repair was 1s. 8d. As I understand Captain Webber's proposition, his scheme at present simply applies to the ordinary barrack repairs. As I understand him he wants to increase the number of pioneers as it were, supplementing them by men of certain trades capable of executing these repairs, the whole being under the superintendence of an Officer. If I understand it rightly, that is the proposition. As far as it goes I must say I think everybody will agree that it is perfectly feasible and possible, and must be productive of economy. Colonel Schomberg alluded just now to what had been done on a larger scale in the way of new works. I think Captain Webber and most officers will agree with me in saying, that it is very unlikely, as long as there is no sort of localization in the Army, any works on an extensive scale can be undertaken by purely military labour. With regard to the observations made by the first gentleman who spoke, and who advocated giving long furloughs to soldiers for the purpose of enabling them to follow out their particular

trades, I would remind him that abroad where they do that, the soldier is tied to his regiment by something more than the mere enlisting shilling. He serves in a part of the army which is as it were grafted on particular districts of the country; his whole civil connection is in a particular district; therefore, in letting him out, as it were, or allowing him to take furlough to execute work, of course he goes and obtains that work where his civil connection exists, which is in the district where he enlisted, in which district, in point of fact, he entirely serves. In our Army we enlist a man, say in Edinburgh, the regiment probably moves to every garrison town in the United Kingdom; it perhaps goes to Malta, from Malta to India, from India to China, and from China it comes home, and by that time the man has no civil connection, and the chances are that if you let him out, you will never see him again. That is my firm belief. All these questions, apart from the mere execution of ordinary barrack repairs at home and abroad, open out to my mind a much larger question than that involved in the paper—I mean, the remodelling of our military system.

MR. CHADWICK: I did not understand that in Sweden there was any relation of the kind between the man and a particular district. Men went anywhere. Of course they would probably go home and seek for work in their own neighbourhood. I may ask if there was any such connection with the district when the Guards were let out in London. I forgot to mention that they had to pay some share of their earnings to other men for doing their duty, and I believe something was paid to the officers as well, out of which they kept up a table, and that altogether the amount of earnings was considerable.

SIR HARRY VERNEX, Bart., M.P.: I think, Sir John Hay, we are extremely obliged to Captain Webber for originating this discussion, and for the many interesting statements which he has made to us. I think it is very often the case that the discussion is still more interesting than the paper, and on this occasion the remarks of gentlemen who have had experience, and who have been so good as to give us the result of their experience, have been particularly valuable. I hope very sincerely that we shall never be prevented from employing soldiers in labour on account of any jealousy that may be entertained by civilians. It appears to me we should consider what is best for the Army and best for the whole country, and I cannot believe, although certain tradesmen might feel some degree of jealousy because soldiers are employed in work, that that would have any sensible effect upon the minds of those with whom the decision of a matter of this sort must rest. With regard to the work that can be done by soldiers, I was once visiting a friend in an army of 40,000 men. They had erected all their own huts, they built a theatre for themselves, they painted the scenes; each hut contained, I think the number was seventeen men, and many of the huts were ornamented with drawings made by the men themselves; in short, they provided themselves with their own residences and ornamented them, and one day an Officer who conducted me took off a man's shako and said, "Except the ornament on this shako, all the man's clothes were made in the barracks. That is an instance of what soldiers can do. Napoleon used to say that his best Army—it was the Army that conquered at Wagram and Austerlitz—was the Army that had been three or four years at Boulogne, and which there had to provide everything for itself. It was the most working Army, I believe, that Napoleon ever had. Colonel Fletcher has referred to the capacity of Officers to superintend work of various kinds. I confess I think our Army will never be what it ought to be until our Officers are capable of many of those duties that Colonel Fletcher has alluded to. On service it may often happen that a young Officer is placed in some positions in which a knowledge of field fortification and of throwing up field works at very short notice, must be of the greatest possible importance. My own idea is, that no man ought to be allowed to be an Officer unless he has some degree of knowledge, not only of field fortification but also of military drawing. I do think that every Officer in the Army ought to be able to describe on paper intelligibly the relative height of hills, and which hill commands another; to describe also the ground where artillery can act and where cavalry can act; in short, to possess a certain amount of knowledge of country. This is the very first knowledge which every Officer who aspires to rise in his profession, ought to possess. I should like very much to hear from some military men present, what they think of the proposition of the

gentleman on the other side. I have long had the opinion that it is at the root of Army reform, I mean short service. I have long believed that it would be desirable to get men into the Army for a short time. We almost all of us know families where there is some young fellow who, if he could be a soldier for a few years, say four or five years, would gladly come into the Army. The discipline would do him a great deal of good, and he would leave the Army young enough to begin any trade or business or profession, and would be much the better qualified for it. If a system of that sort were carried into effect, I believe that many a young man, perfectly well fitted for it, would consider it a great benefit to be allowed to enter into the Army for four or five years' service. If you allowed only those who had some military spirit and taste, and who, therefore, would desire to remain connected with the Army to enter the Reserve Force, you would, in the course of a few years, have the most powerful Army and the most powerful Reserve in the world. A French General writing lately upon our service, said the "English infantry was the best in the world." And he went on to say, "Happily for us there are so few of them." They did not want so many English soldiers. For my part I do not desire a larger Army, but I do desire that our Army should be efficient, as efficient as an Army can possibly be. I think this discussion ought not to terminate without our returning our thanks to a young Officer of the Navy, Mr. Hanbury Tracy, who has been so kind as to bring this subject before the House of Commons. I am a witness that there was never a better exposition made in that House than that made by my friend who sits on my left, of the great advantage of military labour. I certainly hope he will pursue that subject which he has so well commenced, and that his efforts may be of advantage to the military service.

Colonel SCHOMBERG: I should like to say one word about the much maligned Officer. There seems to be an idea that our Officers are not equal to the Officers in other services. I think it is a pity to think so. All I can say is, as far as my experience goes, that if I want an Officer to build a theatre, or paint scenes, or manage a workshop, I find that our Officers can do it.

General Sir WILLIAM CODRINGTON, G.C.B.: Many points have been mooted which are excessively interesting to military men, but none more so than the one mentioned by Sir Harry Verney, which is the foundation of the well-being of the Army, namely, the term of enlistment. You cannot expect, if a man enlists for ten years, that at the end of the ten years he shall be fit for other business when he leaves the Army. If he enlists for five years, and is a young man of eighteen, of course, at the end of his term, he can go back to his village and learn some trade or calling. But then comes the great difficulty, for this is only a casual part of the question, and as Sir Harry Verney has referred to it, I think it may be worth while to refer to it again, how is your Army distributed? You have 60,000 men in India; you have a certain number in the colonies, say 16,000 or 20,000 men. You cannot treat these in the same way that a foreign Army is treated, which is specially located in its own country.

A VOICE: It should be a separate Army for India.

General Sir WILLIAM CODRINGTON: It is not so now; and that question is not at present before the House of Commons. At present reliefs are sent out to India, and, of course, it is a heavy expense to the country, this perpetual renewal of the Army there. Therefore you cannot apply the same principles to the Army of England that you would to the Army of Prussia or the Army of France, which countries possess comparatively no colonies, and where the Armies seldom leave their own districts. There were one or two points mentioned with regard to piece-work. We will go into that question independently of the more abstract business of the Army. Is it to be understood that piece-work can be carried on without good superintendence? Impossible.

Mr. CHADWICK: No, it was not said so.

Sir WILLIAM CODRINGTON: Surely it requires, except for rough earth work, the most efficient and detailed superintendence for piece-work in order to see that it is properly done. Every single bit of material, and every single bit of work, must be good. Is it possible to ensure skilled superintendence and good work out of the Officers, and out of the men as you enlist them now? I doubt it. If you are to have work, I see no

reason why you should not let the men do day work, with proper superintendence on the part of Officers who are qualified for it, viz., principally Officers and N. C. Officers of Engineers who have charge of that particular department, the barrack department, the repair department, and all those works in which the soldier can be employed. It is a good thing for a regiment to have as many artisans and labourers in its ranks as possible; and not only that it should have these men, but that there should be constant work found for them, so far as it can be done consistently with the military necessities of the regiment; for we must never ignore the military necessities of a corps. Take India or take the colonies, there are military duties to be performed there which it is impossible to neglect. Now let me refer to the twenty men on guard at Dover mentioned by a gentleman opposite. Those twenty men on guard furnished probably six or seven sentries. Does the gentleman know where those seven sentries are stationed? There are kitchens, there are walls which the men must not get over. At the entrance gate there are sentries; I don't know the total, but we must allow that the Commanding Officer at Dover would not put on one single sentry that was not necessary. Therefore I doubt whether you can do away with a certain number of men on guard, because there happen to be seen twenty men here or twenty men there on duty. Sentries must be found; for without sentries the men get out of barracks; all sorts of things might happen in stores, cook-houses, and elsewhere, details which those connected with regiments well know. Therefore the objection of that gentleman does not apply. I am very glad to hear from Colonel Fletcher about the instruction that he has given to many men of the Guards, and still more gratified to hear how willingly they have taken to that instruction without payment. We all know that the soldier, generally speaking, does not like work, and one is delighted to hear of the men of any corps wishing to improve themselves in the actual work of their profession. There is an old saying in the Army among soldiers, "Why, if I wanted to work hard at digging, I need not have enlisted." That is the sort of feeling which prevails, and one is gratified to hear that this feeling has been overcome, to a certain extent, by those who wish really to improve themselves in their profession. Some Commanding Officers object to habitual working parties for their men, because, liking to have them smart and set up on parade, they think it interferes with these qualifications; but I am sure those who have been upon service feel that the regiment which is best fitted for a campaign is the one that has been most accustomed to work. Any person who has been on service will see the difference between soldiers who have been at even a common peace-camp and those who have been in no camp at all. That is the mildest way in which you can make the comparison, and I have myself seen a regiment arrive on foreign Service perfectly incapable of pitching its tents, not knowing where to get its fuel, or how to use its fuel, or how to make its kitchens; whereas, the regiment which has been in a peace-camp, even for a short time, is able to do all these things. Therefore labour is everything in an Army, and I hope Commanding Officers generally will feel that the more it is attended to, the better for the regiment upon service, because, after all, efficiency for real service is the point we must look to at last. I quite agree that the term of enlistment should be shortened. If you have a short term of enlistment, you can insist upon men doing things which you cannot with a ten years' service. Not only that, but another result can be kept in view, that if a man can come in at eighteen, you need not provide all that complicated system which is necessary for the married soldier. It is an enormous expense and an enormous inconvenience. Every regimental Officer knows, on the movement of a battalion, what an inconvenience it is, what miserable scenes take place with men in debt and men married. You could at once settle that, provided the men enlisted only for a short time. But then comes the question of expense. If you have 60,000 men in India, and you can only send out these men for four or five years' service, see what expense it must be compared with a ten years' service. However, that is a question we may well leave to the philanthropy of the House of Commons; that is to say, to those who really have power over the soldier's well-being; it lies at the very basis of the whole question of Army Reform.

Dr. STALLARD: Will you allow me to explain? It appears to me, with respect to the number of men employed upon guard and sentries, that there are already the

widest differences between various regiments under various circumstances. In the Marine Artillery, for example, there is an extraordinary small number of sentries and guards. I found also in a regiment at Portsmouth there were only three persons employed as sentries in the whole regiment. The Officer said, I would rather have no walls to my barracks. He said, "I don't consider it necessary to have walls and to treat my men as school-boys; I never have, and never shall." As far as I could make out, there was no relaxation of discipline. On the contrary, I know that that regiment was capable of making all its own clothes and doing all its own work; and, probably, it did as much actual work as any regiment in the Service. But when I know that when a sewer has to be flushed, or a pury to be emptied, it is absolutely necessary to call in the contractor to do it, which is the case continually, and when I know that the Commanding Officer will not detail men to sweep the dirt away, it appears to me that system is carried to an extreme.

Sir HARRY VERNEY: I would add that men enlisting for five years will have no pension; that will be a great reduction of expense. Also I would say that I moved for a return of the amount which one battalion of the Rifle Brigade had earned in India. Sir Hugh Rose was so pleased with that battalion that he made it a present.

General Lord NAPIER OF MAGDALA, G.C.B.: I would beg leave to say a few words. I don't know if I am infringing the rules by speaking here without previous notice, but having had some experience in the working of soldiers, I can fully corroborate what has been said as to the advantage of employing them. I also think some remarks are necessary with regard to the circumstance mentioned by a gentleman who spoke of the twenty men on guard at Dover. With regard to the working of soldiers, that, perhaps, has been practised more in India than in this country. I remember very well Her Majesty's 13th Regiment being employed in a hill station. The Engineer wanted to remove a number of hills; he gave the work over in contract to the soldiers. They looked very hard at their bargain; they measured the hills, and they considered the matter for two or three days before they would take the contract. They got their oldest heads to examine the contract, and when they had satisfied themselves, they took the contract for better or for worse. They did their work perfectly, and were all the better for it. There are now many miles of road in the Himalayas which have been made by soldiers who are employed there every year. An amount of labour has been obtained which could not have been taken from the civil population, for the people are not very fond of work, and are jealous of any interference, so that by the employment of soldiers a great advantage has been gained in a military point of view by connecting two military stations by a line of mountain road. With regard to native troops I can speak with great confidence, because I have watched the labour of these men. It was formerly the custom to canton the regiments in India, and to make them build their own huts. No one took much pains to see what sort of huts they built. They were built in regular lines, and very miserable huts they were. But with the gradual progress in sanitary improvements, better huts have become necessary, and the men have been engaged to build them. The class of natives in India which supply the soldier, does not like labour. They are often able to put forward religious objections to labour, but they work in their own homes, and the man who in former times would have refused to take up a spade or a basket at the order of his Officer, might have been seen in his own home covered with mud in making his hut. Still they were allowed to put forward the religious objection. But that has now been very much done away with, and they have been engaged, particularly in the Bombay Presidency, in making their own lines. The expense of labour in that Presidency is very great, and at the same time the cost of all materials has risen very much. The soldiers were therefore told, "If you will give the labour, we will give you the materials, if you cannot buy them, for the sum allowed by Government" (it was rather a small sum). For each set of lines there was an estimate made by the Engineer Department, and I found, upon calling for a statement of what had been done by about thirteen regiments, that the work was accomplished for £80,000 under the estimate. The men have been stimulated to great emulation, and have built very nice lines indeed. Some of the native Officers' houses that I went into instead of being mere hovels, which they used to be formerly, are really now very nice abodes, and very comfortable inside. With regard to what has been said about twenty men

on guard, very apposite remarks have been made by Sir William Codrington; but I think it might be further stated that the whole education of an Army has reference to a few days comparatively of its existence. Its whole existence is an education for the day of battle, and it is impossible that an Army can be efficient, which neglects, in time of peace, those duties that it is called upon to practise at a moment's notice in war. The soldier in peace has to be on guard, he is taught the paramount importance of being watchful, trustworthy, and vigilant; he learns that if he goes to sleep at his post, or if he disobeys orders, or allows a person to pass that ought not to pass, he is subject to punishment. That gives him the habit of "discipline." I think that explanation might prove satisfactory to gentlemen when they think they see soldiers playing at duty.

Colonel EVELYN, Commandant 1st Royal Surrey Militia: As instances from experience seem to be received with interest this evening, I may as well state another fact concerning a regiment that has already been honorably mentioned, the Rifle Brigade, in which I formerly served. A good many years ago on the frontier of the Cape of Good Hope, many of these excellent measures which now excite so much interest with reference to the employment of the soldier, were put into practice. The first battalion of the Rifle Brigade built a town, they built excellent barracks, they built houses for their officers, some of "wattle-and-daub," some of bricks, and roofed with various materials. They also made an aqueduct some three or four miles long to supply the camp with water, and for the purpose of irrigation. When we left, they had more than half built permanent barracks of stone. That was all done entirely by one battalion, without neglecting any of its military duties. Colonel Glyn, who has already been mentioned, was at that time a Captain in the regiment. Our Commanding Officer, poor Sydney Beckwith, gave no unnecessary drills. We had a daily parade, inspected arms, &c., and saw that the men were in proper order, and then dismissed them to their working parties, and almost the whole of the regiment was employed almost every day in working parties. I never heard of a single man objecting to work, although their extra pay was very small, about 4d per day. They preferred this to lounging about in the barrack-rooms. I think it unnecessary to make many remarks about the number of men on guard after what we have heard from Lord Napier of Magdala; but I think at the bottom of the shaft at Dover, the main guard of the town is posted, so that in addition to furnishing sentries, it has to take charge of prisoners, therefore sometimes it would not be safe to have a small guard there. Still I agree with the gentleman who made the objection that we have too many sentries as a rule; and though it is necessary to have sentries in order to teach men their duty on guard in time of war, I think it is a great pity that the number of sentries is often so great as to injure the soldier's health. That I fear is the case in London and in many other places. If you go to that old brick building, called St. James's Palace, which can hardly be considered a royal residence, you may see, from the middle of a back yard, no less than five sentries within a stone's throw of each other. What can we want with so many? We have enormous banks in Lombard Street, we have the most magnificent shops filled with costly works of art, and we have no sentries there, and what can we want with so many sentries round St. James's Palace? It is the same with many other places. At the same time it is most important to post young men as sentries; I have done it myself often, in order to teach them their duties.

Colonel EWART, C.B., R.E.: It is getting somewhat late, therefore I would limit what I have to say to a few words. As a Commanding Royal Engineer, I should not like this discussion to close without saying something upon the subject, especially upon some points which have been adverted to. I think we ought to return our thanks to Captain Webber for the trouble he has taken in getting up this paper, and for the valuable statistics which he has collected; because these statistics prove what may be done. The question of piece-work has been adverted to, as if there was something new in it. In every rank in the corps of Royal Engineers, I have been somewhere or other engaged in the employment of military labour. I can only say that if my friend Mr. Chadwick had been at Gibraltar with me twenty years ago, he would have seen me at six in the morning going to the works and laying out tasks for the men. The men, if employed by task-work in that climate, are able to get away from the

works earlier than would otherwise be the case, and are thus less exposed under a hot sun. Therefore, there is nothing new in the idea; we have worked by task-work in the Engineers; we have worked by piece-work, and we have worked by day-work. The key of the position in the matter under discussion is this, that, in order to carry out this system effectually, the Commanding Officers must be with us. I may mention that I and other Commanding Officers of Engineers are most anxious to promote this sort of employment for the troops. We find it answers where we get the Commanding Officer to take it up and work it. You have heard what Colonel Fletcher has said this evening. The work he has described happens to be going on in the district of which I am the Commanding Royal Engineer. Therefore, I can endorse what he has said as to the way in which that work has been done by the battalion to which he referred. This work was begun when Colonel Fletcher was in command of that battalion, and no doubt his example and his superintendence were mainly the causes of that work succeeding so well. Captain Webber has spoken of a regiment where the scheme has been perfectly carried out. I am sure we in the Engineers are quite ready to do everything in our power to see this system adopted, but we want the Commanding Officers to be with us. Something has also been said on the subject of road-making. I would just make one remark with regard to what was said about road-making in the Crimea, although I speak with some diffidence in the presence of Sir William Codrington. At the time of the siege, when there was a great want of road-making, there was also a great want of men. When the siege was over, there was no difficulty in making roads. It was about that time that the Army Work Corps arrived from England. The Army Work Corps brought out a great many highly paid carpenters and highly paid smiths. They all looked very comfortable. They all brought out a great deal of porter, which they were always ready to drink. But the main work of these roads was done by the soldiers. I think I may say there were 10,000 men employed upon those roads per day.

Sir WILLIAM CODRINGTON: For a short time 10,000 and 7,000 men.

Colonel EWART: The advantage of the Army Work Corps coming out at that time was their bringing out these artisans, these highly-paid carpenters, &c.; these were the men we wanted.

We had many artificers in the Sappers at the beginning of the siege, but at the end of the siege the numbers were greatly reduced. When the siege was over, our men were employed in road-making and draining, and in supplying many other wants experienced by the troops. The difficulty with regard to piece-work in reference to the question which Captain Webber has brought before us is this, Captain Webber has mainly spoken of barrack repairs—barrack repairs are small works. After a time you may perhaps be able to establish a schedule of prices, and pay the men by this for each thing that they do: still this must be the result of experience. It is much more difficult to establish such a schedule with regard to these small odds and ends of barrack repairs, than it is with regard to large works such as navvies execute.

Lieutenant-Colonel CHESNEY, R.E.: I will only follow what Colonel Ewart has said upon the subject of piece-work by adding that, in 1817, I was employed on a military work under the late Sir William Gordon, with a number of engineer soldiers and convicts, altogether about 300 men. Every man worked on piece-work. But in 1857 I worked with a civilian contractor, who also employed 300 men, and every one of those men worked by day-work. I mention the facts to show that it is an illusion to suppose that civilians always work by piece-work, and the Army by day-work, as one of the preceding speakers would imply.

Sir WILLIAM CODRINGTON: I do not know whether I am in order speaking a second time, but I will not detain you long. It is in reference to the Army Work Corps, referred to by the last speaker (Colonel Ewart). I have heard many people say, "Oh, when we have another war, you will find all the work of the Army will be done by a civilian corps sent out with the Army." I have said, "I am very glad to hear it; it will take a great deal of work off the hands of the fighting portion of the Army; but you will find a great difficulty in the way of discipline." And I cited the experience of the Army Work Corps. What has been mentioned this evening is in corroboration of it. The Army Work Corps came out in the midst

of the first winter in detachments, before I was in command, though subsequently I had a great deal to do with them. The first operation they had to do on the plateau of Sebastopol was to put up tents, and make themselves comfortable. That was no easy matter for them; an immense quantity of time was naturally occupied in housing themselves in these tents and huts, and getting themselves to rights. It is quite true that when the war was virtually over, they were employed in making the main road from Balaklava to the front; and being a limited number, of course the troops had to be employed, and they were employed; 2,000, 3,000, 7,000, and at one time 10,000 soldiers worked at that road, between six and seven miles in length. It is certainly not the case that the road was made entirely by the Army Work Corps. The country was at an enormous expense for the Army Work Corps: 5s. a day per man, rations, and clothing. Supplies of all sorts, not only of necessity, but of convenience, perhaps luxury, *quasi* a soldier's life, such as large chopping blocks such as you see in butchers' shops in England, which were provided for the use of the Army Work Corps in front of Sebastopol. Plumbers were sent out; for what purpose? We had little to do with pipes and cisterns. Many were artisans at 7s. 6d. a day—no man less than 5s. a day—besides rations, clothing, tents, and stores. They were not engaged to go under fire; they were not employed in the work of batteries or trenches; and after the south side was taken, it was doubtful, for this reason, whether they could be employed even in re-making the road into Sebastopol. They were not under the Mutiny Act till 1856, and the statement was put to me by the Superintendent, "If you will not put them under the discipline of the Mutiny Act, I cannot keep them in order." "No," said I, "I cannot do it; I shall only be brought up in a civil court in England. But if they come into my camp, and cause disturbance or an absence of discipline there, I shall take care that they shall be punished. Mr. Superintendent, you must keep your own people in order." "Well," he said, "I cannot do it." "What does your discipline consist of?" "Fining." "Nothing else?" "No." "Then you had better go home and tell your own story, for I cannot help you as to that." Although the Superintendents were very good men, many of them men of ability, and in the Corps were several good workmen, if it had not been for the assistance of the Army they would never have made the road to which the last speaker referred.

Colonel LOWRY (47th Regiment): As Commanding Officer of a Battalion of the Line, and thus one of those who have been so frequently referred to by the lecturer to-night, may I be permitted to express my sense of the importance of the subject which has been brought before us? Captain Webber has referred to some of the difficulties to be encountered in the endeavour to harmonize a system of Military labour with Military discipline, and the duties and requirements more essentially appertaining to regimental life. He has mentioned several, but I am not quite satisfied that he has fully disposed of them, and I think a good work remains to be done by any one who not only notes the difficulties which may be expected to arise, and especially at first, but who, as far as possible, provides for them. I think the difficulty of dove-tailing a system of Military labour, such as the lecturer has indicated, into the every day life of a battalion, is considerable; but I feel sure it is not insuperable, and I rejoice at every effort to clear up a subject so full of importance to the public service and to the soldier. I feel satisfied that if Commanding Officers could only see their way to working out the principle of employing their men at different trades, whilst keeping them efficient and smart as soldiers, and at the same time not unfairly working those who are not tradesmen or artisans, they would most readily give effect to it. My own experience of the subject has been very limited, but as it may serve to show some of the difficulties attending it, I venture to offer it to the Meeting. In 1866, when on service in Canada, we got up a Soldiers' Industrial Exhibition, which elicited considerable talent, and no little painstaking on the part of the Military in the western part of that dominion. Everything was duly prepared. I had read an address to the Major-General commanding there, praying him to open the Exhibition, and General Napier had just replied, when the whole thing was virtually broken up by a telegram reporting the crossing of our frontier by a large body of Fenians, and so causing the immediate dispersion of our men from the Exhibition at

Toronto. The following year the regiment under my command entered zealously on the cultivation of gardens at the same place. The men took a thorough interest in them, and, I must say, brought them to great perfection; but a sudden order sent us to Halifax, and we never reaped the fruits. In Nova Scotia, I received a communication from the authorities in this country desiring to be informed whether I considered it would be possible for the regiment to undertake most of the work in connection with the repair, &c., of barracks, usually done by the Royal Engineers. I replied at once that I should readily attempt to carry out the proposal, and that I entertained good hopes of success. The artisans of the Corps were organized, a skilful Non-Commissioned Officer placed over them, and a likely Officer of Industry duly off. Before authority was received for us to commence operations, the regiment was ordered to the West Indies, and thus ended, Mr. Chairman, the third attempt of the 47th Regiment to develop a system of Military labour. But, Sir, I have long felt an interest in the subject so ably handled by the lecturer to-night, and I rejoice that he has taken it up, for I am satisfied that there are no difficulties connected with so working the soldier that they may not be overcome.

The CHAIRMAN: It is my duty to invite Captain Webber, if he has anything to say in reply, to do so now.

Captain WEBBER: There is nothing, I think, left for me to say on the subject, because I find there have been no dissentients to any propositions that I have brought forward. Therefore, I only add that I am extremely happy that the few remarks which I have been led to put on paper have brought out such an interesting discussion.

The CHAIRMAN: I am sure I shall be doing my duty by thanking Captain Webber for the discussion he has originated, and for the valuable paper he has brought before us.

NOTE.—The following remarks are added at Dr. Stallard's request.—Ed.

"At the risk of being considered Quixotic in my opinions, I should, nevertheless, be glad to be permitted to make one or two observations on the remarks of Lord Napier of Magdala on the necessity of directing the discipline of the soldier to the great object of his life, viz., actual war. I should be sorry to seem to differ with Lord Napier, when, perhaps, there would not be so much difference if we analyse the soldier's real requirements. What are they? I venture to think confidence in himself and his comrades, the result of health, good feeding, and the habit of moving and acting with others; fortitude, the result of a good knowledge of his weapons; and watchfulness, created and maintained by an intelligent appreciation of his position before the enemy, and of the enormous stake involved in an exact performance of his duty. Now, I venture to think that these qualifications are not cultivated by the practice of 'Sentry Go.' The man is deprived of his usual rest, he passes two hours out of three in a hot and often stifling guard-room; then he marches out, and is exposed to all sorts of weather, with nothing to keep his mind occupied, except the occasional visit of his Officer. How often do such men, if they have any intelligence, feel that they are in fact engaged on a disagreeable and useless duty? How often do they sigh for something to break the monotony of their march backwards and forwards, it may be, on some out-of-the-way rampart, where they are placed for the purpose of stopping the entrance or exit of some of their comrades, whom they have no heart to catch, because they may want to pass that way themselves another night. Where is the barrack that a soldier cannot break out of if he wishes, and where are the sentries that a comrade cannot pass? The gymnastic courts make them all good climbers; so that I venture to think that the men would be better in bed, that their attention would be better cultivated by doing honest work. I will back the watchfulness of an intelligent soldier, who has only done the "Sentry Go" a dozen times, against that of an old hand who has learned how to pass the hour on sentry with as little trouble as he can.

"Mr. Kinglake has some very strong remarks on the carelessness of the English sentries before Balaklava, and he attributes it to the habit of doing useless "Sentry Go's" at home. The men acquire the habit of inattention, because, as a rule, little

or no attention is required. The whole matter is regarded as routine, and the real question is, whether the time has not come when we may wisely substitute intelligence for it, not altogether, perhaps, but still to a considerable extent. Any thing, therefore, which improves the character of the soldier ought, in time of peace at least, to stand before mechanical routine; and I hold that regular habits and genuine hard work will prove the best foundation for a faithful performance of duty when the moment of action comes. The knowledge of his weapons and his drill of course stand first; but even with respect to the latter, it has often struck me as an useless and, to many men, a disgusting regulation, which requires that every man in the ranks, even if he has passed a dozen years in the Army, is obliged to go through his goose-step every year, as if he were a raw recruit, and this, notwithstanding that the man may have been temporarily promoted to the non-commissioned ranks. The fact is, that the soldier is too much treated as an ignorant child, and the complaint is continually made that he is so in reality. Whilst everything is done for him, even to the regulation of his smallest movements, he will be nothing else. If a mechanical machine is wanted, this is, of course, the right process, because routine discipline is the agent by which individuality is destroyed. But if we once recognise that individual self-reliance and intelligence are preferable, then we must be careful lest we give routine too high a place."