The sanitary reform of the British Army / by Philostratiōtēs.

THE

SANITARY REFORM

OF

THE BRITISH ARMY.

BY

Φιλοστρατιώτης.

THIRD EDITION.

"The Army is a part of society employed, it is true, in services of a peculiar nature, which require a peculiar organization, but not on that account cut off from the general mass of the community."—COUNT RUMFORD.

"Nothing can be so extravagant as to kill good men, who have been trained at such an expense."—*Speech of the* Right Hon. SIDNEY HERBERT.

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1859.

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TO MAJOR-GENERAL

SIR RICHARD AIREY, K.C.B.,

&c., &c., &c.,

QUARTER-MASTER GENERAL OF HER MAJESTY'S FORCES.

Sir,—There is no one who has the permanent welfare of the Soldier and the efficiency of the Service more sincerely at heart than yourself, and there is no one who can estimate the value or practicability of my suggestions for the Sanitary Improvement of the British Army better than you can: it is for these reasons that I take the liberty of dedicating the following pages to you, with the very sincere respect of

Your obedient Servant,

THE AUTHOR.

PREFACE TO THE FIRST EDITION.

I HAVE, for many years, observed with sincere regret, the deplorable ill health and consequent inefficiency of the British Army, composed of men with steel hearts and physical elasticity which no enemy could daunt—men who were ready and willing, at any moment, to lay down their lives in their country's cause.

A sort of shame comes over me while I write these lines, that I should have looked on so long and have done nothing to remedy this monster evil, leaving it to the Army Medical Department, whose especial duty it was, to rectify this inhumane mismanagement of our brave fellow-countrymen. Indeed, I had hoped from day to day, and from year to year, to see some modern HOWARD rise up to investigate the evil and suggest the remedy; but up to the present moment, my hopes have not been realized. The only indication of a tendency to this most desirable end was the appointment of a Royal Commission of Inquiry last year, which resulted in the publication of a vast amount of information, most startling and astounding to those who had not given much attention to the subject. Could it be supposed that, in this nation of Patriots and Philanthropists, our brave and matchless soldiers, pouring out their blood, not to support a despotic sovereign on the throne (for, thank God, we have a liberty-loving and truly amiable Monarch), but to maintain our rights and liberties at home and abroad, should have been treated with such thoughtless and reckless cruelty and inhumanity, and at a waste of treasure to this over-taxed nation, of several millions sterling a year; in fact, more than one-half of the cost of the army has thus been wasted!

I anxiously inquired of the military authorities, and also caused my friends to make inquiries in both Houses of Parliament, to ascertain whether anything was about to be done to remedy this lamentable condition of our Army, but no satisfactory answer could be obtained.

After painfully observing the old adage verified, that "what is everybody's business is nobody's business," I ventured to take an exception to this general rule, and on the 4th of last March I addressed a letter to His Royal Highness the Commander-in-Chief, at the Horse Guards, and on the 19th of the same month another letter to the Secretary of State for War, at the War Office; but these communications have hitherto remained "dead letters" in both departments. Several members of the Houses of Parliament, to whom I have mentioned the circumstance and the contents of these letters, advised me to have the one addressed to the Commander-in-Chief published, which I certainly should have done, but I had not kept a copy, and upon inquiry at the Horse Guards the original could not be found. I had, therefore, no alternative but to embody the contents of them, as far as I could remember, in the form of a pamphlet, which I now beg, with much deference and respect, to present to the public, in the fervent hope of affording some information and offering some useful and practical suggestions on a subject which all must admit, in the present position of this country, of the very utmost national importance.

Φιλοστρατιώτης.

Wilton House, Rrgent's Park,
August, 1858.

PREFACE TO THE SECOND EDITION.

THE first Edition of this Pamphlet being exhausted, and the very favourable and encouraging reception given by the Public and the Press to the suggestions advanced by the Author, have induced the issue of a Second Edition. Moreover, although these suggestions have been before the military authorities for more than a year, and the *mortality in the army is still on the increase*, nothing whatever has been done to remedy this very serious national evil; forcibly recalling to mind the well-known fact, that reforms, however vital and important, seldom begin in official quarters; the unmistakable voice of public opinion, however, must, ere long, lead to real and permanent improvement.

The Author therefore hopes that as his Pamphlet is being read and extensively circulated throughout the British Empire, he may live to have the happiness of seeing his suggestions carried out to their full and practicable extent, which will give him more real pleasure and satisfaction than the highest honours could bestow.

WILTON HOUSE, REGENT'S PARK,
May, 1859.

PREFACE TO THE THIRD EDITION.

THE important facts in reference to desertions from the Army which have come to light since the Author entered upon the great object of his anxiety, stimulate his hopes of an early attention in the proper quarter to his plans of sanitary reform. What can be supposed the reason for 20,360 soldiers running away from the service within the last year, at a loss to the country of nearly two millions sterling, but a painful sense of discomfort?

It affords the writer no little pleasure to find that public sympathy so soon demands a third edition of his *brochure*. He now, with some confidence, looks for the practical co-operation of those humane and patriotic persons who have been emphatic in their approval of the measures recommended.

WILTON HOUSE, REGENT'S PARK,
July, 1859.

THE SANITARY REFORM

OF

THE BRITISH ARMY.

"On ne saurait croire, combien une petite santé, bien conduite, peut aller loin." *Reveillé-Parise.*

So long as Great Britain occupies her high position among the nations of the earth, so long as her colonies and dependencies are to be found in every quarter of the globe and in every clime. so long as the jealousies, the passions, and the interests of other governments make war a possibility, so long must the British Army be maintained in its efficiency.

Independently of the gratitude which, as a nation, we owe to those who have fought and bled for us, and for our homes, our firesides, and our liberties, it becomes a question of the deepest importance how to repay their devotion by increased comfort, how best to maintain and add to their efficiency, and yet, while so doing, regulate the needful expenditure economically and judiciously.

It is, however, a painful consideration, that while the nation has been most desirous to do all that could be wished, while the House of Commons can by no means be accused of parsimony, the military authorities have not always been judicious in the application of the funds placed at their disposal; nor have they benefited by experience, nor turned to account the increasing knowledge in scientific improvements within their reach. The uninterrupted peace which prevailed from 1815 to 1853, left the military administration so secure in their repose, that their organization became a system of lifeless routine, unequal to grapple with or remedy the most flagrant evils, even when pointed out to them. That they were well known, and that zealous subordinates urged remedial measures, there is ample evidence to prove; yet it is deserving of observation, that the worst and most dangerous nuisances then complained of, have not been remedied to this day.

A Royal Commission, appointed in May, 1857, has conducted an inquiry into the sanitary condition of the Army, and from a great mass of evidence, has published a report embodying many excellent recommendations and suggestions. The facts adduced on examination of witnesses, prove a state of things most startling, and exhibit a recklessness and waste of human life, and an amount of ignorance, under the circumstances, most inexcusable and unpardonable.

The Army, strange to say, in peace at home and in its usual state of health, exhibits a degree of mortality much greater than is shown by any class of civilians, including the most dangerous

and sickly employments, even that of miners, who are hourly exposed to accidents of various kinds, and to the most deadly influences.*

The greatest perils are not those of the battle-field. History, poetry, and fiction describe, in powerful and affecting language, the carnage of the field, the siege, the deadly breach, and the march, and call up before the mind's eye scenes of horror, relieved only by the halo of glory thrown around them; but the Report of the Royal Commission, in pitiless arithmetic, at once demolishes the popular delusion, and exposes, in all the nakedness of unadorned truth, the horrible fact that the mortality of the British Army is so inconsiderably swelled by losses in action, that, compared with the silent and gradual waste of life at home and in peace, "it is not worth mentioning;" that the Minié ball, the shell, the rocket, the bayonet, and the sabre, are less deadly than pestilence and disease, originated and perpetuated by inattention to the commonest rules of medical hygiene.

If ever sanitary science had a favourable field to operate upon, it exists in our army. In recruiting all are rejected (nearly one-third of those offered) who are weak, sickly, or exhibit seeds of latent disease; those accepted are further reduced in number by invaliding; those who show symptoms of breaking-up, and those left, are still further reduced by the discharge of men who have served the period for which they enlisted, and whose deaths (76 per 1,000) swell the returns of the Registrar-General, and not those of the Horse Guards.

Yet, with all these advantages, twice as many men die year by year in the ranks of the army, as in the classes of the civil population, from which they were taken, and on whom the rejected lives, to the number of 57,381 in ten years, from 1842 to 1852, have been thrown back.

Colonel Sir A. M. Tulloch, K.C.B., in his replies (6367—6369) states the civil population loses, from 20 to 25 years of age, at 9.6 per 1000, while, in the Cavalry, the mortality shown is upwards of 11 per 1,000, in the Line, 18 per 1,000, and in the Guards, upwards of 20 per 1,000, and this has been increasing of late years, till the Grenadier Guards now stand at 21.5 per 1,000! A general officer informed the author, that when he took the Guards to the Crimea they could stand no fatigue—they were, to use his own words, "perfectly rotten." On inquiry as to the cause, his reply was, "*Drunkenness*, and *dissipation in London*." This only confirms the opinion given by Louis Cornaro more than three hundred years ago, "There cannot be health or long life without perfect sobriety."†

This fearful state of things has been ascribed to various causes,

* "Why," asks the Hon. Sidney Herbert, "should the profession of arms entail on those who adopt it a higher rate of mortality than almost any other profession?"—The answer to this important question will be found in the following pages.

† "*Discorsi della Vita Sobria*." PADUA. 1558.

but reduced by the Commissioners to three distinct heads:—*Night duty; want of exercise* and *suitable employment; intemperance* and *vice, indifferent ventilation*, and *a crowded state of the barracks; exposure to nuisances, arising from defective sewage, regulation, and cooking.*

Careful examination proves, that although to each division are distinctly traceable serious results, they are all, more or less, deducible from three primary and monster evils:

Improper food and cooking; bad barrack accommodation; and *want of useful employment;* and it is asserted that remedial alterations in these particulars will effect those most important desiderata, the health and efficiency of the various arms of the service.

NIGHT DUTY has been much exaggerated as one of the chief causes of ill health. As contrasted with the London policeman the soldier is less exposed to the inclemency of the weather, less vigilance is required of him as a fixed sentinel; nor is he exposed to conflicts with the drunken ruffianism of the metropolis, hand-to-hand fights with burglars, or the chase of thieves through lanes and alleys, whose breakneck peculiarities are better known to the pursued than to the pursuer.

The principal feature in the night duty seems to be lying down to sleep in their wet clothes; but this seems a matter so easily remedied, resolving itself into the provision of a few pegs on which to hang, and the means of drying, those garments, or even additional guard greatcoats, that it is no wonder a sad smile should pass over the features of common-sense civilians, that these petty evils should be allowed to continue, and form, in the opinion of Colonel North, "the causes of much of the illness and mortality of the Foot Guards."

Indeed, after a careful investigation of this section of the mortality causes, including the latter item, so easily admitting of remedy, the Commissioners dismiss the subject, by attaching to it very little importance:—Exposure to night duty merely stimulates into active energy the seeds of latent disease, caused by want of *proper barrack accommodation in suitable localities*, absence of *useful employment*, not merely military, and the *enervating mental* and *bodily effects produced* by *ennui*, all tending to reduce the conservative and reparative powers of the system, "Ex viribus vivimus," and inducing susceptibility to disease.

In regard to *intemperance*, the soldier is found to be not more drunken than the classes from which he is taken, and the evidence only proves the truism that, like other men, he would be improved by greater abstinence from intoxicating liquor. *Ennui* and the situation of his barracks, and still more the absence of *useful employment for his leisure hours*, have much to do with the prevalence of this habit, so demoralising mentally, and so destructive to the constitution, by producing disease of the digestive organs and nervous system, and causing *more than nine-tenths of the cases of lunacy.*

Vice, veiled by the terms, "dissipation of other kinds," in plain language, sexual debauchery, it is admitted, prevails among soldiers to a greater extent than among young men of the same age, from the mass of the population. Here, again, the same causes appear as the root of the evil, and are rightly ascribed, by the Report, to the soldier's fixed residence *in towns and cities*, with their greater facilities for debauchery. The number of lives lost and of men whose health is yearly sacrificed to this cause, swell the returns of mortality and "unfitness for service," amounting to 206 men per 1,000 in Cavalry, and 250 per 1,000 in Infantry, permanently affected with venereal disease of all kinds (9570). It is asserted that more than 5 per cent. of our army are in hospital, or off duty, from *this cause alone:* and of these, not *one half are ever again fit for duty.* Soldiers never apply to the surgeon till disease has made very serious inroads on their health, supervening venereal rheumatism, in the majority of cases, rendering the soldier morbidly susceptible of cold, which any additional clothing he may put on cannot prevent. It is much to be desired that the surgeons should fraternise a little more with the men, which I think they might do, without in any way lessening the dignity of their position, and thus inspire these poor fellows with a more friendly confidence in their medical attendant, so that proper attention might be given to the disease in its early stages, where a speedy and radical cure might then be hoped for.

A medical friend of mine had once the temporary charge of some troops. On delivering his report, he was asked how many deaths he had. "None." How many cases of illness?—"Not one per cent." How was this? Had he omitted to put down any? "No," said he, "but I used the best means I could to *prevent* illness, and made myself a sort of father of the family, and the soldiers made known their little ailments to me as soon as they occurred, and most of them I could stop at once; they were very submissive and grateful, and we became reciprocally attached to each other, and disease found no encouragement amongst us."

There have been competitive examinations for superior qualifications of surgeons, might there not be competitive medical returns for superior health of the soldiers? surely the one is quite as much deserving of a trial as the other.

On the subject of Clothing:—A little attention and common sense on the part of the Clothing Department, to the climate, duty, and quality of the materials supplied, would soon rectify the errors in this direction. The more healthy the constitution, the more independent of the defence of clothing:—the more the conservative powers of the human frame are reduced, the more necessity for the defence of clothing.

No one can look at a soldier in heavy marching order without mingled feelings of commiseration and disgust at the manner in which the poor fellow is loaded, with a square box on his

back, to which he is strapped in a way that compresses the pectoral, scapular, and dorsal muscles (the chief instruments used in moving the arms), and strangles the blood-vessels and nerves in the axilla, rendering his arms almost useless, and his breathing difficult, and tending no doubt to induce consumption.* Anything so monstrous, so barbarous and cruel as this "regulation knapsack," on a long march, it is hardly possible to imagine. The application of a little mechanical skill might materially lessen, if not wholly remedy, this very serious evil. Again, it may be asked, what can the Medical Department be about, whose duty it certainly is, or ought to be, to see that the soldier's physical action is free from impediment or hindrance of every kind? Next in importance, are the boots:—Every one must have noticed the crippled condition of the soldiers after a march of only a few miles, arising from the ill-adapted boots they are compelled to wear. These boots are constructed of the most rigid and unyielding materials, under the mistaken notion that rigidity implies strength and durability. This is a great error: a pliant boot, made of sound materials, will last much longer. Every mechanical appliance to the human frame ought to follow, and not impede, the healthy mechanical action of the part to which it is applied. If this fact were more generally known and acted upon, much pain, suffering, and disease would be avoided, and the action of the human frame would be more free and more graceful.

The question of DIET demands and has received greater attention:—As to quantity and quality of what is supplied, the diet of the soldier appears far superior to that of the agricultural labourer, but there the superiority ends. Variety in kind and preparation is absolutely necessary to insure health (5262). The soldier is provided with neither change in kind nor in cookery; he is often condemned to live on boiled beef for twenty-one years. The constant repetition of the meal of soddened meat becomes so disgusting that the soldier, in fact, throws his food to the dogs; out of ¾lb. allowed, not more than half is consumed, and, of course, the soldier falls off in strength. His disgust prevents him from consuming and digesting the quantity required to keep up "the athletic constitution," or that which is capable of great and continuous muscular efforts, as in prize-running and other similar feats. Soldiers are, in every respect, physical-force men, and will be the more efficient the nearer they are brought to the athletic constitution; but as the demand for protracted manual exertion occurs only at intervals, the highly nutritive athletic dietary is not necessary. It must, however, consist of ¾lb. of carboniferous and ¼lb. of nitrogenous principles, in whatever way, or in whatever materials supplied, and of not less than 23 ounces of real nutriment. Vegetables ought, therefore, to form a considerable proportion of the soldier's rations. In the

* Vide Dr. Lebeau, Physician-in-Chief to the Military Hospitals of Belgium.—*Hospital Report.*

present arrangements, these are difficult to be had, and are not, therefore, used in quantities at all equal to their necessity and importance.

The object of this pamphlet being to point out the radical defects under which the military medical hygiene labours, and to exhibit the remedial alternative, the supply of so essential an element in the dietary of the soldier, will be adverted to in the means proposed for the relief of the monotony of the soldier's life.

In considering, further, the causes of mortality in all branches of the army, and the means of remedy, BARRACK ACCOMMODATION becomes one of the most important.

Barracks were originally erected in cities and large towns to serve three purposes:—To avoid billeting, to encourage recruiting, and for the repression of popular disturbances. The last object is superseded by the efficiency of the police and the rapid conveyance by railway.

The concurrent testimony of all who have been examined, officers and others, shows that they are a disgrace to the age in which we live, to that department of the service to which they more particularly belong, and exhibit an apathy to their continuance in their present state, an ignorance of architectural arrangement, and an utter defiance of the commonest rules of sanitary science, for which there can be no excuse offered, nor by the nation accepted.

In reply to questions as to the cause of the excessive mortality, Sir Richard Airey, (3158, 3166); Colonel Jebb, (5227, 5248); Colonel Tulloch, (6421); G. R. Dartnell, (8675, 8679); Sir J. M'Neill, (9833, 9841); R. Rawlinson, (3314, 3317); The Hon. Colonel Lindsay, (5829, 5833) and others, condemn the construction, ventilation, sanitary and other arrangements in no measured terms.

The fact is, that the barracks generally are most repulsively inhumane, defective in all sanitary arrangements, and even in those matters that make up the "decencies of life;" and the result is, that the soldier lives by day and sleeps "by night in a fetid and unwholesome atmosphere, the habitual breathing of which, though producing, for the most part, no direct perceptible effects, probably lays the seeds of that pulmonary disease which is so fatal to the British Army."

Of the state of this atmosphere, abundant evidence of a most disgusting nature is to be found in the statements of the witnesses before the Barrack Committee.

Such being the case, it is evident that among the causes of disease in the Army, the defects of all kinds in the construction of Barracks are the greatest, the most constant, and most fatal in their results; and yet large sums have been voted by the representatives of the people, a great portion of which has been productive of but little benefit to the soldier or the nation. In any deficiency in the comfort of the troops, the House of Com-

mons is not to blame. During the last thirty-four years, no less than £7,500,000 have been expended, of which, in 1854, 5, 6, & 7, £3,134,633 were for the construction of huts and for the enlargement and repairs of barracks at home; in other words, patching up old barracks on the old system, and building others which are very questionable in their construction, devoid of comfort, ventilation, and proper sanitary arrangements.

A further sum of upwards of a million has been voted within the last two years for the same purpose. Is it wise to spend this amount in the same way? Certainly not! Like all that has gone before it, the apparently unfathomable slough of the present barrack accommodation will swallow it up, leaving nothing of value to show for its expenditure.

It is impossible to improve the barracks in *large cities* so as to fit them for the purposes intended, unless at an expenditure which would be as appalling as it would be absurd.

What, then, is the remedy?

The barracks, in many parts of the kingdom, are *placed in the centre of populous districts*, and in most unhealthy and inappropriate situations. These barracks ought to be sold, and as the sites are often of great value, the returns would be considerable. New buildings ought to be erected on the most approved principles of sanitary science in open spaces in the country, affording room for exercise, ventilation, the erection of workshops, and, if possible, also, the cultivation of agricultural and horticultural productions.

The minimum cubic space allowed to each soldier is 450 feet, but, on the average, there is a deficiency of one-third, and often more than one-half, while it is considered absolutely necessary that, at least, 600 feet be afforded. How is this to be obtained? Is it by extending the present barrack accommodation? A moment's consideration will serve to show that the sum now voted, large as it is, would go but a very short way, as the value of the additional ground required in cities and large towns, (very likely covered with buildings) must be taken into account. But, indeed, the space allotted must be relative to the situation:—300 cubic feet in barracks placed in open country sites, will afford more oxygen — more health-sustaining, blood-purifying air — than 3,000 cubic feet of space in crowded, ill-ventilated localities, where every inhalation is loaded with miasmatous and carbonaceous impurities.

Pulmonary diseases form by far the largest proportion of the deaths and discharges from the army. Great surprise is expressed that such should be the case. A little consideration will, however, change that surprise into greater astonishment that they should be so few under the present mismanagement.

"Consumption and scrofula," says my friend the learned and distinguished Dr. M'Cormac, "in all essentials are one. Tubercle, in its varied protean guises, is but the result of a deterioration of the blood, of the retention of excretions, carbonaceous and

other impurities of the blood, where they ought not to remain. In consequence of the imperfect performance of the respiratory functions, these impurities accumulate. The time at length comes round when they must be got rid of, if not during and through the act of respiration, per force or otherwise. The result is, their deposition as an inorganic matter in the form of tubercle, in the lungs and other organs, these, saving the diffusion of tuberculous blood being perchance, in other respects, sound, a dead matter is deposited in the tissues."

These all-important facts being determined, can it be looked upon as surprising that the soldier, fed on an undue proportion of carboniferous food, sleeping by night and passing his days in ill-ventilated barracks, breathing an atmosphere loaded with carbonaceous impurities, in localities defective in sewage and sanitary precautions, and without general muscular exertion out of doors, or even in-door *employment* combined with *mental exercise*, should acquire that consumptive tendency which it is the apparent endeavour of the regulations of the service to communicate, by pouring into the system, in every way, carbonaceous impurities—the causes of the disease.

Even presuming the extension of barrack accommodation by additional buildings effected in their present situations, confined, ill-ventilated, and ill-drained, by no talent of the engineering department could the buildings be made uniform, convenient, or comfortable.

The erection of new barracks here recommended would afford increased convenience and comfort, much better ventilation through more open space, better sanitary arrangements, provided the medical topography be attended to in the choice of a site, and improve the soldier both physically and morally.

Intemperance and sexual debauchery would be very materially decreased, the opportunities being less to receive and communicate disease; and this opinion is corroborated by the Report of the Commissioners:—"There is, doubtless, a greater amount of dissipation of other kinds among soldiers than among young men of the same class in civil life. Their residence *in towns offers great facilities for sexual debauchery*, and the diseases which are thereby generated, the existence of which the soldier, from one cause or another, frequently conceals, thereby greatly adding to the intensity of the malady and the difficulty of the cure, as well as the necessary severity of the treatment, no doubt, have a most injurious effect on his constitution."

Pulmonary diseases, rheumatism, and other complaints traceable to causes originating in venereal disease, sewage, and improper sanitary arrangements, form the great majority of those cases which prove mortal, or are discharged from the army, and are clearly deducible from the improper barrack accommodation in the inclusive sense, and from the residence of the soldier in towns and cities.

A radical change is, therefore, absolutely necessary. Not one

shilling of the large sum of upwards of a million lately granted ought to be expended, save in temporary and trifling repairs. The plans sent into the War Office during the sitting of the Barrack Committee, in 1855, ought to be examined by a committee of practical men, including military officers, engineer officers, medical officers, and gentlemen well acquainted with sanitary arrangements, and buildings erected in accordance with their recommendations, and at a distance from towns, on sites, the medical topography of which is unexceptionable. (9545.)

The only plausible objection which may be offered against their being placed at a distance from towns, is the want of markets for the soldiers. This is more specious than real. *The more an army is assimilated in time of peace to its conditions in war, and made dependent upon the commissariat for its supplies, the better for the soldier*, and the less we shall be harrowed by the description of such scenes as occurred in the Crimea.

It is folly, nay, it is worse, it is unjust, to accuse the authorities at the Horse Guards of inattention to the lives and comforts of the men. It is notorious that His Royal Highness the present Commander-in-Chief, as well as those able and intelligent men under him, exert themselves in every way, and take a deep interest in the well-being and permanent advantage of the British soldier; but they are, to a great extent, powerless, restrained by routine and adherence to departmental regulations. They may, and often *have* represented a state of facts which generally are admitted, and have been met by the answer:—"All true and very desirable, but Government has no money." Rather than face complaints made in the House of Commons against further outlay, there has been a pandering to the cry of economy, and a risking of the results—a course of procedure false in policy, false in economy, unjust and inhuman. The Army Medical Department and the War Office are alone to blame.

The lowest estimate of the cost of each soldier in recruiting and training is £100. "Nothing," says that amiable and distinguished statesman and philanthropist, the Right Hon. Sidney Herbert, "can be so extravagant as to kill good men, who have been trained at such an expense." It is, besides, a mistake, and a libel on the good sense and humanity of the House of Commons, to say that it will grudge any needful sum required for the comfort and efficiency of the Army, and to save the fearful mortality now so prevalent. They have already shown that nothing is further from their intentions and wishes. The most earnest economist will oppose no grant which he is satisfied will be properly expended for the permanent benefit of the Army? What has been grudged and most justly opposed, is the waste of money thrown away in peddling, unsatisfactory, and useless works, having no beneficial or satisfactory evidence to show for the expenditure. In this opposition they are and will be supported by the country, and by every thinking man who has not a chance of profiting by such reckless and unprofitable outlay. But England

is too large-hearted and too generous to grudge any sum which will truly benefit her brave soldiers.

It is absurd to imagine that improvements upon a large scale can be carried out, save at considerable expense. The subject of barrack accommodation is far too important, and too interesting to the nation, to be any longer allowed to remain without alteration, more especially when the remedy is one of *economy* and *humanity*. Every expenditure which will economise the soldier's health, and conduce to his comfort, is national thrift.

So much, then, for physical improvements; but Col. Jebb goes further, and says he believes that "making a soldier comfortable in his quarters is indispensable, as the basis of all training by which the moral standard of the army may be raised," an opinion which finds a responsive echo in the experience of every man who has devoted any attention to the moral improvement of his fellow-men.

The cause of mortality, as indicated by the Commissioners, which remains unnoticed, *is the want of exercise and suitable employment.*—More than half the deaths in the Army are caused by consumption, which Mr. Neison, the eminent actuary, ascribes *to want of healthy exercise;—Vide* Neison's paper read before the British Association at Leeds.

That the proper employment and exercise of mind and body, are both necessary and conducive to health, no one will dispute. The absence of these requisites, all must admit to be full of danger to the well-being of the human constitution. That exercise formed an important part of the scheme of the Almighty in the construction of the human frame, is evidenced by the fact that we possess 248 bones, and nearly as many joints, and these are moved by 436 muscles. If, therefore, these moving powers be not exercised, they become feeble, diseased, and decay: an important law of nature for the conservation of health is in this way infringed.

"Every muscle of the human frame must live," says a distinguished author, "and it is one of the natural functions that the muscle is to be called into action; and if it is not so, it will assume the form of disease immediately."

To the absence of healthful exercise of mind and body, and the situation and condition of the barracks, may be traced most mischievous results, which press on and destroy the soldier in peace and at home, impair the efficiency of the Army, and form so heavy an item (twelve millions) in the taxation of the country. The historical records of campaigns inform us, that even in war there are periods when armies suffer greatly from monotony, and that the spirits and health of troops improve, on the near prospect of action.

In peace and at home the duty is that of a garrison, and the routine becomes injuriously irksome. Col. the Hon. James Lindsay, than whom few have devoted more attention to the wants and the improvement of the soldier, bears the following

testimony : — "Perhaps no living individual suffers more than he from *ennui*. He has *no employment* save his drill and his duties. These are of a most monotonous and uninteresting description, so much so that you cannot increase them. In consequence of the nature of his position, the soldier has necessarily a *great deal of idle time on his hands*, and of course if he is idle, it naturally leads him into mischief; at least he has an opportunity of getting into mischief. If you were to give the men more military occupation, more military duty, it would disgust them, and you could not do that; you cannot employ their time in a greater amount of duty than at present, except at Aldershott, where they are throwing up works; if you do that, you will disgust them, and the reason of that is this, that all the soldier has to do is under restraint. It is not like a working man, or an artizan: a working man digs and his mind is his own, and an artizan is interested very likely in the work in which he is engaged; but a man in the position of a soldier must give you all his attention, and there is a great physical demand on him in consequence of the weight he carries. All these things make me think that it would be impossible to ask him to do more duty or drill than he is now called on to perform. It ought to be *the duty of government to give him pursuits inside the barracks*, instead of tempting him outside."

Without undervaluing in the slightest degree the cultivation of intellectual pursuits, the supply of libraries, reading-rooms, and newspapers to the soldier, it must not be forgotten that the men are drawn from a class not much inclined to value very highly the acquisition of knowledge beyond mere reading, writing, and arithmetic; and that a taste for learning and habits of study are seldom, if ever, acquired at an age similar to that when recruits begin their education in military day schools. Mental cultivation is inimical to physical development and muscular strength. "Intellectual cultivation," says Dr. James Johnson, "sows the seeds of physical deterioration; and the evils inflicted on the flesh fail not to grow up, and ultimately retaliate with interest on the spirit. The besetting sin of the present generation is that of reading and thinking. A vigorous circulation is necessary to a vigorous contractility, that is, health and strength; and that vigorous contractility is incompatible with a high degree of susceptibility. One of the first effects of civilization is to substitute the labour of the brain for the labour of the hands and feet. Bodily imbecility and enfeebled health are invariably consequent upon a sedentary life; all go to prove that man was destined to live a life of physical activity."

The duties of the soldier are made up of drill, parade, and sentry duty, consuming but a portion of his time, and leaving several hours on his hands unemployed. The effects of this life are more marked in some corps than in others. There is more monotony of occupation and more leisure time in the Infantry of the Line and in the Guards than in the Cavalry:

consequently the foot-soldier spends but a small portion of his time "in exercise or out of doors." The Cavalry soldier has more varied duties to perform. Stable-work, grooming his horse, riding as well as walking, bring different sets of muscles into action, and his spending a greater number of hours in the open air, all tend to the greater benefit of his health.

Agricultural labourers are frequently held forth as instances of longevity, notwithstanding their inferior food, lodging, and personal cleanliness; and they have been contrasted with the soldier, who, at first sight, appears more favourably situated. In certain respects the soldier enjoys numerous advantages over the civilian and agricultural labourer; but they are counterbalanced by evils to which he is condemned by regulation. The real solution of the problem is the *out-door healthful employment* in which the agricultural labourer is engaged.

Somewhat alive to the necessity for muscular exercise, the authorities have provided and encouraged athletic games and amusements, and have even dreamed of importing some of those practised by our lively neighbours. This is a thoughtless error. "*Vive la bagatelle*," is not characteristic of a Briton. Manly sports are very well in their way, and as an occasional recreation; but they are not felt to be useful or satisfying to the mind of a practical and industrious Englishman. Many of the men will not even indulge in the amusements provided for them, purely because they are not profitable. A Briton is at heart a utilitarian animal, and this important fact must never be lost sight of in our efforts for his progressive improvement. Give him work and proper encouragement, and he will do it. In this, his manly character stands forth, worthy of all praise. He must be improved in the direction of his natural tendency; and that being industrial occupation, it becomes the imperative duty of the authorities to find useful and healthful employment for those leisure hours which, free from military duty, are now misspent in idleness, drunkenness, and dissipation. For his labour, the soldier *should be paid* according to the kind and quantity of work done, in addition to his usual pay. This proposal of industrial occupation for the soldier has received the approbation of many distinguished members of both Houses of Parliament, and of military officers of high distinction, who have devoted much time and anxious attention to the wants and requirements of the soldier; amongst others may be mentioned the names of Sir Richard Airey, the Honourable Colonel Lindsay, Colonel Jebb, and Colonel Tulloch.*

Physiology, experience, common sense, and the anxious

*"Besides the schools of instruction, as they were called, schools of industry were established in the regiments, where the soldiers and their children were taught various kinds of work, and from whence they were supplied with raw materials to work for their own emolument; as nothing is so certainly fatal to morals as *habitual idleness*. Every possible means was adopted

craving of the mind for occupation and the frame for exercise, prove incontestibly the soundness of the views herein propounded.

The question arises—how, and in what way, are they to be employed? No doubt, many modes of employment will suggest themselves to the intelligent reader. The first object ought to be, the *removal of barracks from cities and large towns to open and healthy situations in the country.* Waste lands well situated, the medical topography being good, would afford employment for a portion of the men inclined to agricultural and horticultural pursuits. The erection of workshops connected with the barracks, wherein the men may pursue the trades requisite for the manufacture of their clothing of every kind, accoutrements and small arms of every sort, would afford modes of employment most desirable, and indeed necessary, not merely on the ground of the immense saving in the economy of health, and in the production of the different articles required by the soldier, but would make him less helpless and more independent when he has occasion to go upon foreign service. The land around the barracks so cultivated would produce fresh vegetables at a low rate, so necessary and indispensable for the use of the men, besides improving and preserving health, by the cultivation of the land, as well as affording the means of preserving the health of others.

No doubt there may be difficulties to encounter in the general introduction of these changes, but these are mere questions of time and arrangement—no doubt, many prejudices to overcome, and existing interests to be abolished; but these sink into insignificance when compared with the immense advantages which would accrue to the soldier and to the nation.

The labour or employment afforded to the soldier, if only paid at the rate of three halfpence an hour, for *four* hours in the day—and it is asserted that he has, on the average, double that time on his hands unemployed—would amount to *three shillings a week.* This sum placed in the regimental savings' bank, during the twenty-one years of his service, would produce, with interest accumulations, upwards of £250, to be paid to him on his leaving the Army. If employed on piece-work, the amount might, in all probability, be double or treble that sum. But, allowing for all drawbacks in the way of time otherwise taken up by duty, changing of quarters, occasional illness, &c., still the amount acquired during the twenty-one years of service would be very large in money for his situation in life, and the benefit still greater in health, morals, and industrious habits.

Morally and religiously, the advantages would be very great

that could be devised to introduce a spirit of industry amongst the troops. Every encouragement was given to the soldiers to employ their leisure time, when they were off duty, in working for their own emolument. The effect of this plan was much greater and more important than I could have expected."—Count Rumford.

indeed. Dissipation and crime would be decreased: men steeped in either do not readily listen to religious instruction, or the truths which affect their eternal welfare; the relations of the chaplain and the men would become nearer and more satisfactory—a sober and industrious man is predisposed to be both moral and religious.

The Army is at present, in a great degree, the receptacle for the idle, lazy, dissolute, and often also of some more questionable characters.

Independently of the great physical benefit conferred on these men as soldiers by healthful mental and bodily employment, they would "chiefly gain in having acquired habits of industry instead of habits of idleness;" habits which, once formed in military life for a period of twenty-one years, they would never be likely to relinquish, but carry with them into private life, when discharged from the Army at the average age of forty years.

Of the value of this agency as an inoculating medium of the class from which he sprang, when again returned to it, and of the estimate in which the retired, industrious soldier would be held, as contrasted with the discharged of the present day, no accurate calculation can be formed.

Possessed of a sum of money acquired by his industrial, non-military avocations, he would be looked up to; parents would have no hesitation to bestow the hands of their daughters on such men. So guaranteed in the possession of capital, character, a trade, and with these industrious habits, there are few small tradesmen, at a similar time of life, however careful, who arrive at an equally favourable position in society.

Instead of the Army being looked upon, as at present, by parents, as an idle, dissipated life, with very poor eventual provision for those who survive the period of their service, it would be considered as a preparatory training-field for sobriety, good conduct, industrious habits, the acquisition of a trade, and, united to a retiring pension for service, the means of acquiring whereon to retire into, or embark in the business of, civil life. Instead, therefore, of the lies, the trickery, and the despicable artifices resorted to for recruiting, and the difficulty of retaining the men after enlistment, until conveyed to the dépôt, the "unadorned eloquence" of the recruiting serjeant would become useless: each retired soldier would become the centre of a small recruiting district; his position, his habits of sobriety and industry, would be the best and most eloquent recommendation to his young friends to follow his example, and "go and do likewise." But the value of this retired soldier, in a national point of view, does not end here. His patriotic zeal, his respect for the service from which he had derived so much kindness and benefit, would make him a *National Guardsman* in cases of emergency or invasion.

The space of this pamphlet does not admit of more than a

mere enumeration of the advantages derivable from the proposed improvements in the sanitary management of the Army, which are immense, indeed incalculable. It may, however, be mentioned, that soldiers preserved from disease in the Army, the children of such retired men would not inherit and perpetuate those diseases which curse and enfeeble the constitution of others differently procreated.

The nature of the employment has been already adverted to, and may shortly be recapitulated. It should consist of the manufacture of all articles required by the troops, embracing every trade, and also the cultivation of waste lands, and the growth of vegetables for the men, and forage for the horses. I need not repeat how much this would conduce towards health, strength, and improved position in every way. In fact, the English Soldier should be a sort of practical Robinson Crusoe, and not the weak and helpless individual he was found to be at the Crimea, where our army must have perished, had not the energy and talent of Dr. Sutherland and his colleagues come to their rescue.

"I have," says Count Rumford, "endeavoured, in all my operations, to unite the interest of the soldier with the interest of civil society, and to render the military force, even in time of peace, subservient to the *public good*. To facilitate and promote these important objects, to establish a respectable standing army *which should do the least possible harm to the population*, morals, manufactures, and agriculture of the country, it was necessary to make soldiers citizens, and citizens soldiers. The effect of this plan was much greater and more important than I could have expected. The soldiers, from being the most indolent of mortals, and from having very little knowledge of gardening, became industrious and skilful cultivators, and grew so fond of vegetables, particularly of potatoes, that these useful and wholesome productions began to constitute a very essential part of their daily food. These improvements began also to spread amongst the farmers and peasants through the whole country. There was hardly a soldier that went on furlough, that did not carry with him a few potatoes for planting, and a little collection of garden seeds; and I have already had the satisfaction to see little gardens, here and there, making their appearance in different parts of the country."*

With such a system of self-supply, we should hear no more of the *want* or the *waste of stores*, decay of materials, and sales of valuable effects at a sacrifice of 90 per cent., bought back by contractors only to be re-supplied to the authorities at their original cost! and less of the enormous fortunes acquired by army contractors, and of unfit and inferior articles supplied by manufacturers at a yearly cost of hundreds of thousands of pounds to the nation, and undue pressure on the industrious tax-paying community.

* Life of Count Rumford.

Such radical and important changes cannot be carried out suddenly, but a beginning may be made, and that without a week's delay. The necessity is a crying one. To continue the present state of affairs, is wasteful, unjust, oppressive, and inhuman. The remedies proposed are proved to be practicable, and are guaranteed effective by military, medical, and civil experience. The field for a commencement is not wanting, but is most opportunely and happily found in the camp at Aldershott. The situation of this encampment in its medical topography is excellent; the subsoil, with proper drainage, unexceptionable; but *without proper and scientific drainage*, the ground may in a few years, with a population of twenty or thirty thousand persons in a small space, become saturated with pestilential matter. It affords ample space for the erection of workshops. The heath land (upwards of eight thousand acres) offers room for the utilization of manure, and the employment of many thousands of men in healthful agricultural and horticultural pursuits, men who are now wasting their energies in *ennui*, idleness, and dissipation. In my visits to Aldershott I have several times mentioned the subject to the men, and they readily and heartily responded, saying they would be happy to employ their leisure time in such occupations, if even allowed nothing for their labour. Let the opportunity, then, be afforded them, and I can fancy the gladness, the hearty and loud cheers that would answer the call to industrial occupation. The example of the industrious would soon shame the idle, the lazy, and the dissipated, into similar efforts, tending to their own moral regeneration, the great good of their country, and the economy of the national outlay. By such means Aldershott, now considered by the whole Army as the "*soldier's penal settlement*," might be made his *sanitorium* and his *pleasure ground*, affording him useful, profitable, and agreeable occupation for his leisure hours, and an abundant supply of wholesome vegetable productions, so necessary to his health, and which he cannot now obtain at any reasonable cost.

One more suggestion demands immediate attention by the military authorities, and is implied in the reforms herein recommended: *the establishment of a well-organised and efficient sanitary staff in the camp of Aldershott.* Nature has made the situation healthy, but the neglect of sanitary science will soon render it pestiferous. The permanent barracks are not well placed, and will require active and vigilant sanitary supervision. It is well observed by a distinguished writer on sanitary science, that "what is wanted in the army, is intelligent sanitary advice, and the means of giving it immediate and practical effect."

These reforms, if carried into effect, will, to some extent, take the sting from the remark, that "in amassing riches, and playing the philanthropist to all the world, England neglects those to whom she is indebted for wealth and power."

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