

combining a telegraph troop and pontoon troop in its organization. By this means, in case of necessity, we could furnish the nucleus of each branch of the engineer service, capable of extension to a war footing at any time. Such an organization could not be hastily improvised, and would be immediately necessary in case of war.

7th. Unless greater encouragements are given in the future to continue the efforts that have been made to sustain the organization in the past, I fear that it will be impossible to maintain the corps. Officers and men are alike, disheartened at the lack of appreciation of their efforts and sacrifices; knowing that this arm of the service is equally necessary as the artillery, yet there is no disposition to place them upon a similar footing so far as equipment goes. Were an equal amount appropriated for the equipment of a corps of engineers as is expended for a battery of field artillery, the engineers might be able to rival the sister service in excellence and efficiency. But owing to that lack of appreciation of the necessity for a class of skilled workmen, which has been disastrously apparent in the history of the British Army from the days of the Peninsular War to that of Ashanté, the progress of the Canadian Engineer is as uphill progress as that of his prototype, the Royal Engineer.

All of which is respectfully submitted,

THOS. A. SCOBLE, Lieut.-Colonel,
Commanding 2nd District Engineer Corps.

From Major G. R. Walker, Royal Engineers, Professor of Fortifications, Royal Military College.

To Lieut.-Colonel IRWIN, Royal Artillery,
Commandant, Ontario School of Gunnery.

SIR.—I have the honour to report that, in accordance with instructions in letter, dated Ottawa, 18th June, 1879, No. 1438, I inspected the engineers of the 2nd Military District, in camp at Niagara, on the 28th June, 1879.

The camp was under the command of Lt.-Colonel Scoble, and there were present two other officers, Lieut. Coleman and Surgeon Kennedy. Lieuts. Aird and Cruit were absent on leave, as per attached parade state, from which you will see that the total number on parade was, 3 officers and 67 non-commissioned officers and men.

The company presented a good appearance, the physique of the men was good, and they were clean and well set up.

The clothing was in fair order, with the exception of the serge trousers, which were in many cases very bad, while a large number of men were wearing cloth trousers of regimental pattern purchased at their own expense, the serge trousers issued to them having become quite unserviceable. I was glad to see that the company in purchasing helmets, had supplied themselves with the white helmet, which is the regulation head-dress for imperial troops in this country. The value of this helmet as a protection from the sun was proved by the march of the company to the falls and back to Niagara in very hot weather without a casualty.

A non-commissioned officer and six men were provided with mounted equipment. There were two four-horse waggons on parade horsed; the harness, which was borrowed from the Toronto Field Battery, was not well kept. The arms and accoutrements were in fair condition. The company marched past well, and went through the ordinary parade movements and skirmishing satisfactorily, under Lieut.-Colonel Scoble's command. Lieut. Coleman put the men through the manual and firing exercises and some simple company movements fairly well.

The company paraded a second time in the afternoon for engineering work, and I inspected the work done by them during their stay in camp. This, I regret to say, did not amount to much. Some obstacles had been constructed in front of a salient of Fort George; the abattis was fairly done, and there was one military pit, and a small portion of wire entanglement (rope being necessarily substituted for wire); profiles had been erected for the restoration of a salient of the old Fort. The frame

work of a modified single lock bridge had been constructed over an opening of about 33 feet space, but the bridge was not completed, the road beams and superstructure being wanting. The lashings appeared to be fairly executed, some of the timbers (which had to be obtained on the spot) were obviously too slight. The bridge was dismantled in my presence, but this operation was not well performed, the men did not work well together, and the non-commissioned officers did not exercise any control. There was an evident want of practice in such work.

I have already noticed the waggons. They were covered with white canvass tilts, and lettered equipment and telegraph waggon, respectively. These waggons were obtained by purchase, and were not of course of the service patterns, and as the telegraph waggon was without fittings of any kind, it was only nominally a telegraph waggon. Colonel Scoble informs me he had been in treaty for the purchase of instruments, &c., for completing a small telegraph equipment, but has hitherto been deterred from completing the purchase by the heavy expense.

On my return to Toronto, I spent a morning in visiting the new fort with a view to inspecting the stores, &c., which were not brought to Niagara. I found a considerable quantity of stores, (to the estimated value of \$1,160) had been purchased by the company, consisting of waggons, ropes, blocks, spars, barrels, &c., &c.

Two pontoons had to be constructed by the men of the company, as well as many useful models for instructional purposes. The pontoons are of the regulation size, but not of the service pattern, they are roughly made and would not, I fear, bear the rough tests to which they would be put in the field; but I was informed that they answered well for instructional purposes. I did not see them in the water.

The statement in the margin shows that the company includes all the useful trades in good proportions.

Workers in Metals—Fitters, blacksmiths, boiler-makers, &c., &c.	14
Workers in Stone and Brick—Including plasterers and miners	11
Workers in Wood.....	28
Miscellaneous—Including painters, draughtsmen, telegraphists, tailors, shoemakers, &c.....	23
Total.....	76

The health of the men is reported by Surgeon Kennedy as having been satisfactory. This officer states that he had issued to him an *empty* medicine chest, and was consequently obliged to supply all medicines at his own cost, a very unsatisfactory state of affairs.

Lieut.-Colonel Scoble informs me that there are weekly drills all the winter, from October to May, at which lectures are given by the officers on engineering subjects, and the men practice with the models, and, when possible, with the full sized stores. The average attendance at these drills is stated to be from 30 to 33.

It will be seen from the parade state that the company has a band of 18 members, these men are supernumerary to the strength of the company, are all enlisted men, and have been supplied with clothing and instruments entirely at the expense of the company, and at a cost of over \$1,200. I think it is to be regretted that these men should be taken into camp, to the exclusion of men who would benefit more by the instruction, and be more useful in case of emergency.

Very great credit is, I think, due to Lieut.-Colonel Scoble, the officers and men of this company, for the amount of progress made by them in acquiring an efficient knowledge of military engineering. Lieut.-Colonel Scoble devotes much time and talent to the instruction of the men, and the very large expense incurred in providing stores, equipping a band, &c., shows the anxiety of all concerned to achieve success. At the same time I cannot say that I consider the result satisfactory, the difficulties to be overcome are too great to be surmounted by private enterprise, and if really efficient engineers are to be provided for the Canadian Militia, the matter cannot be left to the efforts of individual officers, no matter how able or active they may be. A moderate equipment must be provided by Government, and above all, every company must have a qualified sergeant instructor from the Royal Engineers.

I have mentioned the small amount of field works executed by this company while in camp, but it must be remembered that they have no engineering equipment provided by the State, and no professional instructor, and without these it will be impossible to make satisfactory progress.

I attach a memorandum by Lieut.-Colonel Scoble, on the organization of the company under his command, and will notice, *seriatim*, his demands and recommendations (four in number) as the most convenient way of connecting this report with previous correspondence on this subject. These communications are as follows:—

1st. That a qualified instructor should be provided for the company. This I have already recommended above. He should be a qualified sergeant of the Royal Engineers.

2nd. That, failing the immediate supply of a complete equipment, an annual grant shall be made towards its purchase. I have recommended that the equipment should be supplied, but I cannot recommend the alternative plan suggested. I assume that all engineer companies will be treated alike, and it is of great importance that a similar equipment should be issued to each company. To allow each company to purchase its own equipment will lead to great diversity of equipment, as well as to other evils which need not be enumerated.

3rd. That three wagons and harness should be issued to the company for the transport of its equipment. This I recommend strongly; at the same time I am of the opinion that the individual companies must *confine themselves* to carrying the ordinary equipment of a *field company*. The endeavour to combine with this a pontoon and telegraph troop is, and always will be, beyond their power.

4th. That the 2nd District Engineers should be made the nucleus of a field company, combining a telegraph troop and a pontoon troop in its organization, &c. This appears to me to mean that this company should form the nucleus of the Canadian engineer force, and as the question of the organization of the engineer force of the Dominion is thus raised, I think it will be within my duty if I enter briefly on the general question, and suggest an organization for the whole of the engineer forces of the country, which, while preserving the existing companies, will insure their efficiency and provide a nucleus for the necessary pontoon and telegraph trains, which shall be capable of general expansion. My remarks on Lieut.-Colonel Scoble's third recommendation show that I dissent from his idea of a combined field company, telegraph and pontoon troops altogether. The companies should be simply field companies, similar to those in the Imperial service. The details of their equipment and the necessary transport, I shall be prepared to report upon if required.

The importance of an efficient engineer service in these days, when the application of scientific apparatus of all kinds to the operations of war is constantly increasing, needs no proof. I shall, therefore, assume that a desire exists to place the Canadian engineer service on a satisfactory footing, and proceed to sketch the outline of a scheme, leaving the details to be dealt with in future reports, if desired by Government.

1st. There should be a central school of instruction, somewhat on the plan of the existing schools of gunnery. All officers and non-commissioned officers of existing engineer companies should be obliged to pass through this school, or on failure to do so, should be transferred to some other branch of the service. Every encouragement should be held out to the men of the companies to pass through the school.

2nd. The school of military engineering should be at Kingston, and in connection with the Royal Military College, for the following reasons:—

a. The necessary equipment for the thorough instruction of engineers is very expensive, and as it will have to be provided at Kingston for the use of the Royal Military College, a large saving will be made by utilizing the same equipment for the school of military engineering.

b. The presence of a trained company of sappers will be of great advantage in the instruction of the cadets of the Royal Military College, the number of whom available at one time, will be sufficient for carrying out the more laborious work.

c. Quarters for the company and storage for the material exist on the spot (Fort Henry), and there are facilities for pontooning of an exceptional kind.

d. A uniform system of instruction would be secured for the cadets and for the engineer company throughout the Dominion, and this I regard as a point of paramount importance. In the cadets of the Royal Military College, Canada will, it is hoped, in the future find the officers for the scientific branches of the service, and in the proposed school of military engineering,—the officers of the existing engineer companies will obtain their technical instruction. That the training given to both classes may be as far as possible identical is a necessary condition of successful organization and of rapid extension of the existing companies in case of necessity.

e. A fixed standard of excellence, that of the Royal Engineers, and a continuity of system would be secured. The school to be successful, must not depend on any individual officer, who may be removed at any moment in the ordinary course of nature, or by the requirements of his civil profession. At the Royal Military College there must always be a staff of professional instructors in military engineering, by whom the work of the school of military engineering could be carried on without interruption from such causes as I have alluded to.

3rd. The number of engineer companies or the strength of the existing companies should be increased.

The companies in existence are five in number, and have an establishment of 17 officers and 262 non-commissioned officers and men, or 279 of all ranks.

Taking the present strength of the militia as 40,000, or equal to four British divisions of infantry, the proper proportion of divisional engineers would be $191 \times 4 = 764$ of all ranks.

In addition to the above, there would be required for each army corps, according to the British establishment, the following:—

Staff.....	3 Officers.
1 company with field park.....	215 of all ranks.
1 pontoon troop.....	322 " "
$\frac{1}{2}$ telegraph troop.....	150 " "

A British army corps has a total of, say, 37,000 of all ranks, or equal to the present state of the militia, roughly speaking. The above corps establishment of engineers may be taken therefore as sufficient for the existing force.

The proposed organizations would then be as follows:—

4 field companies, one each at Toronto, Montreal, Quebec and St. John.

1 company at the school of military engineering, permanently enrolled.

The latter would represent the army corps engineers, and would gradually accumulate all the stores for a field park. They would also be employed as available in constructing pontoons, waggons, &c., required for the pontoon and telegraph troops, which would thus gradually, and at a moderate cost, be organized at the school of military engineering.

The men of the permanent company, and those passing through the school from the field companies, would thus obtain intimate and most useful knowledge of all the stores, &c., required. The men of the permanent company might also be employed, when available, in winter for the preservation of the fortifications.

The pontoon and telegraph troops need not be horsed till required to take the field.

The school of military engineering would thus be the head quarters of the Canadian Engineers, and from it, in case of emergency, the engineers of any army corps, with, at all events, a considerable quantity of stores and portions of telegraph and pontoon troops, could take the field. The Divisional Engineers would be supplied by the field companies.

The four field companies should be raised to 150 men each, if the existing number of companies be adhered to, but I think a better plan would be to have in each of the towns mentioned above, two companies of engineers of a total strength of 150 of all ranks for the two; each company to have a complete establishment of

officers and non-commissioned officers, and the two, for ordinary garrison purposes, to be combined under the command of the senior captain.

The advantage of this plan is obvious, as by it there would be a trained establishment of officers and non-commissioned officers for eight companies, or sufficient to allow one company per division for 80,000 men.

I would suggest that of each pair of companies, one should be organized as a field, the other as a garrison company.

The above is a very brief outline of a practicable scheme, which, if carried out, would, I have no doubt, lead to the formation of a force of thoroughly efficient engineers. In the meantime, I think the existing companies should devote themselves particularly to the simple field works required for placing in a state of defence a position, village, or isolated locality, works of the greatest importance under present conditions of war, and simple bridging and barrel piercing should also be included in their course, as well as signalling. The more technical works, such as pontooning, mining, large bridge operations, &c., are beyond their power with their present equipment, or rather want of equipment, and had better be deferred. Better to know thoroughly the application of the simple works required on the field of battle, so as to be able to instruct the infantry, than to learn a mere smattering of the more technical duties of engineers, to a thorough knowledge of which they cannot attain without an organized system of instruction.

I have, &c.,

(Signed) G. R. WALKER, Captain R. E.,

Local-Major.

KINGSTON ROYAL MILITARY COLLEGE,
4th August, 1879.

General Remarks.

1st. With reference to the general efficiency of the artillery force above reported on, I am glad to notice that in the case of the field batteries the high state of efficiency reported on in previous years continues in nearly every instance to be well maintained.

Those batteries in which voluntary drills are practiced have necessarily attained a much higher degree of efficiency than others, and so long as the period allowed by Government for annual drill continues to be so limited in duration, it becomes absolutely necessary for officers commanding batteries, not only to encourage by every means in their power the attendance of their men at the gunnery schools, but also to make such arrangements as will insure for at least a limited number of non-commissioned officers and gunners instruction, at voluntary drills, in the principles of gunnery, and the details of ammunition and stores.

2nd. The large number of recruits visible every year in the ranks, is a serious defect—it would appear to be most easily obviated by more care being taken by commanding officers in the selection of their men, to whom it should be explained that attendance at annual drill for at least three years is certainly expected, and that non-attendance without reasonable excuse will be punished.

3rd. I have had to comment personally during this, and previous years, upon the noticeable fact, that in many cases the captain of the battery is the only officer capable of drilling it as a whole, and in such cases it was evident, that in his absence the battery would very soon become disorganized. I trust that this defect may soon be obviated, and that the subaltern officers may have every opportunity afforded them to qualify themselves to take command of their batteries, should occasion arise for their having to do so.

4th. I am glad to observe that nearly all the batteries in this province have provided themselves with the regulation pattern blue helmets, and in general the dress and appearance of the men on parade leave nothing to be desired. In some cases, however, I noticed drivers with serge trousers, and in others mounted

men otherwise properly dressed, but without straps or high boots. To ensure comfort for a man on horseback during a long march or in protracted field manoeuvres, these details should be more carefully attended to by the battery officers.

5th. Competition for drivers' badges does not seem to have been so thoroughly or universally carried out as is desirable. This I attribute entirely to the limited number of horses and the very short time allowed for annual drill. So much elementary instruction has to be imparted that little time is left for other than regular drills, and I would most respectfully and strongly recommend for the consideration of the proper authorities the advisability of increasing, if for even a few days, the period now allowed for the annual drill of field batteries.

6th. I have still to recommend most strongly, that six horses per gun may be allowed for field batteries instead of only four, as at present.

7th. Only two garrison batteries in this province seem to have had the opportunity of performing annual drill this year, and I cannot but regret that so little attention seems to be paid to this important branch of the service.

The formation of a brigade of garrison artillery at Kingston, and the disbandment of several of the outlying batteries, has been previously recommended in my report for 1877, and until some steps of this nature have been taken, I cannot look forward to any considerable degree of efficiency being obtained by batteries in which voluntary drills are not regularly maintained, and when the only equipment consists of one smooth-bore gun on a standing carriage. I would, however, respectfully recommend that those batteries which are armed with 18-pounder guns on travelling carriages should be placed on the same footing, as far as regards annual drill, as field batteries.

8th. I am glad to be able to comment most favourably upon the good results everywhere apparent, in so far as regards efficiency as artillerists, caused by the universal adoption of the rules laid down, and the system of competition inaugurated by the Dominion Artillery Associations. In proportion as the merits of this association become more widely known, so will, I trust, be the measure of popular support accorded to it, and the resultant benefits more widely extended. Canada possesses at this moment an artillery force of which, though it is but a small one, she may well be proud, and when it is considered that the efficiency of this force, is due in a very great measure to the almost unaided exertions and personal contributions of its own officers, it is only fair to ask that such slight additions to equipment and material as may be from time to time found necessary, and such pecuniary assistance towards the encouragement of marksmen, as has been for many years sanctioned in the case of the infantry soldier, may no longer be withheld on the ground of economy.

D. T. IRWIN, Lieut.-Colonel,
Inspector Artillery.

The Senior Inspector of Artillery,
Quebec.

REPORT ON THE ARTILLERY OF THE MARITIME PROVINCES BY LIEUT.-COLONEL PRICE LEWES.

HALIFAX, 29th November, 1879.

SIR,—I have the honour to submit herewith reports of the inspections I have made in the Maritime Provinces during the past season.

I have the honour to be, Sir,
Your obedient servant,

PRICE LEWES, Lieut.-Colonel,
Assistant Inspector of Artillery.

The Inspector of Artillery,
Quebec.

PROVINCE OF NOVA SCOTIA.

HALIFAX FIELD BATTERY.

Major Graham in command. I superintended the annual practice of this battery on the 17th October, at Point Pleasant. Armed with the 6-pounder B. L. R. Armstrong guns they made excellent practice with shot and shell. The standing gun drill was good, and I found the officers and non-commissioned officers had a fair knowledge of ammunition. It was my intention to have made a complete inspection of this battery previous to their going to practice, but, finding that through a misunderstanding they had not paraded fully horsed, I deferred the remainder of my inspection until the 22nd October, when the battery paraded for a field day in conjunction with the regular troops. Present on parade:—1 field officer, 2 lieutenants, 10 staff sergeants and sergeants, 44 rank and file, total 57; 16 horses.

The general turn-out of the battery was good as regards clothing, accoutrements, state of the harness, guns and carriages, except that the latter require painting. The battery marched past and afterwards took part in the field movements with the regular troops and although it was evident to me that an effort had been made by the commanding officer during the past season towards improvement in field drill, the battery is still very far from efficient as a mounted corps. Under their present system of carrying out drills, efficiency in mounted duties cannot be expected, and I therefore most strongly recommend that next year it be made compulsory for this battery to go into camp with full complement of horses, or to perform the required drills on successive days and by daylight. The battery suffers from the absence of Lieut. Imlah, whose experience gained at the school of gunnery should now be invaluable to them, and I therefore trust his services may be available next training.

HALIFAX GARRISON ARTILLERY.

1st Brigade.

Commanded by Lieut.-Colonel Mitchell—six batteries. I inspected this brigade on the 16th October. Present on parade—2 field officers, 5 captains, 4 lieutenants, 1 staff, 12 staff sergeants and sergeants, 9 band, 96 rank and file; total 129.

Uniforms (except in a few cases), arms and accoutrements were in good order. After marching past the manual and firing exercises were creditably performed, likewise a few simple battalion movements. The brigade was afterwards marched to the drill shed where I saw them at gun drill, in which I found most of the detachment well instructed. The officers and non-commissioned officers replied fairly well to my questions on artillery subjects. I was disappointed in not finding a squad prepared for either gun drill or any of the shifts of guns, but I was informed that they had not practiced these drills sufficiently. Since my inspection some squads have been drilling at the shifts with a view to competing in December for the Dominion Artillery Association prize for that work.

2nd Brigade.

Commanded by Lieut.-Colonel Macpherson—4 batteries. I inspected this brigade on the 20th October. Present on parade—2 field officers, 2 captains, 4 lieutenants, 1 staff, 9 staff sergeants and sergeants, 12 band, 86 rank and file; total 116. Uniforms, arms and accoutrements were in good order. After marching past, the brigade was satisfactorily put through a few simple battalion movements and then marched to the drill shed for gun drill. As regards artillery knowledge the same remarks apply as I have made about the 1st Brigade. Both of these brigades have joined the Dominion Artillery Association this year, and during the week ending 11th October carried out under my superintendence, their competitive practice from the 32-pounder S. B. and Palliser R. M. L. converted guns at Point Pleasant Battery. The attendance per battery at the practice was small, and in some instances care had

not been taken in selecting those sent to lay the guns. Upon the whole, however, the competitions were satisfactorily carried out, and now that the system of competing is understood I think better results in shooting may be expected next year. During last winter nearly the whole of the officers of these brigade attended a course of lectures I gave on artillery subjects, together with some practical instruction in the "shifts of guns" &c. They were regular in attendance and appeared anxious to acquire artillery knowledge.

PICTOU BATTERY.

Commanded by Captain Gordon. I inspected this battery on the 27th October. Present on parade—1 captain, 2 lieutenants, 4 sergeants, 46 rank and file. Total 53.

This battery presented a very soldierlike appearance on parade. Physique good, officers, non-commissioned officers and men well turned out as regards uniforms, arms and accoutrements. They are provided with the new pattern helmet. The manual, firing exercises and company drill was steadily performed. The men were afterwards marched to the battery, when detachments were told off for gun drill, which was fairly well done, considering the little instruction they have had. From what I saw of this battery I think they only require a competent instructor to make them one of the most efficient artillery corps in the Dominion. Owing to the difficulty of getting a clear range, their gun practice has been postponed until later on in the winter. I propose for their training next year to obtain for them, if possible, the services of a Royal Artillery Sergeant from Halifax.

PROVINCE OF NEW BRUNSWICK.

WOODSTOCK FIELD BATTERY.

Commanded by Captain Dibblee. I inspected this battery on the 17th July, encamped on elevated ground near the Town of Woodstock. The tents were well pitched and camp arrangements good. There were present on parade—1 captain, 2 lieutenants, 2 staff officers, 5 sergeants, 1 trumpeter, 68 rank and file; total 79, and 28 horses. Physique of men good, arms, clothing and accoutrements in good order, except in a few instances. The harness in fair condition, likewise the gun equipment, amongst which, however, are some deficiencies, but I was informed that some of the articles had never been supplied to the battery. The horses were very good throughout. The battery marched past, and afterwards went through several field movements, being well handled by Captain Dibblee, a zealous artillery officer. The subaltern officers replied fairly well to my questions on artillery subjects. The previous afternoon I was present at their gun practice at a range across the river and about two miles from camp. The practice was indifferent, and the range not well selected; another year a better range can be selected lower down the river. The battery did not join the Dominion Artillery Association this year, but Captain Dibblee told me they would certainly do so next year.

NEWCASTLE FIELD BATTERY.

Major Call in command. I inspected this battery on the 28th August. Present on parade—1 field officer, 1 lieutenant, 2 staff officers, 5 sergeants, 1 trumpeter, 62 rank and file; total 72, and 28 horses. This battery had received a great many recruits this year, young and active lads of good physique, and who had picked up their standing gun drill very quickly. The clothing was in good order, but the same deficiencies exist

in the equipment as were reported by yourself last year. A renewed application was made last June that the articles might be supplied, but without success. I trust the equipment will be made up previous to next training. The battery marched past, and afterwards performed several field movements, being well commanded by Major Call, who unfortunately was deprived on this occasion of the services of two of his subaltern officers through sickness, one of whom, Lieutenant Bourne, I regret to say, died a few days later of diphtheria. I was present at their competitive practice, which was very good, and carried out on an excellent range. The battery was well horsed.

NEW BRUNSWICK BRIGADE GARRISON ARTILLERY.

Commanded by Colonel Foster. Five batteries. I had arranged to inspect these batteries at their annual gun practice at Fort Dufferin, on the 25th September, but was unavoidably prevented from attending. The practice was carried out, and report forwarded herewith. On the 26th November I had an opportunity of inspecting them in the drill shed, together with the Lancaster Battery, recently ordered for drill. Present on parade.—2 field officers, 5 captains, 2 lieutenants, 1 staff, 14 sergeants, 99 rank and file; total 123.

A fine body of garrison artillerymen. Good physique. Clothing and accoutrements in good order. Thinking it very desirable that they should be encouraged to carry on artillery drills during the winter months in the drill shed, I have requested the Deputy Adjutant-General to arrange for the issue from the store of a gyn, skidding, tackle, &c., which will enable them to carry out varied artillery work. I employed the men on this occasion to remove a 32-pounder gun and carriage from the saluting battery to the drill shed. Under command of Major Peters the men worked well, and very speedily placed the gun in the required position in the shed, after which I saw detachments at gun drill, and they appeared well instructed.

NEW BRUNSWICK ENGINEERS.

Commanded by Captain Perley. I inspected this company on the 21st March. Present on parade—2 lieutenants and 41 sergeants and rank and file; total, 43. A very good infantry company. They have no intrenching tools or means of gaining practical instruction in the duties of engineers. Their commanding officer has, however, I believe, given them lectures from time to time on matters connected with engineering.

PROVINCE OF PRINCE EDWARD ISLAND.

CHARLOTTETOWN GARRISON ARTILLERY—2 BATTERIES.

Inspected these two batteries separately on the 20th August.

No. 1 Battery.

Captain Pollard in command. Present on parade—1 captain, 1 lieutenant, 22 rank and file; total, 24. A somewhat indifferent turn out on parade. The men drilled fairly well at the guns. There is room for improvement, however, in this battery. They have not joined the Dominion Artillery Association.

No. 2 Battery.

Captain Morris in command. Present on parade.—1 captain, 1 lieutenant, 2 sergeants, 28 rank and file.—Total, 32. General appearance on parade, very good. Manual and firing exercises and company drill, very creditably performed. The detachments at gun drill showed they had been well instructed. Practice was to have been carried on when I was at Charlottetown, on the 29th October, but a week of stormy weather prevented it. The practice will be carried out in December. This battery is fortunate in having as an instructor Lieutenant Irving, an intelligent and zealous artillery officer, who has qualified himself at the school of gunnery. On the 27th October I was umpire to a squad of this battery competing for the "Gun Shift" prize of the Dominion Artillery Association. I append a list of the names of the squad. The work was very smartly and at the same time steadily performed in two minutes and twenty-five seconds. It has been recommended by you in a previous report that this battery should be converted into a field battery, which I trust may see fit to establish a full field battery at once, a demi-field battery might be organized, (utilizing for it the two field guns and harness at present in store), and to be increased at a later date and finally armed with a powerful field gun.

I beg to call attention to the unprotected state of the Fort Edward Battery, Charlottetown. It is not enclosed by any sort of fence; a park or pleasure ground adjoins the battery, and there is nothing to prevent the people from walking over the parapets, which are becoming levelled. An iron stool bed has been recently broken, and various other damages have been done from time to time. I recommend that the battery be enclosed by a picket fence, and the parapets repaired.

SUMMERSIDE BATTERY.

Captain Price in command. I deferred the inspection of this battery until October 2nd, so as to allow time for requisitions for platforms to be complied with, and that I might then superintend the practice. On my way through Summerside in August, I fixed with Captain Price on a suitable place on a wharf where the guns might be placed and the practice carried out from even in event of the requisitions for platforms not being complied with. On the 30th October I was present at Summerside for the purpose of inspecting the battery, and was informed that no arrangement had been made for practice, as the owner of the wharf had declined to allow the use of it, and there were no platforms. Shortly before the time fixed for parade, Captain Price met me and expressed his deep regret that, although he had been to warn his men, he had failed to get a parade; that they had objected to turning out during working hours without pay; that they had completed their 12 days drill, been inspected by the Deputy Adjutant-General, and received their pay for the year. I was also informed that the battery were very much disappointed at not having received gun platforms and the artillery stores applied for last December and again in June, and had consequently lost zeal as artillerymen. Captain Price told me that he found it extremely difficult to keep the battery together at all. I should recommend that this battery be disbanded, but that I think Captain Price, who has a school of gunnery certificate, is a zealous officer and fond of artillery work, might command a good artillery corps at Summerside if appliances were given him for artillery drills.

I would beg to suggest that it might be provided by regulations for pay to be withheld from artillery corps until after inspectors of artillery have inspected them.

REMARKS.

With regard to the field artillery of the Maritime Provinces, I trust that the New Brunswick batteries may soon be armed with rifled guns to replace the obsolete weapons at present in their charge. In Major Call and Captain Dibblee, the country

has two zealous and efficient commanding officers; their batteries are well horsed, (the Woodstock battery admirably so), the men are excellent material and there is only wanting a change of armament to make them thoroughly serviceable batteries. A good field battery might, I believe, be organized at Charlottetown, Prince Edward Island, and I would beg to suggest for consideration whether the batteries at Summerside and George Town might not advantageously be armed with rifled guns of position on travelling carriages, to be horsed by farmers in the neighbourhood with the farm harness, the shafts being fitted for the same. Would not this system extended throughout the Maritime Provinces be of advantage in providing a powerful artillery to be maintained at small cost? I presume it will be some years before permanent works and heavy guns are furnished for the defence of the out harbours of these provinces; in the meantime, if a couple of the guns I have referred to were given to batteries at such places as Yarmouth, Liverpool, Lunenburg, Digby, Annapolis, &c., they would afford protection against boats landing or could be massed for land defence on any required point.

With a view to a higher efficiency of the garrison artillery, I beg most strongly to recommend that wherever there are suitable drill sheds the simple and inexpensive appliances for mounting and dismounting guns should be issued to artillery corps, while in each district there should be, for instructional purposes at least, one set of sections of a common and Shapnel shell (for rifled gun), together with a box containing sections of the service fuzes. It would be of great advantage too, if the arrangements for the annual drill could be made known early in the winter, so that there might be no uncertainty as to whether a battery would be called for drill. The men could be trained to the guns in the drill shed in the winter and so be prepared to carry out gun practice early in summer. A prize meeting held annually at either St. John or Halifax for competition practice from the rifled guns by detachments assembled from the different corps in the Maritime Provinces, would tend materially to improve the garrison artillery; but it could not be carried out unless a free pass is given over the railways and a large amount of rifled ammunition allowed. With respect to the engineer corps I trust some appliances may soon be issued with a view to practical instruction. I would suggest that the St. John Engineers be ordered next summer to camp out for their training at Red Head Battery, a garrison battery of artillery being called upon also to volunteer to go into camp at the same time to assist in completing that work. The assistance of a non-commissioned officer of Royal Engineers could no doubt be obtained from Halifax on application. In like manner I suggest that the Charlottetown Engineer Corps be called upon next summer to make good the parapets at Fort Edward and to put up a substantial fence to enclose the battery, assistance being given them by the artillery. I was informed that they would gladly pay for the services of a non-commissioned officer of the Royal Engineers for their training next summer.

Halifax, 29th November, 1879.

PRICE LEWES, Lieut.-Colonel,
Assistant Inspector of Artillery.

No. 2 CHARLOTTETOWN BATTERY OF GARRISON ARTILLERY.

Names of a detachment of above battery who competed in shifting ordnance competition at Charlottetown, P.E. Island, on 28th October, 1879, under and pursuant to Dominion Artillery Association Circulars Nos. 33 and 34.

Rank.	Name.	Rank.	Name.
Lieutenant.....	James D. Irving.	Gunner.....	John Ryan.
Sergeant.....	John T. Heartz.	do.....	Roderick Matheson.
do.....	William Worth.	do.....	Joseph Seaman.
Corporal.....	Herbert Heuson.	do.....	William Scott.
Gunner.....	Robert Steele.	do.....	Herbert Love.
do.....	Archd. MacKinnon.	do.....	James Offer.
do.....	Alex. MacConnel.	do.....	James Stewart.
do.....	Robert MacLaurine.	do.....	Robt. B. Heustis.
do.....	Robert Currie.	do.....	Chester MacNeil.
do.....	Augustus Down.	do.....	A. F. Macdonald.
do.....	Benjamin Wright.		

I certify that the time observed during this competition was two minutes and twenty-five seconds.

JOHN HAMILTON GRAY,
Deputy Adjutant-General,
Military District No. 12.

CHARLOTTETOWN, 13th Nov., 1879.

PRICE LEWES, Lt.-Colonel,
Assistant Inspector of Artillery,
Umpire at this competition.

HALIFAX, 29th Nov., 1879.

APPENDIX No. 4.

ANNUAL REPORT ON "A" BATTERY, SCHOOL OF GUNNERY.

KINGSTON, ONTARIO, 15th December, 1879.

During the past year seven officers and 134 non-commissioned officers and men joined this school. Of this number six officers and 65 non-commissioned officers and men joined for a three months course of instruction.

Two were retained for a further service of 12 months, and 67 non-commissioned officers and men were enlisted in A Battery for three years' service.

Of the 67 non-commissioned officers and men enlisted in A Battery, 36 non-commissioned officers and men were re-engaged for a further term of service.

The number joining from each battery in the Province will be seen on reference to subjoined list.

The following certificates have been issued during the year 1879:—

Batteries.	Officers.	Non-Commissioned Officers and Men.	Total.
London Field Battery.....		3	3
Welland Canal Field Battery.....		3	3
Hamilton do.....	1	8	9
Wellington do.....		4	4
Ontario do.....		6	6
Toronto do.....	1	6	7
Durham do.....			
Kingston do.....		7	7
Gananoque do.....			
Ottawa do.....			
"A" Battery.....	2	11	13
Collingwood Garrison Battery.....		67	67
Sarnia do.....			
Goderich do.....			
St. Catharines do.....			
Toronto do.....		4	4
Port Hope do.....		2	2
Trenton do.....		1	1
Sobourg do.....		4	4
Japanee do.....		1	1
Prescott do.....			
14th Battalion.....	1	6	7
13th do.....		1	1
35th do.....	1		1
Total.....	7	134	141

D. T. IRWIN, Lieut.-Colonel,
Commandant, Gunnery School.

The following Certificates have been issued during the Year 1879.

	Long Course.		Short Course.				Total.	
	1st Class.	2nd Class.	1st Class.	2nd Class.	3rd Class.	4th Class.		Attend- ance.
Officers.....			4	1			1	6
*Special by Inspector of Artillery.....				3				3
Non-Commis- sioned Offi- cers and Men.....					16	26	38	80
Total.....			4	4	16	26	39	89

* At Victoria, B.C.

D. T. IRWIN, Lieut.-Colonel,
Commandant, Gunnery School.

1. The system of having only three regular short courses during the year has worked fairly well, but would, I consider, be improved by allowing an increase in the number of admissions during the winter months to be compensated for by a corresponding decrease in summer, during which latter period farming operations prevent many men from joining.

2. The annual rifle practice, 40 rounds per man, was carried on as usual with very good results, prizes from the canteen fund amounting to \$10 being competed for.

3. The usual summer camp for a week in August was formed on the lake shore, about five miles from the city. While at camp the annual athletic sports were held, money prizes amounting to \$41.25, and an extra camp allowance for messing, amounting to \$97, were provided out of the canteen funds.

4. The battery went to Toronto on the 7th September, and took part in the review held in honour of His Excellency the Governor General and Her Royal Highness the Princess Louise on the 9th, returning to Kingston on the following day.

5. A detachment of two officers and 23 non-commissioned officers and men proceeded to Quebec on the 11th October, to compete with B Battery for the prizes offered by the Dominion Artillery Association for shifting heavy ordnance and for target practice with the 9-pounder M. S. R. gun, B Battery being successful in winning the former competition; "A" Battery the latter. This was the first occasion on which both batteries met on the same ground, and the result must be considered as most satisfactory, not only as regards the efficiency displayed, but also as affording the best means of mutual comparison and its resultant benefits.

6. Staff Sergeant Bramah, Assistant Inspector in Gunnery, took his discharge from the battery and from the Royal Artillery in May, and received the appointment of caretaker of artillery stores at Victoria, British Columbia. His death, after a residence there of about two months, is much to be regretted.

7. The general conduct of the men of "A" Battery during the past year has been extremely good, but I regret to have to report an increase in the average number of desertions of men enlisted for three years' service. In many cases these are directly attributable to entanglements in which the men have become involved in the city, and from which they are desirous of escaping, and in others to the promise of more lucrative employment in the United States, with which there is constant daily communication; but it may also be remarked that owing to the long period during which

"A" Battery has been stationed in Kingston, many of the best non-commissioned officers and men have contracted family ties in the city, and in consequence, their direct influence upon the character and conduct of the rest of the men is weakened, and the *'esprit de corps'* of the battery suffers, the general tendency being to regard the battery as purely local instead of a Dominion force. For this reason a change of station is strongly recommended and would be as beneficial, as for many other reasons, it would be most desirable.

8. I would again refer to my previous recommendations on the subject of an increase to the field battery establishment, and also to the subject of repairs, alterations, &c., effected by the Public Works Department, with regard to which I have had no official information, nor any opportunity of expressing an opinion on their necessity or completeness.

D. T. IRWIN, Lieut.-Colonel,
Commandant, Gunnery School.

The Commandant, Gunnery School,
Quebec.

REPORT ON "B" BATTERY, QUEBEC SCHOOL OF GUNNERY, AND
BRANCH SCHOOL, MONTREAL.

CITADEL, QUEBEC, 30th November, 1879.

SIR,—During the year ending 30th November, 1879, 17 officers and 92 non-commissioned officers and men joined for instruction. Of this number the officers were as follows:—

Artillery.—Short course 6, long course 2.

Engineers.—Short course 1, long course 1.

Infantry.—Short course 6, long course 1.

Of the above, 43 were non-commissioned officers, gunners and drivers from various artillery and cavalry militia corps in Quebec and the Maritime Provinces. In addition, 49 non-commissioned officers and men re-enlisted in "B" Battery. In the branch school at Montreal, two officers and seven non-commissioned officers and gunners obtained certificates under the instruction of Major Fraser. These are included in the above.

Appended are returns of certificates granted, showing subjects of instruction and results of examination.

(A.) Garrison Artillery, engineer and infantry officers, Quebec School of Gunnery, and Branch School, Montreal.

(B.) Field Artillery officers, School of Gunnery, Quebec.

(C.) Garrison Artillery, non-commissioned officers and gunners, Quebec School of Gunnery, and Branch School, Montreal.

(D.) Field Artillery and Cavalry, non-commissioned officers, gunners, drivers, School of Gunnery, Quebec.

The addition of five sergeant instructors for infantry training of colleges, in accordance with the general orders, is, I think, a very important step in Canadian national military training. The usefulness of the non-commissioned officers might be utilized in instructing the local militia in the neighbourhood of the schools during the military training, and if the gunnery schools were extended by the addition of a small body of rank and file, they might be utilized for infantry instruction. But as this point has been frequently suggested in previous reports, I shall not reiterate previous recommendations, suffice to say the wants and circumstances of the school remain the same. There has been no augmentation of the establishment but that above mentioned, and six artificers, since the foundation, eight years ago.

I have directed Lieut.-Colonel Montizambert to furnish a report on the school, to embrace the periods of my absence in Europe, and subsequently in British Columbia. Herewith his report, and in forwarding it, I beg to record my entire approval of the zeal and energy he has shown, and the faithfulness with which he discharged the onerous and increased duties that devolved upon him during my absence. He appears to have been ably seconded by the adjutant of the school, Captain Oscar Prevost; by Captain Short, whose special charge has been the mounted division; Major Fraser, who had charge of the branch school at Montreal while Major Hebert; has increased the efficiency of the French Canadian division by his care and attention; Lieutenant Donaldson has attended to his numerous duties with the ability and steadiness he has shown for so many years past, and Lieutenant Imlah the Quartermaster's Department and workshops with equal assiduity, though he draws no pay for these special services.

The excellent tone of the non-commissioned officers is due to the quiet influence Sergeant-Major Lavie has exercised for the past four and a-half years.

T. BLAND STRANGE, Lieut.-Colonel,
Commandant School of Gunnery, Quebec.

[A.]

RETURN of Certificates granted at "B" Battery, Quebec, School of Gunnery, and

GUNNERY

Garrison Artillery, Engineer and Infantry, Officer's

CORPS AND RANK.	NAMES.	SUBJECTS—WRITTEN.									
		Gunnery		Artillery Material.	Shifting and Working Ordnance.	Fortification.	Surveying.		Tactics and Strategy.		Military Law, &c.
		Obligatory.	Voluntary.				Voluntary.	Range Finding.	Obligatory.	Voluntary.	
		500	300	500	400	400	400	100	400	200	300
Lévis Battery of Garrison Artillery, Captain and Brevet-Major.....	L. C. Hamel.....	400	.....	430	320	320	.....	*	*	.....	280
New Brunswick Brigade of Garrison Artillery, Lieutenant.....	G. F. Cole.....	495	.....	460	332	395	.....	100	368	.....	264
Montreal Engineers, Lieut.....	J. B. Birks.....	450	.....	400	320	320	.....	*	*	.....	240
do do.....	H. Goodwin.....	470	.....	380	283	244	205	50	*	.....	275
Prince of Wales Rifles, Montreal, Captain.....	R. G. Tallow.....	530	.....	350	363	246	372	93	370	170	215
9th Battalion, Quebec, Lt.-Col.	L. P. Vohl.....	400	.....	350	250	365	.....	*	*	.....	275
66th Battalion, Nova Scotia, Lieutenant.....	R. W. Rutherford.....	485	.....	450	380	340	.....	80	360	.....	270
Montreal Gar. Art., Lieut.....	Fred. Whitely.....	393	.....	354	384	.....	.....	.....	.....	.....	226
do do.....	R. M. Birks.....	371	.....	330	321	.....	.....	.....	.....	.....	190

*The absence of the Commandant on duty rendered it difficult to carry out all the subjects of Instruction
NOTE.—The Branch School was superintended by Major Fraser, commanding "B" Battery, Montreal.

Branch School of Gunnery, during the Year ending 30th November, 1879.

SCHOOL, QUEBEC.

Short and Long Course Examination Return.

Total Theory.	SUBJECTS—PRACTICAL.								Total Practical.	Decimal.	Class Certificate.	REMARKS.
	Company Drill.	Gun Drill.	Mortar Drill.	7-inch B.L.R. Gun Drill.	Gyn Drill.	Sling Waggon.	Shifting Ordnance, including Knotting and Lashing.	Regimental Duty.				
	500	300	500	400	400	400	100	400				
2,600	100	150	50	200	60	50	200	300	1,110	T.	P.	Qualifying Decimal, 5.
1,760	60	135	35	140	42	30	160	270	812	.67	.73	1st.. Short Course.
2,414	80	75	30	160	36	40	140	210	771	.92	.69	1st.. do
1,730	.....	105	.....	160	42	30	180	210	727	.66	.65	2nd.. do
1,912	50	75	20	80	30	25	.....	180	460	.73	.41	2nd.. do
2,714	100	105	40	180	48	40	120	300	933	1.00	.84	1st.. Long Course.
1,640	80	90	35	120	36	.....	.....	240	601	.64	.54	2nd.. Short Course.
2,365	80	105	25	140	42	40	120	270	822	.90	.74	1st.. do
1,354	60	135	40	.....	48	30	160	.....	473	.52	.42	2nd.. } do
1,212	80	135	40	.....	48	40	160	.....	503	.46	.45	2nd.. } do Branch School, Montreal.

T. B. STRANGE, Lieut.-Colonel,
Commandant, Gunnery School, Quebec.

[B.]

RETURN of Certificates granted at "B" Battery, School of

GUNNERY

Field Artillery Officers,

CORPS AND RANK.	NAMES.	SUBJECTS—WRITTEN.										
		Gunnery		Artillery Material.	Moving and Working Ordnance.	Fortification.	Range Finding and use of Sextant.	Surveying.		Tactics and Strategy.		Military Law, &c.—Interior Economy.
		Obligatory.	Voluntary.					Voluntary.	Obligatory.	Voluntary.		
		500	300	300	200	400	100	400	400	200	300	
Winnipeg Field Battery, Lieut.	E. W. Jarvis.....	450	.....	264	180	360	95	.....	400	.....	270

Gunnery, Quebec, during the Year ending 30th November, 1879.

SCHOOL, QUEBEC.

Short Course Examination Return.

Total Theory.	SUBJECTS—PRACTICAL.										DECIMAL.		Class Certificate.	DECIMAL.
	Foot Drill.	Field Gun Drill.	Harness and Stable Duty.	Riding.	Field Battery Movements.	Sword Drill.	Knitting and Lashing.	Regimental Duty.	Total Practical.	Decimal.	P.			
2,200	50	150	50	100	50	50	50	300	800	T.	P.	.....	Qualifying Decimal—5.
2,019	.....	120	40	70	20	30	30	180	590	91	73	1st....	

T. B. STRANGE, Lieut.-Colonel,
Commandant, Gunnery School, Quebec.

RETURN of Certificates granted at "B" Battery, Quebec, School of Gunnery and Branch School of Gunnery, Montreal, during the Year ending 30th November, 1879.

GUNNERY SCHOOL.

Garrison Artillery Non-commissioned Officers' and Gunners' Examination Return, Short Course.

CORPS.	RANK.	NAMES.	SUBJECTS WRITTEN.		SUBJECTS—PRACTICAL.										Total.	Decimal.	Class of Certificates.	REMARKS.	
			Gunnery.	Artillery Material.	Shifting and Working Ordnance.	Small Arm and Squad Drill.	Garrison Gun Drill.	Mortar Drill.	7-inch B.L.R. Gun Drill.	Gyn Drill.	Sling Wagon.	Shifting Ordnance, including Knotting and Lashing.	Regimental Duty.						
"B" Battery	Gunner	J. B. Blackhall	243	194	117	40	90	25	120	36	35	30	120	50	200	1,660			
do	do	W. G. Pennington	247	183	142	35	105	30	140	36	30	35	120	30	120	1,050	.63	4th.	
do	do	M. H. Shaw	255	177	146	38	105	35	120	42	30	38	120	30	120	1,103	.66	4th.	
do	do	P. Wall	267	175	151	35	105	30	120	42	25	40	120	40	120	1,106	.67	4th.	
do	do	M. Gibson	163	156	147	32	105	35	100	36	35	30	120	30	120	959	.57	4th.	
do	do	C. H. Desnoyers	181	138	142	30	105	30	140	42	35	35	120	35	120	998	.60	4th.	
do	do	C. Champlain	207	151	113	30	105	35	140	42	35	28	120	35	120	1,006	.60	4th.	
do	do	R. Blake	200	155	132	35	105	25	140	36	35	35	140	35	140	1,038	.62	4th.	
do	do	Wm. Harris	248	191	160	35	90	25	140	36	35	30	120	30	120	1,109	.66	4th.	
do	do	G. H. Holland	210	166	129	35	105	25	100	30	25	25	140	25	140	990	.59	4th.	
Quebec Battery of Garrison Artillery	Bombardier	L. Savard	194	172	110	25	75	.....	140	30	25	35	100	35	100	906	.54	4th.	
Lévis Battery of Garrison Artillery	Sergeant	M. Lemieux	200	198	111	25	90	35	120	42	30	40	120	40	120	1,011	.61	4th.	

do	Gunner	N. Boiduc	243	205	143	30	90	30	140	42	30	30	120	40	120	1,113	.67	4th.	
do	Gunner	A. Huard	231	173	121	25	75	20	100	36	25	25	100	25	100	931	.56	4th.	
New Brunswick Brigade of Garrison Artillery	Corporal	J. Reynolds	165	171	121	25	75	25	100	30	25	30	100	30	100	867	.52	4th.	
do	Gunner	H. J. Cautley	238	196	146	30	120	35	120	48	30	40	100	40	100	1,103	.66	4th.	
do	Bombardier	Jas. Taylor	238	192	109	38	90	30	120	30	30	30	120	30	120	1,027	.62	4th.	
do	do	J. A. Donald	289	178	114	38	90	30	120	30	30	.....	120	.....	1,039	.62	4th.		
do	Corporal	John A. Ewing	256	189	108	40	105	30	140	42	.....	.....	120	.....	1,030	.62	4th.		
do	do	Alex. Campbell	151	143	122	40	105	35	140	42	.....	.....	100	.....	878	.52	4th.		
Montreal Garrison Artillery	do	J. P. Cluff	257	204	160	30	105	30	.....	36	25	30	.....	30	.....	877	.52	4th.	
do	Gunner	L. H. Compain	285	250	167	35	120	35	.....	43	35	35	.....	35	.....	1,004	.60	4th.	
do	do	Geo. Bradshaw	269	213	162	25	105	25	.....	36	30	30	.....	30	.....	895	.53	4th.	
do	do	Wm. J. Anderson	308	234	159	35	120	40	.....	48	40	40	.....	40	.....	1,024	.61	4th.	
do	do	Jas. Fenner	238	212	176	25	120	30	.....	43	30	30	.....	30	.....	903	.54	4th.	
do	do	M. McLeod	223	167	137	25	105	25	.....	30	.....	25	.....	25	.....	737	.44	4th.	
do	do	Plow	296	249	156	25	120	25	.....	30	.....	25	.....	30	.....	956	.57	4th.	

T. B. STRANGE, Lieut.-Colonel,
Commandant, Gunnery School, Quebec

SUPPLEMENTARY REPORT ON THE QUEBEC GUNNERY SCHOOL, BY
LIEUT.-COLONEL MONTIZAMBERT.

CITADEL, QUEBEC, 22nd November, 1879.

SIR,—In accordance with your instructions, I have the honour to report that I took over command of the Gunnery School from the 24th January till the 26th May of this year, during your absence on leave in England, and also from the 24th of July to the 17th of October, during which period you were on duty in British Columbia.

The usual drills and instructions of the school were carried on in addition to a considerable amount of extra duty, incidental to riots in the town of Quebec, extra guards in Montreal, Levis and the Citadel.

On the 31st of January, I sent, by order of the Government, a detachment of one officer, and eleven non-commissioned officers and men to be stationed at No. 2 Fort Levis, to prevent the destruction of timber on the Government property. This duty was ably performed by Major Hébert.

This detachment was withdrawn on the 26th of April.

On the 3rd February, Captain Short and Lieutenant Sheppard proceeded to Montreal, and acted respectively as umpire and range officer for the annual practice of the Montreal Garrison Artillery.

Staff Sergeant Instructor Howard was sent during the same month to assist in the instruction of the Montreal Garrison Artillery, and still remains as instructor in the branch school at that place. He has fulfilled his duties to my entire satisfaction.

The death of Trumpet-Major and Bandmaster Walsh occurred on the 2nd of March, he was greatly regretted by all ranks.

During the spring I was obliged to post bayonet sentries on town lines to prevent the dumping of snow and rubbish in the ditches.

In the month of April we constructed a snow field-work in the Citadel, cutting it out of a huge drift. On the 20th Major Hébert was gazetted to a lieutenancy in "B" Battery, vice Captain Duchesnay, resigned.

On the commencement of mild weather and the breaking up of the snow roads, I withdrew the detachment at the Levis' forts.

The battery went by steamer to Montreal on the 23rd of May to take part in the review on the Queen's birthday, before His Excellency and Her Royal Highness The Princess Louise.

We mounted in August a 7-inch breech-loading rifle in the salient of the artillery bastion.

On the arrival of the French and English men-of-war the usual salutes were fired.

The following batteries carried on competitive gun practice at the Island of Orleans range this year:—

"A" Battery.

"B" " "

Quebec Field Battery.

" Garrison Artillery.

Levis

" " "

Montreal Field Battery.

On the 15th August, the battery was ordered to hold itself in readiness for aiding the civil power, and the rioting in the city looked at one time so serious that the whole of the city volunteer corps were called out. The Queen's Own Canadian Hussars, the Quebec Field Battery, and the Quebec Garrison Battery were stationed in the Citadel. The usual measures of precaution were taken in the fortress.

On the 28th, I went to Montreal to be present at the inspection and testing, by Lieut.-Colonel Irwin, of the $\frac{3}{4}$ Palliser gun, converted by the Messrs. Gilbert. This work was the first of its kind ever done in Canada, and was considered very satisfactory. I sent Lieutenants Donaldson and Platt to Gaspé, on the 9th of September, for the gun practice of Major Slous' Battery, as I had arranged to inspect the Sheppard Battery at about the same date. Their report of the battery was very favourable. The St. Helen's Island detachment, under Major Fraser, was withdrawn during this month.

On the 13th of October, a squad of "A" Battery competed here against a squad of "B" Battery, doing the heavy ordnance shifts practiced this year at Shoeburyness. "B" Battery were the winners. Time 3 minutes 41½ seconds, against 4 minutes 34 seconds. On the following day the 9-pounder muzzle-loading rifle field gun competition practice took place between the batteries, "A" Battery winning; score 480 points against 424.

I have received at all times willing and able assistance from the officers and non-commissioned officers of the battery, and the conduct of the men during the year has been exceptionally good.

I have the honour to be, Sir,

Your obedient servant,

(Signed) C. E. MONTIZAMBERT,
Captain and Brevet Lieut.-Colonel.

The Inspector of Artillery,
Quebec.

ARMAMENT.

I have for several years past persistently urged the conversion of ordnance in Canada on Sir William Palliser's principle, and the results of the experiment of conversion of a $\frac{3}{4}$ by Messrs. Gilbert & Son, at Montreal, leave no doubt as to the advisability of the course from every point of view, both of efficiency and economy, as well as the manufacture of more powerful guns with ammunition carriages, &c.

As my recommendation needs the approval of the general officer commanding, he will doubtless enter fully into the subject in his annual report.

As regards small arms, I have, in addition to remarks previously made as to the principle of packing in armouries, to point out the necessity of a larger supply of rifles and accoutrements, both artillery and infantry, being kept in British Columbia, and some understanding being come to with the Imperial Government for the supply of gun ammunition for the practice of the militia artillery at that distant part of the Dominion.

The loss by fire of the service ammunition and part of the equipment of a field battery leads me to revert to my recommendation that field batteries, where practicable, might be affiliated to fire brigades, the horses of the latter forming a little nucleus for the former, the volunteer firemen being enlisted in the battery.

FORTS.

As the circumstances pointed out in my last year's report under this head remain unchanged, it is not necessary to recapitulate.

The confidential report on the defences of British Columbia, which I had the honour of submitting after my tour of inspection in that province, precludes the necessity of further remarks.

ENGINEERS.

As Captain Walker, R. E., Royal Military College, was called upon for a report on the engineer organization, and has treated the subject exhaustively, there is no need for report on my part. I forward his recommendations as submitted through Lieut.-Colonel Irwin.

In forwarding herewith the report of the Commandant of the Ontario Gunnery School, I do not consider his remarks relative to deterioration due to localization as applicable to the force I have the honor to command. Localization is essential to any truly national military system, and is so considered in the most successful European military organizations. In a school of military instruction for the French speaking Province of Quebec it is unavoidable.

I have the honour to be, Sir,

Your obedient servant,

T. BLAND STRANGE, Lieut.-Colonel,
Commandant, Quebec School of Gunnery.

APPENDIX No. 5. GUNNERY CERTIFICATES.

PROVINCE OF ONTARIO.

LIST of the names of Officers, Non-Commissioned Officers, and others of the Active Militia who have obtained Certificates at "A" Battery School of Gunnery, Kingston, during the Year 1879.

Name and Rank.	Corps.	Certificates.				Long or Short Course.
		1st Class.	2nd Class.	3rd Class.	4th Class.	
Arnott, Gunner John.....	Trenton Garrison Battery.....	1879.	1879.	1879.	1879.	Short.
Barry, Bombardier E. P.....	Ottawa Field Battery.....				Dec. 10.....	do
Briggs, Corporal E.....	Toronto Field Battery.....			April 4.....	April 4.....	do
Carry, Gunner G. H.....	Ontario Field Battery.....				April 4.....	do
Caulfield, Sergeant F.....	do			April 4.....	do	do
Clendenning, Bombardier A.....	St. Catharines Garrison Battery.....			do	do	do
Clendenning, Gunner H.....	do				April 4.....	do
Cooper, Gunner W.....	Trenton Garrison Battery.....				July 5.....	do
Cooper, Gunner F. G.....	Hamilton Field Battery.....				Dec. 10.....	do
Coutlee, Lieut. L. W. P.....	Ottawa do		Aug. 25.....			do
Davis, Bombardier C. J.....	Ontario do				Dec. 10.....	do
Evans, Lieut. Thos.....	Ottawa do	Oct. 10.....				do
Ferguson, Corporal J. M.....	Ontario Field Battery.....				Dec. 10.....	do
Fox, Bombardier W.....	Toronto do			July 5.....		do
Harris, Lieut. Robert.....	35th Battalion.....	July 5.....				do
Hillis, Bombardier J.....	Toronto Garrison Battery.....			April 4.....		do
Hunter, Gunner R. H.....	do				Dec. 10.....	do
Kerr, Corporal M.....	Toronto Field Battery.....				April 4.....	do

Lane, Corporal A. W.....	Ottawa do				April 4.....	do
Leith, Gunner John.....	Toronto do				Dec. 10.....	do
McCracken, Sergeant Jas.....	Welland Canal Field Battery.....				July 5.....	do
McGibbon, Sergeant W.....	Ontario Field Battery.....			Dec. 10.....		do
McIntosh, Bombardier A.....	do				April 4.....	do
O'Connor, Gunner H.....	Prescott Garrison Battery.....				April 4.....	do
Porteous, Gunner John.....	Hamilton Field Battery.....				July 5.....	do
Pring, Corporal W.....	London do				Dec. 30.....	do
Rackett, Acting Bombardier A.....	"A" Battery.....				July 5.....	do
Richardson, Gunner Jno.....	Kingston Field Battery.....				April 4.....	do
Self, Bombardier T.....	Toronto Garrison Battery.....			April 4.....		do
Smith, Bombardier Jas. H.....	Hamilton Field Battery.....			do		do
Van Wagner, Lieut. H. P.....	do	Dec. 10.....				do
Williams, Bombardier T.....	Welland Canal Field Battery.....				April 4.....	do
Williams, Bombardier C.....	London Field Battery.....				do	do
Wills, Bombardier T.....	St. Catharines Garrison Battery.....				do	do
Wilson, Gunner Jas.....	Hamilton Field Battery.....			April 4.....		do
Woods, Corporal Joseph.....	Toronto Garrison Battery.....			Dec. 10.....		do

RECAPITULATION.

First Class Certificates "Long Course".....	0
Second do do	0
First do do "Short Course".....	3
Second do do	1
Third do do	10
Fourth do do	22
Total.....	36

PROVINCE OF QUEBEC.

LIST of the names of Officers, Non-Commissioned Officers, and others of the Active Militia who have obtained Certificates at "B" Battery School of Gunnery, Quebec, during the Year, 1879.

Name and Rank.	Corps.	Certificates.				Long or Short Course.
		1st Class.	2nd Class.	3rd Class.	4th Class.	
Anderson, Gunner William J.	Montreal Brigade Garrison Artillery	1879.	1879.	1879.	1879.	Short.
Birks, Lieut. James B.	Montreal Engineers		Nov. 27		Nov. 27	do
Birks, Lieut. Robert M.	Montreal Brigade Garrison Artillery		do 27		Nov. 27	do
Blackhall, Gunner Joseph B.	"B" Battery.				do 27	do
Blake, Gunner Robert.	do				July 4	do
Bolduc, Sergeant N.	Lévis Garrison Battery				Nov. 27	do
Bradshaw, Gunner George.	Montreal Brigade Garrison Artillery				Nov. 27	do
Campbell, Corporal Alexander	New Brunswick Garrison Artillery				Sept. 30	do
Cantley Gunner H. J.	do				July 4	do
Champlain, Gunner Charles.	"B" Battery				do 4	do
Cluff, Corporal J. P.	Montreal Brigade Garrison Artillery				Nov. 27	do
Cole, Lieut. George F.	New Brunswick Brigade Garrison Artillery				Nov. 27	do
Compain, Gunner L. H.	Montreal Brigade Garrison Artillery	Nov. 27			Nov. 27	do
Cutler, Sergeant G. H.	Richmond Field Battery				Sept. 30	do
Davis, Sergeant William	Richmond Field Battery				Sept. 30	do
Desnoyers, Gunner C. H.	"B" Battery				July 4	do
Donald, Bombardier J. A.	New Brunswick Brigade Garrison Artillery				do 4	do
Driver, Sergt-Major Thomas	Richmond Field Battery				do 4	do
Drolet, Driver Louis	Quebec Field Battery				Sept. 30	do
Ewing, Corporal John A.	New Brunswick Brigade Garrison Artillery				do 30	do
Fenner, Gunner James	Montreal Brigade Garrison Artillery				Sept. 30	do
Gibson, Gunner Michael.	"B" Battery				Nov. 27	do
Giddens, Driver Charles.	Richmond Field Battery				Sept. 30	do
Goodwin, Lieutenant Henry	Montreal Engineers.		Nov. 27		do 30	do

Hall, Driver Reuben M.	Sheffield Field Battery				Sept. 30	do
Hamel, Capt. and Lt.-Major L. C.	Lévis Garrison Artillery	Dec. 13.	Nov. 27		July 4	do
Harper, Corporal F.	Woodstock (N.B.) Field Battery				Nov. 27	do
Harris, Gunner William.	"B" Battery.				do 27	do
Holland, Gunner G.	do				July 4	do
Huard, Gunner A.	Lévis Battery of Garrison Artillery				do 30	do
Jarvis, Lieutenant E. W.	Winnipeg Field Battery	Nov. 27				do
Lemieux, Sergeant M.	Lévis Garrison Battery				July 4	do
Mills, Gunner George.	Woodstock (N.B.) Field Battery				July 4	do
McLeod, Gunner M.	Montreal Brigade Garrison Artillery				Nov. 27	do
Pennington, Gunner W. G.	"B" Battery				July 4	do
Plow, Gunner.	Montreal Brigade Garrison Artillery				Nov. 27	do
Reynolds, Corporal J.	New Brunswick Brigade Garrison Artillery				July 4	do
Rutherford, Lieutenant R. W.	66th Battalion, A. M.	Nov. 27			July 4	do
Savard, Gunner L.	Quebec Garrison Battery				July 4	do
Shaw, Gunner M. H.	"B" Battery				do 4	do
Tatlow, Captain Robert G.	1st Battalion, A. M.	Nov. 27			July 4	Long.
Taylor, Bombardier James.	New Brunswick Brigade Garrison Artillery				do 4	Short.
Vohi, Lieut.-Colonel L. P.	9th Battalion, A. M.		Nov. 27		July 4	do
Wall, Gunner Patrick.	"B" Battery				July 4	do
Weir, Driver Samuel.	Richmond Field Battery				Sept. 30	do
Whitley, Lieutenant Fred.	Montreal Brigade Garrison Artillery		Nov. 27		do	do

RECAPITULATION.

First Class Certificates, "Long Course"	1
do	0
do	5
do	6
do	0
do	36
Total	42

APPENDIX No. 6.

CERTIFICATES OF BOARDS OF EXAMINERS.

LIST of Officers of the Active Militia, and of Candidates for Commissions therein, who have obtained Certificates during the Year 1879.

Name and Rank.	Corps.	First Class Certificates and date.	Second Class Certificates and date.
<i>Province of Ontario.</i>			
		1879.	1879.
Battell, Henry C., 2nd Lieutenant.....	40th Battalion A.M.		8th Nov.
Beck, Nicholas Dubois, Lieutenant.....	57th do		1st Dec.
Blyth, Thomas Bell, Lieutenant.....	59th do		20th Oct.
Callender, Frank, Sergeant.....	40th do		8th Nov.
Cox, Charles F., Sergeant.....	7th do		21st Dec.
Crowe, Joseph, 2nd Lieutenant.....	30th do		do
Day, Matthew, Lieutenant.....	22nd do		do
Edwards, E. Burritt, Captain.....	57th do		1st Dec.
Gartshore, Wm. M., 2nd Lieutenant.....	7th do		21st Dec.
Gattis, Wm., Captain.....	27th do		do
Grover, Thos. Maitland, Captain.....	57th do	1st Dec.	
Heward, E. H. T., 2nd Lieutenant.....	Gov.-General's Body-Guard.		2nd April.
Light, Alfred Thomas, Lieutenant.....	59th Battalion A.M.		20th Oct.
Lindsay, William H., Captain.....	25th do		21st Dec.
Long, Henry, Private.....	7th do		do
Love, Francis, 2nd Lieutenant.....	7th do		do
Macbeth, Thomas Talbot, Captain.....	7th do	21st Dec.	
Milden, George, Lieutenant.....	59th do		20th Oct.
Miller, John Wesley, Lieutenant.....	57th do		1st Dec.
McQueen, Frederick W., Lieutenant.....	22nd do		21st Dec.
Nichols, George Ibberson, Sergt.-Major.....	59th do		20th Oct.
Petrie, John B., Private.....	7th do		21st Dec.
Pollock, John C., Captain.....	27th do		do
Rogers, George E., Captain.....	57th do	1st Dec.	
Savage, John, Captain.....	27th do	21st Dec.	
Smith, Albert M., Captain.....	7th do	do	
Starr, Joseph A., Corporal.....	7th do		21st Dec.
Sutherland, Donald McL., 2nd Lieutenant.....	22nd do		do
Weir, James C., Captain.....	24th do	21st Dec.	
Weisbrod, John C., Captain.....	25th do	do	
Williams, W. M. DeRay, Captain.....	7th do	do	
Wright, Horace H., 2nd Lieutenant.....	25th do	do	21st Dec.

LIST of Candidates for Commissions, &c.—Continued.

Name and Rank.	Corps.	First Class Certificates and date.	Second Class Certificates and date.
<i>Province of Quebec.</i>			
		1879.	1879.
Alleyn, Edmund R., 2nd Lieutenant.....	8th Battalion A. M.		18th April.
Beaudry, A. George, 2nd Lieutenant.....	7th do		9th May.
Beckett, Ernest W., Lieutenant.....	53rd do		30th Jan.
Blaiklock, William M., Captain.....	6th do	30th April.	
Bottom, Frank A., Captain.....	53rd do		do
Bowen, Alfred C. H., Lieutenant.....	53rd do		do
Brousseau, Julien.....	21st do	15th Feb.	15th Feb.
Chamberlin, John C., Lieutenant.....	Aylwin Infantry Company		21st Aug.
Chamberlin, Henry C., 2nd Lieutenant.....	do do		do
Chinic, Edmond, Lieutenant.....	9th Battalion A. M.		9th May.
Cushing, William M., Lieutenant.....	6th do	30th April.	
Dupré, Edmond, Lieutenant.....	9th do		do
Edwards, John R., 2nd Lieutenant.....	3rd do		30th April.
Fair, John, Lieutenant.....	6th do	30th April.	
Gray, John, Lieutenant.....	6th do	do	
Greene, Edward Kirke, 2nd Lieutenant.....	1st do		21st Aug.
Hood, Peter, 2nd Lieutenant.....	6th do	30th April.	
Lipsey, Edward, 2nd Lieutenant.....	55th do		18th April.
Massey, Frederick, Captain.....	6th do	30th April.	
Mackinnon, James, Captain.....	6th do	do	
Malipart, George S., Captain.....	65th do	15th Feb.	
Mooney, George A., Lieutenant.....	6th do	30th April.	
Morris, William, Private.....	53rd do		30th Jan.
Moss, Albert E., 2nd Lieutenant.....	3rd do		30th April.
McClimont, Jno. Olapham, 2nd Lieutenant.....	8th do		18th April.
McCorkill, J. Charles, 2nd Lieutenant.....	5th do		21st Aug.
McNicol, Jno. A., Lieutenant.....	53rd do		30th Jan.
Nelson, Frederick E., 2nd Lieutenant.....	6th do	30th April.	
Pennée, Frank, Lieutenant.....	9th do		9th May.
Raphael, John F., Lieutenant.....	6th do	30th April.	
Russell, William, Lieutenant.....	8th do		18th April.
Stuart, Gustavus, Lieutenant.....	8th do		do
Sully, George, Captain.....	3rd do	30th April.	
Terroux, Tancride, Captain.....	65th do	15th Feb.	
Tessier, George V., Lieutenant.....	9th do		9th May.
Thomson, George H., 2nd Lieutenant.....	8th do		18th April.
Winter, A. T., Staff Sergeant.....	53rd do		30th Jan.
Worthington, A. N., 2nd Lieutenant.....	53rd do		do

LIST of Candidates for Commissions, etc.—*Continued.*

Name and Rank.	Corps.	First Class Certificates and date.	Second Class Certificates and date.
<i>Province of New Brunswick.</i>			
Wetmore, Howard D, Captain.....	74th Battalion A. M.....	1879.	1879. 10th July.
<i>Province of British Columbia.</i>			
Dorman, Wm. Henry, Lieutenant.....	No. 1 Victoria Rifles.....		9th April.
Fletcher, Everard, Lieutenant.....	No. 2 do.....		do
Greene, Rowland E., Sergeant.....	Victoria Rifles.....		do
Woollacott, Phillip, Colour-Sergeant.....	do.....		do

RECAPITULATION.

First Class Certificates.....	22
Second Class Certificates.....	54
Total.....	76

APPENDIX No. 7.

LECTURE ON "THE MILITARY ASPECT OF CANADA," &c., by Lieutenant-Colonel T. B. STRANGE, R.A., Dominion Inspector of Artillery, on Friday, May 2nd, 1879, at the Royal United Service Institution, London, England. Lieutenant General Sir DANIEL LYSONS, K.C.B., Quarter-Master-General, in the Chair.

There is nothing like leather, was the advice of the tanner to his beleaguered compatriots; there is nothing like paper, in any form except dollar bills, would appear to be the opinion of the people of Canada, judging by their representatives. The Parliamentary Vote for military purposes has been steadily diminishing for some years past, while the military literature has been as steadily increasing from responsible as well as irresponsible sources. The defence of Canada has been amply ventilated and the best possible advice given, from the date of the first Militia Bill, originated by the gallant Officer now in the chair, the excellence of which was proved by the defeat of the Government supporting it, while its principal provisions were adopted by their successors. Sir W. Jervois and Colonel Fletcher also planned a complete system of defence.

To General Sir Patrick Macdougall, when Adjutant-General of Militia, is mainly due the localization of militia in military districts, as it still exists in Canada. The Gunnery Schools were formed under Colonel Robertson-Ross when Adjutant-General of Militia, while the Military College under Lieutenant-Colonel Hewett, R. E., has been developed during the command of Lieutenant-General Sir Edward Selby Smyth, whose annual reports have been most complete and detailed, and replete with excellent suggestions, while the present Adjutant-General, Colonel Powell, a Canadian Officer of long experience, is familiar with all practical details of the department. What need then that I should add to the paper bulwarks of Canada, to which I regret to say I have already contributed with but little result? I do so only by request, for the information of the members of this Institution. The subject divides itself into five heads—

- 1st. Strategic Geography of Canada.
- 2nd. Militia, Active and Reserve.
- 3rd. Permanently Embodied Militia and Educational Establishments, *i. e.*, Schools of Gunnery and Royal Military College.
- 4th. Armament and Supply.
- 5th. Canadian Contingent for Imperial Service and Military Colonization.

Part I.—STRATEGIC GEOGRAPHY.

Before deciding on what are the strategic points of most importance, and the measures that should be adopted for defence, it is necessary to consider what aggressive operations an enemy would probably undertake, and the natural base and lines of his operations, as well as our own facilities for concentration. I have not taken note of the wilderness between Lake Superior and the Pacific; as it can scarcely be said to contain a military objective, an army could not exist in it, and in any case we could not defend it, unless the Canadian Pacific Railway is constructed. From the North Pole we need fear no aggression, our brave Canadians would find only allies in the restless cohorts of Field-Marshal Frost as they sweep across the desolate

plains to meet the southern invader; unfortunately our flanks are not so secure, resting on Atlantic and Pacific seaboard, for though Britannia may be said in music-hall parlance to rule the waves, we cannot entirely imagine ourselves to have a monopoly of the water-ways of the world. Captain Colomb, in the able papers he has from time to time read in this Institution, has only too clearly proved to us that the police of the ocean, as carried out by the swarms of cruisers in the days of Nelson, or by the swift wooden steamers of a later date (which require numerous and secure coaling stations, more especially if coal armour is practicable), must be considered from a very different point of view when the British Fleet consists of our somewhat cumbrously floating castles of iron, the available number of which for Pacific or transatlantic service might be counted on the fingers of one hand.

Pacific Seaboard.

We must therefore consider the high seas as a base of operations common to ourselves and our possible enemies, who have moreover a secondary base on the continent, which we roughly call British North America, *i. e.*, Alaska, the slice with which the one Eagle accommodated the other, perhaps with the prospect of a future carcase in that locality. Our inadequately protected coaling station at Vancouver is much nearer such secondary bases on the Pacific shore of Asiatic Russia, as well as the harbours of Oregon and California, to say nothing of others along the 600 or 700 miles of coast where we have no foothold that could be utilized by a *soi-disant* neutral Power, when certain complications have necessitated the concentration of our fleet in eastern rather than western waters.

During a discussion in this theatre, I was asked whether it was the duty of the Canadian or Imperial Government to defend Vancouver Island and British Columbia, my answer on this point is not of any practical value. I can only tell you what both Governments have done towards it, and remind you that until the Canadian Pacific Railroad is built the Canadian Government would have to send from its Store Department at Ottawa or Montreal round by Cape Horn every musket, every pound of powder, and every uniform button required in British Columbia. I fail to see the advantage of the boasted belt of territory that circles the globe if the electric current of Imperial power which is absolutely necessary for Imperial defence cannot freely permeate through it. The completion of the Canadian Pacific railroad is not merely a vital necessity to the integrity of the Dominion, but of the Empire. It is as much an Imperial as a Colonial question. Its completion would be the realization of the dreams of Christopher Columbus, of Vasco di Gama, and the numerous hardy mariners who have tried to force their way to the east by frozen north or south, or sultry tropic exploration. The shortest route from Ireland to Japan by a thousand miles would be the great circle of the globe along which the Canadian Pacific runs. By it will return the costly silks and teas of China, the products of the Spice Islands, of Australia and India, the cotton of Feejee, as well as the grain of the great valley of the Saskatchewan. Without it Canada is a *cul de sac*. The struggling nationality resembles a young giant, whose careless parents allowed one nostril to be stuffed up by the loss of the unfrozen seaports of the State of Maine, and now, after giving up Oregon and the San Juan passage, that other Canadian nostril, we are threatened with the secession of British Columbia, which can neither be defended or traded with. Trade is the life-blood of Anglo-Saxon communities, and railroads the arteries. Never having had the good fortune of being permitted to visit the country, as fell to the lot of my assistant inspector, I have carefully read the exploration reports, and I do not believe in insurmountable engineering difficulties. The railroad will yet follow the Indian trail through the Tête Jaune Pass, which is only 4,000 feet, half the height of the lowest pass on the United States line. Salmon make their way up to the head-water of the Frazer river; 12 feet is the limit of a salmon leap. The trail of the Indian, the run of water systems, is the natural line of railroads. Three out of four of our explorations have been athwart three ranges of mountains. The following extract from the Militia Report, page 306, will show the action taken by

General Selby Smith, which is, I am informed, to be supplemented by the further Report of an Engineer Officer from England, and a Royal Artillery officer from Canada:—

Extract of Report on the Site, Construction, and Armament of the Coast Batteries, erected for the Defence of the Harbours of Victoria and Esquimalt, Vancouver Island, British Columbia—during the months of June, July, and August, 1878, by Lieutenant-Colonel D. T. Irwin, Captain Royal Artillery, and Inspector of Artillery.

The following extract from the general instructions received by me on the day of my departure from Kingston, 13th May, 1878, affords sufficient information as to the general nature of the work proposed to be undertaken, together with the limitations imposed as to its extent, viz:—

“The Dominion Government have given orders for the erection of a battery on McAulay’s Point, Victoria, Vancouver Island, for the protection of the entrance to Victoria and Esquimalt harbours respectively.

“Her Majesty’s Government has sent orders to supply such guns as may be required from the dockyard reserves at Esquimalt.

“I enclose a plan prepared by Lieutenant-Colonel Blair, R. A. You will observe he proposes a small battery on Victoria Point, and another on Fisgard Island for the better security of both harbours, in addition to that now proposed on McAulay’s Point.

“The latter is considered of the chief importance, the other two only subsidiary.

“It is presumed the Royal Naval authorities will take steps to arm Fisgard Island.

“You will use your discretion as to whether McAulay’s Point alone or in conjunction with Victoria Point should be armed.

“In this you will be guided by regard to economy combined with efficiency, and the means of manning two batteries.

“A volunteer battery of artillerymen has been ordered to be raised and equipped at Victoria. You will satisfy yourself that means are at hand for instructing the Officers and men and rendering them efficient, and you will assist in doing so if necessary.

(Signed)

“E. SELBY SMYTH,

“Lieutenant-General.

“Choice of Sites for Batteries.

“Having placed myself in communication with Captain F. Robinson, of Her Majesty’s ship ‘Opal,’ the then Senior Naval Officer on the Station, I made with him and Lieutenant-Colonel Houghton a careful examination of the coast, with a view to determine upon the best sites for defensive works.

“In this important duty I was afterwards assisted by a board of Officers, detailed for this duty by Rear-Admiral de Horsey, Commander-in-Chief on the Pacific, and composed of Captain Bedford, of Her Majesty’s ship ‘Shah,’ Captain Burrowes, R.M.A., and Gunnery Lieutenant Lindsay, of Her Majesty’s ship ‘Shah.’

“It may be sufficient here to state that the plans proposed by Lieutenant-Colonel Blair were not found to be practicable, and it was found necessary, in order to defend with the fire of at least one gun all the approaches to both harbours, to place ten pieces of ordnance in position at the sites undermentioned, and arranged as follows:—

“Finlayson Point,	2 64-prs.	R.M.L.
“Victoria	“ 2 64-prs.	“
“Macaulay	“ 3 7-in. 6½ ton	“
“Brothers Island	1 8-in. 9	“
“and	2 64-prs.	“

"The guns, stores, &c., were all taken from the Naval Stores at Esquimalt, a heavy transporting axle mounted on wheels, in conjunction with an ordinary lumber wagon, being used for the purpose, and horses and drivers hired for the occasion."

So much for the gun power, which does not perhaps sound much in these days of modern monsters. But how about the man power? It will be seen for the reason stated to be quite inadequate, unless a small permanent force of regular trained artillerymen is established there. I again quote Lieutenant-Colonel Irwin's report.

"The guns were mounted on their carriages and platforms by the labourers employed on the works. I was anxious to obtain the services of the garrison battery for this purpose, but from reasons entirely beyond my control, I was unable to get more than a very few volunteers for this duty, and then only in the evenings.

"The work of transporting the guns, stores, &c., from the Naval Storeyard to Brothers Island being of exceptional difficulty if obliged to be effected with the ordinary means at my disposal, I applied to the Naval Commander-in-Chief for assistance, and Rear-Admiral de Horsey was pleased to undertake the entire execution of this work, which was successfully effected by a naval detachment under the direction of Captain F. Robinson, Her Majesty's ship 'Opal.' The detachment received the ordinary rates of working pay, from the Dominion Government.

"With reference to the subject of manning the guns in these batteries, it will be observed that for this purpose the only means at present provided are the members of the garrison battery, enrolled about the time of my arrival, numbering about fifty of all ranks.

"Of this number about thirty attended the voluntary evening drills and lectures, held on the average twice a week during my stay in Victoria; about twenty men are fairly proficient in gun drill and artillery exercises, and a class of about ten of the Officers and probable non-commissioned officers, who were able to attend occasionally at special afternoon drills, are capable of instructing at standing gun drill and elementary exercises.

"The battery is fortunate in being commanded by an Officer of great energy and zeal, and also in possessing the services as instructor of Lieutenant D. G. McNaughten, who obtained a first-class short course certificate from this school of gunnery in January, 1876, he being then a sergeant in the New Brunswick Garrison Artillery.

"Owing to the isolated position of Victoria, the very limited number of its population, and the high rate of wages paid for labour, special and almost insuperable difficulties are placed in the way of the establishment of anything like an efficient volunteer artillery force sufficiently numerous or well trained for the purpose of manning this number of guns and maintaining an effective fire against ships in motion, a duty the successful performance of which requires the greatest possible amount of training and intelligence on the part of the gunners.

"My previous reports and recommendations (16th June, 1873) on this subject have indicated the advisability of maintaining a small permanent force at Victoria or Esquimalt, whether composed of Royal Marine or Canadian artillerymen, trained at the schools of gunnery.

"This force would serve as a nucleus and training school for the volunteers, could be profitably employed in the care of the several batteries, guns, stores, &c., and if a sufficient number of artificers, such as stone-masons, bricklayers, and carpenters, several of whom are generally found in the ranks of "A" and "B" batteries, were included in their number, the work of converting the present earthen batteries into defences of a more permanent character could be gradually carried on with considerable economy of expenditure."

The best means for the defence and development of British Columbia, our coal depots, and the terminus of the Canadian Pacific Railway would, I believe, be military colonization of the old Roman or modern Austrian type, which I hope to discuss more fully at the end of this paper.

Let us now consider our left flank.

Atlantic Seaboard.

The second common base of operations against Canada would be the Atlantic seaboard. It is needless to specify the numerous localities round which the struggles of old wars have surged, of which time does not alter the strategic conditions. Along that indented coast (which would still serve ourselves or our neighbours, whichever had the strongest hand uppermost to begin with), vessels like the *Cimbria* could still be fitted out as privateers against our commerce and the unprotected fishing towns of the Nova Scotian, New Brunswick, Prince Edward's Island, and Newfoundland coasts. After reading Mr. Brassey's figures, which tell us that Newfoundland alone in 1872, had 10,000 men engaged in the seal fishery, while the value of the fish exported from that island alone amounted to £1,340,000, one feels tempted to say if they suffer, the verdict will be, "serve them right." But we cannot allow such verdicts to go forth to the world, if there is any real Imperialism left among us. It is to be hoped the hitherto obdurate islanders, than whom Mr. Brassey says there are no subjects of the Crown more loyal or devoted, will round off our transatlantic Dominion by joining it.

Fortunately at Halifax we have retained some of the *ultima rationes regum et populorum*. We need not therefore discuss the defence of this fortress and harbour, which, however valuable in other senses, can in no sense be considered a safe base for operating in the inland defence of Canada, for the Treaty of 1842, which handed over the State of Maine, sends a wedge of territory up to within a few miles of the Intercolonial railroad, which a handful of troopers could at any moment render un-serviceable in a night, thus cutting off retreat to Halifax or succour from thence to the upper provinces. It is true that detachments were sent from Halifax during the Trent difficulty; but the United States were at that time disunited States. There are, unfortunately, other undefended points on the Intercolonial railroad where the destruction of a bridge by the boat's crew of a privateer would stop communication for some time. There formerly existed a Grand Trunk Railway brigade, and if resuscitated (in the Intercolonial) it would be an efficient means of transporting guns in extemporised railway batteries along the coast, fortifying stations, &c. Unfortunately railway employes have shown themselves sometimes too ready to join the disturbers of the prosperity of nations. At many points along the coast are small companies of men, more or less trained as garrison artillery, but without efficient guns or earth-work cover.

The blue crosses on the map show the localities where there are such garrison batteries, open crosses, field batteries. Among other important places, the coal mines of Pictou have been included in this partial defence, which it is hoped may grow into something tangible in time.

Under this head the Lieutenant-General Commanding, Sir Edward Selby Smyth, remarks:—

"With regard to the defences of the Atlantic coast, it was recommended that on Partridge Island in the Bay of St. John, N.B., a battery should be armed with four 7-inch 7-ton rifled guns, and three 64-pounder wrought-iron guns; Negro Point, with two 7-ton and three 64-pounders; Sydney, Cape Breton, two batteries in succession and in support of each other, on Chapel and Mines Points, each to have two 7-ton and two 64-pounder rifled guns; and on Edward Point, two 7-ton and two 64-pounders; Prince Edward Island, two 7-ton and two 64-pounder rifled guns on Battery Point; Pictou, N.S., three 7-ton and three 64-pounders on Moodie Point.

"The total cost of these armaments, with 100 rounds of ammunition per gun, was estimated at about 50,000*l.* sterling, subject to certain deductions, according to the defences which might be adopted for Charlottetown and Sydney."

To prevent misconception, which might arise owing to my position as Dominion Inspector of Artillery, I must say shortly, that I never saw the report alluded to above, and from my knowledge of the circumstances of the country, and the direction in which the march of modern artillery is tending, I do not concur in its provisions

any more apparently than does the Lieutenant-General Commanding, or the representatives of the people who have to pay the bill; but the subject of armament must be treated under its special head.

The strategic points on the railway system and on our Atlantic seaboard may be said to be:—

St. Andrew's at the mouth of the James, our boundary river, St. John, N.B., and Fredericton, Halifax, Sydney, Pictou, Charlottetown, Prince Edward Island, Moncton, Chatham, and Dalhousie.

Quebec, the most important of all, the gateway of the St. Lawrence.

Quebec.

The strategic value of Quebec can scarcely be exaggerated; its fall lost a continent to France, its successful defence by ourselves in 1775 was pregnant with far mightier results to the world at large than we trouble ourselves to think of in these days when a sensational newspaper article diverts the whole thought of the nation for the usual ten days, to be succeeded by another, and yet another crotchet, to the apparent exclusion of the long pondered lines of policy on which Empires are built, and from the neglect of which, they crumble to decay; but there are points of vital interest which cannot be discussed by a military lecturer in an Institution like this. Suffice to say, the fall of Quebec would lose us the key of the gate of Canada, and close the only door by which British succour could come to it, or a fleet of gunboats enter its inland waters. In any case, unpleasant as the truth may appear, Quebec remains the only one possible stronghold upon which our militia, if rolled up by an overwhelming force from the west, could retreat and wait for that help which never would be denied from the old country. Meanwhile, a besieger must be kept at arm's length, which can only be done by superior artillery so disposed as to retain its power against attack, if not indefinitely, until such time as relief is at hand.

Inland continental fortresses differ materially from the maritime strongholds of Great Britain. I can recall no instance in our history, since the loss of Calais and Fort Mahon, (1) where the old flag has been lowered at the bidding of a besieger for want of succour from the sea, our great base of operations. Especially does it hold good in the case of a maritime fortress such as Quebec, where "Field-Marshal Frost," prevents the possibility of a longer investment than five summer months; and even in summer the mighty sweep of the St. Lawrence would render complete investment almost an impossibility to the invader, who could not transport very heavy guns and their enormous weight of ammunition for a long distance over difficult country, with few and bad roads, impassable in the spring and autumn. (2) The defender, holding the river within the circle of forts, could throw his whole forces on a section of the enemy divided by the St. Lawrence and separated by it from their base of operation and line of retreat. The complete railway systems at the command of Prussia did not enable her to bring heavier guns than 60-pounders in her siege train. There are certain physical data which do not alter, viz., the strength of men and horses, the badness of country roads. Railroads, from the nume-

(1) Nor do I know of any fortress but Quebec from before whose walls an English fleet has recoiled without success, though not without honour, according to the traditional testimony of the gallant French Canadian, who brought to shore the tattered flag of Admiral Phipps, when asked if it was not heavy, he replied, "*Oui, mon camarade, vous avez raison; c'est chargé de gloire.*" Alas, the response of the stern old De Frontenac when summoned to surrender, "I will give you my answer from the mouth of my guns," would be scarcely possible from the antiquated armament of what was the Gibraltar of America.

(2) 1875 was the centenary of the winter expedition of Generals Montgomery and Arnold against Quebec; the latter with incredible hardships came through the State of Maine, and, on the death of his colleague, withdrew the shattered remnants of their force. The new detached forts at Levis completely command the intersection of roads and railways east, west, and south, as well as the valley of the Chaudière and Kennebec road, by which Arnold marched, and they occupy they ground from which Wolfe shelled the town.

rous other calls upon them in war, have been found incapable of transporting very heavy artillery. It is hardly to be supposed that the mistress of the seas and her eldest daughter, Canada, the commercial navy of which already ranks third among the commercial navies of the world, would permit the siege train destined for the attack on Quebec to be conveyed by sea. The armament, therefore, of Quebec might easily be superior to that brought against it even by hostile ironclads, whose unarmoured decks would be exposed to the citadel fire, which, with the addition of a few torpedoes at the Traverse, would secure the St. Lawrence, if those upon whom the responsibility devolves considered the subject of sufficient importance to warrant a comparatively trifling expenditure, and to prevent, while there is yet time, the erection of buildings which would close the most important lines of fire.

Frontier.

Having considered the strategic conditions with reference to the Atlantic and Pacific seaboard, it remains to consider those of the south with reference to the natural bases and lines of an enemy's operations and the objective he would select for attack. In doing so the question is treated merely in a military and, it is hoped, philosophic spirit, such as cannot give offence to our kinsmen of the great Anglo-Saxon Republic with whom the most friendly relations exist, but they have not always been able to restrain the lawless bands of Fenians and their sympathizers who have from time to time raided across our frontier; besides, time may change their motto to "*ex uno plures.*"

The frontier of the Province of Quebec is contiguous to the territory of the United States for a distance of about 450 miles, that is to say, 167 miles of imaginary boundary along the 45th parallel of latitude southward of Montreal and Quebec, running from St. Regis, on the eastern end of Lake St. Francis (an expansion of the St. Lawrence) to the Connecticut river, in the township of Hereford, abutting on the State of New Hampshire. Thence in an irregular line the boundary of the State of Maine follows the high ground which forms the watershed between the Kennebec river, in the United States, and the Chaudière, a tributary of the St. Lawrence, running north-east in accordance with the disastrous arbitration of the Ashburton Treaty of 1842, which brings the territory of the State of Maine to within 26 miles of the St. Lawrence, opposite Rivière-du-Loup. Unfortunately at this point, as before stated, the Intercolonial Railway is close to the frontier, which from this point runs south-east until it meets Dominion territory in New Brunswick. The disadvantage of having a wedge of foreign territory thrust into our own is not altogether so great as might at first sight be anticipated, the character of the country being for the most part rugged, covered with forest, and thinly populated; there are no natural commercial lines, nor any railroads running through it to the north, the watershed north of the St. John's river being close to the St. Lawrence prevents the formation of any long or navigable tributaries to the St. Lawrence; there is, therefore, no natural channel for intercommunication or commerce from the northern angle of the State of Maine into Canada. As military lines of operation always follow natural channels, no invasion of Canada has ever been attempted from this point, the nearest to it being that of General Arnold, of the United States, in 1775, and he followed the line of the Kennebec and Chaudière rivers. On the other hand, in case of offensive operations from Canada, in the direction of the Penobscot valley, or to seize the triple railroad terminus of Woodstock, Richmond, and Houlton, leading to St. John, N.B., our re-entering frontier would form an advantageous base of operations, backed by Quebec and the St. Lawrence and the Intercolonial Railway. Though the long line of frontier (4,000 miles from ocean to ocean) is apparently attackable at all points, the defence of the country, even with its much smaller population than that of the contiguous States, would, with proper forethought and organization, be by no means so difficult nor impossible a task as some would have us to suppose.

Although owing to the length and character of frontier, it is quite impossible and not desirable to protect it throughout its whole length, an enemy must capture and establish himself in some vital points before he could obtain any decided military advantage. There are only a few such points. If they were put into and maintained in a proper state of defence, with a small body of regular troops as the nucleus of a garrison to be furnished by the local militia, such positions could be held during the five months, in which alone it is possible for an enemy to carry on operations on the large scale necessary to capture them.

Canada is a long strip of communications, its main artery, the St. Lawrence, being the fosse of a natural fortress, open during the summer season (winter operations may be deemed impracticable in this climate) (1) to the gunboats of Great Britain, and to them alone, as long as the fortress of Quebec is kept in a defensive condition. In consequence of the character of the original seigniorial settlement of the Province of Quebec, there are numerous lines of roads running parallel to the St. Lawrence, forming the front and rear of the concessions or seigniorial grants of land.

The Grand Trunk Railway and others on the south shore are now supplemented by railways on the north shore of the St. Lawrence and the Lakes, with their usual telegraphic lines, the whole forming a series of communications which have always enabled Canadian troops to act upon, what are practically interior lines, and so concentrate readily upon important strategic points, as was proved in the late Fenian raids.

Successful initiative in war counts for much. Both Great Britain and the United States are forbidden by treaty to build gunboats on the Lakes, but gunboats can and have with the first note of war passed up the St. Lawrence through the Lachine Canal (2) and on to the Lakes. The Beauharnois Canal on the south shore would probably be rendered useless at the commencement of hostilities by the United States; but the necessities of commerce, which are with us stronger than any consideration of Imperial defence, point to the probable enlargement of the old canal on the north shore of the Cedar Rapids to Coteau Landing. There is moreover the second and protected inland navigation route by the waters of the Ottawa to the capital, thence by the Rideau Canal to Lake Ontario and Kingston, which is the other gate opening to us the initiative against the comparatively defenceless emporiums of commerce on Lake Ontario; while the Welland and other canals lead to the more western waters. A counter-initiative from the Atlantic seaboard by the Erie Canal would no doubt be attempted. The Ohio Canal and river debouching at Cleveland is too long a line of counter-current navigation from which to start initiative gunboat attack.

Colonel Fletcher in his paper under this head remarks: "The great trading city of Chicago affords means to the United States, commanding as they do the outlet from Lake Michigan, rapidly to extemporise at the commencement of hostilities out of their fleet of merchantmen and steamers, vessels of war, sufficient to command Lake Huron, and probably to force an entry into Lake Erie, where they would be met by vessels from Buffalo and other large ports. Thus Ontario would be threatened on its northern, western, and south-western frontier, and would in great measure depend for its defence on a land force, but this land force would run a risk of being isolated and cut off, unless its left flank were protected, and communication maintained with the Province of Quebec, and through that province with the sea. Therefore, *coûte qui coûte*, the command of Lake Ontario must be secured and maintained. Here Canada is at an advantage, the best harbours being situated on her shores, and the greater number of the steamers trading on the lake

(1) Though the old French Canadian *voyageur* soldiers and Indians often made during winter, inroads into English Colonies, yet the conditions attending these self-reliant expeditions of a few hardy men hidden by dense forests till they burst upon some defenceless post, are entirely unlike the conditions of modern warfare.

(2) Now being still further enlarged.

"being held or manned by Canadians. These harbours, such as Cobourg, Port Hope, Toronto, Hamilton, Niagara, and Welland Canal, would require the protection either of permanent or extemporised fortifications."

Kingston.

Kingston should be rendered as secure as possible from capture, and contain a strong garrison capable of protecting the mouth of the Rideau Canal and supporting detachments guarding the Grand Trunk Railway at Brockville and Prescott to Montreal, thus protecting Ottawa, the capital, and the communications to the east.

It is to be hoped that we shall on the Lakes also so far take the initiative recommended by Mr. Brassey, M.P., by encouraging a volunteer naval reserve on Lake Ontario. The common trading steamers and vessels, if armed with an ordinary rifled field gun, would require no extra strengthening, and from the power and range of such guns, would be a powerful means of retaining command of this lake, as well as of the water communications between Kingston and Montreal, and the canals which avoid the several rapids of the St. Lawrence and the Rideau Canal. Troops would be concentrated at the junctions of railroads and communications from the west, such as Sarnia, Stratford, London, Guelph.

An attack from the west, however, though it might be a good political move, would be bad military strategy, as tending only to roll up the defence along the lines of communication towards the point of support and base of supply, instead of cutting it in two by an attack on the centre.

An Enemy's Central Base—Lines of Operation and Objective.

The enemy's principal base of operations would probably be at Albany, the central point from which natural lines of operation lead direct to Montreal, north-east to Quebec, and westerly to Niagara or Sackets Harbour, if Kingston were a secondary objective.

Albany is moreover an arsenal to which there is access by river, road and railway from all quarters, including the Pennsylvania coal and iron country.

Springfield, a small-arm factory, and Troy also a manufacturing town, both communicating with Albany and New York, would be subsidiary bases for supplies, which could be poured along the Hudson river and Canal, Lake Champlain, and the roads and railroads all converging on the objective point, Montreal. The strongly fortified position of Rouse's Point at the head of Lake Champlain on the frontier within 40 miles of Montreal, being the final point of concentration for attack upon Montreal, the defenceless commercial and strategical capital of Canada, to which the Vermont Central and a network of other railroads converge.

Perhaps no better proof of the absolute certainty of Montreal as an objective, and no more complete idea of the inevitable lines of the United States military operation, can be gained than by a study of the twenty-five routes advertised to the Centennial Exhibition of 1876.

A glance at the map before the construction of railways shows that the mountainous regions of the Adirondacs, &c. the Catskills on the west, the White Mountains and the rugged territory of Maine on the east, restricted communications to the channels of the Hudson, Lake Champlain, and the Richelieu Valley, and will explain why history has so often, and will again repeat itself here as elsewhere. The war-path of the Iroquois and Mohawk was followed by the retaliatory expeditions of the French Canadian *voyageur* soldiers, and then again by British, Colonial, and United States invasions of Canada, down to the last futile effort of a Fenian mob. The tide of war has ever rolled along the channels that nature and art have made it share with commerce and travel. The lately projected Caughnawaga Canal may, it is hoped, never be constructed to admit United States gunboats up the Hudson from the sea, and so complete the communications of Lake Champlain from New York to the St. Lawrence for the enemy who, having seized the Victoria Bridge, and established

batteries on the south bank of the river, could bombard the town. The wealthy commercial classes of Montreal would have to pay a very heavy contribution towards the subjugation of their country. Canada would be cut in two by the capture of Montreal, which is the head of the sea navigation of the St. Lawrence, and the focus of all communications by land and water between Upper and Lower Canada and the maritime provinces; the defence of the country would be severed; Ontario being cut off from Quebec and the maritime provinces, as well as from any aid from Great Britain. An enemy holding Montreal, with its network of communications converging upon it from his basis of supply, could easily maintain himself in the natural fortress island on which the city is built, and contain any force coming from Ontario, hold the communications to Ottawa, the capital of the country, while they proceeded to lay siege to Quebec. The St. Lawrence itself with its tributary of the Richelieu Canal and the roads and railroads following the line of country in a north-eastern direction, would become fresh lines of communication and supply, to an enemy operating against Quebec. If Quebec, Montreal, and Kingston were put in a proper state of defence, an enemy would be obliged, in aiming at the severance of communication between Ontario and Quebec, the maritime provinces and Great Britain, to carry on three extensive expeditions simultaneously, each involving the necessity of a protracted siege, and considering the short period during which military operations on a large scale can be carried on in this country, there would be every probability of successful resistance. Unfortunately the repeal in 1872 by the Imperial and Dominion Parliament of the Act of Confederation entitled the Canada Defence Act, complicates the defence of Canada. The Act provided for the guaranteed loan of 1,000,000*l.* sterling, for the building of forts round Montreal, as well as the free gift by the Imperial Government of an armament for such forts as might be built at Montreal, also a free gift armament for the Quebec and Levis forts, all of which were declined by the Dominion Government, in favour of a transfer of the guaranteed loan of 1,000,000*l.* to the Canada Pacific Railway.

Central Strategic Points.

After Montreal, Quebec, and Kingston, perhaps the most important point is St. Johns, P. of Q., the site of the old redoubt, commands the railway bridge of the Vermont Central, the junctions from Rouse's Point, Waterloo, and the Passumpsic; the Richelieu river canal, and the roads running north and south, but the advance guard of observation would be at Fort Isle-aux-Noix, close to Rouse's Point and St. Albans railroad junction. "To prevent the enemy from passing vessels down the Richelieu river from Lake Champlain, for the transport of troops, stores, and material for the attack on Montreal, obstructions (torpedoes) should be placed in the river on either side of, and flanked by the fort at Isle-aux-Noix. This work and its garrison would no doubt being in an advanced and isolated position, be liable to be captured at an early period, but it is considered that the delay it would cause an enemy would more than compensate for the loss that would thereby be occasioned." The garrison in retreating might destroy the Canal Lock in the Richelieu river; Sir William Jervois also considers Sorel, at the mouth of the Richelieu, an important point. Advanced bodies of militia at Lennoxville and Richmond Railway junction, after keeping the enemy in check, might retire upon Quebec, destroying the railway bridges behind them.

"It is further necessary to provide against attack upon Montreal by a force advancing from the westward, supposing it to have crossed the St. Lawrence, between Lake Ontario and Lake St. Louis. This may best be effected by the construction of works covering the railway bridge near Vaudreuil, at the junction of the Ottawa river with the St. Lawrence. Such works would also act as a *tête du pont*, from under cover of which troops might operate westward; they would, moreover, be on the flank of any force of the enemy advancing against Ottawa. In connection with the defensive position at Vaudreuil, temporary works should be constructed on Isle Perrot, which, if some of the spans of the railway bridge between it and

"the main land were removed, would form a second line of defence; again, by removing some of the spans of the bridge between Isle Perrot and Montreal Island, a third line might be taken up at St. Anne's.

Between Vaudreuil and the works immediately covering Montreal, Lake St. Louis and the Lachine Rapids, would be a sufficient defence; gunboats could be brought into the lake by the Lachine Canal, which is being widened. Any vessels of war that were brought into Lake St. Louis would also be of assistance in the defence of the left flank of the works at Vaudreuil; and if the St. Ann's Lock and the passage near it, between St. Louis and the Lake of Two Mountains, were made sufficiently large to take such vessels through, they could also aid in the defence of the right flank of those works. They could, moreover, operate in the channel on the north side of Montreal Island, or proceed up the Ottawa and down the Rideau Canal into Lake Ontario.

For the protection of communications by the Lachine Railway and Canal, works should be constructed at Caughnawaga, on the right bank of the St. Lawrence, nearly opposite the junction of the Lachine Canal with Lake St. Louis, and near the terminus of the railway from Platsburg. These works would also afford the means of throwing a force across the river to act upon the left flank of the enemy operating against Montreal, should circumstances be favourable for such a movement, they could also guard against the entrance to the Beauharnois Canal.

The Island of St. Helen's, upon which rifled guns should be mounted, would form a keep to an intrenched camp covering Montreal and the Victoria Bridge. On this island is also the main depot for tools, stores, guns, arms, and munitions of war for Montreal and the neighbourhood; it is unfortunately without protection since the barracks formerly occupied by a detachment from the Quebec Gunnery School were burnt. Many thousand stands of rifles, as well as a considerable amount of powder in the magazine are at the mercy of a handful of raiders, who might carry off the arms and blow up the magazine before the militia of Montreal could be assembled and transported across the river.

The cultivated classes of the United States are friendly in feeling towards Great Britain, and the Canadian population are full of loyalty, which could be at any time rendered active in the defence of the country, provided the principal expense and direction was taken by Great Britain, or the council of a federated Empire.

Offence.

Often the best defence is offence, but Canada being a colony does not contain within herself the elements necessary to the initiative in war, though her localized militia system and the character of the country, which is a riband of interior lines, land and water communications, would facilitate the concentration and launching of an offensive force which might surprise even 40,000,000 of unarmed people who have hitherto relied upon their ever successful diplomacy. Parliamentary Governments are not, however, suited to a decisive initiative; and when the expenses would have to be shared by the Imperial and Dominion Governments, divided control would be a natural result, rendering initiative perilous if not impossible. Great Britain's natural base of operations (the sea) gives the advantage of enabling her to shift her secondary bases almost at will. A combined military and naval force, therefore, started from Canada at the first declaration of hostilities might, by giving up their communications to the rear, push on to the Atlantic coast as Sherman did, and seize an important seaport, there to co-operate with the British fleet which could support them, and form a fresh base for further operations, while an expedition from India might land a force of British troops and a Sikh contingent on the Pacific seaboard.

Part II.—MILITIA OF CANADA, ACTIVE AND RESERVE.

The Militia Act.

That the Militia Law of Canada is so thorough in its provisions, and that the keystone of the arch of all military systems, *i.e.*, universal liability to military service is not absent as in those of all other Anglo-Saxon communities, is due to the traditions inherited from the old French *régime*, which were readily followed by the descendants of the "United Empire Loyalists," who found themselves for ever face to face with their more numerous and wealthy kinsmen from whom they had torn themselves, often at the sacrifice of material wealth for the sake of adherence to those principles and that "Dream of a United Empire" which has not yet been realised, though a century has passed away. The very history of those heroic men has been forgotten, the initials of their distinctive title, U.E.L., brings no very clear picture to the minds of the majority of Englishmen to-day who, let us hope before it is yet too late, may realise the true meaning of a United Empire.

The theoretically perfect Militia Law of Canada, though it may be an example of military legislation to us at home, yet, like every other law, its practical result depends upon its administration. Instead of quoting the verbiage inseparable from legal documents, I think I cannot do better than give you the condensed *résumé* taken from the Militia Act by Captain J. C. R. Colomb, R.M.A., in his able paper on the Naval and Military Resources of the Colonies, making some explanations of its practical workings:—

Classes of Militia.

"The militia consists of all male inhabitants between the ages of 18 and 60. It is divided into four classes.

"1st Class. Men from 18 to 30 years, who are unmarried or widowers without children.

"2nd Class. Men from 30 to 45, who are married or widowers with children.

"3rd Class. Men from 45 to 60.

"The above is the order in which the male population is called upon to serve.

"The Militia is divided into Active and Reserve.

"Active Militia consists of the Volunteer Militia, the Regular Militia and the Marine Militia. The Volunteer Militia being composed of corps raised by voluntary enlistment; the Regular Militia of men who have voluntarily enlisted to serve in the same, or who have been balloted (1) to serve; the Marine Militia composed of seamen, and persons whose usual occupation is upon any steam or sailing craft; the Reserve Militia consists of the whole of the men who are not serving in the Active Militia for the time being. The period of service, in time of peace, in the Volunteer Militia is three years in the Regular and Marine Militia two years. Men enrolled in the service companies of Regular or Marine Militia during any such two years are not again liable to be taken for drill and training until all the other men in 1st, 2nd, or 3rd Class of the same "company division" have volunteered or been balloted to serve. No member of a Volunteer Militia corps can, in time of peace, resign under six months' notice.

As the ballot has not been put in force since the existence of the Act, the whole of the Active Militia may be said to be Volunteer Militia, and the term Regular Militia has no special meaning, unless it be applied to the two batteries of artillery, "A" and "B," permanently embodied, one at Kingston and the other at Quebec. They had no existence when the present Act, which did not contemplate the withdrawal of the Imperial troops, was passed. It has therefore no provisions for the maintenance

(1) Exemption on providing a substitute by payment of 30 dollars.

of regular troops, or the three years' period of enlistment now sanctioned for those corps.(1)

The Marine Militia unfortunately has no existence beyond the fact of the nautical calling of individuals being noted in the enrolment of the Reserves which takes place every five years. During Fenian raids Militia Artillery, with field guns, were placed on board lake steamers.

"Enrolment.

"Canada is divided into 12 military districts; these are subdivided into Brigade and Regimental Divisions, and again into Company Divisions.

"In each Regimental Division, one Lieutenant-Colonel and two Majors of Reserve Militia are appointed from the residents therein, (2) all Militia orders and reports are sent to and received through them. In each Company Division one Captain, and one Lieutenant, and one Ensign are likewise appointed to the Reserve Militia. These are responsible by seniority to the regimental staff. Enrolment is carried on by Officers of Company Divisions, and the list is corrected before 28th February every fifth year; from the company returns the regimental rolls are made up. The 'enrolment' for which the company Officers are responsible is held to be an embodiment of all the Militiamen enrolled, and renders them liable 'to serve, unless exempt by law.'

"Exemptions: Judges, clergy, ministers of religion, professors in colleges and universities, or teachers of religious orders, warden, keepers, guards of penitentiaries, officers, keepers, and guards of public lunatic asylums, persons disabled by bodily infirmity, and 'the only son of a widow being her only support.'

"The following, though enrolled, are exempted from active service, except in case of war, invasion, or insurrection. Half-pay Officers of Her Majesty's Army, and Navy, sea-faring men, and sailors actually employed in their calling, pilots and apprentice pilots during the season of navigation, masters of public and common schools.

"Her Majesty is empowered by the Act to make such regulations for the enrolment of such horses as may be necessary for the purpose of field artillery and cavalry.

"The oath to be taken by all ranks of Active Militia is simply as follows:—'I, A. B., do sincerely promise and swear that I will be faithful and bear true allegiance to Her Majesty.' It can be administered by the Commanding Officer.

"Balloting.

"When the Active Militia is to be organized for drill or actual service and enough men do not volunteer in any Company Division to complete the quota

(1) These two batteries or gunnery schools as they are called, were first formed of Officers and men selected from the Active Militia Artillery. The Officers held no commission except in the corps from which they were taken, and the men were not enlisted except in their original corps; but on entering the school of gunnery for one year, were re-enrolled for a further period of three years in their respective corps. The serious inconvenience of this course, from the fact of the original corps sometimes becoming non-effective before the period of service in the gunnery schools of Officers and men had expired, left such Officers and men apparently without legal status. This was subsequently remedied by granting commissions to the Officers of "A" and "B" batteries, and enlisting the gunners in those corps.

(2) It is to be regretted that these Officers of Reserve Militia for the most part have had no practical military training whatever, and have not even passed through the Active Militia. In war they would be of little use in organizing or leading the men they enrol. Their military titles would at best be only a source of confusion. It may be said in favour of the system that it is old, being a relic of the old French feudal system, but it must be remembered that its success depended on the warlike seigneurs who have been improved away. It has no doubt the advantage of facilitating enrolment, and enlisting on the side of loyalty and order some of the influential men of country districts all over the Dominion.

"required from that Division, the men in the 1st class are balloted first, if the number of men required is greater than the whole number in 1st class, then the 2nd class is required to make up the deficiency, and so on through each class; but at no time—says the Act—'shall more than one son belonging to the same family, residing in the same house—if there be more than one inscribed on the militia roll—be drawn, unless the number of names so inscribed be insufficient to complete the required proportion of service men.'"

Officers; Appointment and Relative Rank.

"Appointments of Officers to the Active Militia are provisional, pending the taking out of a certificate of fitness from one of the military schools of the Dominion. (1)

"According to the Act, Officers of Her Majesty's Regular Army are always reckoned senior to Militia Officers of the same rank whatever be the dates of their respective commissions." (2)

The Canadian Militia Act also provides that each of the twelve Deputy Adjutants General of Districts "shall command the Militia in his district." (3)

The following paragraphs, 35 and 36 (which are difficult to reconcile with the previous mentioned), would imply that the ordinary rule of the senior Officer being entitled to command was intended to hold good as also the 185th Article of War.

"(35.) The relative rank and authority of Officers in the Militia of Canada, shall be the same as the relative rank and authority of Officers in Her Majesty's Regular Army; and any body of Militia assembled on parade, shall be commanded by the Officer highest in rank then present, on duty and in uniform, or the senior of two or more Officers of equal rank; provided that no Officer whose rank is provisional only shall under any circumstances command an Officer of the same grade whose rank is substantive."

"(36.) Officers of Her Majesty's Regular Army shall always be reckoned senior to Militia Officers of the same rank, whatever be the dates of their respective commissions."

"The present law permits the training annually of a number not exceeding 45,000 of all ranks. The training period for Active Militia, called out for training, is not to exceed 16, nor to be less than 8 days in any one year."

"Non-commissioned officers and privates of mounted corps, receive, for each day's drill of three hours, 75 cents for each horse that has taken part in the drill; and every Officer and man of the Regular and Marine Militia, and the Officers of Reserve Militia, called out for training, receive 50 cents for each day's drill. Payment for drill is made on proof of compliance with regulations touching the drill and efficiency of the several corps."

(1) There are no cavalry or infantry schools, the appointment of Officers of those branches is confirmed by boards of Militia Officers, though a few Officers of cavalry and infantry are occasionally allowed to fill vacancies at the artillery schools where an endeavour is made to give instruction in all arms.

(2) By a late notification in General Orders of the *Canada Gazette*, Officers of Her Majesty's Regular Army serving with Canadian Militia or Volunteers, are not allowed to avail themselves of their Army rank.

(3) But on occasions of emergency, when the troops of one military district have been ordered into another, both Adjutant-Generals have claimed the command. While in the case of the apprehended riots at Montreal at the funeral of Mr. Guibord, the line between two military districts running through the city, the head-quarters of the troops being at one side, while the cemetery was on the other, the command of the force should have been changed at a certain spot on the line of march.

"The Militia, or any part of it, may be called out for 'actual service,' either within or without the Dominion, (1) whenever it appears advisable to do so by reason of war, invasion, or insurrection, or danger of any of them, and when so called out, it may be placed by Her Majesty under the orders of the Commander of Her Majesty's Regular Forces in Canada, and will be paid at such rates of daily pay as are paid in Her Majesty's Service."

"Officers and men, when called out for actual service, and also during the period of annual training, or during drill or parade of his corps, or as spectators, or while wearing uniform, are subject to the rules and Articles of War, and Mutiny Act, the Queen's Regulations and Orders for the Army, and all other laws then applicable to Her Majesty's troops in Canada, and not inconsistent with the Canadian Act."

Command in Chief.

"By the 15th section of the British North America Act, 1867, the Command in Chief of Land and Naval Militia was vested in the Queen, to be exercised and administered by Her Majesty personally, or by the Governor as Her representative."

"The Minister of Militia is charged with and responsible for the administration of Militia affairs, including all matters involving expenditure, and of the fortifications, gunboats, ordnance, ammunition, arms, armouries, stores, &c."

"The Governor may appoint a Deputy Minister and such other Officers as may be necessary."

"The Adjutant-General of Militia for the Dominion of Canada shall be a person educated to the military profession and who has attained the rank of a Field Officer in Her Majesty's regular Army. He shall have the rank of Colonel in the Militia and shall be charged, under the orders of Her Majesty, with the military command and discipline of the Militia." A Deputy Adjutant-General of Militia is also provided for at head-quarters as well as a Deputy Adjutant-General and staff for each of the 12 military districts. (2)

Her Majesty may further appoint Staff Officers of the Militia with such rank as from time to time may be found requisite or necessary for the efficiency of the Militia service, but in no case to exceed that of Major-General.

The above is an outline of the legal enactment on which the Militia of Canada rests.

The Militia.

The head-quarters of military districts are marked on the map, also positions of field and garrison batteries and permanent militia garrisons.

Ontario is divided into 4 military districts.

No. 1 Military District comprises Western Ontario, with head-quarters at London.

Infantry.....	11 battalions and 2 independent companies.
Cavalry.....	1 regiment of 4 troops.
Artillery.....	{ 2 field batteries.
	{ 2 garrison batteries.

(1) The Militia can be called out in aid of the civil power on a written requisition by the mayor or any two magistrates in any municipality in which a riot takes place, and the Officer in command is to obey such instructions as may be lawfully given him by any magistrate in regard to such riot. A difference of opinion between the magistrates puts the Officer commanding in an awkward position.

(2) This Section has been changed by 38 V., c. 8, which provides for the appointment of a Major General to command the Militia of the Dominion, and of an Adjutant-General at head-quarters, and does away with the Deputy Adjutant-General. (A.G.O.)

No. 2 Military District, at the western end of Lake Ontario, with its head-quarters at Toronto.

Infantry.....	15 battalions and 1 independent company, with mountain guns.
Cavalry.....	Governor-General's Body Guard, 2 troops; 1 regiment, 7 troops.
Artillery.....	{ 3 field batteries.
Engineers.....	{ 2 garrison batteries. 1 company.

No. 3 Military District, east end of Lake Ontario, with head-quarters at Kingston.

Infantry.....	10 battalions.
Cavalry.....	2 regiments.
Artillery.....	{ 2 field batteries. 4 garrison batteries.

No. 4 Military District, Eastern Ontario, with head-quarters at Brockville.

Infantry.....	6 battalions and 3 independent companies.
Cavalry.....	2 troops (Governor-General's Dragoon Guards, 1 troop).
Artillery.....	{ 2 field batteries. 1 garrison battery.

The Province of Quebec is divided into 3 military districts.

No. 5 Military District, that portion of the western end of the province and southern frontier, mainly inhabited by English Canadians; head-quarters, Montreal.

Infantry.....	14 battalions and 3 independent companies.
Cavalry.....	1 regiment (3 troops), and 5 independent troops.
Artillery.....	{ 3 field batteries. garrison, 1 brigade of 6 batteries and 1 independent battery.
Engineers.....	2 companies.

No. 6 Military District, head-quarters, Montreal. (French Canadian troops).

Infantry.....	7 battalions and 10 independent companies.
Cavalry.....	Nil.
Artillery.....	Nil.

No. 7 Military District, with head-quarters at Quebec, mixed English and French Canadian troops, mainly the latter, extends to the Atlantic, along both sides of the St. Lawrence.

Infantry.....	14 battalions.
Cavalry.....	1 squadron.
Artillery.....	{ 1 field battery. 3 garrison batteries.

No. 8 Military District comprises New Brunswick, with head-quarters at Fredericton.

Infantry.....	5 battalions and 4 independent companies.
Cavalry.....	1 regiment.
Artillery.....	{ 2 field batteries. 1 brigade garrison artillery (9 batteries).
Engineers.....	1 company.

No. 9 Military District, Nova Scotia.

Infantry.....	9 battalions.
Cavalry.....	1 troop
Artillery.....	{ 1 field battery. 2 brigades garrison artillery (6 batteries each), and 5 independent batteries.

No. 10 Military District, Manitoba, head-quarters Winnipeg.

Infantry.....	2 independent companies.
Artillery.....	1 field Battery.

No. 11 Military District, British Columbia, head-quarters Victoria, British Columbia.

Infantry.....	5 independent companies.
Artillery.....	2 garrison batteries.

No. 12 Military District, Prince Edward Island.

Infantry.....	3 battalions.
Artillery.....	4 batteries garrison artillery.
Engineers.....	1 company.

The battalions consist usually of 6 or 8 companies of 40 bayonets. The number of Officers has lately been reduced to 2 per company, which does not allow of drill being properly carried out with right and left guides.

The cavalry, 40 sabres per troop.

The field battery, 70 gunners, and non-commissioned officers.

The garrison battery, 40 gunners and non-commissioned officers; making a total of about—

Infantry.....	37,000
Cavalry.....	1,800
Field artillery.....	1,350
Garrison artillery.....	3,000
Engineers.....	2.5
	<hr/>
	43,365 (1)

Only about half these numbers have been drilled during the past two years, the Militia estimates having been reduced by about one-half. On this point, and everything connected with his command, Lieutenant-General Commanding Sir Edward Selby Smyth, has furnished a most complete and exhaustive report, which I cannot do better than quote and recommend you to read for further information. He states:—

"When first I came to Canada, I believe the Parliamentary grant for the Militia amounted to about a million and a half of dollars per annum, and with that sum 42,000 men annually trained in brigade camps for the full period allowed by law. The following and each succeeding year the vote was decreased, until last year it amounted to less than one million dollars, out of which the maintenance of the Royal Military College and the North-West Mounted Police have become a charge upon it. Therefore the paid training of the Militia has been reduced to a minimum, only one-half the force being embodied for twelve days' drill in each year, and such training as that amounts to is almost useless, being really little more than an armed muster at battalion and company head-quarters.

(1) These numbers of course do not include the Imperial garrisons at Halifax; nor are the two permanent Canadian artillery garrisons of Quebec and Kingston included in the militia strength of the districts.

"The Militia grant last year was exactly 931,957 dollars, from which deduct 306,356 dollars for North-West Mounted Police, and 50,000 dollars for the Royal Military College, leaving somewhat more than half-a-million dollars for militia purposes proper, and the supply of all warlike stores.

"The supply of military stores takes a considerable portion of this grant. It comprises clothing for the whole force, which has to be frequently renewed, and for the two gunnery schools, twice a year, (1) great coats, rifles and material for their repair, ammunition, field and garrison guns, saddlery, gunpowder, as well as accoutrements and equipments of every description that an army requires. So that in fact, after deducting besides salaries, pay for drill instruction to Captains, storekeepers, rent for armouries and storehouses, fuel and light, artillery and rifle association allowances, band pay, targets, drill sheds, rifle ranges and contingencies for general service not otherwise provided for, there remains for the drill pay and incidental expenses attendant on drill and training, only the meagre and insufficient sum of 155,000 dollars, or about 30,000*l.* sterling. This sum is quite inadequate to keep the 42,000 Militia of Canada in a proper state of training and effectiveness, amounting approximately to the annual cost of a single British battalion of the line. What progress can a General Officer make in this case? He can only feel himself a source of disappointment to the excellent and loyal body of Officers and men under his command, who look to him for support."

General Remarks.

Given the every-day life of a people and their physical surroundings, and it is not difficult to form a true estimate of the character of its soldiers, especially when they are a national army and not the product of one or two classes or strata of society. Perhaps the leading characteristic of all Canadians is self-reliance, a splendid military quality, especially in the rank and file during war, but capable of extreme development among the Officers of all volunteer forces even in peace.

Infantry.

The general characteristics of the population of great cities are much the same everywhere. They are more intelligent, but less robust, than the rural population; they readily acquire a military carriage, precision, and smartness in drill; their uniforms are better fitted, their arms and accoutrements in better order, and their comparatively wealthy Officers are willing to assist liberally in producing these results, which, after all, go some way towards real efficiency. But in a serious struggle the backbone of Canada would, I believe, be found in the rural battalions.

A very large proportion of the farming population engages in lumbering during the winter.

He who has lived among these genial stalwart lumbermen, shared their shanty and their bivouac in winter and in early spring, when they drive the logs along the icy torrents and head waters of their wooded wilderness, cannot but be impressed with the belief that he is among nature's soldiers of the very best type.

Be they English or French Canadian, there is not, I believe, finer stuff for soldiers among any population in the world, while the habits of organization and supply of the various lumber camps at the extremity of long lines of difficult communication are a Quartermaster-General's department in miniature. Again I must quote Sir Edward Selby Smyth for the gist of the whole matter as to the difficulty of training such men under present conditions:—

"Fortunately for the country the battalions are commanded, and in general officered, by gentlemen of zealous patriotism and strong military proclivities, and in the various cities they have continued to assemble their men for unpaid drill as often as possible in the long and unoccupied winter evenings. Therefore city batta-

(1) One suit cloth, one serge, per annum, with an allowance to keep up winter underclothing.

lions and corps of all arms are in an efficient state, but country battalions are, owing to the absence of such opportunities and facilities, less so. However, they are fairly drilled too. They are fully armed, clothed, and equipped. They are proficient in the use of their rifles, being as a rule capital shots, (1) and a few weeks would suffice to place them creditably in line with any troops.

"The training of rural battalions at company head-quarters for three successive years has not resulted in much good. The majority of the men reside on farms at a distance from their company head-quarters, and when called on to drill they have to give up their day's work and that of their horses, receiving only fifty cents in lieu. Therefore they are naturally anxious to shorten the period by performing two days' drill in one, and so the work is hurried over in a perfunctory fashion; the drill instructor, who draws his forty dollars a year as such, possibly having learnt but little of the rudiments of drill, discipline, or regimental economy. A looseness and laxity of system therefore occurs which does not conduce to the first principle of training a soldier. It has been brought to my notice that rural corps ordered out for training are frequently composed of about one-half recruits, showing that men often join for one training only, with no desire to carry out the terms of their three years' enlistment unless it be convenient. Officers commanding companies are in fault for this; they are responsible for their companies under the existing law; (2) they should not enrol men unless they know them well their employment, their place of residence, and whether they are likely to fulfil the provisions of the Act. They are too lenient with their men, and to save themselves trouble or perhaps unpopularity, or even politics may here again interpose, they enrol new hands rather than proceed by law against the old ones to compel them, under the penalties of Militia Act, to fulfil their terms of enrolment. All this requires looking into and a thorough reformation. Rural corps have the disadvantage of such long distances between their companies that the Lieutenant-Colonel, who has of course his daily business to attend to, can hardly supervise their details; and it may happen that the Staff Officers who make the muster and the half-yearly inspections do not always, as a rule, take minute notice of what has on the surface an appearance of being 'all correct.'

"Rural companies should be always drilled at battalion head-quarters.

"In the same degree that rural company drill works badly that of city corps does well, because men can assemble in long winter evenings in the drill-sheds without loss of pay, and they look upon their drill and lectures as a recreation. I have every year opposed the system of rural company drill: it has the effect of circulating some money through the locality, and they may be convenient and satisfy local interests; it also brings a body of men together, armed and equipped for a time. But in my opinion it wastes more arms and equipments and clothing than any good that can result from it, and I shall disband every independent company not affiliated to a battalion, except in Manitoba and British Columbia; and I should suggest, if possible, in future to abstain from annual drill at company head-quarters, unless the Captain holds a first-class certificate for drill and rifle instruction.

"This leads me to revert to the subject I have so often before dwelt upon—the necessity for some regimental permanent staff. The militia of Great Britain has, according to regimental strength, two Officers and from 30 to 36 staff sergeants, who are thorough drill instructors; the Quartermaster being charged with the care of arms and clothing, which are thus kept in order, and no loss for neglect or theft permitted. In fact, it is a delusion to believe that an efficient military force can

(1) Colonel Gzowski, by his energetic and liberal presidency of the Dominion Rifle Association, has contributed much to the shooting efficiency of the infantry of the Dominion.

(2) The law gives a loop-hole in allowing any man to claim discharge after six months' notice. He can, and sometimes does, give notice immediately after his first training, and cannot in that case be made to attend another.