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The Volunteer Review

AND MILITARY AND NAVAL GAZETTE.

A Journal Devoted to the Interests of the Military and Naval Forces of the Dominion of Canada

VOL. VII.

OTTAWA, (CANADA,) TUESDAY, MAY 6, 1873.

No 18

NEWS OF THE WEEK.

English advices under date of 26th to 30th April, state:—

The Prince of Wales has gone to Vienna. The Sultan, it is rumoured is seriously ill.

Twenty thousand miners have struck work in Leicestershire,

An amalgamation of the different Cable Companies is spoken of.

His Holiness the Pope, has had a relapse and is confined to his bed.

The trial of the Tichborne claimant for perjury began on Wednesday.

Latest advices from Jerusalem state that severe fights had occurred in Bethlehem between Latin and Greek monks. Five of the former and six of the latter were injured.

London cabmen are on the strike.

The King of Denmark and His Royal Consort will visit London next month,

Daily Telegraph explorer in Assyria has met with great success. He has found eighty new inscriptions, including histories known and hitherto unknown, of the Assyrian kings. Among his discoveries is a highly important tablet containing a selection of proverbs in two languages, which will further aid in the further elucidation of the whole class of inscriptions. Many of the inscriptions have definite dates.

There is much excitement in Vienna over the corruptly appointed American Commissioners. There is a report that an assistant of the head of the Commissioners borrowed money of the men who obtained refreshment contracts, and operated with others in a similar way. The new men are already at their duties, and socially are of far better position.

The Anglo-American and French and Newfoundland Cable Companies have coal-cesed.

The Radical candidates have carried the elections in Paris, Marsailles and Bordeaux.

The German Emperor arrived at St. Petersburg on Sunday, and was received with extraordinary honours. He was met at Yatschin, thirty miles from St. Petersburg, by

the Czar and Grand Dukes, who accompanied him to the city. The two Emperors made their entrance in the presence of an immense crowd, who manifested the greatest enthusiasm. The Emperor William first reviewed the regiments of which he is the honorary colonel, and was then conducted to the Western palace, where he was formally received by the Court with the most imposing ceremonies. The Czar presented to him his portrait, a sword of honour, and the cross of St. George, the iron cross for merit, with the additional inscription for valour, and an inkstand and vases in Lapis Lazuli.

The Postal Treaty between France and the United States is still under consideration.

Bidwell has been handed over to the British authorities by the Captain General of Cuba.

A mass meeting of Democrats will be held in London to protest against the non-recognition of the Spanish Republic by England.

Bismark in a debate on a bill to regulate ecclesiastical appointments, denied that he had prompted the occupation of Rome by the Italian Government.

An Englishman has been arrested by French officers on the frontier and sent to Perpignan, charged with holding a commission in the Carlist force.

The Carlist Committee in London has been prosecuted at the instance of Republicans for a breach of international law.

A sharp shock of an earthquake is reported to have been felt at Doncaster on the 30th ult.

Sixty thousand emigrants left Liverpool last week for America.

A remodelling of the French Ministry will be necessary in consequence of the Radical success at the polls. M. Casimir, formerly Minister of the Interior, and M. Grevy late President of the Assembly, will probably occupy seats in the new Cabinet.

It was rumored that the Monarchists in France would attempt to overturn M. Thiers' Government, and a civil commotion was feared.

Napoleon's will, according to the New York Herald's correspondent, has been

made public. The property of the late Emperor is sworn under £120,000, against which there are claims which will reduce the amount by one half. In his Will, the Emperor praises the dispositions of his son and enjoins upon him the study of the deeds of 'The Prisoner of St. Helena.' He commends his wife and his son to the high authorities of the State, the people and the army.

The United States Commissioners to the Vienna Convention are accused of taking bribes in various ways, even before they had left home. They protest vehemently against their removal by the Government.

The Provincial correspondent says the visit of the German Emperor to St. Petersburg confirm the pacific policy agreed to by the Emperors of Germany, Russia and Austria last September. It is especially significant at this time, because the prospects of quiet in Western Europe were growing gloomier.

Spain will redeem her exchequer bills due in May, one-third in specie and two-thirds in treasury notes, payable one month after date.

Madrid was much agitated by contending political factions and several attempts at insurrection had been made by volunteers. A *coup d'etat*, which it now appears had been fully matured, only miscarried through the irresolution of the volunteers and the unexpected fraternization of the regulars with the populace. On the 30th ult. an outbreak was anticipated, and the shops were closed. On the 1st inst. the volunteers fired upon their commander, and broke in upon the Permanent Committee of the Assembly, the members of which hastily fled. No serious damage was done, however, and at last accounts the city was more tranquil.

The ultras in Madrid command the Commune.

A band of 500 Carlists entered the town of Capellades, thirty miles north-west of Barcelona, and demanded a contribution, but fled on the approach of the National troops.

It is reported in Bayonne that the Carlists in the Spanish Province of Biscay, surrounded Bilbao which is almost defenceless.

ANNUAL REPORT ON THE STATE OF
THE MILITIA FOR 1872.

The Honorable The Minister of Militia and Defence, &c. &c.

Sir, I have the honor to report, for the information of His Excellency the Governor General, the Government, and the Dominion Parliament, on the state of the Militia for 1872, in the following order:—

ACTIVE MILITIA.

According to official Reports, made to the Adjutant General at Headquarters, by the responsible officers, it appears that 30,144 men, (including gazetted officers,) were actually present with their corps, at their muster parades, during the time of the Annual Drill last year. The above number (30,144 men) are all reported as being enrolled under the law, in various corps of the Active Militia.

In addition to this number of 30,144 men, 339 men attended the Infantry Schools of Instruction during the last year, a large proportion being officers and non-commissioned officers in Militia Corps, the remainder Candidates for Commissions.

It appears that several corps did not perform the Annual Drill of 1872-3 last year, including the Quebec Cavalry, and the 8th Battalion of Infantry. The officers commanding these two corps have applied for permission to perform the Annual Drill at their Regimental Headquarters, independently by corps, and been informed that they will be permitted to do so, provided their drill is completed before the expiration of the present Military financial year, viz., on the 30th June, proximo, on the completion of which, if satisfactory proof can be furnished to the Adjutant General that they have complied with the necessary public and military requirements, these corps would be entitled to receive pay out of the public fund voted annually by Parliament for Drill pay.

The actual force trained last year, (mainly in Camps of Exercise) consisted of 1666 Cavalry, (being an increase of 447 men belonging to this arm, as compared with the numbers trained in the previous year,)—951 Field Artillerymen, with 46 Field Guns, being an increase of 208 men and 4 Field Guns in this important arm of the service, as compared with the number trained in the previous year; 1697 Garrison Artillerymen, 106 Engineers, and 25,724 Infantry. The whole of the above corps constituted a Canadian army of 30,144 men. This army is now organized by corps, companies, battalions, and batteries, into tactical Brigades of the three arms, in nearly every instance each brigade forms a little army of itself, distributed according to Territorial Brigade Divisions, and the whole Active Force rests upon a Reserve Organization, almost the entire manhood of the Dominion, and upon a Reserve Organization, which has called forth the eulogy and approval of eminent European statesmen and soldiers.

During the past year, (for instructional purposes) 18 Camps of Exercise were formed for 16 days training, and 3 small Regimental Artillery Camps, for 8 days.

The total number of men who attended the camps which were in operation for 16 days was 24,144 and the number who attended camps for 8 days was 171.

In the previous year (1871) 22,544 men attended Camps for 16 days, there has therefore, been an increase of 16,000 men who attended such Camps during the past year, as compared with the previous one.

One corps, the Montreal Field Battery, is reported to have drilled for only four days last year.

678 Garrison Artillerymen performed their authorized drill for the full period of 16 days in certain forts and Batteries.

5,129 men performed the Annual Drill for the full period of 16 days Regimental at local Head Quarters of Corps, which number included the whole of the Grand Trunk Brigade and certain other corps.

Considerable progress has been made during the past year in training the Active Militia of Canada, and providing the Force with a description of arms more suitable for Military purposes. The tactical mobility of the force has been greatly increased. Most of the Cavalry in addition to their Sabres, are now provided with Cavalry Snider Carbines, (the same description of arms used in Her Majesty's Regular Cavalry.) Scientific instruction in Artillery exercises has been provided for, and the Field Artillery Batteries are now being armed, as fast as circumstances and the Parliamentary vote will permit, with the same description of Field Guns as those recently issued to the Horse Artillery of Her Majesty's Regular Army, in place of the old pattern Field Guns now considered obsolete.

The Infantry are all armed with Snider Breech-loading rifles, and use the same kind of ammunition as that used in Her Majesty's Regular Army—a matter of great military importance and expediency.

Although the Active Militia force of Canada trained last year did not much exceed, in numerical strength, that of an army of 30,000 men, its military power and strength however, is now organized, as far as circumstances will admit, like the strength of an army; the annual training of corps is no longer limited merely to Regimental Exercises, but the various corps of the different arms are trained, in addition, in military combination for mutual support, in tactical Brigades, and the whole Force performs, annually, a prescribed course of Rifle Instruction and Target practice.

The ease and celerity with which the force can be assembled is now very remarkable.

If an emergency should arise, and the public service required it, a signal flashed by telegraphed would, at any moment, call to arms, and concentrate in a few hours, the whole, or any part of the whole available Force, in tactical Brigades, of the three arms, at any point within the limits of the respective Brigade Divisions, whether for defence of the country, or the preservation of internal law and order.

Those who have experience in military matters, and who may be responsible for the defence, and preservation of internal order should an emergency arise, can best appreciate the value of this tactical Brigade organization, and the promptitude with which such Brigades can be brought to act.

I attribute the increased great efficiency of the Force to the practice of concentrating the various corps of the Active Militia in Brigade Camps of Exercise, for the performance of the Annual Drill, which has been carried on for the last three years, as far as circumstances allowed, with great success, and to the fact that the officers and men are then altogether withdrawn from civil avocations, and the time devoted as it should be, entirely to Military duty; I recommend that, in order to maintain such efficiency, this system be continued.

I have no confidence in the system which formerly prevailed of allowing Corps to perform their Annual Drill independently at

local Head Quarters in Drill Sheds, at any time of the year, and in any manner they pleased, the abuses which resulted from such a system were notorious.

Practical Rifle Instruction and Target practise cannot be carried out at all in Drill Sheds, and skirmishing only imperfectly taught, yet these are the most essential Military Exercises.

The camp is a better school for a soldier than the Barracks Square, and so long as the Annual Drill of the Militia is carried out in camps of Exercise, the country may rely upon the Force being kept reasonably efficient.

It is not enough for officers and men to obtain some knowledge of Regimental Drill and Duties. Officers who are afforded an opportunity of learning only this part of their duties, can gain but little insight into the many other duties required of them, in the event of an emergency.

By the performance of the Annual Drill in Divisional or Brigade Camps of Exercise, an insight into all duties required of them is obtained. The local Brigades, each with its proportion of Cavalry and Field Artillery, are practised periodically in concentrating with rapidity at the place of rendezvous, and the officers and men of corps, resident in the same Territorial Brigade Divisions, are annually accustomed to meet and work together under their own responsible staff officers, all annually practising in their respective positions a rehearsal as far as possible of the duties that would devolve upon them in the event of hostilities, or their action being required.

A prescribed course of Rifle instruction and Target practice—the first and most essential part of military instruction—can be regularly carried out, under proper supervision—this being a matter of the greatest importance, and one which, until Brigade Camps of Exercise were instituted, was, from force of circumstances, greatly neglected or confined mainly to the practice of a certain number of individual experts,—whilst last, but not least, of the many advantages resulting from the concentration of the Active Militia in "Camps of Exercise" at the time of the Annual Drill, a complete stop can be put to any false musters of officers and men, which is an evil of great magnitude, and a shameful waste of public money.

The Brigades and corps of the Active Militia trained last year, presented as creditable an appearance on Parade as could be expected under the circumstances, and it is beyond doubt that that, although as may be expected there are yet many deficiencies in detail so provide for, the Active Militia force of the Dominion of Canada, as a body, has made great strides, within the last three or four years, towards attaining a high degree of efficiency.

No doubt, still greater efficiency might be attained, did time and circumstances permit, by assembling corps, in the first instance, for a few days in regimental camps, at the headquarters of corps, previous to their joining the Brigade Camp. Such a course would, undoubtedly, afford Commanding officers of corps an opportunity of getting their corps well in hand, previous to the general assembly, and other advantages might result, yet, as all Regimental Exercises can be carried on at the hours, and on the days set apart for such, equally well in Brigade, as in Regimental Camps, and many other exercises and duties of great importance, in addition, the place of Assembly of corps, at the time of Annual Drill, should be, as a rule, the Brigade Camp.

More time, more money, and more supervision is required to form two, than to form one instructional Camp; and, upon grounds of economy, general advantage and expediency, it is not advisable to do so. Under any circumstances, Corps should be annually concentrated by brigades, if possible, for a portion of the time allowed for Annual Drill, at a suitable place of assembly, where a Rifle Range is available for the performance of the Annual Course of Rifle and Target practice, as that is the first and most essential military exercise the men could learn and Rifle ranges are not available at the local Headquarters of every Battalion and corps.

Every credit is due to the officers and men of the Active Militia who were present with their corps, in Camp at the Annual Drill last year, for their patriotic services, and for the zealous and intelligent manner in which they applied themselves to acquiring a knowledge of their Drill and Duties.

Although very many men were either absent or wanted to complete the numerical strength of particular corps at the time of the Annual Drill last year, some corps were complete, and others very nearly so.

One entire Brigade, viz the Grand Trunk Railway Brigade, numbering 2,326 (all ranks) are reported to have performed the Annual Drill of 1872-76 last year for the full period allowed, and many other drills and duties, such as guards of honor, and in aid of the civil power, in addition.

The whole of the men composing this fine Brigade, which is one of the most efficient in the Dominion, have recently enrolled "en masse" to serve in the Active Militia for a further period of three years, a proceeding which reflects much honor on the Brigade, and is mainly due to the excellent and patriotic arrangements of Lieut. Colonel C. J. Brydges, the commandant.

I consider the organization of the Grand Trunk Brigade to be a source of great internal strength and security to the country, for the men are at all times immediately available in support of law and order.

The number of officers and men present at the time of the Annual Drill last year in each particular Corps, in the respective Military District, will be found in the Annual Inspection Return of Corps, and in the Reports of the Deputy Adjutant's General Commanding the Militia in Military Districts embodied in this Report.

Many men it is reported belonging especially to City Corps frequently find it inconvenient or too great a sacrifice to leave their civil avocations even for 16 days to go to Camp with their corps, for the Annual Drill, such men should not voluntarily enrol themselves in any corps of Active Militia, unless prepared to fulfill the Military obligations required.

It is reported that many men who like Military Exercises, are practically prevented from joining Corps of Active Militia by their Civil Employers, who from selfish motives of a pecuniary nature it is said, even threaten to discharge their employees should they enrol themselves in a corps of Active Militia.

It might perhaps be well if such Employers of labor would bear in mind that a recourse to the Ballot might affect them personally.

Although certain particular corps were deficient in numerical strength at the time of the Annual Drill last year, and the total force regularly trained did not exceed 30,144 men, (exclusive of Military School Cadets), it must not be supposed, that this number included

the whole available Force desirous of being trained.

Many more Corps of Cavalry and Infantry (already gazetted), would have gladly turned out for the Annual Training last year, and joined the Brigade Camps of Exercise, had the means of doing so been afforded them, but the present limited extent of the parliamentary votes for drill pay and military equipment, did not admit of training the whole available force that came forward last year.

Frequent applications are made from year to year from all parts of the Dominion to raise corps of Volunteer Militia for the defence of the country, and although owing to the fluctuating movement of the population, and the mode of recruitment, it is difficult for the Captains of Companies of Corps to maintain the numerical strength of existing corps continuously, it by no means follows that a very much larger number of men than is authorized to be trained annually, are not ready to turn out voluntarily if required.

No sooner does one Corps collapse, than another is ready to spring up in the same, or some other locality.

I believe that the full quota of men authorized to be trained Annually for the whole Dominion, viz., 40,000 would readily turn out voluntarily to do so, if the Force is properly encouraged by the country, furnished with necessary equipment, and Parliament votes sufficient drill pay.

The fact that year after year more than 30,000 Canadians annually turn out for sixteen days to train for the defence of the Territories of their Queen, and for the preservation of internal order, for 50 cents a day, when more than twice that amount can be earned in the civil labor market, affords the most conclusive and gratifying proof of the spirit and determination of the men of Canada.

I believe that the Militia of Canada will at all times be ready to do their duty to the best of their ability in the future, as they have done in the past.

On this point I may perhaps be permitted to bear testimony and speak with some authority, having an intimate knowledge of the Force, and commanded it for the last four years, inspecting Corps repeatedly in every Military District, and having travelled through Canadian Territory, from the Atlantic to the Pacific coast.

In time of danger the ranks of the Militia of Canada have always been filled with men, but untrained men and undisciplined valour does not constitute Military strength or national security; I would therefore as the officer responsible for the military command and training of the Militia, beg to point out the advantage and propriety, from a military point of view, of obtaining such a Parliamentary vote as will admit of training annually and providing with proper equipment not merely a portion, but the whole of the authorized quota for the full period allowed by law.

Experience proves that to maintain the Militia of Canada based on its present organization of 40,000 men for the whole Dominion training that number for 16 days, providing for the acquisition and maintenance of the necessary reserves of arms, ammunition, clothing, equipment, military stores, &c., and for the establishment of suitable military Schools, a total vote of \$1,500,000 would be required annually. Considering the great extent and recent immense territorial development of the Dominion of Canada, I do not believe that any Military man of experience acquainted with the

country and its military wants, would be prepared to say that to train any less number of men for the whole Dominion than 40,000 for 16 days would provide for an adequate and reasonable organization. Although happily there seems every prospect at present that the peace of the world may not be disturbed, yet with the acquisition of the great North West come new responsibilities, new and unforeseen military demands may therefore have to be met, and at all times the Force should be made as efficient as possible, and held available to turn out at short notice in support of internal law and order.

[To be Continued.]

English army officers are just now advocating the establishment of a corps of mounted riflemen. An officer writing to the *London Times* takes exception to a statement made by Sir Henry Havelock that General Sheridan's cavalry during the late war were Mounted Riflemen. In doing so, he prefaces his remarks by saying that he served with General Sheridan during the last year of our war, and then proceeds as follows: "If being armed as far as possible, with Spencer carbines made them Mounted Riflemen, well and good; but in every respect they were essentially Cavalry, and if not the best to look at, were perhaps the most effective the world ever saw. This cavalry could line a 'stone wall' dismounted as well as annoy the flanks of an army, as at the battle of Winchester, or, when the time came, capture artillery, as at Cedar Creek, in the Shenandoah valley, a month afterwards. The Division about 10,000 strong were commanded by young men of great dash. Merritt, Custer, etc., were boys of 24 years of age, but West Point graduates and giants in the theory if not the practice of the art of war. Comparisons are odious and imitations undesirable, but I would venture to hint to our economical Government that by uniting Woolwich and Sandhurst they would establish a national military school which could well vie with, if it would not excel, the celebrated establishment on the banks of the Hudson."

The *London Iron* thinks that "the present system of placing the scientifically educated naval architect in servile subordination to a naval officer, knowing scarcely anything beyond the mere practical duties of his profession, ought not to be tolerated. Those acquainted with the history of our navy," it says, "are well aware that this system is the growth of late years, and that it is not so very long since nearly every office which Mr. Goschen considers so essential should be occupied by naval men, was filled, and filled with credit, by civilians. We have recently had many changes, but every change appears only to have led from bad to worse; and unless some steps are taken to give more responsible positions to the scientific servants of the Admiralty, it is vain to expect any diminution in the present wasteful expenditure, or to hope for any improvement in the frightful mismanagement which now prevails."

Two courses of instruction for naval officers in electricity and torpedo management will take place this year on board of Her Majesty's ship *Vernon*, at Portsmouth, England, the first course to commence on April 1, and the second on July 25, and each course will last about two months.

The Brazilian government have published a decree intimating the necessity for erecting fortifications on the River Amazon, near the frontiers of Peru.

CORRESPONDENCE.

The Editor does not hold himself responsible for individual expressions of opinion in comments or letters addressed to the VOLUNTEER REVIEW

MONTREAL.

(FROM OUR OWN CORRESPONDENT.)

5TH BATTALION.

All being quiet in the 5th District now, no one ever thinks of the poor "Volunteers" or us we are now called the "Active Militia," but we suppose people think we have all died a "natural death." Such, we can assure you is not the case, for only on Tuesday the 16th instant, a deputation of the gallant 6th Battalion—true to their regimental motto, *Vestigia Nulla Retrosum*—"Never go back" (on themselves), waited upon their commanding officer, Lieut. Colonel J. Martin, at his place of business, and asked him on what day, and at what hour he (the Lt. Col.) could receive the officers of the Regiment, who were desirous of testifying their appreciation of him as their Commanding Officer, and a gentleman, by presenting an address, (taking the occasion of his return from Europe as a fitting time to do so.) Being an Englishman, he—Col. Martin—naturally enough, named "St. George's" night, 23rd at 8 o'clock, after which the deputation set to work and purchased a magnificent testimonial to accompany the address, as they had been empowered to do so at a meeting of the officers held previous to the Col's. return from Europe, and we must say they showed their good taste in the selection made, and the officers of the Regiment owe their thanks to them for it. (The deputation and testimonial committee were Surgeon David, Capt. Millen—Commanding Officer during the Col's. absence—and Major Gardner. Well! all idea of a testimonial was kept dark from Col. Martin, and the officers took upon themselves to invite Col. Bacon, Actg. D.A.G. of the District, to be present on the evening of the 23rd. The gallant Colonel accepted the invitation, and honored Col. Martin and the regiment with his presence on that evening.

Accordingly, at 8 o'clock sharp, true to military punctuality, all the officers met at Col. Martin's residence, and after requesting Mrs. Martin's presence in the room, formed a ring around their commanding officer and his good lady. Capt. Millen, senior regimental officer, stepped forward and read the following

ADDRESS:

To Lieutenant Colonel John Martin,
We, the officers of the 6th Battalion, Active Militia of Canada, avail ourselves of the occasion of your return from Europe, to convey to you our appreciation of the way in which you have acted as Commanding Officer during the years the Regiment has been

under your command; of the deep interest you have always taken in the welfare of the Regiment, of the firm yet affable manner in which you have guided it, and of the interest you have ever exhibited, not only for ourselves but for every man belonging to the corps.

We trust the expression we now give of our feelings may be as agreeable for you to receive, as it is agreeable to us to record

We beg of you to accept the accompanying testimonial as a slight memento of our regard for you as a man, and our Commanding officer, and we pray our Heavenly Father may grant you health and strength long to remain at our head, and may He continue to shower His choicest blessings on the dear partner of your life, on your children, and on yourself.

Montreal April 23rd, 1873.

(Signed.)

Henry Millen; Capt. Robert Gardner; Capt. and Major James C. Sinton; Captain and Major G. H. Henshaw, jr; Capt. D. Seath; Lieut. W. D. Dupont; Lieut. Wm. Smith Gardner; Ensign Wm. John Kenney; Ensign W. A. Bates; Capt. and Paymaster Sullivan David, Capt. and Adj. John G. Serbold; Lt. and Quartermaster A. H. David, M. D. Surgeon.

Upon the conclusion of the address, Sergeant Major Pettigrew, and Quarter Master Sergeant Logan, appeared in the room carrying a magnificent silver epergure, (from Savage, Lyman & Co.) on a silver stand, and having arranged it, saluted the Colonel and officers, withdrew.

Col. Martin was so deeply affected that he could hardly reply. He tendered the officers his thanks for the honor they had done him, and said it was more than he deserved, for when in command, if he pleased the officers at the way he handled the Regiment, etc., it was gratifying to him, and he now knew that he had done what he had always strived to do—his duty. The Col. was so deeply affected he could not say much, and he was thankful to the officers for the honor done him, and said it would be his greatest pride to draw his children's attention to the testimonial and say that it was given him by the officers of the Regiment he commanded. In conclusion he asked them to accompany him to the next room where they would find a supper prepared for them.

After doing justice to the good things and the cloth being removed, the following toasts were given and responded to:

"The Queen—God bless her."

"Col. and Mrs. Martin."

"Col. Bacon—Actg. D.A.G."

"Captain Miller, late Commanding Officer."

"The Captains."

"The Regimental Staff."

"Our departed brothers."

Happy to meet, sorry to part, hope to meet soon again.

The company then separated after midnight fully satisfied at the way things passed off. We only trust that Col. Martin may long be spared to command the Regiment, for a better officer, better hearted gentleman to command a regiment, never existed.

The Epergure has three shields, upon one of which is the following inscription:

Presented

by the officers of

the 6th Battalion, A. M.

to Lieutenant Colonel John Martin, as a token of esteem and appreciation of his services as their Commanding Officer.

Montreal, 23rd April, 1873.

The second one has Lt. Col. Martin's coat of arms and the Regimental coat of arms.

The testimonial has been exhibited at Savage Lyman, & Co's., window for some days. We must say from what we have seen of it, it is a really magnificent affair.

IXION.

April 28, 1873.

FROM BROCKVILLE.

The officers of the Force here are now discussing the probabilities of a Brigade Camp in the District for the present year, and are generally of opinion that a large camp at Ottawa, would ensure a larger turn out than isolated Battalion Camps or any other system of drill; and as to the expense, it would cost a trifle more than if a number of small camps were established. The saving in the transport of camp equipage alone would pay the difference in the transport of those corps whose head quarters are at frontier towns, the companies of which are generally from the country, and many being much nearer Ottawa than their own battalion head-quarters, and the certainty of having all perform the drill under one uniform system, is sufficient to urge its adoption.

The band of the Brockville and Ottawa Railway Artillery, gave their usual annual ball in the Victoria Hall, on the 26th inst. The hall was beautifully decorated with flags, shields, military devices, &c., and when filled with the beauty and fashion of the town presented a most lively and interesting spectacle.

The company consisted of about three hundred among whom we noticed the resident staff, and the officers of the Battery. The Bandmaster Mr. Truiddle, assisted by the members of the Band, were assiduous in their endeavours to see that all enjoyed themselves, and the hearty manner in which the various dances were entered into was proof of their success. The supper was all that could be desired, and the members of the Band may congratulate themselves on their success. Many of the guests before separating, expressed a wish that they might be permitted to attend many more such pleasant reunions.

April 28, 1873.

MONTREAL.

(FROM OUR OWN CORRESPONDENT.)

Are we to have a Camp this year or not? Is the question of the day as to its advisability, there is considerable difference of opinion. From a military point of view, a camp such as we had at Laprairie, in the summer of '71 would be of the greatest benefit, providing the time was better chosen, though I fear the muster would be small. Volunteering in Montreal is at a very low ebb, owing to various causes, a few parades and reviews now and then would do much to sustain the *esprit de corps*, and make matters more lively in this respect.

The military school is in a flourishing condition. The following passed a very satisfactory examination on Thursday, 24th.

For First Class—Henry Dixon, Battery *en haut*; John Chamard, Montreal; Wm. Chamard Montreal; F. D'Avallé, St. Julien.

On St. George's day, Lieut. Colonel J. Martin, 6th Battalion on his return from England, was presented at his residence by Lt. Colonel Bacon, on behalf of the officers of the 6th, with a handsome silver epergne, bearing the recipient's crest and a suitable inscription, accompanied by an address couched in very flattering terms. The Lt. Col. replied, and afterwards entertained the party at supper.

Battery "B" Dominion Artillery, has lost two of its members by desertion last week, tired of military life, they made tracks to Uncle Sam's territory.

Summer has broken upon us all at once, and we are now enjoying June weather here.

Nothing has been done to the Drill Shed ruins, and they remain as they fell two years ago.

B.

The very momentous subject contained in the following, from the New York Herald, is a matter of as great moment to Canada as it is therein stated to be to the United States.

Already the deforesting of the country is exhibiting its effects by fearful high water in spring and unprecedented low water in autumn; the remedy is replanting systematically.

The grave economic question of conserving forests has recently, in several parts of Europe, been made the subject of interesting and instructive experiments. It used to be the boast of modern civilization that in its march over the globe it had conquered Nature and subdued the primeval forests which she had planted for the highest and most beneficent ends. Science is beginning to explode this, and is rendering a great service to mankind by exposing its fallacy.

It is impossible to glance over the climatic history of the Old World or the New without discovering that marked changes have taken place, even within the period of authentic annals. There are now no such

climates in Central Europe as were described, with no exaggerated pen, by the writers and warriors who chronicled the march of the old Roman armies. Since the close of the eighteenth century we read of no such spectacle as the freezing over of the Baltic, the Zuyder Zee, the Hellespont and the Black sea, which, at various times previously, had been covered with solid bridges of ice. And if we credit the keen and cautious testimony of such observant historians of American colonial climates as Volney, Rush, Samuel Williams, and Mr. Jefferson, there can be little doubt that in the last century the country east of the Alleghames has undergone a decided physical deterioration.

The denudation of the soil has long since attracted the serious concern and stimulated the stringent legislation of nearly every country in Europe. Not long since experiments were made in Germany which demonstrated the fact that the oak tree discharges from its leaves an amount of evaporation more than eight times as great as the rainfall over the area of soil which it shades. As the excess of water must be drawn up by the roots of the oak from great depths the inference is that trees prevent the drying of the climate by restoring to the air the moisture which would be borne in destructive torrents to the ocean. In the French department of the Hautes Alpes (where the ravages of the axe threatened to spoil the land of its harvests), the compulsory covering of the denuded and barren tracts with fresh turf and vegetation is found to render them retentive of the rain, and has restored their pristine verdure, while the streams have become less turbid and violent, and the bridges less frequently swept off.

Such results can scarcely be attributed to any other cause than the practical replacement of the natural and necessary protection which Mother Earth demands, if we would have her remain healthy and prolific. It has been sometimes contended that scientific researches did not establish a climatic change in any part of the United States, of the past five decades of more than three or four degrees of temperature, and that this is scarcely worth notice. But the figures of science, not unlike the solemn stones of the graveyards which once excited Sydney Smith's ready wit, are by no means unimpeachable. A difference in temperature of a single degree may make a great difference in the amount of water condensed from a passing vapor-laden wind; upon our hill tops and valleys. It is carefully and competently recorded by the great physicists, the late Sir John Herschel, that during his residence at the Cape of Good Hope he has often noticed, even in the rainy season that while standing under the trees of Table Mountain the showers would be copious, a few hundred yards thence in the open space not a drop of rain was falling. If meteorologists could prove that the temperature of our climates has been modified by only two or three degrees (which they have no data to prove) of change, the argument would be of no weight against the alleged deterioration, since such a thermal modification extending over an immense territory, would make an enormous aggregate. There can be no doubt that the country east of the Mississippi now suffers incalculably from the deforesting of a century. We have just seen that in mid winter, after heavy snow, a day or two of sunshine suffices to dissolve and dislodge the frozen mantle, and send it gliding on its unimpeded way from the mountains to the river beds, there to form the most dangerous floods and ice gorges. In summer, although swept by the broad equa-

toral current and the southwesterly winds—bearing just overhead the evaporation of the Gulf and the tropical Atlantic—the same section is sorely scorched by the sun, and its people in the very sight of the sea, have almost to cry out with the "Ancient Mariner,"

Water, water everywhere, and not a drop to drink.

In many parts of Europe strenuous efforts are being made to encourage the restoration of forests in districts which have been stripped of their timber, and the legislation has been extensively and necessarily exercised. The conservation of American forests, from the very geography of the country, is more imperatively demanded than in most moist sections of the Old World. The next Congress cannot spend a portion of its time better than taking proper action upon this grave subject of national importance.

THE FORCE OF GUNPOWDER.

(From the Charleston News.)

Doubtless there are many Charlestonians who still remember the terrific detonations caused by the explosions of the Confederate ironclads *Charleston* and *Glitor*, in Cooper river, opposite Marshall's wharf, at the evacuation of Charleston, in February, 1865. It has always been a matter of surprise to the wrecking fraternity that only a small portion of the wreck of the first named boat could be found in the vicinity of the spot at which she was anchored. Professor Mailfert, whose fame as a wrecker is so well known to the Charleston public, has for a long time occupied himself with the solution of the riddle.

A few weeks ago he accidentally observed a strange rippling of the water surface four hundred and fifty yards, more than a quarter of a mile, westward of the wreck of the vessel, and it at once occurred to him that the phenomenon afforded a clue to the mystery. He accordingly anchored one of his derricks above the spot marked by the ripple, and an examination revealed, lying upon the bottom of the river, the iron sheathing of the bow and one entire broadside of the vessel, consisting of a mass of iron weighing altogether 22,750 pounds, or nearly one hundred tons. The whole broadside of the battery with the port holes was intact. That this immense mass of iron should have been hurled through the air far more than a quarter of a mile, affords a startling illustration of the force of the explosion.

The discovery has led Professor Mailfert to suppose that the other half of the *Charleston* is lying about the same distance on the opposite side of the anchorage, and he has already begun to search for it. Professor Mailfert has recently contracted with the United States Government to remove the wreck of the Monitor *Keokuk*, which lies at the mouth of the harbor, near the Weehawken lightship. The *Keokuk* is the only remaining obstruction at the entrance to the harbor, and its removal will greatly contribute to the safety of navigation. The Professor has also received the contract to remove the wreck of a vessel at the mouth of Savannah river.

Prussian military bands are, by decree of the government, never to perform in foreign countries in their regimental costume, save by special permission of the Minister of War.

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The Volunteer Review,

AND

MILITARY AND NAVAL GAZETTE.

"Unbribed, unbought, our swords we draw,
To guard the Monarch, fence the Law."

OTTAWA, TUESDAY, MAY 6, 1873.

TO CORRESPONDENTS.—Letters addressed to either the Editor or Publisher, as well as Communications intended for publication, must, invariably, be *pre-paid*. Correspondents will also bear in mind that one end of the envelope should be left open, and in the corner the words "Printer's copy" written; and a two or five cent stamp (according to the weight of the communication) placed thereon will pay the postage.

The Adjutant General's "Report on the state of the Militia of the Dominion of Canada" for the year 1872, is one of those important State documents which cannot fail to interest every reader. It is got up in the usual terse and perspicuous style with which the people of Canada are now familiar and which has established the reputation of the Commander-in-Chief of our Army in a literary point of view, as his eminent services has already confirmed his professional character.

From the Report we learn that during the past year 30,144 officers and men were in camp during the annual drill; of this force 1,666 were cavalry, 951 field artillery with 46 guns, 1,697 garrison artillery, 106 engineers and 25,724 infantry. "This army is organized into tactical brigades of the

three arms. In nearly every instance each brigade forms a little army of itself distributed according to territorial brigade divisions, and the whole active force rests upon a reserve of practically almost the entire manhood of the Dominion, and upon a Reserve organization which has called forth the eulogy and approval of eminent European Statesmen and soldiers."

"During the past year (for instructional purpose) 18 camps of exercise were formed for 16 days' training and three small regimental artillery camps for 8 days.

As it is the practice of the VOLUNTEER REVIEW to republish the Adjutant-General's Report in full, and as the first instalment thereof appears in this week's issue, it is not necessary to quote largely from that document, but there are one or two paragraphs on which we are so entirely in accord with the gallant and accomplished soldier that commands the Canadian Army, that we cannot forbear quoting them in full.

"In the time of danger the ranks of the militia of Canada have always been filled with men, but untrained men and undisciplined valor does not constitute military strength, or national security. I would, therefore, as the officer responsible for the military command and training of the militia, beg to point out the advantage and propriety from a military point of view, of obtaining such a Parliamentary vote as will admit of training annually and providing with proper equipment not merely a portion but the whole of the authorized quota for the full period allowed by law." The amount estimated by the Adjutant-General to effect this very reasonable object would be \$1,500,000 per annum; the estimates of the present year embrace a sum of one million dollars, or only two-thirds of the very moderate sum asked, and this on the plea of economy. The Report says: "Reduced military estimates means reduced military efficiency and power of defence, but should it be determined at any time to reduce the estimates it would be well to bear in mind that this can be done with least detriment to the public service, from a military point of view, not by reducing the number of men authorized to be trained annually in the whole Dominion, but by training the full number of men allowed for a somewhat shorter period of time."

Turning from what is a disagreeable subject to us, and we are fully persuaded to the mass of our people, we must content ourselves with one more extract with which our own experience is fully in accord. After alluding to the historical record of the soldierly qualities of our French speaking countrymen, the Adjutant-General says: "I have seen the descendants of those men in the camps of Lower Canada on the trackless Prairie and in the Rocky Mountains. In point of natural intelligence, hardihood, and endurance of fatigue, readiness of resource and cheerfulness of spirit, under difficulties

they have no superiors, masters in the art of travel, of camp and Prairie life they are equally courageous, and at home in the frigate amidst the foaming rapids of American rivers and in the saddle on the boundless Prairies of the North West."

The Report embraces that of the officers commanding the various military Districts and the commandants of the Schools of Gunnery, but its greatest feature is a "Report of a military reconnaissance, of the Northwest Provinces and Indian Territories," which we deem of such importance as to publish out of the order in which it stands in the official document before us. The Adjutant General accompanied by his son, a fine stalwart youth of sixteen years of age, started from Fort Garry on the 10th August, 1872 for a journey of nearly 3,000 miles; by the route travelled, fully two thousand of which were accomplished on horseback the whole escort consisting of a guide and an Indian lad.

The Adjutant-General in his modest narrative gives a correct itinerary of the various stages of the arduous journey, a vivid description of the country, its capabilities and resources with the perspicacity of an experienced observer and the skill of a trained explorer, his estimate of the military strength of the Indian tribes between Fort Garry and the Rocky Mountains is particularly valuable just now, and his recommendation that a force of 500 Mounted Riflemen distributed at the following strategical points to protect settlers and cover the frontier has received convincing support by recent news of troubles between the Black-foot Indians and United States Troops which have resulted in a fight on Canadian soil. The stations pointed out for the localization of the units of the proposed force are Portage la Prairie, Forts Ellice, Carleton, Pitt, Victoria, Edmonton, and Porcupine Hill; at nearly all of those Stations sufficient accommodation already exists, and they are fortified sufficiently to resist anything except artillery, being in all cases stockade well and stoutly built by the Hudson Bay Company to protect their own employees from the Indians, and with some pretensions to military skill in design and adaptation.

It is especially to be regretted that Colonel ROBERTSON Ross's military duties detained him so as to delay his departure from Fort Garry before the month of August, and consequently compelled a deviation from the direct line of travel through the *Tete Jaune* pass in Canadian territory, to that of the Kootenay pass and through the territory of the United States, in which one-third of this interesting journey was accomplished. At the same time the necessity for a personal inspection of the frontier (the famous or infamous forty-ninth parallel) at the point where it touches the Rocky Mountains may also be said to have been a military necessity.

The route followed by the Adjutant General was nearly due south from the Rocky Moun-

tain House, in North Latitude 52 20, West Longitude 115 10, to the Kootenay Pass, in Latitude 49 30, West Longitude 113 30. His line of travel was parallel to the main chain of the Rocky Mountains and he eventually crossed into United States territory where the meridian of 116.10 West intersects the 49th parallel, finally reaching Victoria, Vancouver Island, on the 28th October, having accomplished the journey in seventy days of which fifty one were employed in actual travel.

Of adventures and privations the Adjutant General and his party appear to have had an ample share, but he achieved the distinction of shooting two grizzly bears, one estimated to weigh 1,100 lbs, a distinction by the way, the proudest Indian warrior would peril his life to obtain. As the whole *Reconnaissance* will be republished in the Vol. Rev., we will close our notice of it here, regretting that it has not been published in such a form as to place it within the reach of the Emigration agents in Great Britain, for it is undoubtedly a far better descriptive Report of the value and capabilities of the North West Territory than any yet published, and it demonstrates the necessity for pushing the construction of the Pacific railway without delay. The Report is accompanied by a most valuable map of the Canadian Territory between Lake Superior and the shores of the Pacific.

The ventilation of the Torpedo humbug will have the effect of showing how easily nations as well as individuals are deceived, and how neatly a system of persistent puffing forces mechanical toys on the Governments of the New as well as the Old World, to the great loss of the people and the profit of the scheming but unprincipled adventurers, who are in every case not the inventors but the purchasers of complex mechanism generally the result of misplaced or misdirected ingenuity out of which they mean to make a fortune.

The following article from the United States Army and Navy Journal of 26th April, places in a striking light the gullibility of newspaper writers, and the danger incurred to the State by submitting to accept advice or dictation from irresponsible self-constituted authorities often paid for the express purpose of cheating the public and enriching unscrupulous adventurers.

The Times reporter or correspondent has been regularly crammed by some one at the Brooklyn Navy Yard, and it is hard to tell which to admire his description of an impossible machine (ship and all), or the cool assurance with which it is given to the world. It is, however, another chapter of torpedo literature.

"We publish below, headings and all, the account of a new torpedo boat given by a Times reporter, who has evidently "been near the galley" in the Brooklyn Navy yard. The vessel he describes would, it seems to us, be chiefly "formidable" to the reputation of its inventor. It is not, as he describes

it, large enough to attain necessary speed or to carry the armor it requires for defence if it is to float at all above water. Nor do we see how masts, which are to "disappear during an engagement," are to be anything better than an incumbrance, and we fail to see the propriety of using the English bracket system in a vessel of this size. It is all very well for the *Great Eastern*, *Bellerophon*, or *Hercules*, but it is out of place here.

The Fowler wheel, too, has been tried sufficiently to show that it is not as efficient in means of propulsion as the ordinary propeller, and it is moreover full of complicated mechanism, wholly out of place in a vessel which, being itself an experiment, requires to be as simple as possible in all of its parts. The only advantage claimed for the Fowler wheel is, that altering the position of the blades it can be made to steer the boat, but no reliance seems to be placed on this feature, if, as we are informed, a rudder is to be added to the boat. The Fowler wheel, is, in short, a jimcrack, very captivating to amateur constructors, the adoption of which in a vessel of this experimental character exhibits a singular want of judgment. We have no hesitation in predicting that before anything can be done with this boat the so called Fowler steering wheel will have to be taken out of her.

ADMIRAL PORTER'S MYSTERIOUS WAR ENGINE.—
DESCRIPTION OF THE VESSEL.—TO BE COMPLETED IN JULY.

"A torpedo boat of formidable build and terrible destructiveness, the invention of Admiral Porter, is now in course of construction at the Brooklyn Navy-yard. The ship is designed on an entirely new and improved principle, and will, when completed, present features heretofore unknown in the United States Navy. In addition to her extraordinary capability in the discharge of torpedoes, the vessel will have the advantage of powerful build, combined with a high rate of speed.

When out of water the boat is shaped somewhat like a shark, the nose or ram tapering off from the bow, and projecting a distance of some forty feet. At the extreme point of this ram is situated the torpedo bar and valve, from which the deadly missiles can be discharged by electricity with terrible effect. The projection of torpedoes however, is not confined to the forward part of the boat; she is so constructed that torpedo bars run along at both sides, so that if lying with either side toward the enemy it will be only necessary to apply the electric current and torpedoes can be projected with ease. When afloat, only about four feet of the vessel appears over water, and in shape she looks perfectly oval.

"The extreme length of the boat is 173 feet, breadth of 28 feet, and depth 13 feet. The best-tested charcoal iron is being used in her construction. The thickness of the plating for the sides has not yet been decided; that on the hull ranges from three-eighths to half an inch, according to the general rules for constructing iron vessels. The decks are of plated steel, from five-sixteenths to half an inch in thickness, which, it is thought, will add to the strength of the boat. The decks are arched much higher than usual, thus giving to the middle of the vessel a height greater than would appear.

"This formidable engine of destruction is composed of a series of water-tight compartments, which can be flooded or emptied at pleasure, so that the vessel can be made to sink under water until, if necessary, only a foot remains above the surface. In action

nothing can be seen above the decks but an iron plated pilot house, a smoke stack, and grated hatchways. The pilot-house, however, need not be occupied on such occasions, as the vessel could be steered from the engine-room below. She will be fitted up with three masts, constructed so as to disappear during an engagement; but, if found necessary, they can be run up and scilicet put on at a moment's notice. The sailing facilities can be available when the vessel is not in action.

The new boat is built on what is known as the English bracket principle, introduced for the first time into American shipbuilding. The peculiarity about ships constructed on the principle is that they are virtually two distinct vessels, built one within the other, and of equal strength. Within the outside shell three longitudinal, of immense strength run the entire length of the vessel and are connected with bars running in a horizontal direction by brackets of equal length. The whole is then covered with an iron plating of an equal thickness with the outer one, forming a distinct and perfectly water-tight bottom and sides, the different sections of which can be entered by man-holes. A passage sufficiently large to allow a man to walk in is left open between the outer and inner vessels, as they may be called, from stem to stern, so that should any accident occur to the outer-plating it could be remedied from the inside. The advocates of the bracket principle claim that even should the exterior plating of a boat get damaged, and the water rush in, the vessel would still be safe, owing to the second water-tight plating constructed within.

The boat, being designed solely as an engine of destruction, will not carry a larger crew than will be sufficient to work her, and during action they will remain below.

The Fowler wheel—a new propeller—will be introduced into the vessel. It has never yet been brought into use in the U.S. Navy. This propeller which is considered by naval constructors to be a great improvement, enables the vessel to be steered and propelled by the same wheel. It works on the eccentric principle, and allows the pitch of the blade to be altered at pleasure, so that, if necessary, a rudder could be dispensed with altogether. To provide against accident, however, a rudder will always be kept on hand.

The vessel will be supplied throughout with an improved electric apparatus, by which connection will be maintained between the engine and torpedo-rooms, pilot house, and other portions of the ship.

Machinery of extraordinary power, and on the most approved principle, will be furnished the boat, and she will be capable of attaining as great a rate of speed when going in a backward as in a forward direction. The shock which a ram of this description, driven by powerful engines, could give a hostile vessel would be something terrific. The great length of ram concealed under water would also enable her to strike when she, to all appearances, seemed to be forty feet distant from the object of attack.

The exact principle on which the torpedoes are to be discharged is kept a secret by the constructors, at the request of Admiral Porter, who does not wish his invention to become known to natives of other countries. Numbers of gentlemen connected with naval construction in European countries have visited the Navy-yard and endeavoured to get some idea of the construction of the new

torpedo boat, but have been met by the officials with a polite refusal.

From the opinions of persons eminently fitted to judge, it would seem that, should the new boat prove equal to the work expected of her, Admiral Porter will have given to the American Navy the most formidable and destructive engine of war ever constructed in any part of the world.

A large force of men are now employed on the work, and the utmost expedition is being used in order to get the boat launched, if possible, by the middle of July.

We have to acknowledge the receipt from the Secretary Capt. B. BROSS, of the *Journal* of the Royal United Service Institution, No. LXX, of Vol. XVII which contains the following interesting articles :

Powder pressures in the first 35 ton gun. Marches.

Suggestions for a shelter tent. Improved instruments for military sketching.

Brennet's steam steering screw.

The paper on *Marches* appears in this week's issue of the Vol. Rev.

We are indebted to the energetic, patriotic, and large-hearted honorary secretary of the "Royal Colonial Institute" C. W. EDDY, Esq. for a copy of a paper read before the Institution by Mr. W. WALKER, on "The social and economic position and prospects of the British West India possessions," which supercedes in interest anything we have ever seen on the same subject. Looking to the future political destinies of this group of Islands, the question naturally arises as to what power they will be most likely to fall in to and we are inclined to think that the tendency will be to seek a connection with the Dominion of Canada. We are the more inclined to believe this theory correct from the fact that within a very short period the transportation of the whole grain trade of the Western and North Western States will be in the hands of the Canadian shippers, must pass through Canadian territory, and must of necessity be shipped in Canadian vessels. Therefore, it follows, that our trade with those Islands in breadstuffs and other products of our soil, will create an identity of interest, which all the efforts of the United States have failed to develop.

The efforts to obtain a footing in San Domingo, which Mr. Walker notices has not advanced the interest of the Republic in the West Indies although it may be used as a stepping stone to acquire Cuba, and probably for ulterior purposes; but if even any attempt is made to coax or bully Great Britain out of her possessions in that quarter, the Canadian people will be prepared to take a hand in the game, with as good a prospect as the Yankees can possibly handle.

We are further indebted to the honorary secretary for a copy of the *List of the Felons* of the Royal Colonial Institution, and we learn that our distinguished countryman

Lieut. Colonel G. T. Denison, will read a paper early in June, before the Institute, subject being the "Defence of Canada."

The theory of the *Woolwich System* of rifling and its practical application receives due attention in scientific journals in Great Britain.

It is a question deserving due attention as to the reasons why such a very absurd system is persisted in after all its miserable and astounding failures; or have the Whig Radicals imported into the public service the trade rascalities of Manchester and Birmingham. As it is very evident some peculiar interest must be served to bolster up for such a length of time such notorious failures as have been produced by the *Woolwich system* of rifling.

The following extract shows this pretty clearly.

Fraser's Magazine states that the artillery duel off Portland on the 5th of July last, resulting, as it did, in the signal defeat of the gun by the armor, has revived the general interest in the question, guns v. arms. However, the encounter between the 25-ton gun of the *Hotspur*, and the 14 in. plate protecting front of the *Glatton's* turret does not dishearten artillerymen. True, neither the 25-ton nor the 35-ton can at present employ all the powder they could usefully burn. True, they have "decidedly the lowest velocities," and consequently, hit weak blows. True, they have very small endurance and cannot be fired continuously, or with high elevations, or with long projectiles, last their end should be still more untimely. But the cause is evident and removable. The able principal of the School of Naval Architecture told the British Association that "the consent of all mechanics and engineers with whom he had ever conversed was absolutely unanimous in the condemnation of the 'Woolwich' system of rifling, and that he had never heard any serious defence of it." Nobody has aught but praise for British-built ordnance, Nobody has aught but blame for the misapplication of power within them. Hardly a simple quarterly training practice takes place in the British fleet without one or more of the heavier guns being disabled, whilst discharging eight projectiles each at canvas targets. Yet the guns are strong enough, and no additional weight of metal would prevent these mishaps. The length of rifle-bearing in each groove is the same viz, 1 in., whether the shot to be rotated 115 lbs. in weight or 700 lbs. Hence, the larger the gun and its projectile, the more suicidal the mechanical action of the projectile. Thus a 6½ ton gun may discharge its 115 lb. projectile a thousand times without much injury; but when a 25 ton gun does so 200 times, spread over several months at low elevations, and with reduced charges of mild-burning powder, the official *Manual of Naval Gunnery* records the fact as "proving that their powers of endurance are most satisfactory!" and when a 12 in 35-ton gun is found to have four cracks and four fissures in the grooved part of the bore, necessitating its being rebuilt, after only 38 slow discharges with low elevations and short projectiles, a dozen more of the same kind are ordered for the British navy to fight with. The only grave objection to this re-arming of the British fleet is stated by *Fraser* to be the great loss of endurance

which the present rifle system gives rise to in the heavier guns. Naval men are alarmed at the idea of resting the safety of the fleet and the security of the country solely upon an armament of 35 ton guns. They observe that the only gun of that nature tested so far, gave way after 33 horizontal discharges with mild pebble powder, spread over three and a half months; and that those furnished to the navy have only been proved by firing, at long intervals, three reduced charges horizontally.

With such a record it is little matter for surprise that naval officers denounced the monster artillery in unmeasured language, and it has always been our opinion that the British fleet is far more inefficient in all the glory of its iron clads, rams, monitors, turret ships, and *torpedoes* than when it was solely built of wood. We have no faith at all in *floating gun carriages* either as manageable or effective fighting machines, they have never been proved and their record in practice where all the conditions were favourable has been such as to destroy the faith of any practical seaman in their adaptability for efficient service in naval warfare—so much for the machines. The guns have been reckoned up as Inspector BUCKNELL would say, and found to be all but useless. As ships and armament the British fleet, as at present organised, has entirely too many *ifs* about it to be valuable.

The armament fails even under the mathematical test, as the following extract will show.

"The *Philosophical Magazine* has an elaborate mathematical paper investigating the advantages arising from the employment in heavy ordnance of ever changing angles of grooves to receive a fixed angle of rifling in the shot. By this device, called an increasing spiral, a reduction of powder pressure in the chamber is shown to be effected to the extent of a one hundred and sixty fourth part of the bursting force, as compared with the gun in which the angles of twist of the shot and bore coincide. It is also demonstrated that the mechanical force required to rotate the shot is a "small fraction" of that employed to drive it out of the gun. This "small fraction" is stated to be 2½ per cent. of the explosive force when the shot and bore correspond; while about one half of this "small fraction" is required when their angles of rifling differ. In the majority of British rifled guns, and in all foreign ordnance, the angles of rifling in the shot and bore coincide throughout the whole length of the gun, to the loss of the above remarkable philosophical advantage. *Broad Arrow* points out against this mathematical decrement of half a ton powder pressure an increment of nearly 40 tons per square inch, due exclusively to the oscillations of the shot around the axis."

It is evident that even Bishop Cotton would fail in extracting a shadow of hope for the system out of this exhibit.

The *political economist* is one of the curses of modern civilization, and more especially of representative government; brought up in some country store where he has spent the best part of his life in haggling with stray purchasers, our *barbers* he buys with the

more extended sphere which his ledger influence has procured him the same narrow-mindedness and limited political vision which was engrained in his congenial nature.

To such men the rise or fall of Empires the welfare or misery of nations, the liberty or slavery of whole peoples is a mere matter of profit and loss, to be gauged by what can be saved; how from the public service can be cheated and public servants defrauded under the plea of economy. Unluckily such a cry finds ready echo in the hearts of the great mass of the people who only see the mere relative outlay, but can neither undertake or appreciate the consequences.

Of this state of feeling we have had an example in the cutting down of the Militia Estimates for the current year. It is not within the ministerial circle that this origination of this piece of economy is to be sought, it is owing to the pressure of the commercial class and the increasing howling of the political economists. As if to furnish a commentary on the folly of such a movement. The news from the Province of Manitoba indicates that it will in all probability be necessary to largely increase the amount asked from Parliament for military purposes this year.

From Fort Garry under date of 26th April, we learn that

"Reports from the interior state there has been hard fighting between the United States troops and Blackfeet Indians on our side of the line. Forty Indians and a large number of Americans were killed. It is feared this is the beginning of trouble in the Blackfeet country.

"The residents of Fort Garry are alarmed in consequence of the Yankton and Trenton Indians, who have crossed the line to the number of 7,000 or 8,000 and threaten the interior settlements of Manitoba."

The full gravity of this occurrence will not at once strike the hearer, but it amounts to this, it is a direct violation of our Territory on the part of the United States forces for which we are not likely to obtain satisfaction under the Washington Treaty, and it is due to the pitiful economy which would not expend a million of dollars per annum to keep a force on foot as a frontier guard to resist Indian as well as Yankee aggression, and it leaves defenceless settlers at the mercy of savages who readily learn to despise the power too weak to coerce them. We are not at all sure that a further vote on military expenditure will not be necessary before the House rises, and it is to be hoped it will include a sum sufficient to send a Canadian Brigade to take a part in the coming Autumn Manœuvres in England.

In reply to *Engineer's* enquiry published in our last issue, we do not know whether a corps of Engineers is to be established at Toronto. It will depend on the fact as to whether any individual will be patriotic enough to raise such a corps, and as to whether

the Government will require their services when raised.

Our correspondent's best plan is to apply to the Deputy Adjt-General commanding the District. We quite agree with him as to the desirability of organizing such a corps, as it is the one in which the Canadian Army is deficient.

REVIEWS.

The *Aldine* for May is a superb number. It opens with a magnificent marine picture "The Leo Shore," by M. F. H. de Haas. The good ship after vainly contending with the winds and waves is driven on a lee shore. The next is the "Unbidden Guests," and represents a group of kittens on the table of an epicure, and making havoc among the dishes. One has upset the milk cup, and is licking up the river of cream; another has found something to its taste in an overturned cup; while a third, the most mischievous of all, has gone for a plate of lobsters, which is about to be dashed to pieces on the floor. We have next "A Trout Brook," and then six spirited illustrations of New Chicago. There is also an admirable view of "The Drusenfall," a noted fall in Thuringia. The Literature of the May number is as good as usual.—James Sutton & Co, publishers, 55 Maiden Lane, New York.

The *British Quarterly* for April contains: Swiss Federal Reform, The Monotheism of Paganism; The Government Purchase of Railways; Middlemarch, a Study of Provincial Life; Battle of Creed and Freedom in French Protestantism; Aristotle; The English in Ireland in the Eighteenth century; Contemporary Literature. The LEONARD SCOTT Publishing Company, 140 Fulton Street, New York.

Field-Marshal Von Moltke, a vi g. been congratulated by a foreign officer, says the *Militar Wochenblatt*, on the skill with which he conducted the campaign of 1870-71, replied as follows; In order to execute a clever plan you must have confidence in your troops, and these in their turn ought to preserve the same feeling towards their chief. One must have the conviction that our forces are equal to what we demand from them, and in that respect I can say with pride that ours have not deceived us. On the contrary, our army always surpassed our boldest hopes. On all sides mistakes are made; and therefore, in man, respects, we must attribute our success in this memorable war to the fact that the French committed still more numerous and serious mistakes than we. The secret of our operations consisted chiefly in this—that however defectively our plan might be arranged, and even in the most unfavorable circumstances, we knew that each of our corps d'armes would fight for at least twenty-four hours, and in that time one could always find means to repair an error, especially with the aid our troops were ever ready to render each other.

HIGH WORDS.

Discussing the rise in gold and the fall of American stocks, the *Sacramento Union* uses some pretty high language. It thinks that the price of gold, depreciation of stocks, and high rate or interest are all due to over trading. The balance of foreign trade is reckoned as \$230,000,000 against the United States. Congress, however, comes in for the most vigorous criticism from our California contemporary. Instead of coming to the relief of the country, Congress added \$54,000,000, or 38 per cent to the sum it cost to conduct the Government last year. The *Union* sums up the case in this fashion:

In addition to these causes we have to add to the account a sum of official and incorporated villany such as no nation has exhibited since the rottenest era of the old Roman Empire. A thieving, shameless Congress, guilty of many individual frauds which are morally worse than ordinary felonies, and of one whole sale robbery as daring and insolent as that of Cæsar when he laid violent hands on the Roman treasury; two great railway corporations planning by the aid of Congressmen and Senators and by the tacit consent of the officers of the Government, to rob the treasury of many millions; and all over the country are heard the sullen and ill suppressed grumbling of a discontented and betrayed people, looking forward to revolution as the only sure method of relief from the double tyranny of corrupted law makers and corrupting corporations. This is the true condition of the country without disguise or concealment. Waste, theft, fraud, robbery, treachery and insolence among the rulers and the rich. Discontent, heavy taxes, costs of living all the while increasing, and wages threatened to be cut down among the laboring classes and the poor. Nine-tenths of our commerce done in foreign ships, more than half of our national and other securities held in foreign markets; the farmers impoverished by railroads; the railroads owned in Berlin, Paris, London, Frankfort; what can we reasonably expect from such a vile mixture of plot and circumstances against us but financial embarrassment and ultimate ruin, unless the honest mass of the nation shall make up its mind to change the character of its rulers and call the rogues who are hurrying its destruction to a strict account?

The Italian Chamber of Deputies to-day in opposition to the representations and remonstrances of Signor Sella, Minister of Finance, voted 450,000 fr. for the establishment of an arsenal at Taranto. When the vote was declared Signor Sella asked for the adjournment and said he would inform the House to-morrow what course he should take.

O'Kelly, the *N. Y. Herald* correspondent is in no immediate danger, as even in case of his conviction by the Court, the Captain General, will, according to his expressed intention, extend to him a free pardon. In the meantime his trial will go on.

It is stated that over 200 immigrants arrived in New York who had been promised employment immediately on their arrival here by Immigration Agents in London, a promise which was not fulfilled. This is a form of deception which is deserving of the severest censure.

GREEN FIELDS JUST IN SIGHT.

At the portals of the morning
 Stood a child with dainty foot;
 About him golden sunshine,
 Pearly dew and blossoms sweet,
 And with tender, dimpled fingers
 Plucked the flowers fresh and fair,
 And the overhanging branches
 Showed the dew-drops in his hair.

Looking forward o'er life's pathway,
 Saw he broader fields of green,
 Skies with snowy clouds so fleecy,
 Here and there blue shores between
 And with swiftly flying footsteps
 Started he for green fields bright,
 But in vain he hurried onward,
 They were always just in sight.

Warmer, brighter grew the sunshine
 Broader, rougher grew the wap,
 But with green fields just before him,
 Nothing could his footsteps stay.
 So he wandered on till manhood
 Took the place of childhood fair;
 Then he threw aside his flowers,
 Wiped the dew-drops from his hair.

Onward, onward, toiling, striving,
 Helping others with his might,
 Saw he not the blossoming meadows
 They are always just in sight.
 He will win the dark, cold river,
 Here we only wish and wait,
 Till the Master calls us over,
 And unbars the pearly gate.

—Sci.

"ON MARCHES."

At the regular afternoon meeting of the Royal United Service Institution of Friday last week, Major G. P. Colley, 2nd Queen's Regiment, Professor of Militia Administration and Law at the Staff College, Sandhurst, read a paper on the subject of "Marches." The chair was taken by Colonel Sir Garnet Wolseley, C.B., K.C.M.G., Assistant Adj. General.

Major Colley, in opening his address, said he had felt some diffidence in undertaking the task of addressing a number of officers on his present subject—officers many of whom must have had very practical experience in the matter, and especially the gentleman in the chair, who had planned one of the best expeditions of modern times. The subject of marching hardly received the attention it deserved at the hands of military men generally. It was customary to class all the operations of land warfare either under the head of strategy or of tactics, and to these two he would add a third heading, holding a place between the two former, the science of marching—*logistique*, as he would term it. Strategy, which dealt with the broad principles upon which a campaign is arranged, he would place first, as in fact all writers did, and next to that *logistique* the scientific combination of marches by which the troops could be moved in the most economical and rapid manner. The careful planning of marches would enable a general to use the third division of military science, tactics, which consisted in seizing and taking advantage of the opportunities which would tend to further the strategy or plan of the campaign. The two first divisions were of pre-eminent importance to the military student; the tactics less so, and indeed campaigns were often carried through without any tactics at all, as had been the case in three of the last wars.

Of course the prevalence of railway had to a great extent reduced the number of long marches, especially in civilized countries, but even when they were utilized they could only be regarded in the light of rapid marching, and a long progress on foot was often still an important necessity—an in-

stance of which occurred in the Franco-German war, when MacMahon was moving forward to support the emperor, and might perhaps have saved the disaster at Sedan, if his arrangements had enabled him to move with rapidity equal to that of the Germans under Prince Frederick Charles. Going further back, the success of Napoleon's campaigns depended very much on numbers and rapid movement, far more than mere strategical or tactical skill, and for all these reasons, seeing the importance which really hung on good, well-organized marching, he thought the science had hardly received the attention it should. There were hardly any English treatises on the subject, though some of the Wellington Prize Essays had dealt a little with it. Abroad, however, the Austrian Count Gallena had published two works on the study of the science of marching, and every year the Austrian staff went through skeleton manoeuvres over a particular district in which all the calculations of time, length of columns on the march and etc., were taken into consideration. He did not know that this could not be done in England, but for the fact that English officers had already so much to learn. The education of an English officer was always much wider than that of foreign officers. The Prussian, for instance, at the peace manoeuvres learnt the very practices which in war he would be required to perform, he would see the same kind of enemy, and manoeuvre over the same kind of ground. But very different was the case of the English officer, who, after all his training, would probably find his first campaign in bush or jungle fighting, for which the ordinary military education of other European nations would not have fitted him. He must have a wider knowledge of warfare, even as the lecturer's remarks, to embrace the whole subject, should go over marching in India, Abyssinia, and, in fact, countries all over the world.

Broadly stated, the marching power of the troop was generally allowed to be—for infantry, from two and three-quarters to three miles an hour; for field artillery, four miles; and for cavalry and horse artillery, five miles an hour. These rates of course included the five minutes halts that were occasionally made, and even then could not be maintained except by small bodies. For larger columns they must be very considerably reduced, and a division of infantry could hardly make an average of more than two and a-half miles, while a large body—an army corps, say, with its train—could seldom move more than a couple of miles in an hour. This pace, too, could only be maintained provided the roads were good; if they were bad, the progress of an army was retarded directly; an instance of which might be seen in the Waterloo campaign, when Vandamme's corps, pressing forward at an important juncture along a bad sandy track, could only get over a mile and a half in an hour. Perhaps a still more serious matter for a commander was when all the divisions of his army had to march on one road only, by no means a very uncommon occurrence. Napoleon's troops at their best time, in the Polish campaign, from bad roads, often took eight or nine hours to accomplish something like a similar number of miles; the Austrians in 1866, on one occasion, were fourteen hours in marching twelve miles, and the Crown Prince, after MacMahon, on the move from four in morning till eight in the evening, did not accomplish twenty-four miles. Taking the last great war throughout the average would show that the Germans could march about

fourteen or fifteen miles a day, with a halt every fifty days, and on a forced march about twenty miles. This did not of course give all the walking a soldier had to do. After halting he had often to go a mile or so right or left, to his billet, or straight on some distance to take up outpost work, besides the numberless extent of camp duties.

In order to show what troops could do, the lecturer selected three celebrated marches from ancient and modern warfare. In the former, there was the great march of Xenophon from Sardis towards Babylon to the battle of Cunaxa. The distance was something like 1,400 miles, and the time occupied five months, giving an average of nearly nine miles per day. Returning, the troops were harassed by the enemy, which reduced the rate of progress; so that the whole distance, going and returning, perhaps 3,500 miles with detours, took the army fifteen months—an average over the whole time of eight miles in a day. Perhaps, allowing for considerable halts and the annoyance from the enemy while crossing the desert, Xenophon's real progress reaching fifteen or sixteen miles each marching day. In modern times he would instance the great march by which Napoleon shifting his army from the edge of the Channel right across France to the heart of Austria, of which occurrence there was no difficulty in ascertaining the exact particulars. He had learnt that three routes were used, and that from twenty-five to twenty-seven days was the time occupied by the three columns—an average over the whole time of fifteen miles a day, or, allowing for the necessary halts, twenty miles for every marching day. Thus moved, the troops reached the Rhine in good order, and then passed on to the Danube, to fight the great battles which culminated in the victories around Ulm. This was perhaps the finest march in history. Marlborough's best march—that through the Palatinate to Bavaria and the victory of Bleenheim, a distance of 240 miles—took twenty-five days, an average of ten miles a day. Again Frederick's greatest march showed about seven or eight miles a day, and ten miles was the utmost that could be obtained. The march of the five Prussian corps from the Rhine to Paris (525 miles) occupied perhaps fifty days—about ten and a half a day, or thirteen and a half for marching days, though twenty-one was reached on one occasion by the corps pursuing MacMahon.

Of forced marches the lecturer did not think very highly; they were brilliant feats, but of dubious strategic value, and such as were recorded were, upon investigation, found often to be very much exaggerated. Sometimes it would be found that a corps marched late in the day, made a halt at night, and moved again early in the morning and then it would be stated that the men had made a forced march of thirty-five miles in twenty-four hours. The statement would be, probably, literally correct, but really the march would have been the work of two days. A celebrated case of forced marching was that of Crawford's Brigade of Light Infantry to the action of Talavera during the Peninsular War. According to Napier's History, General Crawford started on that occasion towards the field of battle with the intention of not halting until he reached that point, involving, according to Napier, a march of sixty miles continuously, the men carrying sixty pounds weight each; and they were told that the feat really was performed. The lecturer had studied this march, and had some very reliable information on the matter from officers who were in the campaign and were in possession of the

facts, and the result of his examination was that Napier's statements were erroneous. There was a discrepancy, to begin with, in the fact that the distance from the two extreme points of the stated march was eighty-two instead of sixty-two miles, and further, it was ascertained that Crawford was at Malpateda, some distance on the line, on the 26th and 27th, so that the utmost that could have been left to perform in the time which he speaks of could not have been more than forty miles. The historian was not present at the alleged performance, having been taken ill a few days before, and it was probable that he confounded with the march of the Light Brigade the journey of Sir George Napier (who had been with him) to overtake it. The most extraordinary feat of quick marching on record was that of the Roman troops during the campaign that broke the Carthaginian power in Italy, and it ought to be well known to military men, as it was the stock example in all works on strategy. The Carthaginian army, under Hannibal, lay waiting the arrival of supports, which Hasprubal was bringing from Spain. To prevent the junction of these two forces, a portion of the Roman army in front of Hannibal broke their camp one night, and to the number of 16,000 men, all picked troops, started out to intercept the march of Hasprubal. Claudius Nero, who led this force, marched his army, it is stated, altogether 240 miles, occupying twelve days going and returning, fought a great battle, in which Hasprubal's army was entirely defeated, and got back to his post safely in front of Hannibal without the latter knowing even that he had been gone. It was difficult to believe all this could have been effected, and it was equally significant that from the best authorities in campaigning as Xenophon and Cæsar, who themselves recorded the wars in which they were engaged—they would bear least of forced marching. Leaving the marching of armies to regard the marching of special corps, of course they might expect to find some splendid instances amongst cavalry record. One of the best was that march of Charles XII.'s horsemen pursuing the Saxons from the Niemen to the Oder, marching thirty miles a day for nine days, which was good for a large body of troops over bad roads. But some of the best cavalry work was performed in India during Lord Lake's Marhatta wars, and again by the flying columns during the Mutiny, though in the latter case, from the uncertainty of the maps and the difficulty of verifying Indian names, it was hard to indicate cases with certainty.

The next point of importance was the consideration of the space to be allowed to columns on the march, for on certainty in that depended the efficient supply of food. The general reckoning was one yard for every cavalry or two infantry men, and twenty yards for every gun; but the thing was hard to settle, as there was the difficulty of opening out. It had been stated that from fifty to sixty per cent, should be allowed for this, but the fault was not so great in some armies as in others. French troops invariably opened very much on the move and Colonel Lavallo had told the lecturer that columns increased their length by two thirds from that cause. This, of course, did not speak very highly for the discipline of the French Army, as a German officer had remarked; but then the Germans always locked up well and marched very close. Probably about thirty per cent. would be the right allowance, for English divisions would cover a great extent of road, and this

had been especially the case during the Autumn Manœuvres where there was much hired transport, and was more noticeable in 1871, when the space occupied had been double that in 1872, when less of this kind of transports had been used. Austrian staff officers advocated much space between brigades and regiments, and always let troops begin a march in this style, as it saved the wearying halts which otherwise frequently occurred and were very fatiguing. The form in which a corps moved must depend on many considerations, but the two principal were the probability of attack and the sufficiency of the supply arrangements. There must be a good advanced guard to save the column from surprise; and in these days of superior arms, though the guard should be pretty strong, still a commander should be careful that the portion of his advance which would soonest touch the enemy was of the most mobile description. Especially should no wheeled vehicle which might have difficulty in turning be the most forward point, though a battery would be necessary at hand to support the advanced guard. The latter should be followed by the main body of the infantry, succeeded by that portion of the train carrying the ammunition and other things likely to be needed in battle, followed last by the remainder of the baggage. The cavalry and guns should follow the infantry, but if possible it was better that they should go on another road or be left to move till later, as they made a more rapid rate. An English division so arranged would cover nearly seven miles, of which half would be baggage and move at about two and a half miles an hour. When Napoleon marched to the Rhine in 1805, the movement was carried out by divisions on separate roads late in the year, and marching thus troops could be in camp by four o'clock. If two divisions had to march by one road, the rate of journey was greatly increased. The second division could not move till late, in fact not until the first was well on the road, and could not reach its halting place till perhaps six o'clock, and should a whole *corps d'armée* have to use only one road, as was sometimes the case, the men could not be in their camp and get their dinners till midnight, and the rear divisions have experienced the difficulty of doing all their march in the heat of the day. This sort of thing occurred to the French in 1859. Also in 1866, in the Bohemian campaign, sometimes four corps had only two roads between them, and when invading Russia in 1812 Napoleon had generally as many as 50,000 men on one road. The greater the number of troops on one road, the greater became with the Germans termed the friction, the result being on a long march, often the loss of a great number of men. In the Russian invasion just referred to the effects of this friction was very apparent. The march of the French from the Niemen to Smolensko, the most successful part of the war, was about 400 miles, occupying fifty days, or twelve miles a day in not bad weather; and though the troops had good rests at Wilna and Vitebsk, the main body of the army lost no less than 90,000 men from the straggling caused by this excessive friction.

The great object in planning a march should be to so arrange the troops that they might, if necessary, be formed to resist an attack, and it was difficult to make the arrangement reach the extreme verge of convenience combined with safety. With two corps on one road, it was not easy to manage for the second perhaps to get up in time to join the battle; sometimes this not being effected until the day after a fight had com-

menced. The lecturer on this point showed on the blackboard an arrangement by which an army could be rapidly deployed to resist the attack of an enemy showing a long front, and dwelt upon the necessity of strong flanking parties, as well as an advanced guard, in the event of a collision. To facilitate the formation of line and keep the combatant portions of an army together it was desirable, if possible to send the infantry or cavalry off the roads, as might be most convenient, or even to send both off and leave the better path for the use of the guns, as was done in the last war in Bohemia. Sometimes where an army was moving parallel roads it was possible to use side roads running between the two main roads, but this course it was hardly possible to adopt to any great extent, generally from lack of knowledge and the liability to lose time. A method by which the progress of a large corps marching on a single road could be facilitated was to split, say the 1st and 3rd Divisions every seven miles, and allow the 2nd and 4th to pass through them. Thus the column, be kept close together, and yet the divisions be perfectly independent of each other. The more general system of English divisions marching seven miles apart though, could be reduced by making the intervals three and a-half miles, which would in most cases be possible and keep the army more together in case of an attack. The former sort of echelon arrangement was the system recommended in the Austrian army by General Gallena, and it was certainly valuable for passing defiles and in similar emergencies.

In feeding troops on the march there were three systems usually adopted; the rations for immediate use should be carried by the men themselves, a second supply by regimental wagons, and the last in the great magazine in rear of the column. Prussian soldiers carried three days' provisions of biscuit, rice, and bacon each, the Austrians' three days, the Russians four days, and the French three days' biscuit. The British troops in the Manœuvres carried no stated supply, and it was often said that the Line soldier could not be got to drag about several days' food with him; but the lecturer was certain, in the event of England joining a European war, the soldiers would have either to overcome this prejudice or starve. The men must, at all events, carry food for one day in such a case, when the fighting would be very different from that in half civilized countries. Invariably the provision column came up late, and though it had been proposed to remedy this by attaching a supply cart to every regiment, such an arrangement would very much hamper a column. The Prussian marketender had helped the feeding of the men in the late war very much, but as a rule it would not do to depend on it. For the second supply it was doubtful if long provision columns attached to each division were so good as independent regimental carts, which found their way to the men much more quickly than they could be reached and replenished by the divisional system. Anyhow, the marching of the latter would have to be done very much at night. To depend in any way on buying provisions of the country people was an exceedingly uncertain mode of replenishing the stores, as was proved by Napoleon when he made war upon Russia. Then the cavalry, spread out in front, took all the food which was produced by the country through which they passed, and the heads of the infantry columns, far in front of the provision carts, were literally starving, and the straggling

and wholesale loss of men before referred to was the result. Of the third department of the supply it was not necessary to say more than that as little as possible of hired transport should be used, as many things as possible dispensed with, and as many as possible, also such as straw and so on—drawn from the country through which the troops passed.

RECONNAISSANCE OF THE NORTH WEST PROVINCES AND INDIAN TERRITORIES OF THE DOMINION OF CANADA.

From the Adjutant General Report p. 107

On the termination of the annual training of the Militia in the Provinces of Ontario and Quebec, I proceeded, in the first instance to Lake Superior and the "Dawson Route" to Manitoba, in accordance with instructions subsequently crossed the Continent through Canadian Territory to the Pacific Coast and Vancouver Island, travelling nearly the whole distance from Fort Garry on horseback.

Leaving Collingwood on the 16th July, in the steamboat for Thunder Bay, (Lake Superior,) the vessel reached her destination early in the morning of the 22nd, stopping en route, at the settlements of Owen Sound, Leith and Killarney, on the shores of Lake Huron, and at Gargantua Bay, Michipicoton Island and Neepegon, on Lake Superior.

Neepegon Bay is a good and safe harbour, and the place itself is probably destined to be of great importance in connection with the Canadian Pacific Railway.

On arrival at Prince Arthur's Landing, I found that a considerable and apparently thriving settlement had already sprung up at that place.

The population now numbers 500: many good houses have been erected, and Municipal Government has been established.

Thunder Bay is one of the best and safest harbours on the north shore of Lake Superior, and the surrounding scenery in very beautiful.

For want of a proper wharf, considerable inconvenience is experienced, but as the one now in course of construction will be completed shortly, the landing facilities will then be greatly improved, and be all that is likely to be required for some time to come.

Owing to the great mineral resources, and valuable silver and copper mines which exist in this neighbourhood, and from the excellence of its harbour, it may reasonably be expected that a wealthy and important settlement will, ere long, be established at Thunder Bay.

From Prince Arthur's Landing, I proceeded on the 22nd July, by waggon, in one day, to Lake Shebandowan, a distance of about forty-five miles, by what may now be fairly considered a good road.

All the streams have been bridged, and a very substantial structure is erected across the Matawan.

When this road shall have been gravelled throughout its entire length, which will probably be effected this summer, it will be as good a one as can be desired.

The country through which the road passes from Lake Superior to Shebandowan is well wooded and much better suited for settlement than is generally supposed. Although the soil in the immediate neighbourhood of Prince Arthur's Landing is somewhat sandy, the greater part of the country passed through is perfectly well suited for farming and agriculture.

At the Matawan River farming operations had commenced; very fine timothy hay had already been raised at that place, and the growth of the vegetables and cereals which had been but a short time before planted, gave excellent promises.

From Lake Shebandowan I proceeded by canoe to the north west angle of the Lake of the Woods in seven days, a distance of three hundred and ten miles, through the chain of inland waters known as the "Dawson Route," towed part of the way by tug steamers.

Considerable progress has been made in opening up and improving this line of communication through the Dominion to the vast and important territories of the North West, and I am satisfied that if greater means could have been placed at the disposal of Mr S. J. Dawson, much greater progress towards completing the work would have been made by that able Engineer.

The portages have been greatly improved. There were horses or bullocks with carts or waggons on nearly all. In many instances a shorter and better route than that originally followed has been adopted, and altogether it is now not only a perfectly available and valuable line of communication during the open season, but it is an indispensable work towards the settlement of the country through which it passes.

At Fort Frances two steamboats of considerable size are being built; one has already been launched, and both are expected to be finished early next spring. One of these steamboats is intended for Rainy River and the Lake of the Woods, the other for Rainy Lake. Additional tug steamers are also to be obtained, so that by next summer it is expected there will be steam power on all the waters. When this is carried out the journey from Lake Superior to Manitoba through Dominion Territory will be made comfortably in four or five days, and the transport of passengers, freight, waggons, and horses by the "Dawson Route" effected without difficulty.

For the passage of troops, during the summer season, there is now no difficulty. In October last a detachment of 215 soldiers with two light field guns were conveyed in twenty five days from Collingwood in Ontario to Fort Garry, in the Province of Manitoba; and by next summer, I consider there would probably be no great difficulty in conveying, if required, both cavalry and artillery, as well as infantry, in considerable numbers by the "Dawson Route."

The country along the banks of Rainy Lake and Rainy River is well wooded with valuable timber, extremely picturesque, and still better suited for settlement than the country between Lake Superior and Shebandowan. The Lakes and Rivers teem with fish, and self-sustaining settlements could be readily established there with advantage.

From most careful enquires, it appears that the number of Indians occupying the country along the line of the "Dawson Route" and who belong to the Ojibbeway tribe, does not exceed a total population of four thousand, of whom it is believed about eight hundred are men capable of bearing arms. Although among these Indians there may be some restless characters, they are considered good Indians on the whole, and if kindly but firmly treated, they are not likely to cause any interruption along this route, or offer opposition to the peaceful settlement of the country.

During the past summer, the Ojibbeway tribe were apprehensive of an attack from the Sioux, their hereditary enemies, dwelling

west of the Red River on the American side of the international boundary line. With a view, therefore, of preserving the peace of the country, supporting our Indian Commissioner when engaged in making treaties, and for the protection of settlers, I am of opinion that it would be advisable to encamp a detachment of about one hundred (100) soldiers during the summer months at Fort Frances. This Force could be taken from the Militia now on duty at Fort Garry, returning to that station for the winter months. To send an Indian Commissioner unaccompanied by a military force to make a treaty with this tribe last summer proved a failure.

I would further suggest that the employees of the Department of Public Works stationed along the line of the "Dawson Route," who will this summer number about four hundred (400) men, should be organized into a Naval Brigade, to be armed and equipped by the Militia Department; and that the offer to raise two Volunteer Companies of Militia at Prince Arthur's Landing, Thunder Bay, be accepted.

The existence of such a material power along the line, would, I feel sure, prove of the greatest importance. There is no doubt that the passage of troops for the last three years proceeding to and from Fort Garry in support of the civil power, on missions of peace, has already been attended with the best results.

From the North West Angle of the Lake of the Woods, I drove to Fort Garry, in Manitoba, in a waggon with two horses, a distance of ninety-five miles in a day and a half; the journey from Prince Arthur's Landing thus occupying nine and a half days.

The road from the Lake of the Woods to Oak Point, where the Prairie commences, is now as good a one as can be found in almost any country part of the Provinces of Ontario and Quebec—and from the North West Angle of the Lake of the Woods, the ordinary carts and waggons of the country, and almost any kind of light carriage or vehicle can be driven without difficulty during the summer season, for thirteen or fourteen hundred miles across the great prairies of the North West, through one of the most fertile and beautiful countries in the world, to the Rocky Mountains.

[To be Continued.]

A new and very formidable armor-plated ship has just been completed for the French government at Lorient. This vessel, to be called *L'Espadon*, is furnished with two powerful engines, which are said to be such as to secure great speed, and the steering is such that it can be turned within the distance of its own length. Its spherical deck scarcely above water, and is armed with a number of tubes by which the deck can be swept in its entire length with scalding steam. It is furnished also with a steel ram, twelve inches thick and seven and a half feet long; its one gun, which has a range of 8,000 yards being mounted in a low turret in the centre of the deck. The French expect great things from their new vessel, and declare that it will be able to sink anything now afloat.

The Committee of the British Junior Naval Professional Association have offered a prize of fifty guineas for the best essay on "The Manœuvres and System of Tactics which fleets of ships of modern construction should adopt to develop the powers of the ram, heavy artillery, torpedoes, etc., in an action in the open sea."