



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.

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No. 3.

THE CANADIAN MONTHLY MAGAZINE.

(Communicated.)

The appearance, with the new year, of the *Canadian Monthly*, is an event which we cannot pass over with the superficial notice which is all that is permitted us of magazines in general.

When we consider what unfortunately is daily forced on our perception—the viciousness, the frivolity and the crudity, of a large part of the press of every civilized country, the production of a magazine having, for its definite purpose, the elevation of tone of the growing literature of our rising nation, ought to be a subject of hearty rejoicing to all who are capable of a sound appreciation of the effort.

"Some books," says Bacon, "are to be tasted, others to be swallowed, and some few to be chewed and digested." And in a minor degree, the aphorism is not inapplicable to magazines.

It is impossible to read the introductory article of the first number of the *Canadian Monthly*, without a feeling of confidence in the future influence of what is introduced to us with so much modesty and so much force; and it will be no credit to the "intellectual life of Canada," if the new periodical do not command a wide circulation, and a hearty and appreciative support.

We will take a brief glance at the articles contained in it, and we shall be happy if our remarks contribute in any degree to its diffusion.

The "Treaty of Washington" is discussed by Mr. Charles Lindsay, with a dispassionate impartiality, the statesmanlike calmness of which however, seems to bring forward more forcibly than would the most violent denunciation, the lax and time-serving policy of the present British Government.

It is impossible to resist the conviction that the omission by Sir Edward Thornton to include in the preliminary correspondence the Fenian Raids claim, which omission is given as the cause of the refusal by the U. S. government to consider them, was prearranged to afford the Imperial government an ignominious loop hole of escape from the duty of pressing its obligations

upon a nation whose insolent defiance of them on every occasion would be ludicrous were it not humiliating to England.

The ground taken by Lord Russell long ago to the Alabama claims should never have been receded from without a full understanding that the Fenian Raids should be set off against them. But it is in vain to look for a courageous foreign policy. The fact is that England is thoroughly afraid of the United States, and it may be predicated with perfect confidence of any diplomatic transaction that take place between the two nations, that Great Britain under a Radical government will submit with smiling complacency to all the kicking the United States may choose to bestow upon her, and probably the best thing that could happen to her would be that the States should go on kicking till they produce some effect.

The instincts of the British Nation seem to have indeed become demoralized, a demoralization which has been manifested in a false and servile pretence of admiration and good-will towards a nation and government whose steady policy is to pocket all concessions granted, and extort more by fresh insults and aggressions as soon as opportunity serves—and in false sympathies as evinced during the Franco Prussian War.

"Anne Hathaway" by Daniel Wilson L. D., is a pleasantly speculative dialogue on the probable tone of mind and feeling of the "poet of all time" as to his matrimonial relations. The view taken by the "Delina" of the dialogue is as natural as agreeable, and certainly seems as probable as any other.

The first instalment of "Marguerite Kneller, Artist and Woman" by Louisa Murray, gives promise of a healthy and not inelegant story of Parisian artist life in its best phase.

"What displeases me in Strauss" said Humboldt, "is the scientific levity which leads him to see no difficulty in the organic springing from the inorganic; nay, man himself from Chaldean mud." A series of arguments, which carry conviction to a sound mind, are directed by H. Alleyne Nicholson, M. D. F. R. S. E. &c., to the refutation of Mr. Darwin's theories of the descent of man in an

excellent article, "Man's place in nature," which would undoubtedly have elicited the commendation of the great German savant.

The "Curiosities of Canadian Literature," "Washington and Jumonville" by W. J. Anderson L. D. throws some light on one of those episodes of the Colonial Wars which preceded the American War of Independence, and a very curious one it is. There is a mine of interesting matter in old Canadian records of this period, little known to general readers, but which it would seem to be the special province of such a magazine as that before us to bring to light.

"An Historical Night in the old Canadian Parliament" by S. I. Watson, is a lively and interesting sketch of the debate (and of those who conducted it) on the \$100,000 City of Montreal Bonds question, which led to coalition, then to the Quebec Conference, and ultimately to Confederation.

The "End of Bohemia" a translation from the *Revue des Deux Mondes* of an essay on the part played by literature and Journalism in the recent events in France, is but the literary phase of the universal recklessness and frivolity which precipitated France to her downfall. Never was the "Quem Deus vult perdere prius dementat" illustrated on so grand a scale—Verbose as are most serious productions, and somewhat tedious and dry, the article is instructive enough as far as it goes.

The conductors of the "Canadian" have done satisfactorily in reproducing the Laureates lost "Idyll" as a whole, in preference to reviewing it piecemeal. We are very fond of Tennyson, and think that he has passages which are unequalled in the whole range of poetry. We think, however, that he shines brightest in his shorter pieces, and has, in his longer ones, interspersed his beauties with more nonsense than perhaps any poet past or present. The idylls are throughout a mixture of quaint and not always happy conceits, with passages of unquestionable pathos and grandeur. "The last Tournament," undoubtedly not equal to "Guenever," is perhaps neither better nor worse than "Elaine," "Faïd" or "Vivien," certainly not so unpleasant as the latter.

But the article which perhaps carries with it the life and living interest of the day to a greater extent than any other, is Lieut. Col. Denison's "Moral of the Autumn Manoeuvres." Of course his remarks tend most to the elucidation of cavalry problems, but these also necessarily bear on other branches of the service and are of the highest interest to all military readers. We will not spoil the pleasure to be derived from the perusal of them by a single quotation, merely remarking that the results of certain observations on cavalry charges during the late Franco-Prussian war are such as to astound even the most implicit believers in the powers of breech-loaders. Of course Col. Denison sums up against heavy cavalry.

His last paragraph is pregnant with weighty words of warning, and we most earnestly commend it to our readers and to all classes of the community. A nation in whose legislature has been advanced the proposition that the mere existence of British territory to the north of them is an aggravation and an obstacle to friendly relations, will put to the test all the patriotism we may possess whenever a favorable opportunity occurs.

The Book Reviews and Literary Notes are interesting—one painfully and agreeably so—as showing the rapid progress made in defining the purity of the English language by the teeming productions of numberless vulgarisms, each one viler than the last, originating across the line, and thence oozing in streams of contamination to the Canadian side of the border. Nevertheless, apart from this view of the question, Dr. Schile de Veris' "Americanisms" is doubtless an amusing as well as instructive work.

The poetical morceaux are some of them above the average of merit of such productions. "Love in Death," a quatrain from Catullus, is tender and graceful. A translation from Lucretius has the always acceptable merit of perspicuity. Mr. J. Reade's "Paolo and Francesca" is not ungraceful and is not wanting in force. We would here take the liberty of cautioning Mr. Reade, who has a more than an ordinary share of the divine efflatus, against his propensity to imitate Tennyson in his worse point—his tendency to a misty and sometimes almost meaningless verbiage.

"Marching out" is spirited and the sentiments appropriate, but we confess to liking Chas. Sangster's "Mocking Bird" better than all the rest put together. It is a perfect gush of melodious imagery. Altogether we heartily congratulate the managers of the "Canadian Monthly" on its first number believing that it will supply that great desideratum in the new Dominion—a really first class magazine.

Baron Rothschild is by far the largest winner of stakes in 1871. With three of his horses alone he has won £22,230, made up as follows: Hannah, £13,370; Favonius, £5,590; and Corisande, £3,510.

TACTICS.

It is very difficult to wean old soldiers from a system they have been nurtured in; and when the practical test of system has resulted favourably, old soldiers carry out the conservative principle of letting well alone.

The British Army made rapid progress in military art at the commencement of the present century. It may be said that we took a step in advance of Continental armies. Line formations were probably first introduced in consequence of the numerical weakness of British forces; but, thanks to the splendid physique, coolness and bravery of our infantry, it became the regulation order of battle; more than that, by Sir John Moore's advice, ranks were reduced from three to two deep. Now, if firearms in the day alluded to had possessed long range or accuracy, Continental nations must have either copied our tactical order or have met British troops at a great disadvantage: but fire-arms could only be relied upon at very short ranges, and from their want of accuracy men were trained to fire "straight to their front." British infantry was more renowned for reserving its fire till in contact with its enemy and charging with the bayonet, than for a quick, well-directed fire from its deployed line. This increased development of fire was by no means thrown away; on the contrary, it was husbanded by keeping up perfect alignment and regulated intervals, so that no shot might stray from the intended direction—viz., the imaginary line at right angles to alignment—or be lost by the overlapping of battalions. Still if a position had to be "carried," the bayonet was the only weapon believed in by British commanders. Hence it happened that our great instructor and master, the Duke of Wellington, was averse to the introduction of rifles. Sir Charles Napier predicted the ruin of the British Army if men were taught to trust in the efficacy of fire-arms, and lost the habit of closing with their enemy; and still more recently a great tactician, Lord Clyde, was with difficulty brought to believe in the superiority of a highly-finished firearm of precision over the rough smooth-bore—so hard it is at an advanced age to eradicate the impression of a life's education. But in justice one must remember also that the rifles first invented had their weak points.

It is a strong reflection that the first blot in our soldiers' education was hit by a tribe of savages, and that a severe lesson, learnt at the Cape of Good Hope at a heavy loss, was actually repeated by another tribe of savages in New Zealand. In each instance for a time British troops entirely lost their prestige, their education was at fault. The individual soldier was a perfect piece of mechanism, but the machine had to be disintegrated—in other words, the serried rank had to revolve itself into intelligent skirmishers, and till these could be trained the savage triumphed.

At the Cape, as usual, men rose equal to the occasion. Notably Sir W. Eyre introduced a most enlightened light infantry drill in the 73rd Regiment, but radical faults are not to be corrected in a day. Subordinates, when once taught to obey, mechanically understand that their mental energy is purposely restricted. To call on them suddenly to think, is like calling on the bed-ridden to walk. The reverses met with in New Zealand are not so easily accounted for, but the vital want was intelligence on the part of company officers and men. In a bush fight the best armed and the most intelligent skirmishers should win the day. The

British did not always win the day, though decidedly the best armed.

Of late years the introduction of breech-loading small arms, and a marked improvement in artillery, has obliged our Army, in common with Continental armies, to look upon skirmishing as a most important exercise; also especial attention has been paid to musketry instruction, after the model of France and Prussia; and in 1870 the Regulation Drill book was revised and simplified.

The Prussians and Austrians in 1864 joined in a military promenade against the Danes, who, of course, could only make a faint show of resistance. On this occasion the Prussians tested their needle-rifle. The old conservative officers of Austria did not acknowledge its superiority to their firearm; on the contrary, they voted it too delicate. In 1859 the Austrians attributed their signal defeat by the French to their having placed too much reliance on musketry fire. They, therefore, drilled their infantry to move rapidly in columns and charge with the bayonet. The Prussians arrived at a very different conclusion, and they slightly modified their battle order to develop small arm fire. The rival systems were tried in 1866, and in six weeks the Austrian army was annihilated by the Prussians. The Prussians still attacked in columns theoretically; but practically they gave full scope to the power of their needle-rifle, by a lateral extension exceeding that of the British line-formation.

The tactical order of battle was a first line in company columns, a second line in quarter-column of double companies, and one or more reserves. On parade the company columns (250 strong, with five officers) stood in three ranks, the rear rank consisting of picked men for skirmishing. The rule in peace-time was that about a quarter of the rear rank should skirmish with the rest in support, and the skirmishers were to be reinforced as occasion required. The company was commanded by a captain, who was mounted, except when under serious fire. The men had been carefully instructed in musketry.

The three recognized modes of firing were—first, skirmishing, in which a man took deliberate aim from behind cover; second, by volley-firing by word of command, which was for ranges between 800 and 300 yards; thirdly, quick fire for point blank range. Volley-firing was believed to be most effective, and precautions were taken to prevent waste of cartridges.

The captains of companies in the first line were as independent as commanders of ships. The company line advanced, covered by skirmishers more or less according to regulation, but when the enemy was within range, in place of the skirmishers being recalled in order to fire volleys, by instinct the first line resolved itself into a swarm of skirmishers; the regulated supports even were in the general line: more than this the tendency of the advancing line was to outflank rather than make a front on any point or points held in force by the enemy, and the whole extended laterally. About this period, the columns of the second line suffered loss from the Austrian fire; and we are told that by companies it filled up the gaps in the first line, till the officer commanding the first line found his strength doubled, whilst nothing but his staff remained with the officer commanding the second line. The latter could now do no more than form stragglers and the superabundance of troops into supports, as opportunity occurred. But with a reserve intact, and strongly posted the battle is not lost; the discomforted skirmishing line may fall

back through it, and rally under its protection; the reserve may fight a defensive or offensive battle, and become a skirmishing first line. In the campaign of 1866 the first line had not to fall back. If any part of it was broken through by the Austrians, the advantage was neutralized by the deadly fire of breechloaders on the flank of the Austrian column, and it often happened that the reserves lost more men than the skirmishing line, from their dense columns offering a good mark for the enemy's artillery. The Austrian artillery proved itself more efficient and more enterprising than the Prussian; but a battle is lost or won by infantry, and the tactics of the Austrian infantry were simply suicidal. Their column was shattered and demoralized before they arrived within charging distance of the Prussians—i. e., about fifty paces, and thus, it happened at Sudowa—the decisive battle of the campaign—a column of its defensive earthworks (faithful to its teaching) of 10,000 and, in less than half an hour, lost quite one third of its number.

Without entering into the strategy of either side, and putting aside the cavalry of both armies, which was hardly made use of, also allowing that in artillery the Austrians had some advantage, we are able to conclude that decisive victory remained invariably with the Prussians through their breech loading fire arm and the tactics must needs shock our notions of good order and military discipline, and it seems that the Prussian leaders presumed somewhat on their superiority in weapons. The Prussian leaders can defend themselves, however, without argument, they have only to quote their unqualified success.

The disorder amongst well-trained and disciplined men differed greatly from the disorder of a rabble; it was the result of suddenly removing restraint from bands of intelligent, courageous men confident in their weapons. The column formation at once gave place to an extended irregular line. The deployment was a work of intelligent instinct, in place of book-learned mechanism. There was something risked, but not as much as we might imagine, because every captain was a first rate soldier, and every private believed in his officers, especially in his captain. Had success been doubtful, the companies would have fallen back, and the general officers would soon have found their troops in hand. As it turned out, the companies for the most part won the battle.

Now, one would tremble to see the experiment of this nature tried with our army, for this simple reason—a captain to a British company or troop is something quite different from the officer commanding a German company. The German officer, in person, teaches the men all they know. He looks after their wants in person, holds the power of punishing minor offences, and indirectly, through the commanding officer, rewards merit. It may also be said that the British captain is educated in drill by his men. His authority is too often nominal, and he is too little used to independent action to act vigorously and without hesitation in a position removed from his superior's control. Again, the numerical strength of our company is not sufficient for independent action. No one can fail to understand the advantage possessed by a captain looked up to by his men and believed in as the huntsman is by a pack of hounds. One can also understand that very few orders from the field officer reach the ears of an officer in first line, whose attention is entirely taken up by his own men and the fire of an enemy. Still there are intermediate links between the

lieutenant-colonel and the captain. If the battalion is too large for the command of one officer, diminish its numerical strength; but the vivid picture of a battle in 1866, as painted by the late author of the "Tacktsche Rückblicke," will find no admirer amongst our stolid infantry commanders. Supposing a battalion to supply its own covering skirmishers, if increased front of fire is requisite, the battalion leader can order it provided he does not overlap the next battalion in brigade line. But this proviso just shows the necessity of ascertaining how numerous the skirmishers of the first line should be, so as to lay down a rule on the subject. This question shall be raised again after investigating the tactics of 1870. At the moment we will confine ourselves to historical facts. After the Battle of Koniggratz, when it took the best part of a day to sort the chaos of men in the fighting line, it is an undoubted fact that commanders of battalions were ashamed of their inability to keep their company columns in hand. That they took effectual precautions to clip captains' wings is proved by the absence of confusion in their next campaign. The Prussian regiments of the line have one uniform with a distinguishing number on the shoulder, and thus facilitates a habit "stray" commanders have of calling together stragglers of any denomination on the battle field and commanding them. Something of this sort happened after the light cavalry charge at Balaclava on a most diminutive scale, but this power might, doubtless, have its advantage where vast numbers are employed.

(To be continued.)

Les Nouvelles has an article, by Mr. Zdziwki of Paris, on the explosive compounds, as follows:—"1. The explosive properties of inflammable matters are not dependent on the normal temperature of the atmosphere, but upon its hygrometric state. Thus explosions will take place in winter as well as in summer, if the phenomena to which I refer are not attended to and as a proof, I have only to mention the repeated "accidents" at the factory of Mr. Fontaine, and those that took place during the war of Sablonville and Grenelle. In short gunpowders, during a drought, acquire spontaneous explosive qualities, even without any elevation of temperature, and they are also more ready to act upon and communicate the smallest spark. Manufacturers ought to watch carefully the hygrometric condition of the atmosphere. 2. The least quantity of oxalic acid, by a catalytic effect that precedes the abandonment of the basic particle of water of this substance, is sufficient to prevent spontaneous action of explosive matters, and the remainder of the acid, which can, as is well known, be divided into oxide of carbonic acid, has no power to modify the halistic properties of the powders. In order to prove, experimentally, the principal fact of which I am speaking, it will be sufficient to heat a pulverulent mixture of sulphur and chlorate of potash, or any other combustible substance, ready to furnish detonating compounds; and to add to it, previously, a certain quantity of oxalic acid, about one-third and then, even when the temperature is raised to the fusion of solid bodies, there is no explosion. Consequently, the cause, is a simple one, and the preservative means are elementary and practical; and permit, besides, with some modifications in the quantities, the transformation of powders called "brisantes" into gunpowder proper.

A British officer who has visited Sedan, gives the following account of the place: "I was very glad I took advice and had a car-

riage from Mézieres; you can get by that means on to the battle field in an hour and a half. It is a question whether you should go by the right bank of the Meuse over the hills along the Belgian frontier, as we did. You see the country better; but there is a much easier road up the bank to the passage used by the Crown Prince's army at Donchery, close by which one stops to see the cottage where Napoleon and Bismark had their world famous interview on the 2nd September. Yet if one goes by the other road you have the advantage of perceiving how easily MacMahon might have escaped the day before the battle had he fully known his danger; but then you must drive out to Donchery to make the visit complete. I had no idea that Sedan is so thoroughly low and entirely commanded. What a blunder to have made such a little mouse trap the rallying point for an army of 100,000 men! The Prussians have very sensibly kept the works of the citadel open to travellers, contrary to the rules of their other fortresses. So on arriving at Sedan (where there is a capital hotel), you ascend at once to the summit, and have a really magnificent panorama of the whole battle-field. With Captain Fitzgeorge's little book and plan, the whole of the great drama can be followed out by the eye from this point. I was sorry to find that the trade in relics is being actively driven; of course the true ones will all soon be sold off, and the Louvain workshops called on to keep up the supply. "That excellent charitable Belgian company (I forgot the name) which undertook the inhumation has now finished its work by dragging the Meuse thoroughly, and interring the results, which were masses of bones of horses and equipments. Few human remains are in any of their last mounds. I left by the rail to Luxemburg through Thionville, which is in tolerable order. No custom-house!"

The *Russian World* has received a first warning for having in three leading articles "pertinaciously represented the Russian army as having degenerated in discipline and morality, with the evident intention of awakening mistrust in regard to the reforms carried out during the last few years." The articles here referred to were based on statistics published by the Military District. From these it appeared that in 1860, when the effective strength of the army consisted of 904,963 men, the number of offences committed by soldiers against the Government was 105 and that in 1868 when the effective strength was 727,600, the number of such offences was 216, or proportionately about three times as many as in 1860. The number of offences against discipline in 1850 was 3,097; in 1868 it was 12,350. That of offences against property rose from 2,381 in the former year to 7,695 in the latter, and of offences against morality from 372 in 1860, to 2,543 in 1868. "Between the years 1860 '62, when," says the *World*, "the combantant elements prevailed over the bureaucratic, the average number of offences committed in the army every year was 8,321, from 1863 to 1865, while the army administration was being reorganized, it was 15,285 and from 1866 to 1868, when the organization was complete, it was 23,291."

Two ships belonging to the Swedish navy, the gunboat *Ingegard* and the brig *Orlandam* arrived at Plymouth from Greenland a couple of weeks back, having on board three aerolites, the largest weighing nearly thirty tons, which are to be conveyed to Sweden and made the subject of close investigation.

DOMINION OF CANADA.



MILITIA GENERAL ORDERS.

HEAD QUARTERS,

Ottawa, 12th January, 1872.

GENERAL ORDERS (1).

ACTIVE MILITIA.

No. 1.

Regulations and Orders, &c., 1870.

Adverting to Paragraph 56 of "Regulations and Orders for the Active Militia &c., 1870," the rank of Brevet Major will be also granted to Adjutants who have held the rank of Captain in a Corps of Active Militia five years, and are duly qualified.

STAFF.

To be Brigade Major for the 6th Brigade Division, Province of Ontario: Major and Adjutant Henry Smith, M. S., from 40th Battalion, vice A. Patterson, deceased.

LEAVE OF ABSENCE.

Leave of Absence for 10 days from 10th instant is granted to Lt.-Col. Taylor, Deputy Adjutant General, Military District No. 1.

Lt. Col. Moffat, Brigade Major 1st Brigade Division, will take over the command of the Militia in Military District No. 1, during the absence on leave of Lt. Col. Taylor.

Leave of absence, for three months from 23rd December, 1871, is hereby granted to Major Irvine, commanding the companies of Riflemen on Active Service in the Province of Manitoba.

No. 2.

PROVINCE OF ONTARIO.

7th Battalion "The London Light Infantry."

No. 3 Company.

To be Ensign, provisionally:

William Mackieth Noble, Gentleman, vice McBeth promoted in No. 4 Company.

20th "Hullion" Battalion.

This Battalion is hereby changed from Infantry to Rifles.

No. 7 Company, Milton.

To be Ensign:

Serjeant James Wotenhall Robinson, M. S., vice Hutcheson resigned.

22nd Battalion "The Oxford Rifles."

No. 5 Company, Norwich.

To be Captain from the 20th September 1871.

Lieutenant Montieu M. Nesbitt, M. S., vice John W. Nesbitt, who is hereby permitted to retire retaining rank.

To be Lieutenant from 20th September, 1871.

Ensign Bolivar A. Mullins, V. B., vice M. M. Nesbitt, promoted.

BREVET.

To be Lieutenant-Colonels:

Brevet Major and Captain James Wood, V. B., 2nd Troop Frontenac Squadron, from 5th July, 1871.

Major Thomas Scott, V. B., 42nd Battalion, from 9th November, 1871.

To be Majors:

Captain and Adjutant Henry Smith, M. S., 40th Battalion, from 5th October, 1871.

Captain and Adjutant Melville D. Dawson, V. B., 7th Battalion, from 5th October, 1871.

Captain and Adjutant Donald A. Macdonald, M. S., 59th Battalion, from 26th October, 1871.

Captain John Bradford Cherriman, M. S., 2nd Battalion, from 7th December, 1871.

Major Cherriman's five years service, not being complete for a few months, Brevet promotion is granted him as a special mark of favor in consideration of his services in the Active Militia.

PROVINCE OF QUEBEC.

B" Battery, School of Gunnery, Quebec,

The following officers are authorized to join the School of Gunnery at Quebec, on probation, for a three months course of instruction, from 15th instant.

Major J. E. M. Taschereau, Quebec Provisional Battalion.

Captain George Holt White, No 1 Battery Quebec, B. G. A.

3rd Battalion or "Victoria Rifles," Montreal.

Captain William H. Stanley is hereby permitted to retire retaining rank.

BREVET.

To be Major:

Captain and Adjutant Samuel Macdonald, V. B., 11th Battalion, from 3rd June, 1871.

PROVINCE OF NOVA SCOTIA.

2nd "Halifax" Brigade of Garrison Artillery.

Captain David Macpherson, No. 3 Battery, and Captain James Reeves, No 4 Battery, confirmed in their ranks by G. O. (16) 28th June 1871—being reported by the Acting Deputy Adjutant General, Military District No 9, to "have been trained and qualified Naval Brigade Officers, since 1866," in consideration of their being so "trained and qualified" and as a special case, their ap-

pointments as Captains are hereby made substantive from the dates thereof: Captain Macpherson, from 10th September, 1869, and Captain Reeves, from 20th November, 1870.

BREVET.

To be Major as a special case:

Captain and Adjutant Charles J. Macdonald, Q. F. O. and M. S., 66th Halifax Battalion, from 31st October 1869.

By Command of His Excellency the Governor-General.

P. ROBERTSON-ROSS, Colonel.

Adjutant-General of Militia,
Canada.

ARTILLERY TACTICS.

The following instructions relative to the employment of Royal Horse and Field Artillery are ordered by the Duke of Cambridge, Field-Marshal Commanding-in-Chief to be observed in future manoeuvres:—1. General officers commanding divisions or detached brigades should indicate to the officers commanding Artillery under their orders the general object of the movements about to be executed, and these officers will give directions to captains of batteries as to the best mode of co-operating with and supporting them. 2. Officers commanding batteries should be permitted (under the direction of their own commanding officers) to use their own judgment in selecting the best positions to enable them to operate with advantage either in covering an attack or retreat, conforming, of course, as much as the nature of the ground will permit, to the movements of the corps to which they are attached. 3. Any special directions received by the officer commanding Artillery from the general or other officer in command of troops, relative to any change in the disposition of the batteries during the movements, will, of course, be promptly carried out. 4. No battery ought to be exposed to the risks of infantry fire, unless under unavoidable circumstances, which occasionally occur in action. *Broad Arrow.*

Messrs Spencelyh and Archer, of the Medway Iron Works, Chatham, have just completed the manufacture of 500 of the largest kind of torpedoes, each to contain a charge of 4 cwt. of gun cotton, the whole of which have been delivered at the Royal Arsenal, Woolwich. A large quantity of torpedoes each to contain explosive charges of 3 cwt. of gun cotton, have likewise been manufactured and forwarded to Woolwich; and the same firm have now taken a contract for the manufacture of a large number of a new description of torpedo, each intended to contain a charge of 1 cwt. of gun-cotton.

The Russian fortifications at the railway stations of Radziwillow and Woolley are being rapidly proceeded with. The former is the last station towards the frontier of the Brest Berdyzew Radziwillow Railway. Both stations are of the utmost strategical importance, and have an uninterrupted communication with the Galician network of railways. At Radziwillow a citadel with detached forts will be erected. The fortifications are to be completed within three years. A similar course has been adopted at Wolocysk. Other fortifications are already nearly completed, notably in the extension of the works at Lithuan Brest and Kieff, and their strengthening by detached forts.

Major Rodney Smith, Paymaster U. S. Army, has been ordered to make payments to August 31, 1871, to the troops stationed in the District of Minnesota comprising the garrisons of Forts Snelling, Ripley, Abercrombie, Wadsworth, Ransom, Totten and Pembina.

The notorious Jim Fisk Jr. has been assassinated in open day light by a ruffian of his own stamp in one of the principal hotels in New York.

CORRESPONDENCE.

The Editor does not hold himself responsible for individual expressions of opinion in communications addressed to the VOLUNTEER REVIEW.

FROM MONTREAL.

BY OUR OWN CORRESPONDENT.

The appointment of the Hon. Mr. Aylmer to the paymastership of No. 5 Military District, has surprised many, not but what he may be well fitted for the duties it entails, but it was generally supposed that some better known and older member of the force would have secured a preference, as among the applicants were men who had devoted almost a lifetime to the service, and whose characters were impeachable. One gallant Major especially whose recommendation was backed by the majority of commanding officers of the district, an old and well tried officer was considered to have a sure thing of it, but fate and the Government decided otherwise. Mr. Aylmer may no doubt make an efficient paymaster, but it is strongly suspected, in this instance, favoritism and influence have overstepped merit.

Paymaster Lebout of No. 6 District who took temporary charge of No. 5, will doubtless rejoice that some one has been appointed and so relieve him of his extra duties. And while I am on the subject of paymasters let me again suggest that the pay of such an important position is utterly inadequate for the duties and responsibilities entailed. To ask a man to give up his whole time, and find sureties to the extent of \$20,000 for the paltry sum of \$700 a year. Is this sufficient to maintain the respect and dignity of an officer of the Staff? He has to provide himself with a costly uniform and is presumed I should judge, to live and act like a gentleman; pretty hard for one to do so on the salary of a mere clerk; the government might with reason be more liberal in this respect.

There is nothing doing in volunteer matters just now, no parades, no drill, everything is in stagnation.

The non-commissioned officers of the Montreal Garrison Artillery held a meeting on Thursday when business matters and others incidental to the regiment were discussed.

Small pox is raging fearfully and not confined either to the poorer class. To be alive in the morning and dead and buried by three in the afternoon is sharp work, yet we had such a case to day.

Weather mild with appearance of snow.

B.

NEWS OF THE WEEK.

The health of His Royal Highness the Prince of Wales continues steadily to improve, he was out for a drive on Monday the 9th. His convalescence is hailed with great joy by the loyal people of England.

Her Majesty has addressed a letter to her people thanking them in touching, simple and graceful terms for their sympathies on two of the most sorrowful periods of her life—the death of her husband the good Prince Consort, and the danger of her eldest son.

The heart of the people has gone out in response to this letter and the republicans will have a hot time of it in future. Dilke could not obtain a hearing at Derby on a subject connected with social science, and they pelted him with rotten eggs at Bolton.

The subjects of the British Empire have great reason to thank God for the mercies vouchsafed in sparing the life of the heir apparent, and inspiring the heart of the Queen with wisdom.

The African Diamond Fields has been re-annexed to the Empire from which the policy of the Manchester School had separated them.

The United States merchants in Liverpool have passed resolutions affirming that the United States mails should be sent by the Cunard line, and that their resolutions should be sent to the Postmaster General at Washington.

The cars used on railways on this continent are about being introduced into England.

The Times is exercised over the amount of the bill for damages known as the Alabama claims presented by the United States to the arbitrators at Geneva. If the British people have to pay for the last two years of the Yankee war they may thank that Journal and the Manchester school for that result. The bill is only \$20,000,000.

A petition or rather a number of petitions have been presented to the French Assembly asking for the establishment of a monarchy, it created quite a row. A motion was made removing the Assembly to Paris.

The German Ministry have suspended the construction of Iron clads at Kiel for the present.

The International scoundrels are working mischief in Belgium. At Charleroi and other towns the troops had to be called out to suppress riotous workmen who had struck for higher wages.

It is reported that the Pope will shortly send his ultimatum to the Bishops who are opposed to the dogma of Infallibility.

The existing relations between the United States and Spain are not satisfactory. The squadrons of both powers in Spanish American waters depend on the coolness and judgment, of their commanders alone for preventing a collision, which may at any time be provoked with the object of acquiring possession of Cuba, under a pretence of in-

roducing order and civilization into that island, a course advised by the London Times which loudly complains of the brutality of the Cuban volunteers but finds no censure for New York assassins beyond the brave phrase of peculiar civilization.

The House of Assembly and the Governor of the state of Louisiana are at variance. The military had to be called out at New Orleans. The superintendent of police, a lot of officials, the Governor and sundry members of the Assembly were arrested by Speaker's warrant.

A severe shock of earthquake was felt at Quebec on the 10th inst.

A very valuable silver vase was received by the Hon. the Minister of Militia and Defence from Sir Peter Tait, London, England, as a prize to be contended for in certain conditions at the Annual Rifle Match. His Excellency the Governor General, The Hon. Sir G. E. Cartier, Bart, the Hon. Sir J. A. Macdonald, K. C. B., have been offered by His Majesty the king of Spain, the Cordon of the order of Isabella as a token of his appreciation of the manner in which the obligations of international law was carried out at the time an expedition was organizing in Montreal against Cuba.

Our neighbours in the United States effect at times a dignity of manner and demeanour highly ludicrous. The attempt to treat as a matter of every day occurrence such a momentous historical fact as the withdrawal of the British troops from Quebec is amusingly displayed in the following extract. We daresay the fact of the withdrawal would be the text for a good deal of spread-eagleism if the complete organization of our army left any room for exultation. Our readers will see how heavily it loads the paragraph:—

"Within the past two months the last regiments of the British army in Canada have embarked for England, and left that colony for the first time in its history entirely without home protection. In anticipation of this contingency the Canadians have been busy organizing an independent military force. This now consists of twenty-seven troops of cavalry, ten field and seventy garrison batteries of artillery, four companies of engineers, 639 companies of rifles and three marine companies, numbering in all about forty-five thousand officers and men, while the reserve militia numbers 612,500. Schools of military instruction were founded in 1863, which have turned out 5,100 cadets, all of whom have passed their examination before boards composed of officers of the regular army, 1,200 having taken first-class and 3,000 second class certificates."—*Army and Navy Journal.*

REMITTANCES Received on Subscription to THE VOLUNTEER REVIEW up to Saturday, the 13th inst:—

- BROCKVILLE.—Lieut. Col. Jackson, \$1.50; Lieut. Col. McDougall, \$1.50; Lieut. Col. Buell, \$1.50; Lieut. Col. Cole, \$1.50; Capt. Lowe, \$1.50; Capt. Cook, \$1.50; Capt. McClean, \$1.50; Capt. Furnival, \$1.50; Ensign Sheffield, \$1.50.
- CORNWALL.—Judge Jarvis, \$2.
- OSHAWA.—Lieut. Col. Wm. Warren, Jr., \$2.
- CLIFTON.—Ens. & Adjt. John Brennan, \$2.
- MERIVALE.—Capt. A. Hopper, \$2.
- YANKEE HILL.—Mr. Mace, \$1.
- QUEBEC.—(Per Agent)—Lieut. John Sharples, St. St. JOHN, N. B.—Lieut. Henry F. Perley, \$2.

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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, MONDAY, JANUARY 15, 1872.

FORTIFICATIONS, like every other exact science, is governed by well defined rules deduced from practical experience, a thorough knowledge of the relation of its parts to each other and to the general system of which they are units is necessary for the proper understanding of the principles on which the art of construction is founded. Field works are characterised by their site, command and relief. The ground occupied by the works is called the *site*, the command is the height of the *interior crest* above it, the relief is the height of the interior crest above the bottom of the ditch.

This may be called the first division of the principles on which the art of field fortifications is founded, the second division relates to the disposition of what may be called the mechanical parts of defence. The fire from a work may be called direct when it is perpendicular to the face of the work or line at which it is aimed; slant, when it makes an angle of 30 degrees therewith; enfilading, when it is on the prolongation thereof; reverse, when it is in the rear of the line, and a cross fire when a given space is covered by the line of fire of several pieces of artillery which intersect or cross each other over it.

The third division consists of the *rotation of parts*, and as there exists a necessary

subordination between the site, command and relief of works which prevents the dimensions of the one from being regulated independently of the other, so the governing unit in constructing a work is the interior crest, because it connects the column of fire for the defence and the extent is governed by the armament and force necessary to defend them. It may be stated generally that the faces should vary between thirty and eighty yards; flanks, between twenty and forty yards, and the curtain should never be less in length than twelve times the relief.

In order to establish the co relations between the different parts of any isolated works or any system of field fortifications it will be necessary to observe that, flanked dispositions should be the basis of the plan of all intrenchments, because the flanks sweep with their fire the ground in front of the faces, defend the portions of the works without fire and covers the dead angles, cross their fire in front of the salients and command an enemy's flank in case of attack. No angle of defence should be less than 60 or more than 110 degrees. An acute angle exposes the face to the fire of the flanks in stead of enfilading it; an obtuse angle leaves a portion of the ground in its front undefended. The rule that should be observed is to make all the angles of defence so open that the fire of the flanks may be thrown from just within the counterscarp outwards, the object being to check an assault before reaching the ditch, which should be by a body of infantry detailed for that purpose and supported by field pieces at the angles between the faces and flank. A line of defence should not exceed 300 yards. This is limited by the skill of the soldier; on the average there can be no doubt we have good marksmen up to 600 yards, but half that distance is sufficient to test their ability under the excitement, noise and smoke of an action. The shorter the line of defence then where the flanking dispositions are good, the longer will the assailant be exposed before he can reach the works and the greater will be the possibility of checking him. A salient angle should not be less than 60 degrees; the space enclosed by an acute angle is too confined for manoeuvring troops; when its faces are not flanked there will be a large section without fire in front of it and the position an assailant can take up to enfilade either face are more favorable to him as his guns is thrown further from and are exposed to a less direct fire of the adjacent face and of any other parts of the fortification adjacent to the face against which he is operating than if the salient were an obtuse angle.

A strong profile is necessary to a vigorous defence. Taking the heaviest gun that will be used in field operations as a 25 pounder its solid shot will penetrate to a depth of about eight feet in a new earbankment at a range of 600 yards; this will roughly determine the thickness of the parapet which

should be about one-half greater, or say 12 feet, its relief or height above the bottom of the ditch would be, as previously described, 18 feet, and if ordinary care was exercised in arranging an abatis on the slope of the glacis a ditch of the depth which those proportions demands could not be attained without great loss on the part of the assailant, and at that point his real troubles would begin; if the scarp was properly frised, the ditch palisaded and defended, it would require great and prolonged exertions to reach the crest of the parapet which could only be hoped for from the complete exhaustion of the defenders.

Field works may be classed under three heads—Those which are only assailable in front: those which are assailable in front and on the flanks; those which are assailable on all sides. The works necessary for defence of the first may be of the simplest description but must partake of the flanked disposition for the purpose of bringing a cross fire to bear on the head and flanks of an advancing column. The plan of defence for the second admits of great variety; the simplest being a redan—two sides of a triangle covering the front and flanks open in the rear—its faces should be so directed as to sweep the approaches to the flank, but it is weak at the angular point, and if this is only 60 degrees nothing but an oblique line of fire can be brought to bear on the salient which thus becomes a section without fire for the assailed. To remedy this a part of the salient is filled in so as to form a line perpendicular to the capital (which our readers will remember is a line bisecting the angle of the salient) thus forming a short line of defence and giving a direct fire in prolongation of the capital; this line is called a *pan coupée*. If the faces of the redan cannot be placed so as to thoroughly command the flanks or if the approaches thereto extend towards the rear the plan may be what is known as a *Priest cap*, having instead of the *pan coupée* a re-entering angle placed in the salient. If in case the approaches cannot be reached except by an oblique fire from the faces of the redan, a flank line is added thus giving two faces and two flanks to the works; it is termed a *lunette*, connected with another work of the same kind by a curtain, the work becomes a series of *lunette* bastions and is the most approved work for covering a position except the segmental bastion.

The works demanded by the third case are enclosed on all sides and may be known as redoubts, star forts and bastioned forts. A redoubt may consist of any number of sides. It has sections without fire at all its angles and its ditch must be defended independently being a dead space throughout.

The star fort consists of a polygon having alternately salient and re-entering angles. The object is to obtain cross fires on the approaches upon the salients and to remove the dead space in the ditch at the salient.

and this can only be effected in star forts having at least eight salients, when those are limited to 60 degrees the re-entering angles become too obtuse to admit any but a very oblique fire in direction of the salients. It is sometimes constructed by placing redans in the middle faces of a square thus giving alternate salients of 60 and 90 degrees. From its imperfect flanking it is not superior to the redoubt, while it presents a much longer line of defence.

The bastioned fort has been devised to remedy the defective flanking dispositions of the other classes of works. It may consist of a polygon of any number of sides, but for field fortifications either the square or pentagon is generally preferred as they are more easily constructed. To lay out a work of this kind a square or pentagon is laid out and the sides bisected by perpendiculars, a distance of one eighth of each side is set off on the perpendicular in the square or one-seventh in the polygon, from the angular points of the square or polygon lines are drawn through the points so set off—those give the direction of the faces of the bastions and lines of defence, from the angular points along the lines of defence or defence, distances equal to two sevenths of the side are set off which define the length of the faces; from the extremity of the faces the flanks are drawn perpendicular to or making an angle of 110 degrees therewith till they intersect the prolongation of the opposite lines of defence. The line connecting their extremities is the curtain. The line connecting the salients is termed the *exterior side*, the line bisecting it the *perpendicular*, the angle at the salient the *flanked angle*, that between the face and exterior side the *diminished angle*, that formed by a face and flank the *shoulder angle*, that between the flank and the curtain the *angle of the curtain*. The portion of the work included between the capitals of two adjacent bastions is denominated a *bastioned front*, or simply a *front*.

An examination of this plan will show that the counterscarp of the ditch if laid out parallel to the interior crest forms a dead angle along each face near the shoulder. To obviate this the counterscarps of the faces must be prolonged to intersect and the space between them and the scarps of the flanks and curtain must be excavated, thus affording room for epaulements to cover field pieces for the defence of the ditch, in the case before named the exterior sides should not exceed three hundred yards, the faces eighty-five yards, flanks nearly forty yards and curtains one hundred and twenty yards. As those works must be defended by infantry as well as artillery the area they cover should be sufficient to enable the necessary number of troops to be manoeuvred therein; each gun will occupy seven yards along the parapet and each man one yard. To lodge each man two square yards will be necessary and sixty square yards should be allowed for each gun. Allowances

should be made for traverses and powder magazines. The allowance for a magazine for four guns may be estimated at twenty square yards.

A field fort of this description should rely entirely on its own strength and should be constructed with such care that an enemy will be forced to abandon any attempt to storm it and resort to regular approaches. To effect all this the ground around the fort within range of cannon should be cleared so as to offer no shelter to the enemy and the ditches should be thoroughly flanked throughout.

We commence the publication in this issue of the outlines of a lecture on the "Swiss Military System," delivered before the Royal United Service Institution and published in the journals of that society by M. Hotze, who appears to have been assisted by M. Frederich von Martini, the inventor of the greater portion of the rifle known as the Martini-Henry. M. Hotze has served in the Swiss army and, therefore, describes what he is practically acquainted with. The study of all the systems under which an armed nationality is organized is of great practical interest to ourselves, engaged as we have been for some years in the solution of the great social problem of modern days, and the more simply the details of those systems are disclosed the better reason we have for a lively expression of our faith in the triumph of the system which has been devised by native Canadian genius developed by native talent, through a clear appreciation of the old maxim *medium tenuere beati* by which we have avoided the extreme of military despotism in the one case and the laxity of Militia organization and discipline on the other, securing the advantages of the first without its burthens and avoiding the errors of the latter without encroaching on the individual liberty of the subject. A careful study of this lecture will convince the Canadian reader that there is no feature of the Swiss system which we could adopt with profit, and that in reality as far as organization is concerned we have nothing to learn from any other system which may be well adapted to the people for whose benefit it is devised, but of no use to us to which its provisions could not be applied with any advantage. An earnestness of purpose in developing our own organization is all that is necessary to its complete success and that spirit is growing amongst our population with sufficient rapidity.

Tactics is the science of manoeuvres and evolutions directed by genius, and courage secures victory, and by their proper direction establishes the character of the accomplished soldier. A thorough knowledge of the theory of military science is requisite to make a good officer, and when it is considered that a person in that capacity deals with the most precious property his country possesses—the lives of its people—it will be

readily admitted that ignorance is a criminality of the darkest and deepest dye. The first of a series of articles on tactics appears in this issue and the attention of our readers is especially directed to this important branch of professional knowledge of which no officer of the Canadian army should be ignorant.

Modern warfare has established the fact that the company is the tactical unit and, therefore, the duty of a thorough practical knowledge of every manoeuvre possible in the field should be acquired not only by the captain commanding but by his subalterns and by every officer of whatever rank who may at any time be called to direct the efforts of his comrades, and who is assuredly accountable for any lives which may be lost through his ignorance or incapacity. We recommend the careful study of those articles to our readers.

"HELP ON THE ST. LAWRENCE.—We understand that the steam tug for assisting vessels up the St. Mary's current will be ready at the opening of navigation, the contract for the construction of the machinery therefor having been awarded to E. E. Gilbert of the Canada Engine Works. The machinery which will be somewhat similar to that which has for some time been extensively used on the Rhine and other rivers in Europe, will consist of a large cylinder and a very powerful engine to work it, the whole being placed upon an ordinary boat. The only other requisite is a long chain or wire rope, as the case may be. This chain, one end of which will be made fast to some point near the upper part of the harbour, will pass over the fore part of the tug, and after being wound several times around the cylinder will pass out at the other end and extend along the bed of the river to the foot of the current. This constitutes the whole apparatus. The tug boat, of course, will then move either up or down the river according to the way the cylinder revolves, and as the engines will be very powerful, if so desired, several ships, by attaching themselves to the boat, can be brought up the current together without the great loss of time and outlay of money hitherto necessary. The total cost of the machinery, chain, &c., will be probably somewhere in the neighborhood of \$35,000 or \$40,000, and if it prove a success it will be money well invested as the difficulty and expense incurred heretofore in surmounting the current have been among the great drawbacks to the Montreal harbor. It might at first sight appear that this chain extending along the channel of the river would be an impediment to navigation generally; but its immense weight will, it is said, with even a severe strain upon it, ensure its lying deep in the water, except, of course, immediately at the ends of the boat.

Whatever is done to lessen the difficulties and expenses of the navigation of the river, increases the trade and prosperity of Canada, and Montreal in particular, so that our merchants, whose interests are specially involved, should make every endeavour to procure the further improvements of deepening the channel, a more satisfactory system of pilotage, enlargement of the Welland Canal, and, in fact, give their aid to every work which would promote the commerce of the river and tend to attract a large share of the western trade down the St. Lawrence, its natural highway to the ocean."—*Witness*.

The above extract furnishes conclusive evidence that the true port of Montreal is

not exactly in front of the city. In fact, at the Boute de L'isle, sixteen miles below the city at the junction of the main branch of the Ottawa river with the St. Lawrence, the site of the ocean harbor of the chief commercial city of Canada will be found. Individual selfishness will postpone this consummation but the stern logic of events will eventually be more powerful than the influence of land speculators.

The report of General Humphreys, commanding United States Engineer Corps, lays down the following principles for the fortification of the sea coast and lake frontiers:

First. To confine the new constructions to powerful barbette batteries in earth and sand, thoroughly protected by traverses and parapets, and to modify existing barbette batteries so as to bring them to the necessary standard of strength and efficiency.

Second. To substitute as far as practicable depressing gun carriages for those that expose the armament and cannoniers above the parapet.

Third. To make liberal use of heavy mortars.

Fourth. To employ torpedoes as accessories in the defence of the channel ways and approaches to the harbors.

Fifth. To use obstructions and floating batteries to retain the enemy before the guns of the littoral batteries; and

Sixth. To use in the batteries the most powerful guns of modern ordnance.

What may be called the novel features of the scheme are its first and second propositions—barbette batteries and depressing gun carriages. Heavy armaments must of necessity be substituted in order to give even a chance of defence, because an unarmoured vessel will hardly dare to assail any mound that can shelter a gun. Obstructions in a channel may be of use but should at least be three miles off the objective point to be effective. Torpedoes for inner defence, after a battery has been passed, and for use in narrow channels where they can be moved and managed is all very well; modern experience goes to prove they are not of much value in a roadstead as they cannot be moored with certainty. Floating batteries shot and shell proof, with heavy armaments and having their own motive power would be the most effective of all defences commanding a narrow channel in comparatively smooth water they could neither be passed nor evaded and a naval action must be fought by which they would be crippled or silenced before any damage could be inflicted on the post defended; supported by shore batteries in proper positions, it is very doubtful, indeed, if any description of armored vessel could force such formidable defences or would try to do so. Such batteries would possess immense advantages over the best iron clad fleet inasmuch as they could be designed nearly flat bottomed and able to carry a far greater weight of armor with power to mount more guns than a sea going

iron-clad of the same beam. Moreover, all other things being equal, the draught of water need not be more than half, so that ramming would be impossible and the iron clad would have to fight under every disadvantage if fight she must. The subject, however, covers a great deal of ground; its consideration is of very great importance to us as it proves that our coast or rather lake frontier defences are within our own means of construction. Earthworks are always questions of very limited time.

"An important reform in the military organization of Switzerland has been voted by the Federal Assembly. Although the Republic succeeded by dint of great activity in placing a respectable force in the field during the Franco-Prussian war, it has not been thoroughly satisfied with its own performance. A commission has, therefore been inquiring into the Army organization of the Helvetic Republic, and have put forward their "Report," which recommends that the Federal authorities should be invested with the supreme control over the military resources of the State. This report has now been adopted notwithstanding a strong opposition which sprung up from the French cantons, who feared that their interests would be swamped by the German-speaking districts. But the opposition to the new policy has been overridden. The organization of the Army of the Helvetic Republic will in future be under the exclusive control of the Federal Assemblies. Every Swiss between the ages of twenty and forty-four will be liable to military service, and the troops of each canton will be so organized that each district will form a unit for tactical purposes.

The people of Canada should be very well pleased with their military organization, the leading features of which have been copied by the Swiss Federal Government, and those are, the liability to service, creation of Military Districts and the control of the whole force by the general Government. Hitherto it had been stated that the most perfect national organization in the world was to be found in Switzerland and it was seriously recommended for adoption in this country and Great Britain. Up to the present, however, it has been rather the Militia of the separate Cantons organized under compulsion and brought to act together by the inherent patriotism of the people at times of danger, than a well devised system of military organization, having within its units that completeness which renders an army efficient and which must in a special degree form the essentials of an armed nationality. Instead of having to borrow any ideas on the subject from the Swiss we have been enabled to demonstrate that in Canada a system suited to the people could be worked out by native talent by which all the different problems surrounding this question were successfully solved, and we were thus enabled to give the world a practical example of what had been accomplished of which the Swiss were not slow to avail themselves. It would afford the people of Canada sincere satisfaction to find that Great Britain in her efforts after army reorganization had recog-

nized the true principles on which any efficient system for that purpose must be based, and instead of looking to foreign despotisms for modes of organization which will not suit a free people, adopt the system that has been practically tested by her subjects in North America.

SIR STAFFORD NORTHCOLE has been lecturing at Exeter on "Foreign Correspondence" and in the course of his remarks made allusion to the foreign and colonial relations of Great Britain noticing particularly the development of the means of communication and the great increase in the population of the colonies during the past half century. Noticing that Canada brought England alongside that great and increasing power the United States, of whose prowess Sir Stafford appears, like all modern English politicians, to be somewhat afraid and whose wrath he would deprecate at any sacrifice. He gave his audience the information that Canada should enlarge her canals for the purpose of transmitting the freight of the Western States to market and that the navigation of the St. Lawrence should be open on a reciprocal basis to both parties. It is not at all wonderful that a member of the Joint High Commission should hold such views and it is quite safe to promulgate them three thousand miles from the locality where their value could be appreciated, but it is a little too much to hear a man who has got credit for having some practical wisdom advise the amalgamation of our railways with those of the United States for the express purpose of facilitating their commercial operations at our own expense. As an equivalent for the navigation of the St. Lawrence the Joint Commission can show us nothing except a right, if it be one, of ascending a river in the arctic regions when the glacial epoch in that latitude makes the navigation possible, and he had better advise the British Ministry to pay the cost of enlarging those Canals for their dearly loved friends whose amiable qualities they have so suddenly discovered.

As a part of the programme of confederation and one of its conditions, the people of Canada will be obliged to enlarge those canals, but it will not be done for the sole reason that the Western States are anxious to get their freight through them at our expense. When Sir Stafford and his fellow-commissioners were so lavishly disposing of Canadian rights they seemed entirely to forget that there was such a thing as coasting laws in the United States as well as a protective tariff, and that class interests were more cared for and stronger there than in England; in fact, that a series of rings made monopolies possible, and that no law devised by man can reach an evil of such magnitude, and, therefore, that if we open our canals on a reciprocal understanding we shall not only get no portion of the carrying trade of the United States but will most assuredly lose our own; and the proposed railway amalgamation would be equiv-

alent to annexation. We do not know whether Sir Stafford Northcote would consider that an unmixed evil, but we do know the people of Canada would, and our prayer is that they may be delivered from friends of his stamp.

SIR PETER TAIT, M.P., has forwarded to the Hon. Sir G. E. Cartier, Bart., Minister of Militia and Defence, a magnificent silver vase as a prize for rifle competition. It is in shape something like the celebrated Warwick Vase and stands on a pedestal of polished ebony mounted with silver. The plinth of the pedestal is square; the column having the corners cut off is octagonal presenting four large and four small faces, the foot of the vase is circular and the handles, which are highly chased, springs from brass heads. Wreaths of roses, thistles, sham rocks and maple leaves in low relief adorn the sides leaving two large spaces on one of which is the following inscription:—"In commemoration of the visit of Lieut. Colonel Skinner and his Team to Wimbledon, 1871. Presented by Sir Peter Tait, D. C. to the Militia of the Dominion of Canada. To be shot for annually by ten members from any corps of Militia in the Dominion at 200, 500 and 600 yards; 7 shots at each range, and to remain in the custody of the Lieut. Governor of the Province of the winning corps for the time being. The competition each year to be at the Provincial Match of the Province holding the cup."

On each of the four larger faces of the pedestal are silver shields one bearing the arms of the Dominion of Canada, another having the following inscription:—"Won by Capt. Alex. McCloneghan, 22nd Battalion, Oxford Rifles, at the meeting of the National Rifle Association held at Wimbledon, 1871." The other two are vacant but the future winners names will be inscribed thereon. Opposite the smaller faces on a prolongation of the plinth of the pedestal are four figures in bronze of riflemen at "attention," and the lid or cover of the vase is surmounted by a beaver. There is also a spare *final* which was used in England, it is a large acorn in silver surrounded by oak leaves and a cluster of smaller acorns. The whole stands two feet nine inches in height of which the pedestal measures nine inches. The vase is nine inches in width and one foot nine inches across the handles.

The following correspondence relates thereto. The delay in answering Sir Peter Tait's letter arose from the fact that the vase only reached the hands of the Honorable the Minister of Militia a few days ago. Sir Peter Tait has presented a princely gift to the Canadian army.

SOUTHWARK STREET, LONDON, }
2nd November, 1871. }

SIR:—Having reference to the recent visit of the Team of Ontario Riflemen to this country, to take part in the Annual Competition at Wimbledon, it affords me pleasure

to acquaint you that the Canadians were successful in winning many Prizes; and by their good conduct and soldierly bearing made a most favorable impression while in England.

One of the Prizes, a Cup of one hundred guineas presented by me, and won by the Team, I have now the pleasure to transmit to you by the hands of Colonel Skinner, and shall feel obliged if you will kindly retain custody of the Cup until a short period prior to the next Annual Matches of the Ontario Rifle Association, and then hand it over to the Lieut. Governor of the Province of Ontario, so that the same may be again competed for at these Matches in terms of the conditions engraved on the Cup.

I have the honor to be, Sir,

Your most obedient Servant,

(Signed), PETER TAIT.

Hon. Sir Geo. E. Cartier, Bart.,
Minister of Militia and Defence,
Ottawa.

DEPARTMENT OF MILITIA AND DEFENCE, }
OTTAWA, January 5th, 1871. }

SIR:—I am directed by the Honorable the Minister of Militia and Defence to acknowledge the receipt of your letter of the 2nd Nov. last, and to assure you that he is highly pleased to learn that during the visit of the team of Ontario Riflemen to England to take part in the Annual Competition at Wimbledon, the Canadians were successful in winning many Prizes, and that by their good conduct and soldierly bearing they made a favorable impression while there.

The magnificent Cup presented by you and won by the team, has also been received by him through the hands of Col. Skinner. He desires me to tender to you his best thanks for your munificent present, and to assure you that he highly appreciates the deep interest taken by you in the Riflemen of Canada. He will have much pleasure in taking charge of it, and in retaining it in his custody until a short period previous to the Annual Matches of the Ontario Rifle Association, when he will hand it over to the Lieutenant Governor of the Province of Ontario, to be competed for in terms of the conditions engraved on it.

I have the honor to be, Sir,

Your obedient Servant,

(Signed), G. F. TROVE,

Dept. Minister of Militia and Defence.
Sir Peter Tait.
London, England.

REVIEWS.

The *Canadian Illustrated News* for Jan. 6th is a superb number and accompanied by a splendid lithograph of His Royal Highness the Prince of Wales

Blackwood for December contains:—The Maid of Sker; Moro Koba di Roma; the two Mrs. Scudamores; Cornelius O'Dowd; Unreflecting childhood and age; Gerty's Necklace; French home life; Illustration;

the House of Lords. It is the republication of the Leonard Scott Publishing Company, 140 Fulton Street, East Broadway, New York.

Through the courtesy of Messrs. John Durio and Son, our enterprising publishers, we are enabled to give our readers an idea of what the addition to the Dominion periodical literature *The Canadian Monthly and National Review*, really is. A periodical of ninety-six pages of beautifully got up letter press in a French grey cover, of the size of the *Edinburgh Review*, with a very creditable display of literary ability and a modest introductory address, is a desirable addition to our native literature which it is expressly designed to foster, with a Catholic impartiality to the individual opinion of its contributors and a patriotic desire to foster native talent. The articles are of a high character by the greatest names in the roll of Canada's literary men, as Charles Lindsay, Daniel Wilson, S. J. Watson, Miss Murray, J. C. Hamilton, H. Alleyne Nicholson, Charles Sangster, Goldwin Smith, Lt. Col. G. T. Denison, jr., W. J. Anderson, Jno. Read and others, they are:—"The Treaty of Washington; Marching out; Anne Hathaway; January; Marguerite Kneller; the two Cities; Man's place in Nature; the Mocking Bird; the Cavalry Charges at Sedan; the Consolations of Science; Curiosities of Canadian Literature; Paolo and Francesca; an historical night in the old Canadian Parliament; Love in Death, Translations and Selections; Book reviews and Literary Notices. The *Canadian Monthly* is published by Adam Stevenson and Co., at Toronto, price 25 cents.

The *Montreal Weekly Transcript* has been considerably improved and extended, it is printed in nearly the same shape as the VOLUNTEER REVIEW, containing twenty pages of well got up letter press. The tone of its political articles are decidedly in favor of independence, and it assents in commercial matters to the fallacies of the *Zollverein*, forgetting that it is but an arrangement for immediate annexation, a desire for which may exist as a sentiment amongst a class of visionaries in Montreal, but would not be entertained in any shape by the Canadian people. Having a thorough knowledge of the opinions of our agricultural population we know of no subject so sure of getting its advocates a broken head in the rural districts than that of an equalization of customs duties with the United States, and it argues gross want of thought in the propounders of that nonsense to suppose that the Canadian farmer did not know the difference between *five* dollars per capita, per annum, and over *thirteen* dollars. The *Transcript* is entirely at sea if it fancies there are any admirers of independence outside of Montreal. If the people of England are determined to cast British North America adrift they will tell us so and we shall then determine what to do. The *Times* in this case is no more the organ of the British people than the *Transcript* is of the Canadian.

The general feeling throughout the country in the event of our ceasing to form a component part of the empire, is to seek under a limited monarchy that order and security which can never be found amidst the turmoil and chaos of Republican institutions. We wish our contemporary commercial success but his prosperity will be short lived if he continues to advocate notorious fallacies.

AN OLD DRINKING SONG.

[There are few qualities of old English than the following drinking song, long out of print, and only found in some occasional blank letter volume. It seems to have been the especial property of a club of toppers in "Little Britain," London. Its origin dates back at least a three centuries. The careful reader will see a strong undertone of temperance lecture lying beneath the rollicking surface-fun.]

I cannot eat but lyltle meate,
My stomacke is not good,
But sure I thinke that I can drinke
With him that wears a hood,
Though I go bare take ye no care,
I nothing am a colde,
I stuff my skyn so full with
Of jolly good ale and olde.

CHORUS.

Back and syde go bare, go bare,
Both foote and hand go colde,
But belly, God send the good ale younke
Whether it be new or olde.

I love no rest, but a nut brown toste,
And a crab lard in the fyre,
A lyltle shall do me steade,
Much bread I do not desire;
No frost nor snow, nor wind I trowe,
Can hurt mee if I welde,
I am so wrapt and throwy last
Of jolly good ale and olde.

Back and side go bare, &c

And Tab my wife, that as her lye,
Loveth well good ale to seeke,
Full oft drinke shee, till ye may see
The tears run down her cheeke.
Then doth she trowe to me the p wyle,
Even as a maull worme sholde,
And saythe sweete warte I took my parte
Of this jolly good ale and olde.

Back and side go bare, &c.

Now let them drinke, till they are full and wank,
Even as good fellows should do,
They shall not mysse to have the blyss
Good ale doth bring to men,
And all poor soules that have sorrowe boylede
Or have them lustily trowde,
Ond save the lynes of them and their waxes,
Whether they be yonger or olde.

Back and side go bare, &c.

CAPT. STRANGE ON PRACTICAL ARTILLERY.

(CONCLUDED.)

I have made the amount of ammunition approximately as much as possible to that already allowed, and have assimilated the system of scoring to that laid down by the National Artillery Association, at Shoeburyness which works without trouble in the Volunteer Artillery competitive practice.

I wish to draw attention to what I take to be a blot in our system of artillery—viz, that though the instructors very justly receive extra pay for extra work, the pupils have no reward or inducement. In the ranks are mingled those who cannot read the figures on a sure or tangent scale, and others of excellent education, great natural powers and quickness of sight. It must be most reprehensible to have no system of selection for marksmen and range-finders, and to apply the same dull routine of training to all.

We all know that non-commissioned officers are selected for many excellent qualities with which gunnery proficiency is no thing to do. There is an utter disbelief in all gunnery not necessary for straight shooting among a few artillery officers, whose professional education ceased before the introduction of modern weapons. The sooner this opinion is honestly expressed and argued out in black and white, the better for the English people; for the question, though it takes its rise from a small portion of the service, has national issues. I am glad to say that a committee has been appointed to decide upon the details of a system of selection and prizes.

The garrison artilleryman is undoubtedly the soldier of most varied accomplishments,

from him is required the steadiness of a guardsman, the keenness of the rifleman, combined with the rough and ready energy of a sailor in handling heavy weights, ropes, tackle, and mechanical appliances, together with a knowledge of the varied armaments and stores of the Artillery service. Laying, loading, adjusting the fuse, pointing and firing his gun, are the least arduous and important of his duties. The monster modern guns of 12, 18, 25, and even 35 tons have first to be mounted inside on the top of casemates, by means of guns, shears hydraulic lifts, inclined planes, &c. In war, disabled guns and carriages would have to be removed and replaced, without the aid of guns or shears, too conspicuous for use within range of rifled guns. A whole front may have to be disarmed with all possible despatch, and the guns, carriages, and platforms transferred to another face, exposed to the real pressure of attack apprehended from another quarter.

Our artillery officers, sent in more liberal times to acquire information on the Continent, tell us that they saw this operation performed in an incredibly short time, at the annual inspection by an artillery general in Russia, where the fortresses are invariably under the command of an artillery or engineer officer. Repairing damaged embrasures and platforms, raising and thickening parapets, putting an extra layer of earth on bomb proof and magazines, essentially artillery duties supposed to be performed by engineers, would in the exigencies of war have to be carried out by artillery, assisted with infantry. It is to be regretted that classes of artillery are not sent down to Chatham, to profit by the siege operations carried on there. The instruction at the School of Gunnery, Shoeburyness, is most excellent; but there is no fortress to besiege, and it seems a pity to carry on instructional siege operations without gunners.

Military bridging and rafting for the transport of heavy ordnance, as well as embarking guns, form part of the admirably practical Shoeburyness course; for it is most important in war that artillery should be self-reliant, and not obstruct the bridges made for the rest of the army by the Engineer Train, who are not, however, always at hand in minor operations, where the artillery must fall back upon their own resources.

In all wine-growing and beer drinking countries, casks are always procurable, and together with the salt pork, flour, and empty rum casks of the commissariat, are at hand. These, with a lashed superstructure of rafters and floors from adjacent houses, form rafts capable of transporting the heaviest artillery with its ammunition, carriages, harness, &c. Horses are swum across, or can ford where the water would cover the ammunition boxes.

The Prussian retrospect comments on the inactivity of the artillery of an army corps on the wrong side of the river Bristritz, in the absence of the pontoon train. It is unfortunate that this sort of service is scarcely recognized by us or calculated upon, and has only been occasionally performed on emergency by some unusually self-reliant officer.

Our silver streak renders the disembarkation of artillery a perpetually recurring event. Aply as we have been assisted by our brother blue jackets of the Navy, our artillery in future wars will be more than ever self-helpful, thanks to Shoeburyness.

Being fond of false economy, we have never commenced a siege with an adequate siege train, but as the sea must be our base of operations, we have always fallen back

upon the Navy for guns; these and their carriages not being suitable for going across the country, have to be taken to the front by various expedients, which require that the Royal Artilleryman and his friend Jack should be, and have proved themselves, the most indefatigable and shifty of mortals. But Jack and his guns cannot be in two places at once. It is not probable that the withdrawal of sailors and guns from the French fleet is the reason why, like our own in the Crimea, though rendering glorious service on shore, it can scarcely be said to have achieved much on its own element!

When it is considered that artillery improvements must be rapidly progressive, and that it would be impolitic, if not impossible, to recall from distant stations, and reject for service, guns and stores of a comparatively old but scarcely less efficient pattern, it is the firm conviction of artillery officers best acquainted with the service, that the Royal Artillery can never be efficient until the care of their own special weapons and stores is taken from the Control, separated from "munition du bouche," and handed over to the artillery. You select artillery officers by open competition, they are scientifically and practically instructed in the manufacture of guns, powder, and all the complicated *matériel* of their service, and yet you take from them the most important part of their duties, to be handed over to civilians! In addition to the ordinary courses of artillery instruction, there was an annual class for officers coming from out stations, as inspectors of war stores, but the new control officers were naturally found so ignorant of a service for which they were not educated, that the laboratory department could not stand the strain of instructing them; and the artillery officers who wished to require a knowledge of the latest improvements in their own arm, were put off every alternate year to make room for the instruction of commissariat officers and others in duties that are essentially artillery. This is not likely to be borne without deterioration of *esprit* and efficiency by any body of officers. As for the non-commissioned officers and rank and file, with whom the eye educates the mind, efficiency cannot be expected, as long as they are relegated to infantry drill, varied by the occasional handling of the obsolete smooth bores which still encumber our forts. The artillery duties of transporting and embarking the newest guns and ammunition in our arsenals are given to the Army Service Corps, who, it is said, are to be increased to meet these requirements. This duty was formerly entrusted to the garrison artillery, who, with the drivers, also employed in Woolwich Arsenal, formed an artillery reserve, available in war, which we drew upon for the Crimea, their places being supplied by civilians with contract teams.

Reserve Artillery, Militia, and Volunteers.

The necessity for instructing 50,000 Militia and Volunteer Artillery, eager to learn, but who have no professional artillery chief, opens a wide field for the energy of the Regular Artillery. Such a vast organization to be brought into being will, I hope, lead to the appointment of some artillery officer of rank and known professional ability to the position of Director-General of Artillery Instruction, which at present, with its numerous departments, the Royal Military Academy, School of Gunnery, advanced class, Laboratory, Gun Factory and Carriage Departmental instructors, requires a head.

I have not space to touch upon the scientific instruction of artillery officers. It is sufficiently well known and acknowledged

in this country, where we can register the velocity of a shot before it leaves the gun. A report upon the education of artillery officers is already in the hands of the War Minister. Judging by the distinguished names of the committee, and the fact that the evidence of no less than fifty-four artillery officers has been taken, I have no doubt but that their recommendations will be duly considered and acted upon. The committee at all events have the full confidence and respect of their brother officers of all ranks.

My readers have not realized the expectations raised by the title of this lecture, which has been turned somewhat from its intended course, for two reasons. It would ill become me to anticipate or guess at the details of the report before alluded to upon the education of Artillery officers, upon which I was called to give evidence, still less to anticipate that of the Committee on the Classification on Gunners and Drivers, of which I have lately had the honour of being appointed Secretary.

In conclusion, it must be borne in mind that the real brunt of all fighting is borne by the infantry; and it must not be supposed that I forget this fact, because I am treating only of artillery. No man appreciates more highly than I do the resolute British infantry "*Nulli secundus*."

There is in our army a class found in no other; officers who at their own peril and private expense hang about contending armies to gain military experience; discouraged by the State, thwarted, and sometimes arrested by both sides. They obtain for us that knowledge which our Government freely offers to all our possible enemies.

Much valuable information has been given me by Col. Smythe, R. A., and the artillery brothers, Brackenbury, who have "*en amateur*," encountered the fatigues and dangers of many campaigns. I am indebted to Lieut. Cunningham, of the Artillery, for the highly artistic drawing of a position covering a strategical point, viz., the bridge. Lieut. Gardner, of the Royal Navy, like a true brother blue jacket, has assisted me with plans.

THE SWISS MILITARY SYSTEM.

The following is the text of a very interesting lecture given by M. Hotze at the United Service Institution, and now published in that Society's Journal:—

M. Hotze said: My esteemed friend, M. Frederich von Martini, has deputed me to accept on his behalf, or rather to share with him, an invitation from this institution to give some account of the Swiss military system. We both feel flattered by this invitation, and both of us—ho as a naturalized Swiss, and I as a Swiss by birth—take somewhat of a patriotic interest in the subject. It may be well, however, to state at the very outset that we do not propose to make an unqualified eulogium of the military institutions of our country, still less to recommend them for universal imitation. These institutions do not derive their origin from legislative enactments—in fact, the statutory and documentary material available for studying them is singularly scant and meagre; but they are identified with the earliest traditions of the miniature commonwealths which form the Swiss Confederation. They are the expression of a national character which is in many respects peculiar, and in sharp contrast with that of surrounding neighbors. These institutions, moreover, exist and flourish by virtue of social, politi-

cal, and geographical circumstances, which are not to be found elsewhere in the same or even analogous conjuncture. The underlying principle of the system—if system it can properly be called—is doubtless a sound one and one which is susceptible of being applied in many other than the Swiss manner. It is in the more or less judicious manner of this application that the whole question lies, whether or no the military institutions of Switzerland afford a useful model for the reorganization of those of Great Britain.

So much has, especially of late, been written on the subject before us, that the broad general facts are abundantly familiar. I take it, therefore that what the members of this institution are chiefly interested in is the practical every-day working—the inside view, so to say, which can only be obtained by personal observation. This, asking your indulgence in advance for many shortcomings, it will be my endeavour to give.

The liability of every Swiss to military duty, which is a fundamental article of the Swiss Federal Constitution, is not only a duty, but also a privilege. In theory there are virtually no exemptions, but there are some exclusions. No one not in full possession of all his civil rights—as, for instance, through bankruptcy—is eligible to the grade of officer. Any one having undergone an infamating punishment is excluded from the ranks. Formerly, in most or all of the cantons, and I believe in some still to this day, the Jews were, by a remnant of barbarism, under certain civil disqualifications, and therefore exempt, or rather excluded, from military service. In theory also (I purposely, for the moment, confine myself to the theory of the law, for we shall presently find in the practice some very considerable departures, and even some flagrant contradictions), in theory not only does every able-bodied man owe *wehrpflicht*, or military duty to the State, but he owes this duty in that form or branch of service for which his civic avocation or occupation best qualify him. Thus, the parson becomes a chaplain, with the rank and pay of a captain or a colonel, as the case may be, and if the clergy as a class enjoy practically a certain exemption from duty, it is simply because the troops require fewer chaplains than other officers. The same applies to physicians, who, within the limits of military age, are each and all liable to act as army surgeons, in such numbers as the service may require. Teachers have hitherto had some special exemptions, at least in so far as certain practice drills (*Repetitions-Curse*) might interfere with their regular duties. It is now proposed that after four years from the date at which the present Military Reform Bill shall have become law, no one shall be eligible to any situation as a teacher in a public school who does not possess, and can give satisfactory proof of having gone through, the military instruction required for the qualification of a subaltern officer of infantry.

The law provides for the formation of corps not strictly military in the technical sense, such as telegraphists, railway and other machinists, and mere labourers. Thus if a man is, we will suppose, below the standard stature for any special arm, but otherwise sound and serviceable, he is, according to his trade or occupation, made useful as a farrier, or armourer, or hospital nurse, or *frater* (a sort of ambulance attendant, who is generally an apothecary or apothecary's assistant), in which respective duties he will rank as a non-commissioned officer; or he may serve as a mere mechanic, or even labourer; or again he may be employed as a clerk in some of the Staff bureaux.

Similarly, each man is allowed, subject of

course to rules and regulations, to select the arm of the service which he prefers from taste; or if necessary, the military authorities of his canton may assign him to that arm for which he is obviously best fitted. Thus, the man who, either for pleasure or profit, rides or drives his own horses, selects by preference the cavalry or field artillery service. These two arms thus become manned and officered, besides the young men of leisure and means, by the millers, tanners, brewers, corn dealers, &c. In like manner the Engineer corps and its several branches, officers and men, are composed of Engineers, surveyors, contractors, builders, machinists, and cognate professions.

I am here illustrating a principle. How difficult the application of this principle would be in this country must already have suggested itself to my hearers, and in due time we shall have to describe how its application even in Switzerland affects the efficiency of special branches of the service.

A liability to military duty so sweeping as to be theoretically without exception, save absolute bodily infirmity would probably be intolerable in any other country, and would in truth be in most other countries the most expensive of all conceivable forms of military organization. It is not so in Switzerland. There it is a thing of immemorial origin. It chimes in with the history, the traditions, the popular instincts, the "*folk lore*," as the English language so expressively calls it, of the land. The social life has long since and unconsciously shaped itself according to the necessity of the system. The merchant or manufacturer knows that his book keeper, or cashier, or other *employé*—the mechanic that his journeyman or his apprentice—has so many days or weeks of drill, or practice, or field exercise to perform. Employer and employed are probably subject to the same liability, and manage to take it by turns, but in any case the current civic business of the country goes on without interruption. I will not say that in many instances, such as the necessity of suddenly placing large bodies of troops on the frontier, and their prolonged maintenance there, which occurred during the late war, does not cause much individual hardship and loss. But these exceptional cases are nothing compared to the heartburn, the breaking up of family ties, the dread of military duty, which conscription in its mildest form involves. The Swiss are essentially a hard-headed, hard-working, frugal but by no means a stolid race. They love above all things a holiday, when a legitimate pretence for it presents itself, and this is afforded by the recruit's drill, the reception practice, and the occasional field manoeuvres which constitute each man's military duty. He takes that duty seriously, because he is proud of it, but pleasantly also, because it is an occasion for social gatherings, and for friendly hob-nobbings, for confirming old acquaintances, and making new ones; for bringing men of different cantons, often astonishingly different in manners and modes of thought, into companionship. And all this with an amount of zealous bustle and conscious self-importance which supplies the keen stimulus of excitement.

It should be added that, however severe in theory are the laws on military obligation their application varies very much in the different cantons, is in none of them extremely stringent, and certainly never oppressive or vexatious. The contingents supplied by the several cantons to the different divisions of the federal armament, fall far short of the actual number of able-bodied, and thereby legally liable men, within the

military age. There is thus ample room for *de facto* exemptions beyond the few cases for which the federal law provides. These are—first, the members of the Federal Diet or Parliament; second, the persons actually filling three specially enumerated posts in the Government and higher spheres of administration; third, certain enumerated grades of *employes* in the federal post and telegraph offices, the powder magazines, &c. and fourth, the frontier police, which may be considered as a sort of permanent military corps. In addition, the superintendents of prisons, lunatic Asylums, &c. having a certain immunity of service. The theory of the law in all these cases is not that of exemption, but rather of temporary prevention or *ex-officio* immunity, something in the nature of the privileges accorded to members of Parliament in this country during the session. Should this exceptional immunity cease by the vacation of the office conferring it within the period of age during which each is liable, the person having availed himself of it, is supposed to be obliged to make up for lost time in the drill and instruction of the class to which he belongs. Practically, however, this scanty list of exemptions is largely supplemented by the legislation of the several cantons in favor of the members of their respective Governments and Legislatures. Moreover, the duty of military service does not bear on *bona fide* absentees. A Swiss, at any period of his military liability, is perfectly at liberty to expatriate himself without asking leave of any one. If a casual absence happens to coincide with a period of service, he is regarded as a soldier on duty, and must ask for furlough in regular form, which is readily granted on reasonable cause being shown. The penalties for military misdemeanour in time of peace are little more than nominal, but while on duty, each man is placed under military law—withdrawn from the jurisdiction of the civil courts—and, whatever the nature of his offense may be it is tried by courts-martial. All those who from any cause whatever, *ex-officio* exemption, absenteeism, or physical disqualification, do not perform, either in whole or in part, the military duty incumbent on others, are subject to a very moderate capitation tax in compensation. It will be seen, therefore, that the Swiss system, although theoretically the precise contrary, has yet in practice a large element of voluntarism. In the projects of reform which are now under consideration, and to which I shall hereafter have occasion to refer, this element—never openly recognized—is sought to be done away with altogether, and a more strictly obligatory system to be rigidly enforced. I greatly doubt whether this policy, though legally correct, will, in the end, be found judicious.

One of the most zealous and able of the Swiss army reformers, Mr. Stampfli, a member from Berne of the Representative Chamber of the Federal Legislature, reported, on behalf of a special committee in 1866, that whereas the preceding census (December 1860) showed the number of males in Switzerland to be 1,171,486, of whom 423,856 came within the prescribed age, the number of men actually performing that duty in all the three classes, *élite*, reserve, and *landwehr*, was only 186,389, or less than one-half. In other words, about 50 per cent. of the available male was, for some reason or other, not used at all.

Mr. Stampfli further illustrates this striking contradiction between the theory of the law and its application in practice, by comparing the number of young men who, during a period of ten years, became annually

liable to service with those who actually performed it. It appears that the annual average of young men becoming liable to service during the period between 1852-1862 was 22,900 against 11,719 who appear on the lists as active recruits. So that while in theory, and by a fundamental article of the Constitution, every able bodied Swiss is more or less an efficient soldier, only about one-half, or rather less, undergo any sort of military training during any period of the 25 years, that is from 20 to 44, for which they are legally liable to duty.

I may here remark that for the few statistics I intend to obtrude, I am largely indebted to Mr. Stampfli, and making allowances for a very moderate increase of population, the figures, which he collected with the most scrupulous accuracy in 1866, are still the most available for all practical purposes of argument. I cannot, however, follow Mr. Stampfli to the extent of the severely logical conclusions he deduces from his figures. I believe on the contrary, that it is with the military system of Switzerland as with many other time honored institutions that have grown with a nation's growth—one of their chief merits lies in the deviation of the practice from the theory, and I believe that this is quite consistent with both theory and practice being excellent and admirably suited, each to its purpose. The Swiss system is assuredly not perfect, but it has this great and incalculably important merit, that it is pre eminently *popular* in every sense of the word. I much fear that any reform the better to conform the practice to the theory will cause to appear one rous and oppressive, that which with the present latitude is regarded rather as a privilege than as a duty.

The contradiction to which I allude would be utterly inexplicable if we did not remember that, with a population of little more than two and a-half millions (or less than that of London), scattered over a territory about half as large as England without Wales, we have to deal with no less than twenty-five different Governments, each sovereign and independent. Nominally the members of the Swiss confederation are twenty two, but three of these States, and singularly enough, these three among the very smallest ones, have found a single government too little for them. Thus one half of the people of Basle, of Appenzell, and of Unterwalden respectively, have agreed, to disagree with the other half, and each of these cantons, though nominally a unit in the Federal Assembly, has in reality two distinct and complete sets of executive, administrative, and legislative machinery.

Formerly each of these governments raised, drilled, uniformed, and armed its troops as it suited its fancy. Provided each supplied its quota to the Confederation in time of need, the latter had no more right to interfere in military matters than in those of coinage duties, and postal arrangements, all of which exhibited a most beautiful variety of local eccentricities. To this day the Militia of each canton is under its own exclusive control. It drills them, officers them, equips them, arms them, at its own expense, in the proportion of the contingent which the Federal Assembly fixes after each decennial census, and these state or Cantonal troops only become Federal soldiers by being especially sworn into the service of the Confederation, and assuming that armlet of the cross which, with the inversion of the colours has latterly served as the emblem of neutral charity on the battle field.

But the new Federal Constitution, following on the civil war of '47, the *Sonderbunds Krieg*, made a great step towards centrali-

zation in this as in other equally important respects. Uniformity of equipment and armament was established by precise legislation, a minimum of instruction and efficiency fixed, and a certain general superintendence and control reserved to the Federal military authorities. Each Cantonal Government was to take, place on foot and maintain, in time of peace an effective force equivalent to three per cent of its population (foreign residents, which in many cantons are very numerous, being, of course excepted), and a reserve amounting to one half of the same, together four and a half per cent of the native population. In time of war the Confederation disposes of the entire force available. Nothing, of course, prevents each Cantonal government from drilling a much larger force than its Federal quota, and, in point of fact, most of them do.

Many of those who speak of and treat the Swiss military institutions as a complete, compact, and self consistent system, will perhaps be surprised to learn that very considerable difference obtains among the several cantons as regards the proportionate number of men in each performing military duty. The percentage on the male population ranges as widely as from 22 to 12 per centum between one canton and another. Thus the primordial Canton Schwyz, which claims the honor of having given its name to the Helvetic Confederation, leads, as might be expected, the way with 22 per cent. of its male population doing duty. Another of the forest cantons, Uri, and next Grisons, follow with 21, the sickly canton of Wallis, composed chiefly of the narrow, deep, and marshy valley of the Upper Rhone, which has the sad speciality of goiters and cretinism, comes last with only 12. The two great and populous cantons of Berne and Zurich form, as nearly as possible, the average between these two extremes with 16 per cent. of their male population.

The leading feature of the Army Reform Bill to which I have already had occasion to refer, is to give to federal authorities a more direct control over the cantonal forces. For this purpose it is proposed to divide the territory of the Confederation into districts not quite irrespective of cantonal frontiers, but still to a certain extent independently of them, and to place the military administration of these districts, in so far at least as regards the instruction of officers and men, immediately under the inspection of the Federal officers. To the extent that this can be effected, it will undoubtedly be a real improvement upon the prevailing system. But Swiss army reformers are not so bold in their measures as those in this country, and any change so radical as Mr. Cardwell's recent abolition of purchase would not even be dreamed of. The idea of Cantonal independence is so strongly rooted and local self government is carried to such extremes, that even under the new law the cantonal military authorities will retain the exclusive appointments of all regimental officers—each of these twenty five governments will continue to have its Secretary of State for War *in pectus*, with a cantonal staff and a cantonal military budget to match. The tendency undoubtedly, is to strengthen the federal authority at the expense of the cantonal, but many years must elapse, perhaps some terrible strain may have to be experienced, before a thoroughly centralized organization can grow out of the present tentative efforts of reform.

(To be continued.)

The Albany *Argus* says that William M. Tweed is the chief owner of the contract to pierce Hoosac tunnel and has invested a million in the enterprise.