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# The Volunteer Review

## AND MILITARY AND NAVAL GAZETTE.

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

VOL. VIII.

OTTAWA, (CANADA,) TUESDAY, JUNE 16, 1874.

No. 24.

### NEWS OF THE WEEK.

Kemptville was visited on the 7th by a whirlwind which done considerable damage, destroying a large number of houses in the village. The whirlwind lasted a few seconds. Trees and fences that were in the track of the gale were levelled to the ground. The station house of the St. Lawrence and Ottawa Railway was completely destroyed, and Mr. Laing station agent, was considerably hurt. There were several other accidents, but no lives lost.

Ottawa was visited with another destructive conflagration on the morning of the 10th. This time the premises destroyed belonged to Mr. P. Lesuer, and were only recently erected. The buildings were on the corner of Kent and Wellington Streets, and occupied by tradesmen with the exception of the dwelling house on Kent Street which was occupied by the Hon. Mr. MacKenzie. The computed amount of property destroyed is about \$40,000, partially covered by insurance.

An addition to the Western Block is planned, and the site is picketed out. The work will likely be commenced in the fall.

The Dominion Board of Trade meets in St. John, N. B., on the 16th July.

Hon. Charles McPherson died at his residence, Fredericton on the 8th inst.

Lord Dufferin and party left Quebec on the 10th instant for Gaspé, on a fishing excursion.

Mr. Murdoch of the Canada Pacific Engineering Staff, left Toronto on the 10th inst. for Fort Garry and Pembina.

Mr. Sergeant who it is stated has been appointed to the management of the Grand Trunk Railway, is the Manager of the South Devon Railway, and is a man of a very large railway experience.

The Carleton County Council at their recent sitting voted \$400 to the city of Ottawa Agricultural Society.

The Premier, Hon. Alex. McKenzie, left town on the 8th, in company with Colonel Fletcher, for Kingston, to inspect the military works there.

According to the Fisheries Department, the spring herring fishery at Magdalen Islands has been very successful. There are fifteen Canadian and five United States vessels engaged in it. The seal fishery was about an average catch. Thirteen vessels composed the sealing fleet, one of which was lost in the ice, the crew barely saving themselves. The others brought home 3,500.

The proposed Reciprocity Treaty with the United States meets with but little favor in St. John, N. B. The Maritime Provinces want the coasting trade thrown open to their shipping on equal terms. A telegram says: As understood at St. John at present the interests of the business people of that city are in danger of being sacrificed.

The North West Police Force safely reached St. Paul's on the 11th and intended leaving almost immediately for Fargo, a small place on the Northern Pacific Railway, a mile beyond Moorhead and on the West side of the Red River, where the expected to arrive on the 12th. The march across the Prairies from Fargo to Dufferin will be in the vicinity of two hundred miles, and it is expected they will accomplish it in about eight days.

The Philadelphia Grand Lodge of Masons contributed \$10,000 to the relief of the Louisiana sufferers.

Jos Ward, one of the most experienced workmen in the oil business, has been engaged by the Hudson Bay Company to proceed to Red River to test that country for oil. Ward starts in about three weeks, taking with him four hands, machinery and everything required to sink an oil well.

Two Brigade camps for No. 2 district will be held in September at Niagara and Barrie.

In the English House of Commons on the 11th, Mr. Bourke, Under Secretary for Foreign Affairs, in reply to a question from John Seymour, said the draft of the code sent by the Government of Russia for the consideration of the Congress upon international law, soon to be assembled at Brussels, relates to the exercise of military authority in an enemy's country; the distinction between combatants and non-combatants; the various modes of warfare, reprisals and treatment of prisoners. Bourke added that the British Government had not yet decided whether it would send delegates to the Congress.

The Madrid *Gazette* publishes a circular and letter addressed by the Minister of Foreign Affairs to the diplomatic representatives of Spain, promising the re-establishment of peace in Spain and Cuba, and that when the present exceptional condition of affairs is terminated the complete establishment of representative institutions shall become the guaranty of moral order.

A Honolulu letter says the new King in his opening speech to Parliament opposed the cession of the Paul Islands to the United States, but favoured a commercial treaty with the United States and a subsidy to Australian steamships stopping en route at the Sandwich Islands.

A Paris special to the *Times* says the Left Centre to-day will probably introduce a bill the first clause of which organizes the Republic according to the bill of 1873. The second fixes the date of the dissolution of the Assembly. The *Gazette de France* says civil war will be the ultimate consequence of dissolution. The Assembly before dispersing will authorize MacMahon to govern some months, probably a year without an Assembly and will also authorize him to dissolve the next Assembly. The crowd at the depot last evening numbered 10,000. The police clearly manifested sympathy with the Bonapartists.

A despatch from the Spanish frontier says that numerous bands in the Basque Province have revolted against Don Carlos commanding in peace. Don Carlos has ordered that upon capture they shall be shot.

A despatch from Morocco says that twelve thousand inhabitants of the city of Fez have risen in consequence of the reimposition of the great tax. All business was stopped, but at the last accounts there had been no fighting. It was hoped that the Sultan would yield to the desires of the people and remove the objectionable tax.

Despatches to the *Daily Telegraph* from Berlin assert that the differences between the Keddive of Egypt and the Sublime Porte are serious and intimates that grave complications in the East are probable.

It is rumoured that Colonel Sir A. Alison Bart, K.C.B. is about to resign his appointment as Assistant Adjutant General of Division, and that he will probably be succeeded by Colonel Lord Clarina, 97th Regiment, who is shortly expected to return home from Jamaica.

The tide seems to be running for the moment against the Ritualists of England. Two cases, one at Exeter and the other at Liverpool, have been decided against them and Archbishop Tait has introduced in the House of Lords a bill which is intended to clip their wings.

THE GENEVA AWARD — The Geneva Award Claims question was discussed in the House of Representatives, Washington, on the 10th inst. The total amount of claims filed by forty two insurance companies for losses by the Alabama, Florida, and their tenders, and by the Shenandoah, after she left Melbourne, is \$5,000,000. The claim of the Atlantic Mutual Insurance Company, of New York, amounts to \$1,653,886. The next largest are the Great Western Insurance Company, of New York, \$309,935; the Columbia Insurance Company, of New York, \$575,093, and the China Mutual Insurance Company, of Boston, \$171,000.

ANNUAL REPORT ON THE STATE OF THE MILITIA FOR 1873.

APPENDIX No. I

(Continued from Page, 267)

No. 3 Battery—Capt. Cummings—mustered three officers, and fifty-five non commissioned officers and gunners. No. 5 Battery—Captain Hopper—mustered two officers and thirty-five non commissioned officers and gunners. These numbers were exclusive of four boys, who were not considered sufficiently strong, and were consequently struck off, and their pay withheld. Accompanied by Lieut. Col. French, Inspector of Artillery, I inspected these two batteries on the 15th September. The arms were clean. The accoutrements required pipeclay and blacking. With the exception of the boys above referred to, the batteries presented a creditable appearance. Having the 43rd Battalion to inspect at this time, I handed the two batteries over to Lieut. Col. French, who had them go through big gun drill. He will doubtless report as to their efficiency.

No. 3 Battery performed the target practice with the Snider rifle, at the three first ranges. No. 5 Battery competed at all the ranges.

41st Battalion Brockville.

Lieut.-Col. Cole, commanding 41st Battalion, six companies strong, has approved of the several companies performing the drill at their local head quarters under the general orders of 30th May last.

No. 3 Company (Frankville), Captain Lauder, musterd three officers and thirty five men. Through a misinterpretation of the orders, this company was placed in barracks on 1st July, and performed the drill in eight clear days, which was subsequently approved of, and the pay authorized. I inspected this Company on the 7th July, and found that the officers and men had quartered and subsisted in the agricultural buildings, the same as it in barracks. The full number of rounds of ammunition had been expended at target practice, which consumed so much time, that with many recruits as there were, prevented a great amount of efficiency in drill being acquired. The men are of good physique, and with more drill will make a smart company. Arms and other stores clean, and in good order.

No. 5 Company (Carleton Place), Captain R. W. Bell, performed the drill during the summer at the local head quarters. I made the inspection on the 14th September; three officers and forty-three non commissioned officers and men present. This is a very smart and soldierly company, and performed the drill as detailed in tabular return very satisfactorily. Arms and other stores clean. There being no six hundred yard range available, the three first ranges only of the target practice could be fired.

43rd Battalion, County of Carleton.

The 43rd Battalion (County of Carleton), Lieut.-Colonel Bearman, seven companies, went into camp with other corps at Ottawa, on the 9th September, and performed the drill in eight clear days, with the following strength:

	Officers	N. C. Officers & Men.
Staff.....	8	5
No. 1 Com'y Capt. Kemp..	3	28
" 2 " " Holmes.	2	13
" 3 " " Morgan.	3	44
" 5 " " Good... 1	1	7
" 6 " " Garvin.. 2	2	31
" 7 " " Cook... 3	3	24
" 9 " " M'Gregor	3	24
Total.....	25	176

Owing to the repairs which were going on at the rifle ranges, preparatory to the meeting of the " Dominion of Canada Rifle Association," but part of the target practice could be completed while in camp; the several officers promising to complete it at their local head quarters.

I inspected this corps on the 16th September, and cannot report any improvement since last year, in fact there is rather a deterioration. The men not clean or soldier-like, and the physique is much below the usual standard of this corps. The drill as detailed in tabular return was indifferently performed. There is evidently a want of discipline in the corps, more particularly in the companies.

I noticed that the band of this corps, 15 strong, had improved very much during the past year.

You will doubtless remember that Nos. 4 and 8 companies of this battalion were Gazetteed out during the year.

The weakness of No. 2 Company may probably be accounted for by the Captain being in Manitoba. The few men present were musterd by the Ensign.

56th Battalion.

The 56th Battalion "Lisgar Rifles," County of Grenville, seven companies, Lieut. Colonel Jessup, musterd six companies in battalion camp at Prescott, on 10th September, with the following strength:

	Officers	N.C. Officers and Men.
Staff.....	8	4
No. 2 Com'y Capt. Bennett..	3	39
" 3 " Maj. Cambell.. 2	2	17
" 4 " Ens. Chambers 1	1	45
" 5 " Capt. McCuig.. 2	2	25
" 6 " " Checkley... 1	1	16
" 7 " " Carmichael.. 3	3	46
Total.....	20	192

I inspected this battalion on the 17th September, and was much pleased with the cleanliness and order of the camp, and military bearing of both officers and men. The corps paraded very clean and soldier-like, and the drill as detailed in tabular return, was performed very satisfactorily. The brass band of twelve performers is efficient.

The course of target practice was carried out during the encampment.

I will send a special report on number one company at an early day.

Total number of companies which have performed the drill, 20 (twenty). Showing 68 officers, 690 non-commissioned officers and men, and 141 horses present. Average per company, officers and men, 37.90.

Corps which have not yet performed Drill. The following corps have yet to complete or perform the drill, viz:—

Gananoque Field Battery Artillery—Capt. McKenzie. All of the officers and some of the non-commissioned officers have passed through the school of gunnery at Kingston. The corps will perform the drill as soon as the equipment is received.

Troquois Battery Garrison Artillery—Capt. McDonell. I will forward special report on this corps at an early day.

The five city batteries of the Ottawa Brigade Garrison Artillery, Lieut. Col. Forbes, are performing the drill under the General Orders of the 30th May last, at their headquarters, and will not be prepared for the inspection until about the end of June next.

The Governor General's Foot Guards, six companies strong, Lieut. Col. Thos. Ross, are performing the the drill at their headquarters under the General Orders of the 30th May last, and will not be prepared for inspection until about the end of June next.

The 18th Battalion, County of Prescott, six companies strong, Lieut.-Col. Shields, purpose going into camp in June next.

The balance (four companies) of the 41st Battalion, Lieut.-Col. Cole, performing the drill at local head quarters, and will probably not be prepared for inspection before the end of June next.

The 42nd Battalion—Lieut.-Col. Buell, seven companies strong, purpose going into camp in June next.

The 59th Battalion—Lieut.-Col. Bergin, seven companies strong, purpose going into camp in June next.

Permit me to say, in conclusion, that I do not think rural corps can perform the drill satisfactorily at the local head quarters. I consider the best mode Brigade Camps, next to that Battalion Camps.

I find that forty rounds of ball ammunition, per man, cannot be expended with advantage at target practice during the annual drill. I think that the number ought not to exceed twenty rounds, per man; the balance to be fired at the company head quarters at such times as directed by the Captain.

The men complain very much at not being supplied while in camp with more than one blanket. The surgeons of the several corps say that, not only the comfort, but the health of the men require at least two, more particularly if in camp after the first of September.

I make the usual periodical inspections of all stores throughout the District, which, as a rule, are kept clean and orderly in the armories. There are some instances, however, where the Captains allow too many articles to be kept by the men; this practice I at all times discountenance, and in some instances have had to withhold the certificates in favour of the allowance for care of arms until the Captains collected and certified that the stores were all in the armory.

I may add that the usual pay muster is never dispensed with and the District Paymaster, Lt. Col MacDougall, with his usual promptness, has paid the several corps before they left camp.

I have the honor to be, Sir,  
Your most obedient servant,

W. H. JACKSON, Lieut. Colonel,  
Act Deputy Adjutant General,  
Military District, No. 4

MILITARY DISTRICT NO. 5.  
HEAD QUARTERS, MILITARY DIS. NO. 5.  
MONTREAL, 17th Dec. 1873.

Sir,—I have the honour to inform you that the quota of Active Militia, required to be furnished from the District under my Command, is 3,628.

	Off'rs	Men	Hors
St. Andrew's Troop Cav.	48	518	
Missisquoi "	35	38	
Huntingdon "	35	37	
Brome "	34	37	
Stansford "	34	37	
Cookshire "	51	53	
Sherbrooke "	41	42	
Compton "	34	36	
Staff "	3	5	

N. C. Officers and men.			
	Off'rs	Men	Hors
Sheffield Field Battery	3	71	45
St. John's Gar'n Art'y	3	38	—
11th Batt'n Nos. 2,3,4. and 5 Comps.	10	176	—
21st Batt'n Nos. 1, 2. and 4 Comps.	9	153	—
50th "	30	265	5
51st "	28	316	5
52nd "	22	229	4
53rd "	12	197	—
54rd "	14	82	4
58th "	15	325	—
60th "	23	213	4
79th "	27	173	4
Wakefield Inf. Com'y	3	37	—
Eardley "	2	26	—
Aylwin "	3	50	—

Recapitulation of corps drilled.

N. C. Officers and men.			
	Off'rs	Men	Hors
Cavalry.....	21	315	336
Field Battery.....	3	71	45
Garrison Artillery.	3	38	—
Infantry.....	198	2,248	26

The corps in the District which have yet to complete the annual drill for 1873-74 are as under.

- Montreal Troop of Cavalry.
- Field Battery.
- Engineers (2 Company's).
- Brigade of Garrison Artillery
- 1st or "Prince of Wales Battalion" Rifles.
- 3rd "Victoria Volunteer Rifle" Battalion.
- 6th "Hochelaga Light Infantry."
- Nos. 1, 6, 7 & 8 Companies of 11th Battalion.
- No. 3 Company of 21st Battalion.
- No. 3 "53-d "
- No. 3 & 4 "54th "
- Nos. 1, 6, 7 & 8 Companies 58th Battalion.

These Corps I estimate, will aggregate 77 Officers and 1,125 Non-Commissioned officers and men, 90 horses. should this estimate be realized and I have every reason to believe it will, the total for the annual training for 1873-74, will be about 302 Officers, 3,373 Non-Commissioned officer's and men, and 497 horses: this as regards numbers will compare favourably with last years training.

The force in the district, with the exception of the Montreal Troop of Cavalry, Field Battery and Garrison Artillery, the 1st, 3rd, 6th, 11th, 21st, 53rd and 58th Battalions, and the independent Companies of Infantry, formed regimental camps and performed the drill in eight consecutive days of six hours each, and were generally well carried on, the ground for the camps was invariably well chosen, and the tents nicely pitched; the target practice so far as possible was completed, but experience shews that 40 rounds of ammunition per man is too much to expend profitably in a short a time as eight days. Many of the Battalions fired in squads from the commencement to the finish of the encampment, and were then unable to finish the firing.

The Montreal force is at present labouring under very great disadvantage, and has been ever since the fall of the Drill Hall, and will be necessary to make some provision to replace this loss, if it is considered

desirable to keep up the force; and it is only fair to say, that hitherto it has always answered most heartily to the call for active service.

I beg leave to refer you to my tabulated annual report for details of Inspections, and to the District target practice return for the abstracts of the firing. Until the firing is completed, it is of course impossible for me to name the best shot.

I have the honor to be, Sir,  
Your most obedient Servant,  
THOMAS BACON, Lt.-Col.  
Acting Deputy Adjutant General,  
Military District No. 5

(To be continued.)

CORRESPONDENCE.

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

THE FRENCH CAVALRY—1870.

LETTER NO. 3.

After the unimportant success of General Frossard at Sarrebruck, on 2nd August he retired to the right of the Sarre. On the 6th General Steinty ordered his cavalry to pass through Sarrebruck and gain the left bank, following them up closely he attacked the French 2nd Corps d'armée and forced them after an obstinate and sanguinary engagement to retire on Forbach and from there to St. Arold—this was the battle of Spicheren.

The French Cavalry had nothing to do during the day, but towards evening found an opportunity of acting—and as this little episode of the battle concerns cavalry Soldiers fighting on foot deserves mention. The troops who were entrusted with the duty of guarding the outlets from the wood had been forced to retire and there was no one left at this point but a company of Engineers and a portion of the 12th Dragoons. Two Squadrons of this regiment were accordingly dismounted, and under cover of some slight earthworks hastily thrown up by the Engineers, opened fire on the heads of the advancing columns. Having succeeded in checking their advance, they remounted and charged the enemy whom they repulsed. After this brilliant feat of arms, they retired behind the railway; and with the assistance of the Engineers, they maintained this position long enough to give the troops who occupied Forbach, time to make the dispositions they wished.

After this battle the retreat to Metz commenced. General Cissey losing all patience at the continual surveillance of the enemy's cavalry, ordered the 2nd Hussars to put a stop to it; a squadron of this regiment was accordingly told off to drive them back, and Captain Jouvenot who commanded, by his energetic attack drove in the Prussian outposts, but having pursued too far was repulsed and killed, several officers and men

being wounded—however from this time forth the French army was allowed to retire unmolested to Metz.

In the course of the 10th, 11th, 12th, 13th, and 14th various reconnaissances were made by the Chassours d'Afrique; of these one example deserves mention. The German Cavalry had entered the town of Point à Mousson cut the telegraph wires and the railway. Informed of what was going on, General Margueritte turned out his brigade at 1.30 o'clock, proceeded as quickly as possible along the left bank of the Moselle, and arrived about 4 o'clock at Point-à-Mousson. The 3rd Squadron of the 1st Chasseurs d'Afrique, passing through some orchards, galloped up the railway and caught the Germans at work in the railway station. The remainder of the brigade, sword in hand, charged, notwithstanding the slipperiness of the pavement up the streets to the end of the town. There they were received with a fire from the windows. General Margueritte who was in the thick of the affair, was attacked by a Prussian officer, who aimed at his head; his forage cap, however was alone cut, and the Prussian fell covered with wounds. At the termination of some other reconnaissances, that were pushed along the Moselle, the Prussian cavalry, consisting of 4 regiments, after exchanging shots, left the Plateau of Mouzon, having sustained a loss of 2 officers, and 14 men killed, and 2 officers, 32 rank and file, 41 horses, prisoners, who were brought to Metz.

On the 14th the French army was concentrated round Metz; and now all the scattered forces were formed into two armies, viz Marshal Bazaine's and Marshal Mac-Machon's; their one object henceforth, was to unite beyond the forests of the Argonne, the enemy's to prevent them. That evening General de Forton bivouacked on both sides of the Mars la-Tour road, with the brigades Murat (1st and 9th Dragoons) and de Grammont (7th and 10th Cuirassiers)—next day Prince Frederick Charles pushed forward his cavalry to make a reconnaissance on a large scale; and established contact, which was afterwards constantly kept up by scouts. An artillery duel with skirmishing lasted most of the day; and as it was of importance to cut off the retreat of the 2nd and 6th French corps, the Germans marched all the night of the 15th and 16th, traversing an immense track of ground.

On the morning of the 16th August General de Fortons cavalry had been ordered to march at 5 a.m., but this was countermanded, and at 9 the saddles and bridles were taken off. The Dragoon officers in charge of the picquet, had twice sent in to announce the approach of a large body of cavalry and artillery; a staff officer was sent out to see if this was the case, he returned and said there was nothing of importance going on, and the order to take the horses to water was accordingly issued, the arrangement

being, that whilst 3 squadron regiments; were being watered, the 4th was to be on the look out.

Scarcely had they arrived at the watering place, when the Prussian Artillery opened fire with a storm of shells, and both the bivouacs and villages were literally riddled. They had got information from their scouts, of the carelessness of the French; and had accordingly brought up their Artillery at a gallop and placed it on both sides of the road: from which position they fired as fast as they could.

Immediately there was a panic in the streets of Vionville. The men mounted their horses and pushed up the road, which was encumbered with waggons and loose horses. The officers in spite of the heavy fire tried to stop their men, but only succeeded with great difficulty; finally they managed to restore order in a few troops, and these served as a rallying point to the remainder; they now returned to the plateau of Rezonville.

The Cuirassier brigade, who, fortunately for themselves, had quitted their first ground and gone further to the rear, escaped this shower of shells; they now mounted in perfect order, and to avoid being cut off by large bodies of the enemy's cavalry, which threatened their right, they retired behind the wood which borders the Roman road on the east, then passing in front of Villers aux Bois, they debouched on the plateau of Rezonville, a little to the right of the 9th Dragoons.

Valabrègue's division, who had been on the *qui vive*, mounted quickly and arrived soon after, and in order to get under cover from the Prussian Artillery, they placed themselves close to the wood of Villers. This division was composed, of General Valabrègue's brigade (4th and 5th Chasseurs) and Bachelier's (7th and 12th Dragoons).

At the sound of the cannon the 2nd corps stood to their arms and formed up; General Bataille's division was on the right General Verge's on the left, and Lepassat's brigade refused and was extended to the right by Marshal Canrobert. Two attacks are now prepared against them. The front one from Mars-la-Tour and Thionville, the other on the left from the Wood of Gorze. Up to about 11 o'clock the action was undecided, but at that moment General Bataille was wounded, and on the left of the 2nd corps the French began to give way. To put a stop to this and to re-establish the battle General Frossard determined to charge the Prussian Infantry, and accordingly ordered up the Cavalry.

The 3rd Lancers formed the first line, and beyond them was General Desvaux's division, who had taken up a position on the right of the Rezonville road, in rear of that village, and a distance of about 1000 yards from their lines. General Desvaux now ordered General de Preuil to advance in

support with the Cuirassiers of the Guards along the other side of the road and in rear of the 3rd Lancers. This movement was immediately executed, and the regiment placed parallel to the brow of the hill and a little below it, was under cover.

A few minutes afterwards this formation was changed to a double column formation, with the fifth squadron in reserve. Towards 11.30 the fire, which had been very severe, slackened a moment, and suddenly the French saw their skirmishers falling back in disorder over the brow of the hill. They were closely followed by the enemy's Artillery, who crowned the heights and commenced to shell the Cavalry. Two Squadrons of the 3rd Lancers now advanced but as they received no order to charge they came back after going a short way.

General de Preuil now sent to inform General Desvaux that in this part of the field there was a general retreat, and almost immediately he received the order to charge. This officer's command was at so great a distance from the enemy's Infantry, that the success of a charge was doubtful, unless preceded by a heavy artillery fire, which should make some impression on them. This objection was raised, but General Frossard himself came up and said. "Charge immediately or we are all lost."

VIEILLE MOUSTACHE.

#### CAVALRY TACTICS.

A late issue of the VOLUNTEER REVIEW, affords its readers a very excellent criticism upon the United States Cavalry Tactics, evidently by an American officer of that Arm, admirably calculated to explode the crochets—from time to time evoked—for the formation of cognate forces in other armies. It is indisputable that, if the United States Military Bureau conceive that, in their—as we are compelled to infer—hybrid troopers, they possess *ne plus ultra* of equestrian combatants, and have as little right as interest to interfere further, it may be, than to emulate the good, or eschew the evils of that system, or of any other brought under public notice. The singularly blank record of Federal Cavalry enterprise during the American Civil war, instinctively led the writer to suspect "something rotten in the state of Denmark," and virtually—in the pages of the REVIEW—anticipate and promulgate much of what the gallant critic has more tersely, doubly intensified by his dear, impressive, and graphic *expose* of a cavalry school of instruction, through which a mounted force has graduated, making its designation (Cavalry) a perfect misnomer. That—the author of these revelations should censure, and indignantly satirize the spirit of a discipline satisfied to substitute the flourish of a sabre for its blow, that ignores the prestige of the charge; and fails to utilize the weight, vigor, and impetus of the horse—is perfectly

natural in an officer imbued with the æsthetics of the cavalier. All this must be a severe wrench to the many schemes replete with abortive theories for combining the attributes of cavalry and infantry, in the so-called mounted riflemen, Soldiers of different arms, if strictly trained in their peculiar duties, have little real affinity, except in a courage common to both, and any tinkering experiments to amalgamate widely divergent idiosyncrasies, can only evolve a brittle unsatisfactory alloy, possessing neither the steadiness of infantry nor the dash of cavalry. It is more than probable that cavalry charges shall have become impossible, in the future or if attempted, the result *hecatombs of slain*. "Rider and horse in one red burial sheet." It has been too often the case when attacking squadrons—as at Waterloo—were within a stride of impinging their irresistible weight upon men on foot, wheeled outwards and galloped to the rear. The best proof of this is, that the writer has heard officers, who did their devoir at Waterloo, strenuously maintain that not a single French horse was impaled by, or died upon a British bayonet. Cavalry's only chance of success, more especially now than ever, is the rapidly delivered charge home, crash into and amidst the opposing steel. Infantry, or artillery at their guns, are not to be appalled by the flutter of lance pennants, or the gleam of waving sword blades, but the most stalwart Grenadier must go down before a horse in full career. These sentiments are neither the breathings of an impracticable enthusiasm, nor the "flourish" of a mounted rifleman's dintless, bloodless sword blade, and equally guiltless of the *Faute des fanfaonnades* so contemptible in the soldier's bearing, acts, or demeanour; but simply the *morale* of a cavalry, that has been demonstrated by deeds of that Arm on many sanguinary fields. Nor could the most devoted unflinching courage on the part of Briton's Cavalry, than emulated the stern, determined and more undoubted valor of its infantry; and who shall assert the men of either Arm are not equally brave? It may be observed that the horse affords no palliation for its riders striking close combat. These generous animals when arrayed for the attack, appear to anticipate what is to follow, by impatient straining upon bit and snaffle, until one would imagine, they typify the Biblical war horse—That "smells the battle afar off and cries ha, ha, amid the trumpets"—And in the wild excitement of an eager, emulative speed, dash madly forward, giving little heed to obstacles in their course, and the less so, the further their riders harts of spirit precede them.

SABREUR.

New Hamburg, 5th June, 1874.

The University of Cambridge has conferred the honorary degree of Doctor of Laws on James Russell Lowell, of Boston.

**PACE AND SPEED IN MILITARY HORSES AS AFFECTING THE RATES OF MARCH.**

Some useful hints on the subject are furnished by the researches of a French cavalry officer, M. le lieutenant-Colonel Bonie, respecting the expenditure of vital power in horses moving at different paces, and with different rates of speed at each pace.

M. Bonie regards the rapidity of respiration, indicated by the heaving of the flank, a surer and readier guide than the pulse, as the exponent of the energy put in requisition. His observations have led to the subjoined conclusions:

1. A horse can work for a long time moving at a walk, at the rate of 1 kilometre in 10 minutes, without excessive fatigue, that is to say without an excessive expenditure of vital force.

2. At the ordinary rate of draught, *i.e.*, 1 kilometre in 8 minutes, the effect made in performing 3 kilometres is equivalent to that made in doing 1 kilometre at a trot.

3. Three kilometres at a trot, in like manner, are equivalent to 830 metres at a gallop.

4. One kilometre at a gallop is tantamount to 250 metres at the charge.

5. The force expended by a horse in trotting over broken ground, or up an acclivity, even of slight incline, is equivalent to that expended in galloping an equal distance over a firm and level road.

6. After charging a distance of 250 metres, or galloping 1000 metres, or trotting fast and long enough to rise the pulsations of the flank to 50, 55, or 65 per minute, a horse resuming a walk will recover his normal rate of respiration, indicated by about 20 respirations per minute, at the end of a quarter of an hour.

7. When a horse is not pushed in his paces, the speed at any given pace is not perceptibly affected by an increase in the weight carried; but the respiratory effort made by a horse carrying weight over a given distance at a trot is as great as if he performed an equal distance unweighted at a gallop.

8. In galloping, distance is less exhausting than speed. When long distances have to be performed at this pace the speed should be moderated, and intervals of trotting should if possible be interposed.

Accepting these data, and accommodating them to the performance of the slowest horse in any particular troop, we may circulate the main speed that should be given to it. For example, at a trot, the worst draught-horse, as long as he is used to work at that pace, will do 1 kilometre in five minutes. We may therefore safely take the performance of a troop-horse at 1 kilometre in four minutes, or, for a continuance, at 1 kilometre in 4.25 minutes. As it is desirable, in the case of troop horses, to vary the pace, the maximum of speed under the aforesaid conditions, will be combined with the minimum of fatigue by alternately trotting a distance of 1500 metres and walking for five minutes or for about 500 metres. In ascending a rise, even of a small gradient, and also in going down hill, if the descent be steep, the trot should be abandoned.

It will therefore appear that the most advantageous way of performing a march in peace time is the following:—At starting, walk for a quarter of an hour or twenty minutes, to prepare the respiratory organs of the animals for more rapid movement; then trot 1500 metres; walk 500 or 600 metres; trot again 1500 metres; and again walk 500 or 600 metres; halting for five

minutes, to adjust saddles, &c., when the respiration of the horses has recovered its normal state. On starting again, walk 500 or 600 metres; then trot and walk alternately twice as before.

In marching distances under 28 kilometres, besides the 5 minutes' halt, there should be one of 18 minutes, about two-thirds of the way.

In marches of 28 to 40 kilometres, there should be a third halt of a quarter of an hour. At the halt, everybody should dismount. The last 20 or 25 minutes of a march should be always done at a walk so as to bring in the horses cool.

In war-time, when long distances have to be performed, the halts should be more frequent, so that the march may be spread over a greater number of hours. The subjoined dates may be taken as a guide in such cases.—

In a march of	
60 kilom. per day—	120 kilom. per day—
12 kilom. in 1 h'r	12 kilom. in 1 h'r
22 " in 2 h'rs	22 " in 2 h'rs
32 " in 3 " "	32 " in 3 " "
40 " in 4 " "	40 " in 4 " "
50 " in 5 " "	45 " in 5 " "
60 " in 6 " "	51 " in 6 " "
	60 " in 7 " "
	4 to 5 hours' rest between, making 60 kilom. in a little over 10 hours.

The movements of Horse Artillery may be regulated by those of cavalry. Although the horses have to draw, which troop-horses have not, on the other hand they carry less, one horse's load being divided between a pair.

With mounted field-batteries the case is different. The men carried on the limbers, &c., add considerably to the weight; moreover the violent jerks to which they are liable render it inexpedient to trot over rough or stony ground, except in urgent cases. A quick rate of march should only be used on level macadamized roads in good condition. In these cases, by trotting and walking alternately for a distance of 1 kilometre, we may reckon on an average speed of 7 kilom. per hour on marches under 30 kilom., and of 6 kilom. per hour on marches of 45 to 50 kilom., allowing the same intervals of rest as with cavalry similarly circumstanced.

[We are indebted to a Belgian military work for the above details. The kilometre may be taken as equal to 1100 yards, or six-tenths of an English mile. Metres may be turned into yards or paces approximately, by adding one-tenth, *e.g.*, 200 metres are equal to 220 yards.]

The London Army and Navy Gazette says: The recent explosion of one of Whitehead's fish torpedoes at Woolwich Arsenal, by which accident one man was killed on the spot and several others dangerously wounded, gives rise to some very important questions. But before dwelling upon them, it may be as well briefly to describe the construction and internal arrangements of this now justly dreaded infernal machine. The torpedo consists, then, as its name implies, of a fish shaped body, twelve feet long by sixteen inches in diameter, with a compartment at either end closed by a bulkhead and engine room in the centre some eight feet in length. The whole is constructed of malleable steel three sixteenths of an inch thick, and hammered upon

"former." The motive power is compressed air, which is contained in the hinder compartment, and the bulkhead of this which presents a convex surface to the pressure from the air chamber, is of the toughest steel. The compressed air is conducted to a small oscillating engine, consisting of a large and small cylinder, the smaller of which receives the compressed air direct from the air chamber, and the larger are the "exhaust" from the small cylinder. The engine gives motion to an ordinary screw propeller at the tail of the fish. The pressure of the compressed air is regulated by an enormously powerful spring pressure gauge, which runs through the force compartment of the fish, and is kept at tension when the air chamber is charged. As the pressure of the air lessens, so the progress of the torpedo through the water; the gauge piston descends and keeps the stream of compressed air passing into the engines at a tolerably even pressure. This should be some 600 pounds to the square inch. The steering of the torpedo is, however, the nicest point, as it must always be kept in a perfectly straight line towards the object to be attacked, and this effected is as follows:—Two heavy balance weights are suspended in the centre compartment of the fish. When its equilibrium is disturbed these weights touch either one side or the other, and strike a lever which communicates with the steering fins at the tail end of the torpedo. The fins are behind the screw propeller and act as rudders, so that whichever side the torpedo "dips" or "heels over" towards, the corresponding fin is set in motion and corrects its movements by giving a contrary impulse to it. The gun cotton, or other explosive element with which the torpedo is charged, is contained in the foremost end. The recent accident occurred just as the torpedo was being lowered into the water, after having been placed in the cast iron cylinder out of which it is propelled. The same torpedo has been tried before with a pressure of 1,000 pounds to the square inch. It had been loaded in the Royal Laboratory, and had been brought down loaded on a truck to the starting house on the canal. But no fall or misadventure occurred on the way, and at the moment of the explosion one of the workmen was quietly starting with his finger the screw propeller, whilst another was oiling the machinery. Therefore, the cause of the accident was from no outward circumstances, but must have arisen from inherent defect in the torpedo itself. Yet the air chamber was propelled unbroken to a distance of sixty yards; so that the fault was not in the strength of the material employed. What, then, can have been the origin of the explosion? Probably some manufacturing fault. The plate or bulkhead which closed the air chamber may have been badly fitted, or the screw thread on it or on the inside of the chamber may have been defective. Indeed the "shearing" which has evidently taken place with the latter would give rise to such an idea. Whatever it may have been, a most searching investigation is, we understand, to take place, and we earnestly hope that the real cause of the accident will be allowed to transpire.

A correspondent of the Times, in a letter from Spain, says Concha is moving against the Carlists in Navarre with every available man. Gen Dorrogaray, commander of the Carlists, is already in a good position. An important action is expected to take place soon.

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## The Volunteer Review,

AND

### MILITARY AND NAVAL GAZETTE.

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

OTTAWA, TUESDAY, JUNE 16, 1874.

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

**LEUT. J. B. VINTER**, of Victoria, is our authorised Agent for Vancouver Island, British Columbia. As is also Captain H. V. EDWARDS for New Westminster and adjacent country.

The state of the British Navy has been exercising the powers of the adherents of the D'Israeli Government, their followers and the Opposition in the House of Commons, the Press, as usual, taking different sides. One thing, however, is quite certain that the Ironclad fleet is in anything but a satisfactory state; it is a very costly and totally untried means of defence, for we do not believe, with trifling exceptions, it can be converted into an offensive agent and that in repairs alone it will cost *five to ten* per cent. per annum on her first cost for repairs alone from the day she leaves the dockyard where she was built until she returns thereto some fifteen years later to be sold for scrap iron, and that without having done actual service to the State beyond the gratification afforded by the part she may happen to play at a naval review.

How different this state of affairs is to the services rendered by the old wooden ships of a by-gone age, they could do anything and go anywhere with a system of manning them of the most atrocious characters; with a discipline distinguished by its savage cruelty, it trained seamen and officers unequalled in nautical skill and military endurance by any other people, in ancient or modern history. Officers were not then scientists with only harbor training, or civil engineers great in the mysteries of steam locomotion, but they were seamen who could beat a vessel in or out of harbor in the tenth of a gale, and who could manoeuvre as well as fight their vessels manned by seamen who were not well drilled, infantry and naval gunners trained on their own element to handle artillery rapidly and effectively, not from stable platforms at measured distances with elaborate machinery, but on the platform of their own vessels subject to the heave and pitch of the sea and using that motive power to work and train their guns. The following article will show the value of the British Navy in 1874:—

"Mr. Ward Hunt, the First Lord of the English Admiralty, in introducing into the House of Commons the navy estimates, spoke of the great cost of repairs to the ironclad fleet, and gave some figures. The *Warrior* cost originally £356,693. She was seven years and a half in commission. Her first repair was £69,000. The cost of the present repairs was £51,971, so that the total cost of the repairs of the *Warrior* after seven years and a half in commission, was upwards of £121,000, which is a little in excess of one third of the original cost. The *Defence* cost £232,000. She was nine years in commission. Her former repairs cost £32,000; her recent repairs cost £33,000, making a total sum of £65,000. The *Resistance* cost originally £242,000, and her repairs up to this time, when she has been two months in commission again, have cost £68,610. I now come to the estimated repairs. The *Hector* cost £283,000. Her first repairs cost about £31,000; her estimated repairs are a little more than £14,000, making a total of £76,239. The *Minotaur* originally cost £156,830, and she was six years in commission; her former repairs were £18,000, and her estimated repairs are £75,100, making a total of £93,000. The *Achilles* cost originally £144,546; she has been eight years and a half in commission; her former repairs were £25,000, and her estimated repairs are £56,500, making a total of £82,019. The *Black Prince* cost £357,636; she has been ten years and four months in commission, and the aggregate of her repairs amount to the very large sum of £105,495, the present estimate being £61,000. The *Valiant* cost £30,258. After being five years and four months in commission, her repairs cost £17,000, and the present estimate is £45,000, making a total of £62,000.

The estimates provide for the building this year of vessels to the amount of 194,000 tons, namely, 13,852 in the dockyards, and 5,618 in the private yards. The total number of ships in commission is 123—viz, twenty-three ironclads, eight frigates, fourteen corvettes, twenty-seven sloops, thirty-two gun vessels, and eighteen gun boats. The *Inflexible* was laid down to build at Portsmouth on the 24th February, 1874. In consequence of the extreme novelty of the design, which involved great consideration, it was not suffi-

ciently far advanced to enable the sheer drawing and specification to be sent for yard officers' guidance before the end of August, 1873. There will, consequently, be only seventy-nine tons (weight of hull) built by the 1st of March, 1874. The ironclads building are the *Shannon* (5,703 tons); the *Superb* (9,492 tons) twin screw; the *Temeiraire* (8,412 tons), twin screw; and the *Fury* and *Inflexible*, turret ships, the dates of the completion of which are uncertain. We quoted last week what the *New York World* said of the English Navy—"a phantom navy" it called it. Now read what the *United Service Gazette*, of London, says: "Mr. Hunt informs the country that its navy only exists on paper—in fact that it is a sham; that although it consists nominally of forty-one supposed to be sea-going ironclads five of these are in course of construction, nine are either obsolete or too far gone to be worth repairing, four are under repair and will not be ready for service at sea until August; and that nine others, although not positively condemned, are not effective, thus reducing the efficient sea-going ironclad navy to fourteen ships. Of harbor and coast defence vessels there are nominally fourteen, but one of these has yet to be built, and eight only—including the *Devastation*—could be considered fit for service, the remaining five being not worth mentioning; and some of them are at distant stations, where they serve certain purposes, but from which they never can be brought home." Thus out of a total of fifty-five ironclads appearing on paper, only fourteen are efficient for ocean purposes and eight for home defence. Such is the result of a five years' economical administration!"

Mr. Hunt said in the House of Commons, "that though some authorities thought the *Devastation* fit for sea-going service, he shrank, after the sad warning furnished by another ship of novel construction, from placing her without further trial and advice among the sea-going ships. Wherever she was she was no doubt a very powerful instrument of war, and the most extraordinary piece of mechanism which human ingenuity has ever devised."

A London correspondent says: "The state of the navy is attracting considerable attention in political circles, and the adjourned debate is likely to be the occasion of some curious little revolutions. As a matter of fact, the state of the ships and their boilers are not only leaky, but in several instances are positively dangerous, and not at all insured against explosions. Mr. Goschen's admission that repairs were not done because they were so expensive is considered to be the worst statement that has been as yet made, and it is the more discouraging as it virtually supports Mr. Ward Hunt in his promised demand for more money. It will be remembered that earlier in the session Lord Camperdown made in almost similar confession, and the inference appears to be inevitable that a naval service has been starved in order to obtain a huge surplus and to render practicable an heroic budget."

We have received a copy of the Constitution, Bye Laws and Target Practice Regulations of the British Columbia Provincial Rifle Association for 1874. The President is our old friend Lieut. Colonel Hon. Mr. Justice GRAY. Vice-president—Lieutenant Colonel Houghton, D.A.G., Military District No. 11 (ex officio); Captain Roscoe, M.P.; Captain Bushby. The Council is composed

of Hon. Mr. Justice Gray, Lieutenant Colonel Houghton (ex-officio), Capt. Roscoe, M.P.; Mr. Thos. Allsop, Mr. C. T. Dupont, Mr. J. Roland Holt, Mr. C. E. Pooley, Victoria; Captain Bushby, Captain Edmunds, New Westminster; and Mr. Hugh Nelson, Bernard Inlet. Secretary-Treasurer—Mr. J. Roland Holt. Auditor—Mr. Robert K. R.

The Annual General Meeting of the Association shall be held at Victoria, B.C., on the second Monday in January in each year, at such time and place as the secretary, under the direction of the Council, shall notify by advertisement or otherwise.

The following are the target practice regulations:—

Members of the Association will be entitled to practice rifle-shooting at the targets on the new range on the Cadboro Bay Road, on Tuesdays, Thursdays, and Saturdays, (unless the range should be required for the exclusive use of the Militia on any of these days, of which public notice will be given,) subject to the following regulations. Members will also be entitled to shoot at the other Dominion Rifle Ranges in the Province, upon such days as the Deputy Adjutant General may appoint, and subject to the following regulations, so far as the same are applicable and circumstances will allow:—

I. None but members of the Association will be allowed to make use of the targets for rifle practice (except the Militia of British Columbia, subject to the orders of the Deputy Adjutant General.)

Persons desiring to join the Association can do so on application, and by paying an annual subscription of One dollar to the Secretary.

II. On the above days, and such other days as may be named by the Deputy Adjutant General from time to time, or by the person authorized to act for him in case of absence, the marker will have everything in readiness for the firing to commence at the 200 yards range distance at the hour of two o'clock precisely (subject to such alteration, however, as may be considered advisable at any time.) But under no circumstances whatever must a shot be fired until the red flags are flying on both the flagstuffs erected for this purpose, and the danger signal and flag lowered at the marker's butt. Any alteration of the hour for commencing target practice will be duly notified on the "Militia Order Board," signed by the D.A.G.

III. A squad may consist of any number of men not exceeding sixteen, and every squad on arrival at the shooting ground will appoint one of their number as register keeper, who will have charge of the firing party, and be responsible that these regulations are duly carried out by them. He will enter the names of the men in his squad in a register book, which will be kept at the marker's butt for this purpose, in the order as nearly as possible in which they arrived on the ground, and will keep a careful registry of the scores as obtained by each of them at the several distances.

Any man arriving on the ground after the squad has completed its five rounds at any one distance, and the bugle has sounded the "cease firing" or "retire," as the case may be, will not be allowed to delay the squad by firing at that distance, but can either join the squad then practising at the next distance (unless the number should be thereby increased to over sixteen men,) or wait for the formation of a second squad, on completion of its "course" of twenty rounds

by the first in the manner hereinafter prescribed.

IV. The prescribed "course" of one practice shall consist of twenty rounds per man, to be fired in the following manner, viz: 5 rounds at each 200, 400, 500 and 600 yds., and no man will be allowed to exceed this number of rounds at any one distance. Any man however, joining a squad after it has passed one or more distances, may, after the completion of the course by the squad, make good the omitted distances with the next squad, should there be one formed, or otherwise alone, time permitting, and a bugler being available. In the former case he will fire at each distance before the second squad.

V. On the completion of its course by the first squad, time permitting, a second squad may be formed, from which those having already fired a course will be debarred, unless the second squad should be under ten men; in which case any so desiring may join and go through a second course, provided that the number is not thereby increased to over the prescribed sixteen, or after 4 p.m., to over twelve men. The names of such men as have already fired to be placed on the squad register below those who have not.

VI. To create a fund for the payment of markers, practice tickets—price ten cents each—will be issued, and can be obtained on application to Color Sergeant John Wilson, No. 2 Company Victoria Rifles, and each man will be required to hand in one of these tickets to the register keeper before his name can be enrolled for any squad.

These tickets will be given up to the marker with the register on completion of the course, and he will be held responsible that the number of tickets corresponds with the number of names on the register, and he will hand them over to the Secretary at the end of each week and produce the book for his inspection.

VII. The firing will be conducted in the following manner, for the observance of which the register keeper will be held to be responsible; and in case of the refusal of any member of the squad to conform to these rules, his name shall be at once struck off the roll by the register keeper, and he shall not be permitted to fire another shot with that squad.

The two men whose names stand first on the register roll of the squad will take up their position and fire their five rounds alternately, when they will fall back and their places be taken by the two next, and so on to the end of the roll. On the last shot being fired at each successive distance, the bugler will sound the "retire" or "cease firing," as the case may be. The former to be sounded when there is no occasion to compare the target with the register, and to be preceded by the number of G's indicating the distance at which the next firing is to take place immediately. The "cease firing" need not be sounded when retiring from one range distance to another, unless there is necessity for comparing the targets, or the markers at the butts call for it by hoisting the danger signal.

One G (following the "retire" or "advance," as the case may be,) signifies the 200 yard distance point; two G's the 400, three the 500, and four the 600 yards.

VIII. No man will be allowed to fire out of his regular turn unless under some extraordinary circumstance, and then only by special permission of the register keeper, or to load his rifle (muzzle loaders excepted), until his name has been called by him and he has taken up his firing position in front of the

target. And no person must on any account, or under any circumstance, pass or stand in front of the man who has so taken up his position and is about or in the act of firing.

IX. The moment the danger signal is raised at the marker's butt, all firing must be immediately suspended, whether the bugle has sounded or not. The red flag will also be elevated at the firing point without delay, and the bugle sounded as soon as possible. The men who are in the act of firing will, if loaded, at once open the breech of their rifles, if firing with the Snider-Enfield (or other breech-loaders of a similar action); if with muzzle-loaders (or breech-loaders of different action from the Snider-Enfield), they will half-cock and come to the order. Nor must the firing be resumed until after the danger signals have been lowered at both the butt and firing point, and the bugle shall have sounded the "commence firing."

X. Should cattle or horses cross the range during the practice, the register keeper will order the bugler to sound the "cease firing" followed by the "alarm," and the danger signals will be hoisted at both ends of the range until it has been cleared; and should any damage occur at any time to stock or other property, owing to neglect of orders,

careless firing, or a want of proper precaution in any way whatsoever, the cost of such damage shall be defrayed by the person firing the shot from which it ensued, if such can be ascertained; but if not, by the entire squad practicing at the time, share and share alike.

A member of the Association violating any of the above regulations, must, upon the request of the register keeper, cease firing for the day; and if complaint be made to the Council, and they shall so order, will cease to be a member of the Association.

XI. The above regulations may be varied or suspended on any of the days before mentioned, should the Council see occasion, or should the range be required by the Deputy Adjutant General for the Militia. Due notice of such variations or suspension will, however, be posted forty-eight hours previously on the Militia Order Board, for the information of the members of the Association not belonging to the Militia.

XII. All parties are cautioned against breaking or leaving bottles on the ground, breaking down fences or leaving gates open or otherwise doing any thing that may injure, or have a tendency to injure, the property, persons, or cattle thereon.

*Broad Arrow* of 18th April has the following description of a new piece of Artillery named the "Macomber" Gun—we believe it has been called so after its inventor—and would have more faith in the principle of the charge were it not so out of proportion to the Gun and projectile:—

In the *Times* naval intelligence of February 11, a brief description was given of the "Macomber" gun, an American invention, or rather an adoption of certain well-known principles in building up guns, and of the first preliminary trial to which it had been subjected at Portsmouth, under the superintendence of Captain H. Boys, commanding the *Excellent* gunnery establishment at that port. On that occasion a flaw was discovered in one of the steel gas checks of the breech loading arrangement, which, however, was quickly remedied, and the trial was afterwards taken up again and concluded by Captain Boys at as early a



date after the first day's firing as that officers' other engagements permitted. The tests to which the gun was subjected at Portsmouth only related to the gun's apparent endurance under the moderate number of full charges fired from it and the action of the breech-loading arrangement. In both instances the results may be taken as satisfactory; but a further and more continuous series of trials in this respect was necessary before the reputation of the gun could be established beyond dispute. The range and initial velocity of the projectile fired have also yet to be ascertained, and to arrive at conclusive results upon all points it is proposed to send the gun to Shoeburyness. The main features of the Macomber gun, passing by for the time the breech-loading apparatus, are quicker combustion than usual, and that, whatever the gun's calibre and weight of its shot, the powder charge shall be half the weight of the missile. Curtis's No. 3 fine-grain sporting powder is used. The largeness of the powder charges requires a combustion chamber exceeding in diameter the bore of the tube or chase of the gun, and requires a breech of extraordinary strength to withstand the strain of each discharge. The gun now in this country for trial has only an extreme length of 48in., and may appear rather small for testing its breech-loading apparatus in its application to a thirty-fifty ton gun. The length of the built-up breech is 14 7/8in., with a diameter over the outer steel rings of 12 in. The powder chamber is 7.25in. in length, with a diameter of 2.5in. The diameter of the rifled tube (seven grooves) is 1.277in. With regard to the construction of the gun, the breech is built up of discs of three different kinds of wrought iron, increasing in density from the centre to the circumference. These discs are "set" with a powerful steam hammer until the strain reaches the outside, and this strain is then far greater than can be given to the powder chamber on the explosion of the greatest charge it can be made to hold. After the gun has been built up in this manner heavy steel rings are forced on over the chamber at the breech by a powerful hydraulic press the inner surface of the rings and the outer surface of the gun being accurately engineered. Thus the metal, commencing on the inside with the softest of tough wrought iron, finishes on the outer surface with the best of wrought steel. The gun is a breech-loader, closing after being loaded by two and a half turns of a three thread screw, forcing the fire tube into the centre of the charge, and closely surrounding the base of the powder chamber with the steel blades of the gas check, which entirely prevents any escape of gas. We have not yet sufficient data for a comparison of this gun with those of the Woolwich manufacture, but we presume the experiments are to be carried on until conclusive results are obtained.

We this week commence the republication of Colonel Fletcher's excellent brochure, on the West Point Academy. It will repay the Military reader to give it a careful perusal and study well its teachings. Col. Fletcher is a man of large military experience, thoroughly understanding the subject he treats of which he does in a pleasing and masterly style of diction.

As we are about to commence the formation of a Military College of our own, we consider this pamphlet very opportune, and

would again reiterate that no better man could be selected to place at its head than Colonel Fletcher. We understand that the Hon. Mr. McKENZIE, accompanied by Colonel Fletcher, paid Kingston a visit last week to see if the ground and barracks at Fort Henry will be suitable for the Military College. With the exception of Quebec perhaps no better selection could be made.

#### REVIEWS.

We have received the Leonard Scott's reprint of the *Milburg Review* for April. It is a very interesting number. The subjects treated of are:—Eastern Turkistan; Comparative Examinations; Prince Bismarck and the Church of Rome; The Parisian; Mox Muller's Science of Religion; Hydraulics of Great Rivers; Fraude's Irish Parliament and India Rebellion; Dr. Schlieffelin's Trojan Antiquities; The Past and the Future of the Whig Party.

A special despatch to the *London Times* says the Governments of Germany, Servia and Roumania have confidentially informed the other European powers, that they have concluded an agreement to mutually protect their interests and position against the designs of Turkey.

The Duke of Conaught (Prince Arthur), appeared in the House, of Lords on the 8th for the first time, and participated in its deliberations.

#### DOMINION OF CANADA.



#### MILITIA GENERAL ORDERS.

#### HEAD QUARTERS,

Ottawa, 12th June, 1874.

#### GENERAL ORDERS (15).

#### No. 1.

#### ACTIVE MILITIA.

Adverting to No. 1 of General Orders (13) 2nd June, 1874, that portion relating to No. 9 Company (Peel) and No. 10. Company (Wilnot) of the 67th Battalion of Light Infantry, N.B., is hereby cancelled.

*Errata*—In No. 3 of said General Orders (13) 2nd June, 1874, in Military District No. 1, read "No. 3 Company (Seaforth) 38rd Battalion, Captain Charles Wilson," instead of "No. 2 Company (Wingham) 33rd Battalion, Captain Wilson." And in Military District No. 2, add "No. 5 Company (Fullsville) 37th Battalion Captain Ryan."

Adverting to paragraph 1 of General Orders (14) 3rd June, 1874, as vacancies for officers occur in Corps the nominal strength of which has been reduced, the strength of officers thereof will be reduced to two in each Troop of Cavalry, Garrison Battery of Artillery, or Company of Engineers, Infantry or Rifles.

Adverting to paragraph 3 of said General Orders (14) 3rd June, 1874, under the head of "Rations" the special allowance for Field Batteries in lieu of Camp Kettles, &c., will be \$10 per Battery, for all Field Batteries or Artillery who actually perform their annual Drill in Camp.

Adverting to paragraph 9 of said General Orders (14) 3rd June, 1874, under the head of "Garrison Artillery," Corps of Garrison Artillery in the several Brigade Divisions will perform Drill under the same regulations as are provided in General Orders (14) for other Corps of Active Militia.

#### No. 2.

#### PROVINCE OF ONTARIO.

#### 2nd Regiment of Cavalry.

Lieutenant Colonel Norman Torquil MacLeod, is hereby permitted to retire retaining rank.

#### 18th "Prescott" Battalion of Infantry.

To be Lieutenant Colonel:

Major Angus Urquhart, V.B., vice John Shields, who is hereby permitted to retire retaining rank

To be Major:

Captain and Brevet Major Archibald McLean, M.S., from No. 5 Company, vice Allan J Grant, deceased.

#### 26th "Middlesex" Battalion of Infantry.

#### No. 2 Company, Napier.

The resignation of Ensign John Dunlop is hereby accepted.

#### 27th "Lambton" Battalion of Infantry.

#### No. 4 Company, Warwick.

To be Captain:

Lieutenant Alexander Kerr, M.S., vice Charles John Kingstone, who is hereby permitted to retire retaining rank.

To be Lieutenant:

Lance Corporal Franklin Kenward, M.S., vice Kerr promoted.

The resignation of Ensign William McLeny is hereby accepted.

#### 28th "Perth" Battalion of Infantry.

#### No. 2 Company, Stratford.

Ensign Gilbert Forman Brown having left limits, his name is hereby removed from the list of Officers of the Active Militia.

**30th "Wellington" Battalion of Rifles.**  
*No. 3 Company, Fergus.*  
 The resignation of Ensign Alexander Cadenhead, is hereby accepted.  
*No. 8 Company, Whittington.*  
 To be Captain, provisionally :  
 Sergeant James A. Spence, vice Bowsfield, resigned.  
*No. 9 Company, Hollen.*  
 Ensign James John Haslett, having left limits, his name is hereby removed from the list of Officers of the Active Militia.  


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**36th "Peel" Battalion of Infantry.**  
 To be Quarter Master :  
 Sergeant William Miller vice John Bell deceased.  
*No. 3 Company, Brampton.*  
 To be Captain :  
 Ensign George Tye, M. S., vice Dodd retired.  


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**39th "Norfolk" Battalion of Rifles.**  
 To be Lieutenant Colonel :  
 Major and Brevet Lieutenant Colonel Simon Pitt Mabee, V. B., vice David Fisdale, who is hereby permitted to retire retaining rank.  
*No. 6 Company, Simcoe.*  
 To be Captain :  
 Private Walter Matheson, M. S., vice Thomas Puzey, whose resignation is hereby accepted.  
 To be Lieutenant, provisionally :  
 Private George Stanton, vice Joshua Austin, who is hereby permitted to retire retaining rank.  
 The resignation of Ensign Nelson Robert Gilbert is hereby accepted.  


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**41st "Braceville" Battalion of Rifles.**  
*No. 1 Company, Brockville.*  
 To be Lieutenant :  
 Ensign Edward Hull Sheffield, V. B., vice William M. Phillips, who is hereby permitted to retire retaining rank.  


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**57th "Peterborough" Battalion of Infantry.**  
*No. 2 Company, Peterborough.*  
 To be Lieutenant :  
 Ensign William Langford, M. S., vice Joseph H. Kennedy, who is hereby permitted to retire retaining rank.  


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**59th "Stormont and Glengarry" Battalion of Infantry.**  
*No. 3 Company, Cornwall.*  
 To be Captains :  
 Lieutenant William Douglass C. Adams, M. S., vice Peter G. MacLennan, deceased.

BUREAU.

To be Lieutenant-Colonel :  
 Major William Dillon Otter, M. S., 2nd Battalion, from 4th June, 1874.  
 To be Majors :  
 Captain Andrew McBride, V. B., No. 4 Company, 30th Battalion, from 23rd April, 1874.  
 Captain Alfred Lander (formerly an Officer in H. M.'s Regular Army) No. 3 Company, 41st Battalion, from 4th June 1874.  


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CONFIRMATION OF RANK.

Ensign James Ward, V. B., No. 5 Company, 35th Battalion, from 26th May, 1874.  


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PROVINCE OF QUEBEC.

*Grosse Isle Battery of Garrison Artillery.*  


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 The detachment of Garrison Artillery at Grosse Isle is hereby authorized as a Battery. Strength to remain as heretofore.  
 To be Captain :  
 Lieutenant Frederick Montizambert, G. S.  


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**23rd "Beauce" Battalion of Infantry.**  
 To be Paymaster :  
 Captain and Brevet Major Charles George Labrecque, from No. 4 Company, vice Phillippe Taschereau, left limits.  
 To be Quarter Master :  
 Quarter-Master-Sergeant Alfred Pelletier, vice Louis Paradis, appointed to No. 4 Company.  
*No. 4 Company, St. Vital de Lambton.*  
 To be Captain :  
 Lieutenant and Quarter-Master Louis Paradis, M. S., vice Charles G. Labrecque, appointed Paymaster.  
 Lieutenant Narcisse Blanchet having left limits his name is hereby removed from the list of officers of the Active Militia.  


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**70th "Champlain" Battalion of Infantry,**  
*No. 2 Company, St. Narcisse.*  
 To be Captain :  
 Ensign Adolphe Coosette, M. S., vice Pierre Olivier Trudel, who is hereby permitted to retire retaining rank.  
*No. 6 Company, St. Tile.*  
 Ensign François Xavier Rivard, having left limits, his name is hereby removed from the list of officers of the Active Militia.  


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**79th "Shefford" Battalion of Infantry, or "Highlanders."**  
 To be Quarter Master :  
 Lieutenant E. B. Hodgo (P) from No. 6 Company vice John H. D. Bartlett, whose resignation is hereby accepted.

BUREAU.

To be Lieutenant Colonel :  
 Captain and Brevet Major James Turnbull, V. B., No. 2 Troop Quebec Squadron of Cavalry, from 28th May, 1874.  
 To be Major :  
 Captain Charles George Labrecque, M. S., No. 4 Company, 23rd Battalion, from 18th December, 1873.  


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PROVINCE OF NEW BRUNSWICK.

*New Brunswick Brigade of Garrison Artillery.*  
*No. 7 Company, Chatham.*  
 To be 1st Lieutenant :  
 2nd Lieutenant James William Fraser, G. V. B., vice Francis J. Latson, whose resignation is hereby accepted.  


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**71st "York" Battalion of Infantry.**  
*No. 5 Company, Fredericton.*  
 To be Captain :  
 Lieutenant Henry Adams Cropley, M. S., vice Henry Beckwith, whose resignation is hereby accepted.  
 To be Lieutenant :  
 Ensign Christopher Johnston, M. S., vice Cropley, promoted.  


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PROVINCE OF NOVA SCOTIA.

*King's Troop of Cavalry.*  
 No. 9 Company (Kentville) of 68th Battalion, is hereby detached from 68th Battalion and changed to a Troop of Cavalry, to be known as the "King's Troop of Cavalry."  
 To be Captain :  
 Captain J. W. Ryan, Q. F. O.  
 To be Lieutenant :  
 Lieutenant Robert S. Masters, Q. F. O.  
 To be Cornet, provisionally ;  
 Ensign T. H. B. Witter.  


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PROVINCE OF BRITISH COLUMBIA.

*No. 2 Company of Rifles, Victoria.*  
 The resignation of Lieutenant John Rowland Hett is hereby accepted.  


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 No. 3.  

CERTIFICATES.

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BOARD OF EXAMINERS.

PROVINCE OF ONTARIO.

AT TORONTO.

SECOND CLASS CERTIFICATE.

Ensign James Ward, No. 5 Company, 35th Battalion.  
 By Command of his Excellency the Governor General.  
 WALKER POWELL, Lieut. Col.  
 Acting Adjutant General, of Militia,  
 Canada.

## REPORT ON THE MILITARY ACADEMY AT WEST POINT, U.S.

(BY LIEUT.-COL. FLETCHER.)

Before commencing a report on the Military Academy at West Point, I would wish to draw attention to the very able Memorandum submitted to the Royal Commission on Military Education in 1868, by Colonel, now General Macdougall, and which appears as an addenda to the report of the Commission. General Macdougall deals so fully with the subject, and details so clearly the system of education pursued at the Military Academy, that there is little in these respects to add to his report, especially as it has received the approval of those who are connected with the Academy, and who are consequently best qualified to judge of the correctness of the statements and of the accuracy of the information. As, however, General Macdougall's report was drawn up with an object somewhat different to that which occasioned my visit, I propose whilst alluding to the subjects of which he has already so ably treated, to enlarge somewhat more fully on certain portions of the organization and system of the Academy, and to direct attention to points which from a Canadian point of view appear to deserve attention.

If I am correct in my conclusions a short account of the formation and gradual growth of the Military Academy will not be out of place, as it will show how the institution was almost contemporary with the first formation by the United States of a defensive force, and how its growth has proceeded *pari passu* with its demands and requirements.

As early as 1776 at the outset of the Revolutionary War, the want of trained officers was much felt, and a Committee, appointed to report on the state of the army, recommended the formation of a Military Academy for the instruction of officers. Nothing at that time was done to carry into practice the views of this Committee, and the subject was brought up again and again without result, until gradually, as the Artillery and Engineers, consisting in 1794, of four battalions, became better organized, steps were taken for the instruction of the cadets attached to these corps: books were bought, and in 1795, when an additional regiment of the same arm of the service was raised, and when the cadets numbered fifty six four teachers were appointed.

The ground work of a Military Academy in connection with a Military force has thus been laid, but it was not until 1802 that an Act of Congress was passed dividing the Artillery and Engineers into two corps, and allotting forty cadets to the former and ten to the latter. These corps were to be concentrated at West Point and were to form a Military Academy. The selection of West Point was due to its importance as a frontier fortress, its commanding the Hudson River at the narrowest portion of its channel, and guarding one of the most important lines of approach from

the British Possessions. In 1783, the cadets were increased by 146, and in 1812, their limit was fixed at 260, the strength of the army being at that time over ten thousand men; four professors, in addition to the officers detailed for instruction, were also appointed to the staff of the Academy. Thus a foundation was laid for the training of the officers of the small army with which it was deemed necessary to supplement the State Militia.

Much, however, remained to be done to bring the Academy to its present efficient condition, and it was not until 1818 that a system, which with little modification has been followed to the present day, was finally determined upon. The cadets were declared to be soldiers, subject to Martial Law, two general annual examinations were ordered, and steps were taken to train the young men during the summer months in camps of instruction. Since then, although many improvements and changes may have occurred, the organization and method of training and discipline have remained in principle as in 1818, the growth of the institution depending partly on the interest shewn in its welfare by the successive Secretaries of War more on the qualities of its superintendents, and somewhat on the tone of the army, which it feeds and from which it draws its life. It would seem invidious to select from the many able superintendents the names of those who have more especially influenced the destinies of the Academy; but to Major Thayer in 1817, and to Major Delafield in 1835, appear to be due many of the improvements which have led to its continued success; whilst in 1852 the presence of Colonel Robert E. Lee could not fail to have exercised over all who were brought in contact with him, an influence which was subsequently felt in a more extended sphere.

Such given very shortly has been the history of the Academy from its commencement in the war of the Revolution—when the need of educated officers was felt as soon as an army had been organized, up to the present time, when the experience of those who have seen much service in the great war of 1861 is brought to bear on the training of the future officers of the United States Army.

The situation of the Academy, selected at first on account of its suitability as a fortress, when the garrison of an important frontier post served as the training school for the cadets, has proved to be one of the best that could have been chosen, even had nothing excepting its desirability as a site for a college, influenced the choice. Standing on a lofty plateau over looking the great river which serves as one of the main arteries of the commerce of New York, it embraces both in its immediate vicinity and in the surrounding country, scenery which can scarcely be surpassed in beauty. Its isolation affords means of carrying out the discipline which forms part of the system of its instruction, whilst the various and changing features of the landscape prevent the feeling of loneliness which might otherwise be oppressive. Perhaps, unknowingly, but none the less surely, must the scenery around West Point, exercise a beneficial influence over the young men who pass with little intermission four of the most susceptible years of their life in contact with some of the driest details of education, and yet surrounded by the most beautiful scenes of nature. The healthiness of the situation is evinced by the absence of sickness among the cadets, and by the fact of its being chosen as a summer resort

of visitors from all parts of the United States. The area in the hands of the Government includes a little over 2,100 acres. Much of this is wood and rock, but there is sufficient plateau to allow of a large exercising ground, used in summer for encampments, in addition to the space required for the several buildings. These include barracks for about 300 cadets, class rooms, mess rooms for the cadets and for the officers: offices, a library, chapel, hospital and, a riding school. The officers mostly live in detached houses in the vicinity, and the small garrison of 250 men, viz.:—75 cavalry, 75 engineers and 100 laborers drawing the pay of artillery men, are quartered in barracks about half a mile from the College, and below the plateau on which it stands. Without being architecturally beautiful, the buildings appear fitted for the purposes for which they are intended, excepting the gymnasium which is small, and the chapel which, judging by the exterior, partakes of the character of most garrison chapels.

The Academy is capable of containing 300 cadets, but the actual number under instruction seldom amounts to more than 250, the present number being 246.

The staff of instruction, discipline, and general supervision, consists of the Superintendent, "Brigadier General Ruger," professors, thirty three instructors, assistant instructors, and assistant professors, also an Adjutant, Treasurer, Quartermaster, two medical officers, and a Sword master. Of these, all excepting the professor of ethics, who is also the Chaplain, the professors of drawing and Spanish; the Sword master and the two medical officers are graduates of West Point, and, barring the professors are actually serving in the army. The professors are commissioned as such, and draw the pay of Lieutenants and Colonels. The Superintendent is an officer of high rank, and selected for his especial capacity for office. On him devolves in great measure the arrangement of the studies as well as the discipline of the Academy. Although appeals may be made from his decision to the Secretary of War, it is generally considered as final, and he has the power of assembling courts martial for the trial of serious offences. The educational staff is not concerned with the discipline of the cadets, except during their attendance in the class rooms, or as it is termed at repetition, when any irregularities of conduct are recorded and reported. The instructors, assistant instructors, and assistant professors, are detached from the army, and are selected for their acquirements and qualifications. They retain the appointment for four years, and then return to regimental or staff duty.

The discipline is more especially under the command of cadets in his capacity as commanding the battalion formed from the four companies into which the cadets are divided. He is assisted by company officers as well as by the cadet officers who act under them. The duty is carried on in a manner similar to that of any other battalion allowing the modifications necessary for young men undergoing scholastic instruction. During the months of July and August, when the cadets are under canvas, and when studies are suspended, the discipline is exactly similar to that of soldiers, only somewhat more strict. They are divided into four companies, according to their size, the flank companies comprising the tallest. To each company a certain portion of the barracks is allotted, and from the senior or first class, cadet company officers are appointed, from the

second class sergeants, and from the third corporals.

These officers and non commissioned officers are held responsible for quietness and good behaviour in the barracks and barracks rooms, and for the discipline of the squads marching to class rooms or elsewhere, they also command at parades, before the parade is handed over to the regular officers.

In regard to discipline the closest supervision is exercised over the cadets at all hours and under almost all circumstances; and when the number of officers, 50, is considered in comparison with the number of cadets, 246, little difficulty can be found in carrying out the system. At the same time a principle of honour is inculcated into the minds of the young men, and has become identified with their feelings. A cadet's word is believed, and the cadet officer and non commissioned officer receive the support of their comrades in execution of their duties.

To illustrate clearly the system pursued at West Point, it may be well to follow the career of a young man from his first nomination up to the time of his passing the final examination. To obtain admission into the Academy, a nomination is necessary from the Secretary of State for War, on the recommendation of the representative in Congress of one of the several districts then unrepresented in the Academy. Each congressional district, and there are now 300 is entitled to one representative. Several of these districts, however, fail to send cadets, owing to the distance the sparse population, and the difficulty in some districts of obtaining sufficient education to enable the lads to pass the required examination. In addition to this mode of admission, the President of the United States is allowed to nominate ten cadets in each year generally selected from sons of officers who have served or are serving in the army.

The nomination is followed by a qualifying examination in the month of June if possible, if not in August. A knowledge of English reading and writing, an acquaintance with the first four rules of arithmetic of reduction, simple and compound proportion, vulgar and decimal fractions, of the elements of the English grammar, of geography, and of the history of the United States, is all that is considered necessary, the object being that the common schools of the country accessible to all should be able to furnish sufficient education for entrance into the Academy.

As the age of admission is from 17 to 22, the qualifications demanded are not high, and are in the reach of the vast majority of the people. Many of the candidates are, of course, educated beyond these requirements, and it is found practically that unless a young man has received instruction somewhat in excess of that demanded, he will, except he possess great ability and power of application, fail in the subsequent examinations, and consequently be forced to leave the Academy.

The cadet, who, by the way, must not be less than five feet in height, has to pass an examination by a Medical Board, to ascertain whether to use the words of the regulations, "he possesses the requisite physical ability to serve his country in the arduous and laborious station of a military officer, not only at the time of his examination, but during his life, until he shall be disabled." Having satisfied these conditions, he is required to take an oath of allegiance to the Constitution and Government of the United States, the oath since the war of 1861,

specifying the priority of allegiance to the United States over any that may be due to an individual state. He then becomes liable to military service for eight years, if so required.

Supposing him to have joined in June, he is at once allotted to a company according to his size, and goes into camp. During the two months he is under canvas, he becomes acquainted with his class mates, and selects one of the same company (to which his choice is limited), to share his room.

When study commences at the end of August, he passes into the fourth or lowest class to rise yearly in turn, and after examination, to the third, second and first classes. During these four years, the following course of instruction is pursued.

1. Infantry, artillery, and cavalry tactics; and military police and discipline.
2. Use of the sword, bayonet, &c.
3. Mathematics.
4. French language.
5. Spanish language.
6. Drawing.
7. Chemical physics, chemistry mineralogy and geology.
8. Natural and experimental philosophy.
9. Ordnance, gunnery, and the duties of a Military Laboratory.
10. Ethics, and National, International and Military Law.
11. Practical Military Engineering Military Signalling, and Telegraphing.
12. Military and civil engineering, and the science of war.

As the cadet is supposed to have received, and in many instances has received, only

\*NOTE.—It has never been necessary to insist on the fulfillment of this proviso, by unwilling cadets, as commissions are valuable prizes, and by far the greater majority make the army their career for a much longer period than that stipulated.

the most elementary education before reaching the Academy, it must be granted that to acquire in any useful degree a knowledge of the subjects contained in this catalogue of studies, will require close and almost incessant application. Such, on reference to the regulations for the employment of time proves to be the case.

From early morning until bed time, the cadet's time is mapped out and occupied; study, parades, and military exercises succeed each other with little intermission; and relaxation is afforded, not by amusement, but by a change of study, or by the training of the body in place of the mind. Excepting on Saturdays and Sundays, when the period of leisure is somewhat extended, the cadet has never more than half an hour at a time for recreation, supposing that he employs, as is intended, the time he remains in his room for private study. The system is to give instruction in the class rooms at what are termed recitations, after the lessons set by the professors or assistant professors have been prepared privately in the cadets' room.

The several classes are paraded in small detachments, generally of not more than twelve, and marched to the class rooms, which are airy and fully large enough for the number they contain.

Every cadet is usually called up and examined *circa voce* at each recitation, notes prepared from memory and written on large slates attached to the wall being permitted to assist the replies. The most complete silence and the greatest attention is enforced and becomes a habit, the small number under instruction permitting of the closest supervision. The following table of the employment of time will give an idea of the careful manner in which each day's work is mapped out.

Table of the Employment of Time at the United States Military Academy.

Class.	From 7 o'clock to 7:30 a.m.	From 7:30 a.m. to 8 a.m.	From 8 a.m. to 11 a.m.	From 11 a.m. to 1 p.m.	From 1 p.m. to 2 p.m.	From 2 p.m. to 4 p.m.	From 4 p.m. to sunset.	From sunset till call for quarters.	From Evening call to quarters' to Half-past 9 p.m.	From 9 p.m. to 10 p.m.
First.	Roll call.	Recitation in Civil and Military Engineering and Science of War, &c., or Drawing in these branches of Study.	Recitation in Ordnance & Gunnery, Cavalry Exercise Study.	Recitation in Ethics, Law or Ordnance and Gunnery, Mineralogy and Geology.	Study.	Recitation in Ethics, Law or Ordnance and Gunnery, Mineralogy and Geology.	Study.	Study.	Study.	Study.
Second.	Roll call.	Recitation in natural and experimental Philosophy.	Recitation in Chemistry, Cavalry Exercises Study.	Drawing, and scrape with lead pencil, Landscape with colors.	Recitations in Tactics Study.	Recitation in Ethics, Law or Ordnance and Gunnery, Mineralogy and Geology.	Study.	Study.	Study.	Study.
Third.	Roll call.	Recitation in Mathematics.	Recitation in French, Spanish Study.	Drawing, Topography with lead pencil and ink and colors.	Recitations in French Study.	Recitation in Ethics, Law or Ordnance and Gunnery, Mineralogy and Geology.	Study.	Study.	Study.	Study.
Fourth.	Roll call.	Recitation in Mathematics.	Use of the Sword, &c. Study.	Recitations in French Study.	Recitations in French Study.	Recitation in Ethics, Law or Ordnance and Gunnery, Mineralogy and Geology.	Study.	Study.	Study.	Study.

Tattoo at half-past 9; signal to extinguish lights and inspection of rooms at 10.

Given generally, the course of the four years' studies is divided under the following heads:—

"First year: Practical instruction in infantry tactics, police and discipline; practical instruction in artillery tactics; instruction in small arms, &c.; first part of the course of mathematics; and first part of the course of French."

"Second year: Practical instruction in infantry tactics; practical instruction in cavalry tactics; police and discipline; practical instruction in artillery tactics; remainder of the course of French; the course of Spanish; and first part of the course of drawing."

"Third year: Theoretical and practical instruction in infantry, cavalry, and artillery tactics; police and discipline; natural and experimental philosophy; chemical physics and chemistry; remainder of the course of drawing; practical military engineering; theoretical and practical instruction in military signals and telegraphy."

"Fourth year: Practical instruction in infantry tactics, police and discipline; practical instruction in artillery tactics; practical instruction in cavalry tactics; military and civil engineering, and the science of war; theoretical and practical instruction in ordnance and gunnery; practical military engineering; ethics and law, mineralogy and geology; and theoretical and practical instruction in military signals and telegraphy."

Having briefly detailed the course of study through which a cadet passes, it remains to draw attention to the other portion of his instruction, which is comprised under the heads of police and discipline. In these respects his life is that of a soldier, only with a far stricter surveillance.

Reveille, is at 5 a.m., during the month of May, June, July, and August, at 5:30 a.m. during April and September, and at 6 a.m. during the remainder of the year.

Surgeon's call at 6:30.

Breakfast at 7.

Troop at 7 a.m. in barracks, and at 8 a.m. in camp.

Dinner at 1 p.m.

Retreat at sunset.

Call to quarters for study in barracks at thirty minutes after return from supper, which immediately follows evening parade.

Tattoo at 9 p.m.

Lights out at 10 p.m.

Both in respect to conduct in the barracks room, on parade, or on duty, the cadet is treated as a soldier, the cadet officers and non-commissioned officers receiving the consideration due to their rank. The punishments to which he is liable are comprised in the three following classes:—

1st. Privation of recreation, extra duty (not guard), reprimands, arrests, *i.e.*, confinement to his room or tent, or in the light prisons, reduction of officers and non-commissioned officers.

2nd. Confinement in dark prison.

3rd. Suspension, dismissal, with the privilege of resigning public dismissal.

The punishment of the first class may be inflicted by the superintendent, or with his approval; of the second class, only by virtue of a sentence of a Court Martial, except in cases of mutinous conduct and of breach of arrest; of the third class by the President or the Secretary of War.

For all grave offences, and in this category are included many that at most schools or colleges would be considered venial, dismissal is the penalty. Disobe-

dience to orders, drunkenness, or even the possession of spirituous liquors, gambling, absence, telling a falsehood, challenging to fight a duel, bullying another cadet, combining under pretence of procuring a redress of grievances, &c., &c., render a cadet liable to dismissal, which is generally inflicted, excepting the case should have been of a comparatively slight nature. For all other offences in addition to the penalty inflicted, marks are imposed, which influence the cadet's final classification, and if amounting to one hundred during six months, entail dismissal.

To insure uniformity, the offences are divided into five classes, of which the 1st class counts one, the 2nd class two, and so on to the 5th class, which counts five, and they include every possible offence or deficiency from gross neglect of duty, to having a button off the uniform. To give an idea of the minutæ of the enumeration of offences it may be well to state that there are no less than sixty-seven offences in the first class, seventy-eight in the second class, ninety-four in the third class, sixty-five in the fourth class, and thirty-five in the fifth class.

In the first year the offences count one-third less, and are not recorded until after the first month following the cadet's admission to the academy. They also do not affect the cadet's career, excepting in regard to his classification for the ensuing year, and unless the total numbers amount to 150, (*i.e.* 100 counting one third less) when he would be dismissed as failing in discipline.

When in barracks, the cadet is constantly visited by the officer of the day, and other officers, who are responsible for discipline. His room, which is also his study, contains himself and his comrade. It is simply furnished with necessaries, but no luxuries, not even a carpet or a piece of matting are allowed. Each of the two cadets is weekly responsible for its cleanliness, whilst the care of their arms, of their clothes, &c., devolves on the cadets themselves. They march for meals to the mess room, where discipline similar to that of a private soldier's mess is enforced, the whole of the cadets springing to attention by word of command on the entry into the room of an officer. The food is good and amply sufficient, whilst the health of the young men affords an evidence of the general excellence in this respect of their mode of life.

Games and recreation, such as are common to all English Schools appear almost unknown at West Point, boating was until lately permitted on Saturday afternoons, but is now forbidden, as tending to distract too greatly from the objects of the academy. Drill, both on foot and on horseback, in the riding school or in the exercising ground, is supposed to afford sufficient exercise, and the gymnasium is also frequented by volunteers. Dancing is taught and practised during the winter months, the young men dancing together, whilst during the summer camps, the ladies from the large hotels in the vicinity furnish more agreeable partners.

With regard to military training, the infantry drill is performed with great smartness, the companies drilling, even after five months of winter cessation, with the precision of highly trained soldiers. The rudiments of artillery (field and garrison), of practical engineering, and of cavalry are also taught, and officers, who, during the late war were transferred from one branch of the service to another, and were fre-

quently called on to assume high commands, speak most highly of the training they received in all branches of their profession at West Point.

Saturday afternoon is a half holiday, and on Sunday after church service, which the cadets are expected to attend, unless prevented by conscientious scruples, nothing beyond roll call interferes with their liberty. The services are generally those of the Episcopal Church. There is a good library from which books may be taken and retained over Saturdays and Sundays; on other days especial permission must be obtained. Besides these books and those required for study, no literature is allowed in the barrack rooms, excepting one newspaper per cadet. This rule is enforced as far as is possible.

The cadets are paid by the country at the rate\* of \$500 per annum, but none of the money passes into their possession. A debtor and creditor account is kept with the Treasurer, and the articles required are furnished from the government stores. It is a punishable offence for a cadet to receive money from his friends, although, of course this regulation cannot be rigidly enforced. Out of his pay the cadet has to provide uniforms, cloths, books, &c., whilst \$4 per month is deducted for his equipment when he graduates and receives a commission.

\* NOTE.—A free ration is also given of the value of \$109.50 per annum.

(To be continued.)

Lieut. Col. Richardson of the Department of Justice returned to town yesterday morning (7th inst.) from Toronto, where he had been for some days past superintending the preparations for, and the embarkation of the North-West Police Force. This body left Toronto on Saturday afternoon by two special trains of about fifteen cars each, which are to go directly through without transshipment, to a point not far from Dufferin, the remainder of the journey to that place having to be done on foot. The force consisted of 250 officers and men 250 horses with complete equipment, and all the stores and supplies necessary for the maintenance of the entire force on the plains for one year—70 wagons were to be taken on at Sarnia, and 30 additional horses at Detroit—the portion of the force now at Fort Garry composed of over 100 officers and men, with 50 horses, 130 oxen, and as many carts, will join the detachment now *en route*, at Dufferin, from which place the whole body will move for the plains. One half of this force will be quartered during the winter at the Rocky Mountains, the other at Fort Ellice, the headquarters. We believe the organization of the most important service has been carried out, chiefly by Lieut. Col. Richardson, whose long connection with the volunteer force of Canada, no doubt largely assisted him in performing the work which was of no small magnitude. We can safely say that the North West Police Force is composed of a body of men second to none. They have important duties to perform, and we have no doubt they will be carried out with credit to themselves, the country and the Department under which they were organized.

Ottawa Times, June 8th.