

vigilance of her fleets may be evaded or such complication of events arise as would lay her shores open to hostile descent; in this case it becomes a problem of no ordinary difficulty to decide on the best means of preventing a calamity which would inflict fearful loss on her political standing, social disorganization, and commercial ruin on her people, in fact she could better afford to incur liabilities equalling her famous national debt many times, than that a foreign foe should land a division on the most barren and worthless portion of the shores of Great Britain and Ireland, for ever so brief a period; and this rule not only applies to Great Britain but to any other country that has wealth or national prestige to lose. The disastrous effects of successful invasion have been fully recognized in England and has given birth to numerous projects for prevention; but that proposed by Major MONCRIEFF in his able lecture of 8th May, 1873, before the Earl of DUNDEE and the officers of the Auxiliary forces, is not only the most practical, but at the same time the most feasible, advantageous, and least costly of any yet devised.

The system is based on the axiom laid down at the commencement of this paper, The navy is the first line of defence, the army, manning the fortifications the second; the army alone the third. It is clear that with the system of fortification hitherto followed, the advantage would be altogether on the side of the attack by a naval force; batteries are stationary, ships are not; therefore the former furnish good marks for the latter while they can hardly be hit in any case. In the event of a disembarkation of troops heavy ships would engage the batteries and prevent interference with the transports. Troops once landed could take the batteries in reverse if not previously silenced, so that it would seem as if the whole system of fortification so carefully worked out by the great military engineers of the world bids fair to become obsolete, and this as much from the impossibility of making its batteries invulnerable as of extending the lateral range of the artillery they carry, for to arm them *en barbette* would be little better than exposing the men serving the guns to wholesale massacre.

It follows then that some system must be devised to neutralize the advantage that steam power, armour and heavy guns give to vessels of war, and Major MONCRIEFF has the honor of being the first to develop it; as the inventor of a gun carriage which our readers know provides the necessary mechanism for bringing the gun under the parapet to be loaded by the force of its own recoil. The task of inventing a system of fortification suitable to the altered condition of the gun in battery was rendered easy by the simplicity and ease with which his machinery could be manipulated; a gun always under cover that merely popped up to deliver its fire and before the smoke had cleared

away was three or four feet below the parapet again—suggested—first that the embrasure and parapet, the great features of the old system were unnecessary; secondly, that by restricting the lateral range they were obstructions; thirdly, that an elevated mound to cover a gun was mischievous, as it drew the enemy's fire at a conspicuous object; and fourthly, that forts and bastions were mere shell traps in those days of rifled ordnance and long range. Following out those ideas the gallant major proposes that batteries in future shall be sunk in the ground instead of elevated over it—that there shall be no parapet or mound to mark the site—that they shall not be on the crest of a hill, but some distance down its side leaving a bank behind, in other words *under bank*—that the only command will be of the natural glacis and beach—that the gun will have an almost all round fire, and that the only construction necessary beside the trench will be a circular pit or pits. If a line is to be defended with a recess covered and protected by traverses to act as an expense magazine, in order to connect one or more of those *one gun* batteries as they may be called it is only necessary to continue the trench or covered way, merely making it wide enough at bottom to be enabled to pass guns along it, or lay, if necessary, a line of rails. Approaches from the rear should also be constructed, and the whole might be made as a permanent work at little expense and no inconvenience to landed proprietors, as planting trees for the purpose of cover would be one of its most essential features. Such a series of earthworks might, as the lecture points out, be constructed, as good practice by volunteers or the local militia, and they should be trained on the ground they would be called on to hold. The main features of the system however is to be seen in the fact that those works would be armed with carriage guns, 32 or 64 pndrs., mounted on the Moncrieff system that in case the enemy forced a landing they could be withdrawn, and always kept in store near the lines when not wanted. One of the greatest recommendations of this system is its simplicity. It would be easy to construct any amount of those lines during autumn manoeuvres or summer drill, they could be held by the local forces till reinforcements would arrive, and it would be both a doubtful as well as hazardous attempt to land troops at all where they existed, inasmuch as only transports and light vessels could be engaged—that the carriage guns with round shot and shell could inflict noticable mischief on vessels of that description and boats—that even if the troops succeeded in landing the beach would be so swept by Shrapnel that formation would be impossible, and to take a battery with an all round fire in reverse would be impossible—and to pound that battery presenting no tangible mark to shot or shell equally so. It is quite certain the opportunity that Major Mon-

CRIEFF's system will cause as great a revolution in fortification and fort building as the heavy guns have caused in ship building. Could we not utilize the knowledge given us by this very important lecture in our own case; we have many exposed positions on our own coasts and why not employ our volunteers in preparing now at leisure a series of defences which would be worth the national existence of our people? Whether during the reign of commercial monopolies that consideration is worth the notice of a people who always value *business principles*, or no, is a question for the country; but the example of France should be a strong incentive to wisdom.

The following tribute to the excellence of our military organization is copied from the *United States Army and Navy Journal* of 20th Dec. last. Our contemporary is mistaken in ascribing the report on which he so ably comments, to the *Acting Minister of Militia and Defence*; it was composed by the late Adjutant General, and deserves all the praise accorded thereto:—

"THE CANADIAN MILITIA."—From the annual report on the state of the militia of the Dominion of Canada for the year 1872. We learn that the militia force of our Canadian neighbors consisted last year of 30,144 men actually present with their corps at their muster parades. In addition to these, 239 men, officers, non commissioned officers, and candidates for commissions, attended the infantry schools for instruction. This army is organized by corps, companies, battalions, and batteries into tactical brigades of three arms, the brigades being distributed according to territorial divisions, and the whole active force forming a nucleus upon which rests the reserve, which latter we are told represents "practically almost the entire manhood of the Dominion." We are not surprised that the report regards with pride this exhibit and organization. They are certainly creditable to Canada, and may well invite the attention of our military men and legislators. Camps of instruction, so necessary to the training or actual work of a militia force, were held of due importance. During the year eighteen camps of exercise for sixteen days training, and three small regimental artillery camps for eight days—the former drawing an attendance of 24,141 and the latter of 171—were successfully conducted. The infantry are all armed with the Snider breech-loader, using the same ammunition as the English regular troops—an important matter; the cavalry, in addition to their sabres, are provided with cavalry Snider carbines of the regulation pattern; and the artillery batteries are being armed with the same description of field guns as those recently issued to the English horse artillery. The consequence is that the regular and militia forces will be able to operate harmoniously together, and as one army. The active militia force is now organized, so far as circumstances will admit, after the manner of an army; the annual training of corps is no longer limited to merely regimental exercises, but the various corps of the different arms trained besides to military combination for mutual support, in tactical brigades; and the whole force performs annually a prescribed course of rifle instruction and target practice. The manner of assembling the militia in