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The Cover

To mark the centenary of the Victoria Cross, instituted by Queen Victoria on 29 January 1856, the *Journal*'s artist depicts the heroic action in the Crimean War for which Lieut. Alexander Roberts Dunn, a Canadian officer, was awarded this decoration. A member of the 11th (Prince Albert's Own) Hussars, he was Canada's first V.C. The painting shows Lieut. Dunn fighting off two of several Russian cavalrymen to save the lives of two members of his unit at the Battle of Balaclava, 25 October 1854. It was not until February 1857 that he received the award.

SOME REFLECTIONS ON DISARMAMENT

By
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The days have long since gone — if indeed they ever existed — when the ideal army was a rabble of cut-throats led by dukes and when neither the officers nor the rank and file knew or cared much about the broader issues which decided peace or war. It was possible for the Duke of Brunswick, marching with such a band against the forces of the French Revolution, to be so sadly out of touch with political reality as to boast that if the rebels harmed one hair on the head of the King of France, future generations would ask on which side of the Seine Paris had been built. Most of his troops in all likelihood did not know that Paris was on the Seine at all. As it turned out, this was not a matter of any great moment, for at Valmy a few days later Brunswick's army saw for the first time "the strange fierce face of the Frenchmen who knew for what they fought" — and Europe was never the same again. One of the changes was that in less than a century this type of arrogant ignorance was to give place to the Prussian concept of "an army of schoolmasters".

In keeping with this later tradition the modern soldier is only too well aware that his profession requires him to take a more than passing interest in great events. If he is not inclined to do so of his own volition, the education officer has been thoughtfully provided to remedy the defect. Some form of political indoctrination and an interpretive account of current events is included in the training programme of all modern armies. Thus the whole question of disarmament which was raised again last year at the "summit" conference in Geneva is one of the subjects which must be of concern to soldiers.

This interest of the soldier in disarmament, however, springs from a variety of causes and not merely from the fear that he may be required to write an essay on the subject for his next promotion or pre-staff examination. Nor is there any reason why this interest should be mingled with an ignoble apprehension for his livelihood. Even if such marked self-interest were a characteristic of soldiers (which it most obviously is not), there is little chance that armies will be diminished so drastically or

so soon. The older professions, despite all the efforts of enlightenment, have a knack of hanging on. Yet any disarmament which changes the relative power of nations is bound to create new strategic problems, while any drastic limitation on the size or equipment of military forces is certain to pose complicated technical questions which the soldier must use his ingenuity to solve. The doctrine of the blitzkrieg, for instance, would probably never have developed if von Seeckt and his fellow planners in the *Truppenamt* had not been forced to consider how a small, elite, hundred-thousand-man *Reichswehr* might best solve the military problems of the Weimar Republic, nor would a pocket battleship ever have left the slips at Wilhelmshaven if it had not been for the restrictions of the Washington Naval Treaty.

Yet nothing could be further from the truth than the common idea that military men are by nature inimicable to the whole concept of disarmament or to those wider aspirations for peace which inspire it. Quite the contrary is the case, for the soldier who has seen war and knows it has more cause than most to abhor it. Those who jest at scars are proverbially those who have never felt a wound. Still, just because it concerns him so deeply, the professional soldier is apt to look somewhat more searchingly into the matter than the average civilian. And in any such inquiry we must try to illuminate the path of the future with the torch of history, if for no other reason than because—dim and flickering as that light may be—there is none other to lighten our darkness.

Disarmament may be simply defined as the reduction or limitation of existing military forces, and these restrictions may be applied to manpower, weapons, or equipment. All attempts to disarm potential enemies, even in the context of reciprocal disarmament, have the same aim—national security. We will not concern ourselves here with that type of disarmament which is undertaken unilaterally by a nation of its own accord because it believes that the threat against which arms were maintained has been reduced. Sometimes this calculation is justified by the event; often it is not. Canadian fortifications along the American border have long since been allowed to fall into disrepair, and no one now feels that our security is jeopardized by this neglect. In other states, less happy in their neighbors than our own, this type of voluntary disarmament has often had different results. Yet it is obvious that military forces should be maintained only in proportion to the threat which is believed to exist. Thus armament and disarmament are in a sense the two sides of the same coin, for nations

always build up their armed strength with at least the plea of self-defence and endeavour at the same time to limit the forces of potential enemies for the same reason.

Up to the present time three different practical approaches to disarmament have appeared in history, and those who believe in progress will undoubtedly claim that the more civilized concepts have evolved out of the more primitive. Yet, as in most such matters, the stages are not clear-cut and distinct but tend rather to overlap and to recur. There is much more atavism in history than in biology and we will probably be on safer ground if we content ourselves with observing that all the philosophies on disarmament spring from the same instinct of self-preservation. Yet any claim that the historical manifestations of this instinct have become progressively more humane is only superficially plausible. Although there was a Truce of God and a code of chivalry which did much to limit wars in the Middle Ages, the last crusaders were guilty of the horrible sack of Constantinople. Although there was a Geneva Convention and a wealth of liberal humanitarianism in the twentieth century, the gas ovens of Belsen and Buchenwald are mute denials of the universality of such ideals.

The three types of disarmament which the world has actually experienced may for the sake of convenience be called Disarmament by Extermination, Disarmament by Imposition, and Disarmament by Negotiation. A fourth concept which visualizes a world not only without war but also without armies has never been more than an ideal, a dream indeed which has been dreamt by some of the noblest spirits who have ever lived, but nevertheless no more as yet than a vision. The day may come when swords are beaten into ploughshares or when the lion will eat hay like the ox, but neither past history nor present politics can encourage a belief in the immanence of so blessed a condition of affairs.

The idea of disarmament by extermination goes back to the dawn of time and probably accounts for the disappearance of most of the "lost" civilizations. The flaming towers of Troy and the buried culture of Crete were the result of this approach to national security. In this stage man gives way to his most primitive instincts and completely destroys his conquered foe. He makes a desert and he calls it peace. The implacable spirit of Cato who saw to it that salt was ploughed into the soil of Carthage and the savage reaction of the white pioneers to the defensive attacks of the North American Indians are equally examples of this school of thought. This concept of *vae victis* —woe to the conquered—has always

been inspired by a dread of retaliation. The Roman senate, indeed, heard the pitiless rumble of Cato's "*Carthago delenda est*", but what Cato himself heard in all his dreams was the thudding tramp of Hannibal's elephants marching down the Italian peninsula. To the nostrils of the sensitive historian as he scans these records there comes the unmistakable odour of human fear. Nor is the philosophy yet dead, as the Nazi attempt to provide a "permanent solution" to the Polish problem proves. And if Hitler failed where Cato succeeded, it must be remembered that he had the more difficult task.

Whatever we may think of extermination as a method of achieving national aims, we must admit that in the past it was often successful. Even the Nazi attempt to wipe out both the European Jews and the Poles came closer to success than some would imagine, especially in the case of the Jews. What caused its failure was certainly not the absence of a clear-cut policy nor a lack of ruthlessness in administering it. Even less is it true that the evil aims of Hitler failed because of passive resistance within Germany itself. There was undoubtedly such resistance, but it was, on the whole, quite exceptionally passive, and no amount of *innere emigration* could possibly be of help to the victims of Nazi persecution. Indeed, although the majority of people in any civilized state are unlikely to approve of genocide, it would be unwise ever to count on this as an effective safeguard. Certainly any absolute ruler who desires it can recruit his murder squads. And while it is true that nations are larger today than at the time of the Punic Wars and that more killing is therefore required to achieve the goal of extermination, it is also true that the means of mass execution are more efficient. The means, on the whole, have kept pace with the end, and the gas chamber and the crematorium are to the knife and the noose as the atom bomb is to the bayonet.

No, the Nazis failed in this, as in all their other aims, primarily because the coalition of embattled nations ranged against them did not allow the New Order the time it required. A secondary reason for failure was because the political rulers of the Third Reich were basically an unintelligent lot. Cato may have been as pitiless as Himmler, but he was also a good deal brighter.

Yet it is nevertheless an historical fact that the policy of disarmament by extermination was for many centuries abandoned among civilized nations—at least insofar as they themselves were concerned. (The Incas, the Maoris, and the Red Indians might conceivably bring in a minority report.) It is also true that

extermination was abandoned largely for moral reasons. Men did for a time grow more civilized. There was an improvement. Putting it at its lowest, even the troops of Tilly were generally better behaved than were the Danish invaders of England eight hundred years earlier, and although it was still possible to have a sack of Magdeburg or a Spanish Fury in Antwerp, these differed from similar acts in the ancient world in that they were exceptional, in that they were spontaneous rather than the result of policy, and not least in that they were almost universally condemned. As has been seen, the relapse from these standards has come in the twentieth century. It would be comforting to believe that the relapse was only a temporary one.

There are, of course, cogent moral and humane objections to disarmament by extermination. But for those to whom this is too high a ground other arguments against this type of policy may be adduced. In the first place, before it can succeed there is the small matter of winning the war and, as a rule, of overcoming a resistance only made the more desperate by the knowledge of what is in store for the defeated. (Some have contended that generals in a future war might well feel the same, with memories of Nuremburg in mind.) Then too there is the fact that extermination, like all other barbarities from dum-dum bullets to the bombing of open cities, inevitably becomes reciprocal. Yet when all is said and done, it must be admitted that disarmament by extermination has upon occasion had at least success to recommend it—which is more than can be said for disarmament by imposition.

This second concept of disarmament also springs from fear, but is less ruthless than the first. In this stage the victor nation imposes disarmament upon the vanquished, destroys or annexes his fortifications, and limits the size of his armed forces. This policy is often pursued when a policy of extermination is impracticable because of the enlightenment of public opinion, or because the prospect of continued resistance makes it undesirable. There can, by the very nature of things, be little hope of this type of disarmament achieving its object. Machiavelli long ago pointed out that a prince in his dealings with his opponents should either forgive them completely, thus hoping to allay their hostility, or else he should destroy them utterly, they and their families and kinfolk, and all who might wish to seek revenge. Any middle course he held to be folly, for to wound a man without wounding him mortally was to run the almost certain risk of future dangers. Thus when Sparta demanded the destruction of the Long Walls of Athens

after the Peloponnesian War, it was only a few short years later that she lost in war the leadership of Greece—and Athenian hoplites fought in the ranks of her enemies. Napoleon at the Convention of Königsberg in 1808 sought to limit the size of the Prussian army, but the *Krümper* system of Scharnhorst and Gneisnau ensured the failure of his plan, and it is commonly believed—at least upon the Continent—that Blücher had something to do with Waterloo. After 1870 Bismark annexed Alsace-Lorraine and took the fortress of Metz in addition to imposing what was considered a crippling indemnity upon France. Yet forty-four years later the Germans found a French army effectively interposed between them and Paris. They did not, in that war, reach their goal at all. Success in fact only came to them two decades after the Treaty of Versailles at which Germany had been stripped of her armaments, prohibited the use or manufacture of tanks, military aircraft and poison gas, and had had her army limited to a force totally inadequate to defend her frontiers from either the Poles or the French.

There are three major reasons why a system of unilateral disarmament imposed by force cannot hope to achieve its object. First, and most important, it is extremely doubtful if such a policy can ever be enforced for any appreciable period of time. The perfect example of this is what happened in Germany after 1918. The disarmament clauses of the Treaty of Versailles were so strict that one historian, who certainly cannot be accused of pro-German sentiments, termed them "astonishing".* An Allied Commission of Control was established to enforce these terms of the treaty and Allied armies of occupation were quartered in Germany. Yet the German nation, feeling as it did that the disarmament clauses were unjust, successfully evaded each and every one of them from the very outset.

The *Reichswehr* was to be limited in size to one hundred thousand men? Then the *Freikorps* would spring fully armed from the ground as Jason's soldiers did and the "Black *Reichswehr*" would defend the Eastern Marches. Germany was to be prohibited military aircraft, tanks, and poison gas? Then the Treaty of Rapallo with the Soviet Union would open the door for the training of German airmen, *panzer* leaders, and chemical warfare experts on Russian soil. The German General Staff was to be abolished? Then the *Truppenamt* would take its place and officers would be seconded for staff training with foreign armies. Germany was to have no submarines?

* Winston S. Churchill, *The Aftermath*, Charles Scribner's Sons, New York, 1929, p. 226.

Then they would be built in Holland and in Spain. German arms production was to be severely limited? Then German industrialists would obtain control of foreign armament plants and Bofors would continue what Krupps had been forbidden. The western defences of the *Reich* were to be destroyed and the way to France barred for all time? Then a new doctrine of war would be developed which would find a jagged lightning* road to Paris more certain than before.

All this and more the Allies found impossible to prevent. And so it must of necessity be, for it is impossible to disarm by force the spirit of man unless you kill him. The French, of all nations, might have recognized this, for had not they felt the same after 1870?

A second factor which dooms disarmament by imposition to failure is the fact that such treaties so greatly exacerbate and perpetuate hostile sentiments in both the victor and the vanquished. The victor, not without cause, fears the revenge of the conquered, while the vanquished, sullen and resentful, bides his time. Fear and hatred are both bad councillors, and they complement each other to an alarming extent. How much of the Prussian sabre-rattling before 1914, for instance, was mere whistling in the dark—due to the fear, which had its origin in Bismark himself, of a French war of revenge to regain Alsace-Lorraine and to wipe out the shameful memory of Sedan? Thus what is intended to bring peace actually becomes a major cause of war, and the success of disarmament by imposition is in inverse ratio to the severity of its terms. The last word would seem to lie with Machiavelli, and generosity, if it cannot be an inclination of the heart, should at least be a counsel of prudence.

The third cause of failure, and one which would still operate even if by some miracle the former two could be circumvented, lies in the creation of the unnatural power vacuum which always results from unilateral disarmament. This vacuum will certainly be filled for it is as abhorrent to the spirit of world history as its counterpart is to nature. And as in the case of the man who was cleansed of his evil spirit, the last state of affairs may well be worse than the first. The vacuum will be filled—either by a division among the victorious allies who created it, or by an entirely new alignment of powers, or by some other means—but filled it must be.

Fortunately, perhaps, men have explored yet another road in the hope of finding peace. So far we have seen two concepts of disarmament, both of

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* *The term* blitzkrieg, *or lightning war, was intended to describe both the speed of the advance and the irregular course it took as the armoured spearheads swerved to follow the path of least resistance.*

which are imposed by the victors upon the vanquished—the one ruthless and complete, and therefore in its way successful; the other partial, and therefore more malicious than efficacious. The third type of disarmament becomes possible when rival states, both strong, bargain as equals with a view to lessening tension, reducing the danger of war, and utilizing their gross national product to better advantage. This happy turn of events can come about only when statesmen, rising above old rancours and ancient hatreds, declare that no human problem is incapable of solution and that he "who wills the end wills the means".

It must, however, in all honesty be confessed that this concept of disarmament has in the past been little more successful than the second type in keeping the great powers from each other's throats. Neither the British endeavour at Cronborg in 1908 to set limits to the naval race with Germany nor the two conferences called by the Tsar at the Hague in 1899 and 1907 were of any effect whatsoever once a tubercular Serbian student pulled a trigger at Sarejavo. Nor in the interregnum between the wars were the Locarno Pact, the Kellogg Pact, or the combined efforts of members of the League of Nations able to hold back Hitler from war. This, however, was because the disarmament talks failed, and there is much to be said for the view that the best hope for peace still lies in the endeavours to make such talks succeed.

There are, however, certain definite prerequisites for success without which any disarmament conference is no more than jockeying for position prior to war. There must, above all else, be a genuine desire for peace on both sides. This desire, in turn, can only exist when neither side has aims which cannot be achieved except by war and when neither side feels that its vital interests are steadily deteriorating and that this retrogression can be halted only by force of arms. Statesmen are often surprisingly reluctant to recognize that the will to peace does not always exist, and sometimes when the truth does come home to them it is such a shock that they do not respond rationally. On the morning of 14 July 1870 the French foreign minister, Gramont, burst into his Prime Minister's room holding in his hand the copy of the *North German Gazette* which contained Bismarck's version of the Ems telegram. "They wish to force us into war!" he exclaimed with shocked incredulity. They did indeed. Bismarck, Roon, and Moltke had long planned such a war because they felt that Prussia's ambitions could be satisfied in no other way. The failure to recognize this in time contributed substantially

to the subsequent French *débâcle*. The genuine (and not altogether unjustified) German fear of encirclement prior to 1914, the dread of being caught in a strategic pincers between a Russia anxious to extend her control to the Straits and a vengeful France, was certainly not conducive to peace. If Germany was to save herself in so perilous a situation, a speedy victory in the West was essential before the cumbrous Russian mobilization machinery could become effective. This fear of a deteriorating situation was responsible for the Schlieffen Plan, for the violation of Belgian neutrality which, nominally at least, brought Britain into the war, and for Moltke the Younger's statement to the Kaiser that once mobilization had begun it was too late to turn back.

In that dim light of history of which we spoke earlier, it would seem too optimistic to believe that the threat of atomic war is likely to achieve what has so far eluded the grasp of statesmen. In the normal course of events men do not commit murder believing that they may be hanged; rather they commit murder hoping that they may escape. Similarly, statesmen in the past have not generally gone to war in the defence of a forlorn hope, preferring death to dishonour. They have gone to war instead upon a calculation—often erroneous—that they could win it. The advent of the hydrogen bomb may well delay a war, but if peace is to rest on so insecure a basis it is only likely to endure until some General Staff—perhaps erroneously—believes that it has found an answer to the problem of retaliation. And if this is so, it is interesting to speculate upon the type of disarmament which might follow a hydrogen war. Peace terms in the past have commonly been stringent enough, and the hatreds raised by even the First World War gave rise to demands to "hang the Kaiser". Somewhat wiser counsels prevailed after 1918, but to some defeated generals in 1945 it must have seemed that in the groves of the victors' Academy there was at the end of every vista nothing but the gallows. This mood prevailed at the end of what was essentially a conventional war and at a time when the dreadful significance of the mushroom-shaped cloud was not generally realized. "If in the green wood they do these things, what shall be done in the dry?"

Are we then to take no hope from Geneva, but merely to resign ourselves to an inevitable and unpleasant fate? Perhaps there is one hope left, and it is not ironical that it was expressed some years ago by a very great soldier.* He said:

"The risk of war lies essentially in the

* Colonel-General Hans von Seeckt, *Gedanken Eines Soldaten*, Berlin, 1929, p. 49.

inequality of military forces, which leads the stronger power to secure its political interest by the threat or the exercise of violence against the weaker. A guarantee of peace therefore lies less in the reduction of armaments than in the observance of agreed proportions. An effort towards this end must not be too ambitious. The real, effective military force of a country lies in the size of its population and in its wealth, and these forces are not susceptible of limitation. It is, however, feasible to bring the available peace strength of one army into such a relation with the peace strength of another that no state has a force at its disposal which is superior to the combined forces of several other states. Such an adjustment would enhance the general feeling of security, just as the increase of security by treaty favours in turn the reduction of armaments."

Such a view is, perhaps, a long way from the one world of the idealist, but it has at least this dual appeal to the student of history—it is not a solution which has been tried in the past and failed, but rather a solution which has been tried for limited periods with success. When disarmament talks freely entered into among equals have managed to adjust the proportions of military force, peace has indeed ensued. The balance of power which resulted from the Congress of Europe after the Napoleonic Wars, although it may have accentuated certain reactionary tendencies deplorable to a liberal, nevertheless kept the peace for forty years. It is possible that if the forces of the Dual Alliance and the Triple Entente had been more equally matched in that fateful summer of 1914—possibly by the definite military alliance of the British with the French—the German General Staff would have counselled Conrad von Hötzendorf differently. Nor should it be forgotten that the Second World War did not begin until after the signing of the Ribbentrop-Molotov Pact in August of 1939 and the consequent destruction of the balance of power in Europe.

Thus then, for the time being at least, it would appear that the best hope of escaping universal darkness lies in a just regulation of the size and power of military forces. There is in this approach the further hope—finding indeed no justification in history but springing nevertheless from the very desire of man to survive—that a prolonged period of peace might acclimatize nations to so unusual a condition and that mankind, who has in the past suffered so much from the soldier, might yet find through his proper employment the assurance of a better future.

Sun-Powered Radio

An experimental radio receiver powered by sunlight was demonstrated recently. The new radio has eight transistors instead of vacuum tubes, the same sensitivity and receptive qualities of a standard radio, and its power is collected from light—sun or artificial—by seven solar cells mounted on its cabinet.—*News Release* (*U.S.*).

SITUATION ENEMY FORCES

By
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The views expressed in this article are the author's and are not necessarily those of the Department of National Defence.—Editor.

* * *

Introduction

It is the object of this article to consider the organization, manning, training and employment of a proposed ground reconnaissance unit. Aerial reconnaissance is not within the scope of our subject, but it is agreed that photo interpretation and direct control of aircraft must be provided at the level of brigade or reconnaissance regimental headquarters if information on enemy dispositions is to reach our brigade or unit commanders in time to affect their decisions.

During the Second World War ground reconnaissance was effected chiefly by two agencies—specialized "recce" troops (Divisional Reconnaissance and Corps Armoured Car units) and combat troops (infantry and armoured) in contact with the enemy. The recce units, whose principal role was to gather information, functioned with reasonable success during periods of movement, but their job as such was considered complete when battle was joined and the recce vehicles were denied freedom of movement. In order to justify the continued retention of the recce units during static periods, it became customary to employ them in an infantry role to hold sections of a static line. As a result, for quite long periods, the recce troops were not carrying out the role for which they had been specially trained.

The other ground information agencies—the infantry and armoured forward troops—counted information gathering patrols as but one of their many roles. Patrolling was a task that was passed around so frequently (on the grounds that it was a disagreeable job and should be shared) that a high degree of skill was rarely attained. These remarks must not be taken as belittling the courage and high resolve of patrol leaders and teams. The unavoidable fact is, however, that the specialist does a better job than the jack-of-all-trades. Yet in most infantry or armoured units the only reconnaissance specialist was the unit briefing

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officer, who told the patrol what to look for; this attempt, however, was not always completely successful.

The experienced briefing officer knew what signs and sounds he required upon which to base his picture of the enemy. But could he rely on the patrol to see and hear with complete efficiency and to bring back a description and evaluation of what they saw and heard? By using the *same* briefing officer and the *same* patrol members for *all* patrols, this uncertainty would have been lessened. Such an arrangement was not possible under the patrol system then in use.

Ground reconnaissance, then, in the Second World War was considerably less satisfactory than it might have been. On the one hand, the recce units ceased to be employed in their primary role once reconnaissance by vehicle became impossible. On the other hand, the infantry and armoured unit foot patrols were not as efficient as they could have been had they been carried out by specially trained personnel.

The answer, it is submitted, lies in the employment of a single reconnaissance or information-gathering unit, whose responsibility would be to conduct *all reconnaissance patrols*. Infantry and armoured units would continue to carry out fighting and other types of patrols. When operations were fluid, the vehicles could be used; when the battle became such that vehicles could not be used, the reconnaissance unit would dismount and continue to gather information about the enemy.

Organization

It is essential that the reconnaissance or Scout Regiment not be regarded as a watered-down armoured regiment with an infantry attachment. Its organization must be based on its function of reconnaissance.

The basis of the proposed organization is a mounted patrol, consisting of the following elements:

(a) Point (or reconnaissance proper)
(b) Support (or heavy fire power)
(c) Infantry (or assault)

The suggested outline organization would be as follows:

DIVISIONAL SCOUT REGIMENT

REGIMENTAL HEADQUARTERS
CO —Lt-Col.
2 i/c—Maj.
Adj.—Capt.
IO —Maj.

HEADQUARTERS SQUADRON
SQN HQ
OC Maj.
LO Lt.
MO
Pmr
QM
Tech. Offr.

ENGINEER TROOP
OC—Capt. (RCE)
4 Tk Br Layers

Aslt Boat Sec
2 Pioneer Secs
(Dems)
(Mine Clearance)
INTERCOMMUNICATION TROOP
OC—Capt. (RC Sigs)
9 Scout Cars.
A, B & C SQUADRONS
SQN HQ
OC Maj.
2 i/c—Capt.
IO —Lt.
LO —Lt.
3 ARMOURED TROOPS
Capt.
2 Tks
2 Scout Cars
4 ASSAULT TROOPS
Lt.
4 Secs (10 men)
in APCS.

Vehicles

All F and A echelon vehicles must be capable of cross-country travel. The controversial question of track *vs* wheel will only be settled after consideration of the terrain over which the campaign will be conducted. The following factors are considered relevant to the problem:

(a) *Silence:* The exponents of the silent mounted patrol as carried out in wheeled vehicles have a point in their favour if these vehicles are capable of cross-country travel to the same degree as a tracked vehicle. Silence without such a capability is not a valid reason for concentrating on wheeled reconnaissance vehicles. A truly silent (or undetected approach) is extremely difficult over normal, close country. Even in open desert terrain, dust clouds and some unavoidable noise are bound to be noticed by a vigilant enemy. Instead of silence, the patrol must rely on speed and aggressive action to locate enemy positions. Under such conditions, if tracks afford the best cross-country performance, they are our best choice.

(b) *Maintenance:* The "wheeled vehicle" school make it an excellent point in their argument that the maintenance problem of an armoured car is much smaller than that of tanks. The solution to this controversy seems to lie in a compromise. Armoured troops can be composed of both tracked and wheeled vehicles, thus exploiting the speed and relative silence of the armoured cars and the cross-country performance, heavier armour and fire power of the tanks. The Scout Regiment organization suggested above has resorted to such a compromise, not out of regard for the exponents of either school of thought, but in consideration of the basic requirement of a three-element patrol as shown.

(c) *Choice of Point Vehicle:* It is considered that the most serious problem for study is the choice of a "point" vehicle for our mounted

patrols. Suggestions range from a jeep to a medium tank. From the point of view of the crew, several requirements are obvious. Foremost is mobility. The point vehicle must be fast and easily manœuvrable; or failing such dexterity, the ability to back up at full speed is essential.

The crew must be able to fire back and "fight it out". This necessitates armour and a turret, and rules out the jeep. The jeep, despite its many splendid characteristics, falls far short of being a good reconnaissance vehicle. Unless the enemy is seen first and fired upon, the jeep crew are wide open to that first shot from a concealed enemy weapon. Unfortunately, more often than not, the first shot is fired by a defending enemy upon advancing patrols. Much is spoken about the speed of jeeps, but the driver goes fastest who is in one piece.

The vulnerability of the point vehicle to mines makes one principle of design essential. Mines are detonated by wheel (or track) pressure, and the crew compartment must be kept away from these pressure points. The "ARC" (Armoured Reconnaissance Car), used as a point vehicle by most reconnaissance units in the Second World War, could "take" a Teller-type mine due to the distance of its wheels forward and to the rear of the crew compartment. Mine casualties were greatly minimized by this design. By contrast, the jeep which touches off an anti-tank mine is a very poor place to be.

The final and very important consideration affecting our choice of a point vehicle is the range and ease of vision afforded the crew commander. Here again the jeep falls down badly. To allow careful scrutiny, the jeep must be stopped, or left entirely, before the observer can make an adequate reconnaissance. As noted above, when the jeep halts within range of enemy fire (direct or indirect) it offers a very tempting target, and to leave the vehicle on each observation point greatly restricts the speed and scope of the patrol. On the other hand, a turreted and armoured point vehicle allows the observer a better field of view, the opportunity to use his binoculars even when the vehicle is moving, and some feeling of security —an emotional state not generally prevalent in the "point" role.

It must be conceded that the jeep, if properly armed, is a very useful vehicle for raids against enemy unarmoured columns. It is very mobile, has good cross-country capabilities and—as was demonstrated by Popski in the last war—is a most useful vehicle for hit-and-run attacks on an enemy that is not dug in. But our affection for this excellent little car should not tempt us to use it in the point role of a mounted patrol.

(d) *Personnel Carriers:* The use of Armoured Personnel Carriers for the

infantry is a "must", but these vehicles should not have overhead armoured cover. It is strongly felt that the surplus security afforded by an entirely armoured personnel carrier would have a bad psychological effect on the infantry seated within it. It was quite apparent to anyone who worked with armour during the last war that armoured troops were reluctant to get out of their tanks under shell or small arms fire. The infantry, on the other hand, were equally reluctant to get into "those armoured coffins". Let us therefore give our infantry an open top (canvas-sheltered) cross-country vehicle with light armour on the sides.

Personnel

In our selection process it is essential that we maintain a high standard of intelligence and not accept recruits with an "M" score of less than 140. The recce trooper must have a good imagination and an "inquiring mind", but he must be able to restrict himself to an observation of the facts and report accordingly. "Wishful thinking" or inaccurate reporting, based on a desire to please or to report in conformity with the suppositions of the briefing officer, must be discouraged.

Selection

Our search for the most suitable type of recruit is fortunately facilitated by the presence of a large group in our national labour force which is particularly adapted to our requirements. This is the group consisting of foresters, bush surveyors, guides, trappers, lumbermen and farmers, etc., who make up the large part of our northern population. The forest or rural dweller is dependent for his livelihood on his awareness of his environment. He lives in constant contact with nature and has learned to adjust his ways of life to *natural conditions*. Hence his reaction to battle conditions is more direct and honest, less confused by the complexities of the urban dweller's environment.

Training

The recce recruit must first receive a sound basic training. Emphasis should be laid on fieldcraft, map reading and weapon training. Physical fitness must be above average. He must finish his training with a great confidence in his skills in these fields.

The second phase of his training may be described as "scouting". Here he must acquire, or rather develop, the "feel" for ground and cover. His powers of observation must be developed to their utmost capacity. He should be kept mentally exercised to develop his memory. He must be constantly exercised to differentiate the abnormal from the normal in his surroundings, so that in time he will

acquire a conditioned reaction to the presence of enemy activity. Even as the hunter starts out with a mental image of the game, so the scout must know what signs signify "enemy". He must develop a mental "filter" so that, while observing everything, he will be able to react immediately to the presence of his quarry. This ability to "pick out" the enemy sign will come only after long and intensive training and patience. Even a well-hidden and well-camouflaged enemy will reveal his presence in time to the patient observer.

The scout must have a thorough knowledge of enemy dress and customs. He must be entirely conversant with enemy tactics and traits. His schooling in these matters should parallel, as closely as possible, enemy schools of instruction. His complete familiarity with enemy methods and habits is essential to his self-assurance and lack of fear, based on the unknown, which cripples so much patrol activity. While it is not essential that all scouts be able to converse in the enemy tongue, they should all have a smattering of this knowledge, and in the recce unit there should be a fair sprinkling of personnel trained to speak the enemy language. Unit Intelligence Officers—of which there are four—should be fluent linguists.

The use of two-man patrol teams is considered advisable. These teams could be used singly or in larger formations. There are psychological considerations which recommend this team system. It could well be carried throughout the training period. The composition of teams might be placed on a voluntary basis and the teams made up at the completion of basic training. In this way the men could find suitable partners. The team system would give strength and assurance to patrol actions. Indeed, this system could be effected in the assault role also, with sections composed of a number of two-man teams. Fire power built around the team plan might be freed from the old problems of reluctance to fire due to fear of enemy reaction. The scout-sniper team of the last war showed how well this system can be made to work.

The scout should be thoroughly trained in wilderness survival methods. The benefit of this training is not only its usefulness on long distance patrols, but even more its great assistance in developing fortitude and the independent thinking and self-confidence that will come with increased ability to cope with his environment unaided by outside sources.

The skill to move in the dark with confidence and complete familiarity with his environment must be highly developed in the recruit. He must be able to move quietly and with self-

assurance. Only constant and unremitting practice in night patrolling will result in the desired degree of skill.

The art of stalking must be brought to perfection in the scout. Indeed, a hunter's attitude must dominate his thinking. This calls for an aggressive attitude toward the enemy, which will set the pace for all his actions. A positive desire to dominate the situation is necessary in order that the scout will do his job without nervousness or undue fear.

Training of Mounted Patrols

When the regiment is mounted, certain additional training is required. This will result in the perfecting of a series of drills—moving by bounds, allocation of observation areas, covering fire between vehicles and between vehicles and infantry, mine clearance, searching fire, dismounted action, etc. The aim of all these drills is to save time, effect surprise, and to create a spirit of team work. The patrols must not become road-minded, but must make full use of the cross-country capabilities of their vehicles. The spirit to be encouraged should be one of boldness and aggressiveness.

Employment of Mounted Patrols

Patrols by the Divisional Scout Regiment will be of two main types—mounted and foot. The organization of the regiment will lend itself to patrols of armoured gun vehicles with or without the support of infantry transported in armoured carriers. During fluid operations when the movement of vehicles is possible, these patrols must maintain a constant pressure of activity. The old concept of road-bound patrols was an outcome of the use of wheeled vehicles which had little cross-country ability. With good cross-country vehicles the patrols will fan out and push through the gaps that will be present in the widely dispersed defences resulting from the atomic warfare which will shape tomorrow's battles.

Vehicle patrols will act with vigour and aggressiveness. No vehicle can "creep up" on an alert enemy, so the requirement of silence cannot be fulfilled easily. All likely enemy positions will be fired upon with the object of drawing fire. Every effort will be made to dominate the reconnaissance area and to "fire the first shot". Whenever possible, when the armoured patrol sights the enemy, it will open fire at once and push on.

Movement by bounds will be normal, but must be carried out crisply and with decision. These drills must be perfect.

The problems of mines will be overcome by the use of flail or roller type detonators mounted on the lead vehicles. It is important to note that the use of cross-country routes by the attacker makes a successful mine

defence most difficult to maintain by the enemy.

Foot patrols will be carried out whenever the vehicles have reached their limitations. They will be used to allow closer scrutiny of actual or suspected enemy positions and to cover country not accessible to the vehicles. Where necessary, they will be covered by the fire power of the vehicles.

The question of fighting or not fighting for information is a superficial one. The patrol's aim is to gather as much information as it can, and it is ridiculous for an armoured patrol to be held up by one enemy machine gun because it has been taught not to fight for information. The enemy is going to have something to say about this matter in any event, so let our mounted patrols fire the first shot. As the enemy resistance to our patrol activity builds up, so does the amount of our information about his defences.

The use of the infantry element to mount small infantry attacks supported by the armoured vehicles' guns should be quickly executed and violent. The co-operation between the assaulting and fire elements of these attacks must be carefully worked out as drills and result in the *minimum expenditure* of time. In this way the greatest surprise will be effected.

Employment of the Regiment in a Static Role

When the battle will not allow for the use of recce vehicles, all personnel of the AFVs and APCs, with the exception of the drivers, will be used for foot patrols.

These personnel may be held centralized under the divisional commander's control, or they may be allotted to the forward line units. The normal condition will be centralization. Under either condition their tasks will be in conformity with the division plan. They will not be used by unit commanders in other types of patrol than reconnaissance. All other types of patrols will be carried out by infantry/armoured units.

It may be possible, in some circumstances, for the divisional scouts to work with unit scouts and snipers. It is conceivable, too, that in rest periods the divisional scout regiment could be made responsible for the training at a central school of all unit scouts and snipers.

The employment of this unit, as envisaged, would result in a regiment of specialists, and trades pay would have to be granted for the special skills required. The unit would be expensive, but as each member would be capable of carrying out independent tasks in all phases of war, the expense would be more than justified. As casualties in this type of work would

never be high, compared to other infantry operations, the problem of maintaining a full complement of trained personnel would not be great. The consequent accumulation of battle experience would be put to use in the training of recruits.

Conclusion

The aim of this paper has been to outline a truly functional information-gathering army unit that can be used in all operations of war. Descriptions of organization and equipment have been purposely made in very general terms. Our ideas on organization and equipment must remain flexible and always conditioned by a realistic consideration of enemy tactics and the terrain over which the operation is to take place. The plea is made, however, that once the new unit has been so organized, equipped and trained, that its employment be severely restricted to its main role. The use of such a highly-trained unit for "holding a winter line" or "traffic control" was justified only in the days when the recce regiment's main role was carried out only in fluid operations. With the proposed enlargement of its scope to include all reconnaissance tasks, its use must be restricted to this function of gathering information about the enemy and enemy ground.

The Only Course

Although England still had an abundance of ex-soldiers who had seen active service in the Low Countries, there was considerable difficulty and confusion in 1625 when Charles I sought to organize a force for a raid on the Spanish coast after the Elizabethan model. In addition to having to purchase arms in Holland, Fortescue's *History of the British Army* relates that ". . . over a hundred officers were recalled from Holland; and two thousand recruits were collected to be sent in exchange for the same number of veterans from the Dutch service. Eight thousand men were then pressed for service in various parts of England, and the whole of them poured, without the least preparation for their arrival, into Plymouth, where they gained for themselves the name of the plagues of England. Sir John Ogle, a veteran who had served for years with Francis Vere, eyed these recruits narrowly for a time, old, lame, sick, and destitute men for the most part, and reflected how without stores, clothes, or money he could possibly convert them into soldiers. Then taking his resolution he threw up his command and took refuge in the Church."—*Contributed by J. M. Hitsman, Historical Section, Army Headquarters, Ottawa.*

CANADA'S ARMY IN KOREA

A SHORT HISTORY WRITTEN ESPECIALLY FOR THE JOURNAL BY
THE HISTORICAL SECTION, ARMY HEADQUARTERS, OTTAWA

Part V

(Conclusion)

Main Provisions of the Armistice Agreement

For the last two weeks of Korean operations the 25th Canadian Brigade held Hill 159 and Hill 355 in the 1st Commonwealth Division's right sector; the 28th Commonwealth Brigade had taken over the left and the 29th British the centre. Between the cease-fire and the end of July 1953, the Division withdrew to the Imjin River, occupying much the same area as it had on its inception two years before. This was in compliance with the Armistice Agreement, which began:

> A Military Demarcation Line shall be fixed and both sides shall withdraw two (2) kilometres from this line so as to establish a Demilitarized Zone. . . . a buffer zone to prevent the occurrence of incidents which might lead to a resumption of hostilities.

The Demarcation Line, which followed the final line of contact, dipped close to twenty miles south of the 38th Parallel in the west and rose sharply to about forty miles north of it on the east coast.

Within sixty days after the signing of the Armistice Agreement, all prisoners of war were to be turned over to joint committees under the supervision of a Neutral Nations Repatriation Commission. Five nations were represented in this body—Czechoslovakia, India, Poland, Sweden and Switzerland—the chairman being India's Lieut.-General K. S. Thimayya. By 6 September the Communists had returned about 12,750 captives (including the remaining 30 members of the Canadian Army), and the United Nations 75,000.

Prisoners who did not want to go home were to remain the responsibility of the Repatriation Commission for the next four months; the Commission entrusted their care to a special custodian force, the 190th Indian Infantry Brigade. Representatives of both sides were permitted to interview captives of their own nationality to explain to them their rights and to "inform them of any matters relating to their return to their homelands, particularly of their full freedom to return home to lead a peaceful life". This resulted in the

National Defence Photograph (SF-8005)

Captain C. A. Kemsley (second from right) briefs "C" Company of the 3rd PPCLI on what will be their duties after the cease-fire. This picture was taken on Hill 355 on 27 July 1953, just after the Armistice had been signed.

exchange of some 620 more Chinese and North Koreans (out of 22,600) for nine out of 360 U.N. and South Korean prisoners. By January 1954 the political conference which was supposed to decide on a final disposition of the remaining captives still had not been held; nor did it appear that such a meeting would take place before the Repatriation Commission disbanded. Towards the end of the month, therefore, General Thimayya returned the "non-repatriables" to their captors, who granted them civilian status and released them. The majority of the Chinese were admitted to Formosa; most of the North Koreans stayed in the Republic of Korea. In July 1955 three of 21 Americans who had chosen to live under Communism were returned to the United States at their own request.

The Repatriation Commission and the Indian custodian force duly left Korea in February 1954. But the release of war prisoners was still not quite complete. One Canadian remained a prisoner of the Communists

National Defence Photograph (SF-886o)

Carrying ROK flags, North Korean war prisoners who chose to remain in South Korea board a "freedom train", 21 January 1954.

until sixteen months after the cease-fire—Squadron-Leader A. R. MacKenzie of the RCAF. Fifteen American airmen were held until the summer of 1955. Whether other U.N. prisoners remain in Communist hands is not known.

Both sides had reached their peak strengths just before the end of hostilities. At that time the Communist Chinese forces in Korea included an estimated 57 divisions, and the North Korean People's Army 18 divisions and seven independent brigades. The final total enemy troop strength is believed to have been about 1,160,000—880,000 Chinese and 280,000 North Korean—plus a number of Russian technical troops. The United Nations ground forces in Korea included 25 divisions (sixteen South Korean, eight American or predominantly American, and the 1st Commonwealth Division), and numbered 550,000. These were made up as follows:

Republic of Korea	276,000
United States	237,000
Commonwealth	20,000
Other	17,000

Under the terms of the Armistice, neither side was to increase the number of non-Korean forces in the country after the fighting. This had certain effects on the rate and on the mechanics of rotation, but did not radically alter the policy. Troops entering or leaving the theatre were to do so only through certain authorized ports, five in South Korea and five in the North. Ports and other areas outside the Demilitarized Zone were the responsibility of a Neutral Nations Supervisory Council and Neutral Inspection Teams. To supervise and maintain the Demilitarized Zone itself a Military Armistice Commission was set up, composed of five senior officers from each side; these were assisted by ten Joint Observer Teams.

The Canadians After the Armistice

The three days immediately following the cease-fire saw the forward troops busily engaged in salvaging or destroying defence material in what became the Demilitarized Zone. The Commonwealth Division then moved back to the Kansas Line, with the Sami-chon as its left boundary and its right in line with Hill 355. While the 28th Commonwealth and 29th British Brigades, now south of the Imjin, guarded "Pintail" and "Teal" bridges, the 25th Canadian Brigade maintained a divisional screen north of the river. This arrangement lasted approximately fifteen months. Should the war break out afresh, the 25th Brigade was to hold its ground for a limited time; it would next take over the defence of the two bridges and then, if necessary, withdraw into divisional reserve. In the meantime, the Canadians were to report enemy activities opposite the divisional front and prevent unauthorized entry, by agents or troops of either side, into the Demilitarized Zone. (An example of *authorized* entry would be an unarmed party recovering any remaining dead for decent burial.) While minor infringements with respect to the Demilitarized Zone were not uncommon, no serious incidents occurred.

Work parties from all three brigades set about improving the Kansas defences. The rest of the troops were employed mainly on the construction of "semi-permanent" camps near the positions which they were to occupy in the event of a renewal of hostilities. For the infantry and armour, this meant a welcome change from bunkers to huts or winterized tents. Training received due attention. Considerable emphasis was also placed on sports, and the already liberal scale of amenities was enlarged. Major-General Horatius Murray, who succeeded General West as GOC 1st Commonwealth Division in October 1953, was impressed with the high morale of his force. This he attributed to the

National Defence Photograph (SF-8020)
Men of "A" Company, 3rd PPCLI, dismantle a bunker on Hill 355 before withdrawing from Demilitarized Zone, 29 July 1953.

troops' realization of the importance of their role, their readiness to man their battle positions on short notice and to carry out whatever operational tasks might be allotted to them, and to the increased emphasis on welfare. The spirit of the Canadian Brigade was further boosted by a feeling of being in the forefront.

One of five battalions of the Division to leave Korea on rotation between the cease-fire and the end of the year was the 3rd Princess Patricia's Canadian Light Infantry. Its relief by the 2nd Black Watch, plus a number of redesignations which took place at about this time, resulted in this apparently new Canadian order of battle in January 1954:

"A" Squadron Lord Strathcona's Horse
4th Regiment RCHA (formerly 81st Field Regiment RCA)
4th Field Squadron RCE (formerly 59th Independent Field Squadron)
3rd Royal Canadian Regiment
3rd Royal 22e Régiment
2nd Black Watch (Royal Highland Regiment) of Canada
No. 5 Transport Company RCASC (formerly No. 56)
No. 4 Field Ambulance RCAMC (formerly No. 38)
No. 25 Field Dressing Station RCAMC
No. 25 Field Dental Unit RCDC
No. 40 Infantry Workshop RCEME (formerly No. 23).

The Canadians were now setting up a brigade recreation centre, to be known as "Maple Leaf Park". A brigade radio station was already operating, and a theatre, a gymnasium and a library were completed by the end of January. The centre was also to include a canteen, a gift shop and a hobby shop. But not even these amenities relieved units of the responsibility of conducting their own welfare programmes which, as we have seen, had proved so important during hostilities.

U.N. and ROK officials, civil and military, gathered at the Seoul airport on 7 March to meet an RCAF aircraft. As the machine landed, a Korean battery fired a 19-gun salute; for the principal passenger was the Canadian Prime Minister, on a world tour. Next morning Mr. St. Laurent laid a wreath at the Korean War Memorial and visited President Rhee. He then flew to the Commonwealth Division's area, and at a luncheon given in his honour at Brigadier Allard's headquarters met all the corps commanders of the Eighth Army, the commanders of neighbouring divisions, and representatives of all the Commonwealth forces. During the next 24 hours he called at Maple Leaf Park, where he unveiled a plaque dedicating the recreation centre to the use of the 25th Brigade, and visited various Canadian camps and observation posts. Returning to Seoul on the afternoon of the 9th, Mr. St. Laurent, accompanied by the Brigade Commander, attended a state dinner. He emplaned for Japan next day, while a ROK Army band played *Vive la Canadienne.*

In the third general rotation of Canadian troops, in the spring of 1954, the following newly-arrived units came under Brigadier Allard's command:

"D" Squadron Royal Canadian Dragoons
3rd Regiment RCHA
3rd Field Squadron RCE
4th Canadian Guards
2nd Queen's Own Rifles of Canada
No. 3 Transport Company RCASC
No. 3 Field Ambulance RCAMC
No. 42 Infantry Workshop RCEME.

Brigadier Allard was succeeded in mid-June by Brigadier F. A. Clift.

Canadian Troops Withdrawn

Both during and after hostilities, the United Nations Command carried out an extensive reconstruction programme in South Korea. They also helped to build up the ROK forces to a point where these could fight a successful defensive war if necessary. The member nations then began to cut their own commitments in the theatre—hence a gradual reduction of the 1st Commonwealth Division and the base, and of Canadian troop strengths both in Korea and in Japan. Between November 1954 and the following April, the Division's strength dropped from 20,000 to

little more than 5000; by September 1955 it was down to 4000. The full story of this reduction cannot yet be told, for the process is still going on. Let us therefore consider only the first two stages by which Canadian troops have been withdrawn from Korea.

Early in November 1954 the Commonwealth Division's right sector and the Canadian Brigade's covering position north of the Imjin became the responsibility of the 28th ROK Division. The 25th Brigade's operational role ended on the 8th. Already the 2nd Black Watch had sailed for Canada, and all but two of the remaining Canadian units in Korea—the Queen's Own Rifles and No. 3 Field Ambulance—followed close behind. Brigadier Clift, whose headquarters "closed down" on 2 December, was succeeded as Senior Canadian Officer in the Far East by the Commander of the Military Mission in Tokyo. On 1 February 1955, Brigade Headquarters, re-established at Camp Borden, Ontario, was redesignated Headquarters 4th Infantry Brigade.

The 28th Commonwealth Brigade had passed into history at about the

National Defence Photograph (SF-10135)

Members of the 4th Canadian Guards police the South Limit of the Demilitarized Zone east of the Sami-chon, 29 September 1954.

same time as the 25th Brigade. Units of either formation which were to remain in the theatre for a time came under command of the 29th British Brigade, whose headquarters was soon afterwards converted to an integrated divisional headquarters. The "Division" now consisted of:

42nd Field Regiment RA
55th Independent Field Squadron RE
1st Commonwealth Division Independent Signal Squadron
1st Dorset Regiment
2nd Queen's Own Rifles of Canada
1st Royal Australian Regiment
No. 10 [Transport] Company RNZASC
No. 3 Canadian Field Ambulance
1st Commonwealth Division Independent Ordnance Field Park
No. 16 Infantry Workshop REME
1st Commonwealth Division Independent Provost Company.

Not listed here are two British battalions which were to leave the theatre about the end of 1954.

The second stage of the withdrawal of Canadian troops took place in April 1955. The Queen's Own returned to Canada and were not replaced; other elements were rotated on an individual basis rather than as a body. Thus No. 3 Field Ambulance, already the only Commonwealth unit of its kind in Korea, became the only

National Defence Photograph (SF-9041)

Prime Minister Louis S. St. Laurent, on his arrival in the 1st Commonwealth Division's area, 8 March 1954, inspects a 60-man guard of honour from the 25th Canadian Brigade. Behind Mr. St. Laurent is the Divisional Commander, Major-General Horatius Murray.

National Defence Photograph (SF-9626)

The 2nd Queen's Own Rifles "counter-attack" across the Imjin as part of a brigade training exercise, 27 May 1954.

Canadian field unit in the theatre.

During hostilities this country had sent 22,066 troops to the Far Eastern theatre. A further 7000 served there between the cease-fire and the end of 1955. While the Canadian military commitment in the service of the United Nations is a continuing one, this account of it ends much the same as it began — one unit serving in a small Commonwealth formation.

Korea in Retrospect

The war in Korea was an incident unique in modern history and in the history of Canada, and it is worthwhile, even at this early date, to try to assess its military and political significance.

* * *

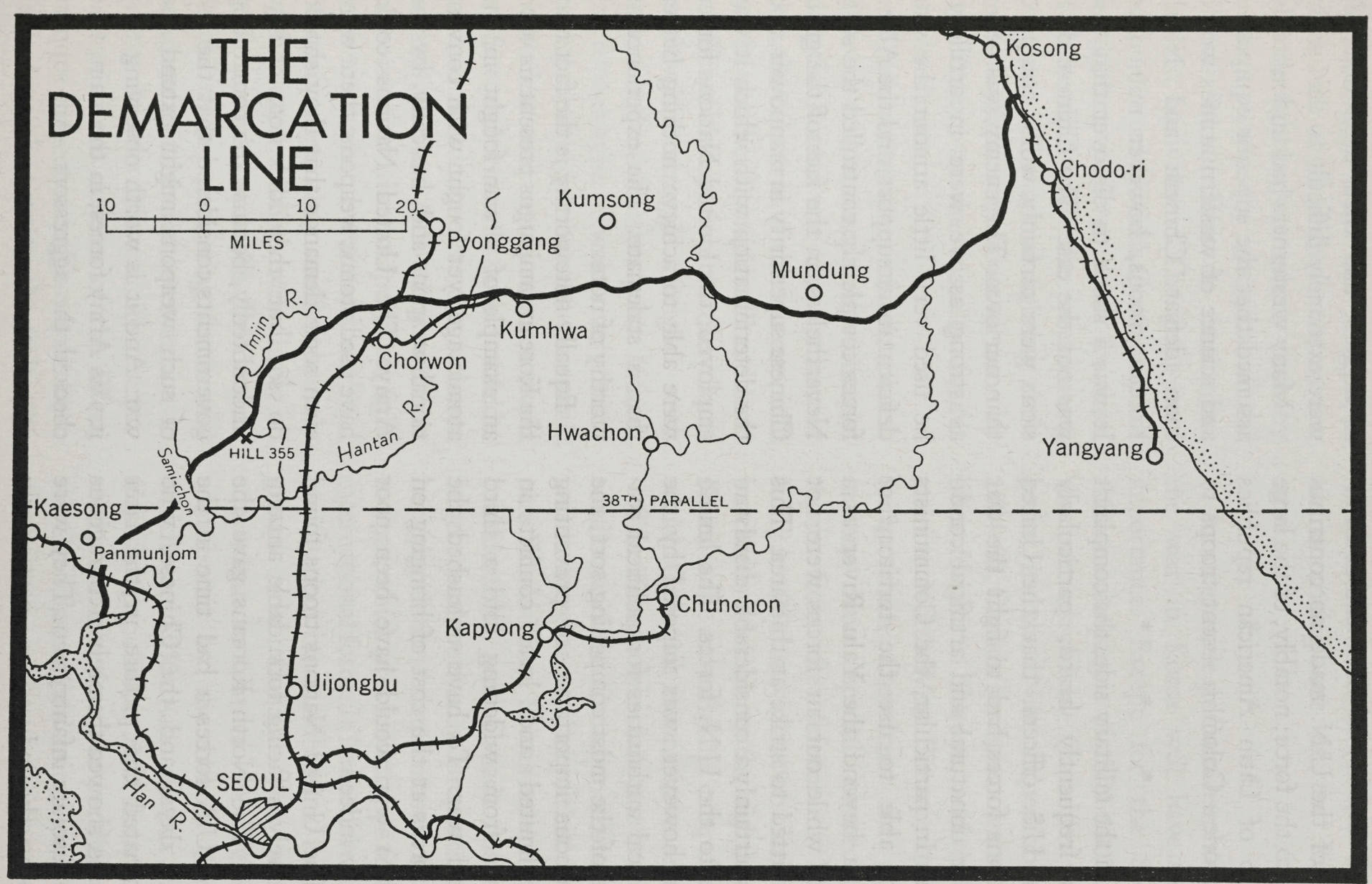
The fact that the operations in Korea ended in a long military deadlock followed by an armistice which did not represent a clear victory for either side led to a widespread feeling in the western countries that the whole episode was a discouraging failure. This was particularly the case perhaps in the United States, which had borne so much of the brunt of the fighting and had suffered so heavily. Nevertheless, seen in perspective, the Korean incident deserves to be considered in many respects a hopeful rather than a discouraging episode.

In Korea the United Nations met a challenge and defeated it. The Communist attack on South Korea in June 1950 was an act of aggression, a local hot incident in the Cold War, which could not have been overlooked without risking the gravest consequences for the United Nations, the security of the western countries and the peace of the world. As it was, the United Nations, under the leadership of the United States, rallied to meet the threat with a degree of unity and effective organization which marks a turning-point in recent history. For the first time, an international force took the field under the flag of the United Nations. The forces of seventeen nations,* operating under a unified command, defeated the Communist attempt to overrun South Korea and saved that country's independence.

There can be no doubt that this result administered a severe shock to the leaders of international communism; and it may have made a considerable contribution to prompting them to adopt the more conciliatory attitude which has occasionally appeared in recent months. In June 1955 Mr. L. B. Pearson, the Canadian Secretary of State for External Affairs, speaking on a television broadcast marking the tenth anniversary of the United Nations, was asked what he considered the greatest single achievement of the Security Council and of the United Nations itself. He replied that the most important single achievement, certainly the most dramatic achievement, had been the organization's action in Korea. "It meant for the first time," he said, "the defeat of aggression by the armed conscience of the world."

On the whole, the command arrangements for the heterogeneous international force that fought under the blue and white United Nations flag in Korea worked extremely well. All coalition wars involve some difficulties, and this one was no exception. No doubt the arrangements for control could in some respects have been improved. In the same broadcast just quoted, Mr. Pearson said: "I think we have learned something from this campaign. There might well have been greater United Nations control of it—especially control of political strategy. But that, however, I think it is fair to say, would have required greater participation by more United Nations members. You cannot have collective control without genuine collective responsibility and collective participation. And, as it happened, in the Korean campaign the major part of the participation was borne by one country, the United States." The

**These include the Republic of Korea (though not a member of the U.N.); but they do not include the five countries which provided medical units only.*



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actual majority of the member countries of the U.N. made no contribution to the force; notably, of the large group of Latin American republics only one—Colombia—sent troops to Korea.

* * *

On the military side, the complaint was frequently heard, particularly from U.S. officers, that the United Nations forces had to fight the war under unnatural and artificial conditions. In particular, the Communists were able to use the territory of China beyond the Yalu River as a base, while our air forces were not permitted to strike at this area. This was certainly a considerable disadvantage to the U.N. forces. The limitation, however, was imposed by the political authorities for political reasons of the most compelling sort; the enormous importance of preventing the limited and local conflict in Korea from widening into a third world war. To have unleashed the air forces at the cost of bringing on such a war would have been poor policy indeed.

The United Nations troops found themselves facing formidable antagonists. The North Koreans gave the small U.S. forces a bad time in the early days; and the Chinese, who dominated the picture in the later phases, showed themselves courageous and resolute infantrymen. They were also vastly industrious, particularly as diggers; and their deep defences were extremely difficult to deal with.

Many westerners had undoubtedly assumed that the superior equipment and science of western armies would soon defeat Chinese and North Korean troops, however numerous. It was a shock to discover that this was not the case. The Chinese divisions were certainly worse equipped than our own. The enemy was never as strong as we were in artillery; he used very little armour; he was deficient in air support; and the Allied forces completely controlled the seas. Nevertheless, in the face of the great Chinese superiority in manpower, and the determination with which it was employed, the United Nations forces were able to achieve nothing better than a stalemate. The experience is worthy of note.

Equally noteworthy is the fact that the Korean campaigns present us with an example of a war fought in the atomic age, yet fought with conventional weapons and, basically, by the Army. The United Nations could have used atomic weapons; there were even some demands that they should do so; but they did not, chiefly, undoubtedly, because the controlling governments considered that the use of such weapons might extend the war. And it is worth observing that it was Army forces, in the main, that checked the aggressors. Air support was close, constant and invaluable;

the campaign could not have been carried on at all without the navies; but the fighting was mostly done by soldiers, using the weapons of the Second World War or their more modern equivalents. The great need of the United Nations Command was for fighting soldiers; it was for them that it called upon the participating countries. The actual fighting done by Canadians was almost all done by the Army, as the casualty figures amply show.

These are matters of importance. There is no assurance, unfortunately, that the Korean war was the last, or that the next war, if there is one, will not be another "peripheral" and local conflict of the same sort, rather than a worldwide struggle fought with atomic and nuclear weapons. Indeed, the former type of war is very much more probable, just because the atomic or nuclear war would mean a world conflict and virtually world suicide. It was fortunate for the western nations that in 1950 they were in possession of the weapons to fight such a peripheral war, and not in a position where they could fight only with weapons which were likely to start a world war. As for Canada, thanks to her possessing forces and weapons suitable for intervention in Korea, she was able to make a contribution to the defence of the West, and in consequence has since been able to make her voice heard in the international discussions and settlements arising out of the Korean crisis.

* * *

As an episode in Canadian history, the war in Korea will have some importance. Except for the South African campaigns of 1899–1902 and the part played by Canadian voyageurs in the Nile Expedition of 1884–85, Canada's overseas wars have been fought in Europe, and in the main in North-West Europe, an area with which Canadians for many reasons have special connections. Apart from the defence of Hong Kong in 1941, in which two Canadian battalions took part, the fighting in Korea is the only Asiatic campaign in which Canadian troops have served.

The Korean war was not a major conflict, and the Canadian effort in it was in no sense parallel to that of the two World Wars. It was nevertheless considerable, and Canada made a larger contribution in proportion to her population than most of the nations which provided troops for the international force. It is worth remembering that on this basis a brigade group from Canada was almost equivalent to four of the divisions contributed by the United States, which in 1950 had eleven times Canada's population. And the quality of the contribution was excellent, as the Canadian troops' record in action testifies.

The Korean war is also an episode of some significance in the military history of the Commonwealth. The 1st Commonwealth Division was a unique formation. Although soldiers from various parts of the Commonwealth have long been accustomed to co-operating closely with one another, such a composite division had never been formed before. The experiment was triumphantly successful, but this did not surprise people who were acquainted with the history of the First and Second World Wars. The manner in which the Canadian Corps of 1915–18, and the First Canadian Army of 1942–45, operated as parts of British higher formations had set precedents, and established habits and patterns of co-operation, which were followed with excellent results in Korea.

Finally, it is right that we should turn our eyes once more to the cause that brought Canadian soldiers across the Pacific to fight and die among the mountains and rice paddies of Korea. In the days before 1939 Canada, like many other countries, attempted to isolate herself from world affairs in the hope that she could remain safe and untouched, no matter what might happen to "less happier lands" in Europe and Asia. The Second World War convinced Canadians that such ideas were illusions; and since 1945 Canada has committed herself to a policy of "collective defence"—of readiness to make political and military commitments in the interest of maintaining international peace and security. These commitments are expressed primarily in the United Nations Charter and the North Atlantic Treaty.

In 1950 the country was called upon to honour her commitments under the Charter, and the soldiers who went to Korea were the means by which she honoured them. The international force in which they served inflicted a check upon aggression which had world-wide consequences. One may hope that it will do something for the peace and security of generations yet unborn. The Canadians who died in Korea gave their lives in one of the best causes for which men have ever sacrificed themselves. If, as the old Roman said, it is sweet and fitting to die for one's country, it is certainly no less fitting to die for the future of mankind.

Books and Articles for Further Reading

Brigadier C. N. Barclay, *The First Commonwealth Division* (Aldershot, 1954).

Brigadier K. A. Hunter and Colonel J. E. Andrew, "The R.C.A.M.C. in the Korean War" (*Canadian Services Medical Journal*, July-August 1954).

Eric Linklater, *Our Men in Korea* (London, 1952).

S. L. A. Marshall, *The River and the Gauntlet* (New York, 1953).

Lynn Montross and Capt. Nicholas A. Canzona, *The Pusan Perimeter* (*U.S. Marine Operations in Korea, 1950–1953*, Vol. I) (Washington, 1954).

Brigadier W. G. H. Pike, "1st Commonwealth

Now Published

OFFICIAL HISTORY OF THE CANADIAN ARMY IN SECOND WORLD WAR

FROM A REPORT ISSUED BY THE DIRECTORATE OF PUBLIC RELATIONS (NATIONAL DEFENCE), OTTAWA

The official history of the Canadian Army in the Second World War, Volume I, was published in December. The volume, which reports in detail the Army's part in events between 1939 and 1945, is called "Six Years of War".

Colonel C. P. Stacey, OBE, CD, author of the history and Director of the Historical Section of the General Staff, has written the book primarily for the general reader rather than the soldier or military student. He hopes however that these experts will also find it useful. Its 629 pages deal in detail with military events in Canada, the army in the United Kingdom, and the army's part in the war against Japan.

Speaking of the official history and the forthcoming volume, Colonel Stacey stated that the aim of the book is "to tell the Canadian citizen what his army accomplished in the Second World War and to provide him with means of forming an intelligent judgment on military issues that may confront him in the future".

This publication is the first of three volumes. Volume II, which will be

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Canada's Army in Korea

(*Continued from preceding page*)

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Norman Bartlett, ed., *With the Australians in Korea* (Canberra, 1954).

Department of External Affairs, Ottawa:
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Documents on the Korean Crisis (1951).
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U.K. Secretary of State for Foreign Affairs, *Korea: A Summary of Developments in the Armistice Negotiations and in the Prisoner of War Camps* (London, 1952).

U.S. Committee on Foreign Affairs, *Background Information on Korea* (Washington, 1950).

U.S. Department of the Army, *Korea 1950* (Washington, 1952).

published early in 1956, will follow the course of the Canadian Army campaign in Italy and the Mediterranean area. Volume III, now being prepared, will deal with battles and events in Northwest Europe.

This first illustrated volume is divided into three parts under the headings: Organization, Training and Home Defence in Canada; The Army in Britain 1939–1945; and The War Against Japan 1941–1945. Active operations—particularly those at Hong Kong and Dieppe, which were important and controversial — are dealt with in much greater detail than in any previous account. After telling the story of the raid on Dieppe, Colonel Stacey devotes a chapter to details of losses, comments, and the aftermath of the raid.

Publication of the official history will reveal more details of Canadian actions than were published in the 1948 historical summary, "The Canadian Army 1939–1945", for which Colonel Stacey received the Governor-General's award for academic non-fiction.

National Defence Photograph

The author

Volume I is a cloth-bound book containing 38 black and white photographs and 14 maps, seven of them in colour. It is obtainable from the Queen's Printer, Ottawa, at the postage free price of $3.50. (See advertisement on inside back cover).

Reading

Books instruct us without rods or formulas, without hard words and anger. If we approach them, we find them friendly; if we question them they give us the answers; even if we are ignorant, they do not laugh at us. In books we can find relief from trouble, rest after weariness, comfort in distress and guidance along a dimly-seen path. Books help us to see beyond our immediate task and to gain a sense of life as a whole.

THE PRINCESS ROYAL VISITS THE CANADIAN SCOTTISH

WRITTEN ESPECIALLY FOR THE *Journal* BY THE CANADIAN SCOTTISH REGIMENT, (PRINCESS MARY'S), VICTORIA, B.C.

In the late afternoon of 15 October 1955, HRH The Princess Royal arrived at Patricia Bay airport, near Victoria, B.C., for the purpose of visiting The Canadian Scottish Regiment (Princess Mary's), of which she is Colonel-in-Chief.

On stepping out of the Viscount aircraft, Her Royal Highness was greeted by Group Captain the Honourable Frank McKenzie Ross, CMG, MC, Lieutenant-Governor of British Columbia, and Mrs. Ross, who were official hosts for Her Royal Highness during her six-day stay in Victoria.

Turned out in full Highland dress and under command of Captain H. V. Bigwood, CD, the Guard of Honour was provided by The Canadian Scottish Regiment (Princess Mary's). The Saluting Battery was provided by 4 LAA Battery, RCA, which fired a 21-gun salute with 6-pounder guns. Both the pipes and drums and the regimental brass band provided music for the Royal Salute and the inspection of the Guard of Honour.

Following the inspection of the Guard, local civic and military dignitaries were presented to Her Royal Highness. They included: the Premier and Mrs. Bennett; Rear Admiral H. F. Pullen, OBE, CD, FOPC, and Mrs. Pullen; Brigadier G. Kitching, CBE, DSO, CD, Commander, B.C. Area; Brigadier J. S. Adam, OBE, ED, Commander, 25 Militia Group, and Mrs. Adam; Colonel the Honourable R. W. Mayhew, LL.D., Honorary Colonel of The Canadian Scottish, and Mrs. Mayhew; Major-General G. R. Pearkes, VC, CB, DSO, MC, and Mrs. Pearkes; Lieut.-Colonel J. Fawcett, CD, Commanding Officer of The Canadian Scottish, and Mrs. Fawcett; Captain E. J. Folwell, local senior Regular RCCS officer; Captain H. M. Evans, local senior Militia RCCS officer, and Mrs. Evans.

That evening, Her Royal Highness attended dinner in her Canadian Scottish Officers' Mess at Bay Street Armoury. Present were senior officers of the three services, past commanders and commanding officers of The Canadian Scottish Regiment, and serving officers of the Regiment and its five Cadet Corps. The oldest surviving officer present was Colonel C. W. Peck, V.C., who commanded the 16th Bn. C.E.F. (Canadian Scottish) in the First World War. The most junior, though not the youngest, was 2/Lieut. R. J. Harvey, a recent

graduate of the Officer Cadet School at the Royal Canadian School of Infantry, who proposed the Toast to the Regiment, which is published at the end of this report. Following an address of welcome by Colonel Mayhew, a presentation of a gold, diamond and ruby brooch, in the form of the regimental collar badge, was made to Her Royal Highness by Brigadier F. N. Cabeldu, CBE, DSO, ED, on behalf of the Regiment.

The following day, Sunday October 16th, Her Royal Highness attended Divine Service at Christ Church Cathedral. On leaving the Cathedral, Her Royal Highness proceeded to the adjoining Pioneer Square, where The Canadian Scottish Regimental Memorial is situated. Around the Celtic Cross were gathered the Regiment, cadets, veterans and bereaved families. After placing a wreath on the Memorial, and standing with bowed head while four staff pipers played the Lament, Her Royal Highness inspected Regimental veterans of both wars, accompanied by Colonel Peck and members of the Regimental Association.

On Sunday afternoon, in perfect weather, Her Royal Highness inspected her Regiment at Royal Athletic Park. Over 300 Militia officers, men and cadets were drawn up in ceremonial order, and went through the customary formalities. After the Advance in Review Order, performed in Highland manner without words of command, Her Royal Highness presented Queen's Commissions to four junior officers, and the Canadian Forces Decoration to Piper "Wee Andy" McGeorge, who may be remembered as the trainer and custodian of the Regiment's Second World War mascot "Wallace", a St. Bernard dog. Her Royal Highness then addressed the parade and received three hearty cheers not only from the troops, but from many of the veterans in the stands, where more than 3000 spectators were accommodated.

Officers, senior NCOs and guests of the Regiment then adjourned to the Armoury, where formal photographs of Her Royal Highness and her officers and senior NCOs were taken, prior to receptions in the Officers' and the Warrant Officers' and Sergeants' Messes.

This closed the official participation of The Canadian Scottish Regiment in Her Royal Highness' visit to Victoria, but her movements in and about Victoria during the next four days were followed with great pride and interest by all ranks, as well as by the general public.

On Friday morning, October 21st, Her Royal Highness embarked on her return journey on HMCS *Athabascan*, and her last sight and sound of Victoria were provided by three pipers of the Regiment playing a

HRH The Princess Royal inspects the Guard of Honour provided by The Canadian Scottish Regiment (Princess Mary's) on her arrival at Victoria, 15 October 1955. On the right is the Guard Commander, Captain H. V. Bigwood, CD.

farewell salute as the ship sailed past Duntz Head, *en route* to Vancouver.

* * *

Following is the text of the toast of the Regiment referred to in this report. It was proposed by 2/Lieut. R. J. Harvey.—Editor.

I have a two-fold honour tonight. Firstly, I am Junior Subaltern of The Canadian Scottish Regiment (Princess Mary's). I want to say that I consider this to be no small privilege. I am now twenty-eight, and having just been commissioned I am probably the most elderly of Junior Subalterns to come along in many a year. Secondly, I have the honour to stand up and propose a toast to the Regiment.

The history of the Regiment, like

Colonel C. W. Peck, V.C. (left), greets Her Royal Highness. He commanded the 16th Battalion C.E.F. (Canadian Scottish) in the First World War, and was the oldest surviving officer present at the welcoming ceremonies.

that of Canada, is of comparatively recent origin. A merger of four Canadian regiments—the 50th Gordon Highlanders from Victoria, The Seaforth Highlanders from Vancouver, The Cameron Highlanders from Winnipeg and the Argyll and Sutherland Highlanders from Hamilton—the 16th Battalion (The Canadian Scottish) went with honour and glory into and through the Battles of France and Flanders in the Great War of 1914–1919.

Speaking in parenthesis for a moment, if I may, I would like to say that my grandfather served with the 50th Gordon Highlanders. His son did also for a short time, and then later with The Canadian Scottish during the peacetime years and during most of World War II. The glengarry I wear is now worn by the third consecutive generation. Closing the parenthesis, I will go back to the 16th Battalion.

With characteristic flair for compromise, these Canadian fighting men merged and submerged many of their regimental customs and traditions to fashion a new battalion which could

Her Royal Highness decorates Piper "Wee Andy" McGeorge with the Canadian Forces Decoration. Looking on is Lieut.-Colonel J. Fawcett, CD, who commands the regiment.

get along with the pressing work then in hand. Drawing strength and vigour from Canadians from all parts, the Regiment fought its battles with distinction and with the energy so much to be expected from the people of this new land.

Battle Honours won include such names as Ypres, St. Julien, Festubert, Hill 70, Mount Sorrel, The Somme, Amiens, Vimy, Passchendaele, Canal du Nord and Drecourt-Quéant. These names and others will always be honoured ones with us, if only for the fact that they bring to mind the one thousand three hundred and five men who fell. I ask you to visualize that number if you will—33 platoons of 39 each formed up on a parade square would comprise that number of one thousand three hundred and five—a staggering total.

In World War II, mainly led by a hard core of true and faithful officers, N.C.O.'s and men who had toiled through the peacetime years relatively unnoticed and unappreciated in the Non-Permanent Active Militia (as the Canadian Army (Militia) was then called), the Regiment fought its war with honour and distinction again in Normandy, France, Belgium and Holland against a skilled, resourceful and determined enemy.

It is so easy for me to speak quickly and to gloss over these campaigns; it is so hard for one who was not there to find words to describe adequately the work, the sacrifice, the sense of desperation and triumph which these great and fine men must have experienced and lived through.

Now for the present and for the future. We of this generation have a mission. We have a message to carry. The message I have in mind is not one of good pay and the learning of a trade . . . The message I have in mind is that life in this Regiment of the Canadian Army (Militia) is the life of a *man*. What one of us here will not say that the wearing of the uniform and the doing of one's duty has not made him feel just a little bit more of a man than he thought he was. That is the gist of the message we must carry out to the young men of these parts.

What is it that draws a man to a Regiment such as ours? I will tell you what I think, if I may. It is a deep, compelling feeling that makes a man want to be a part of something big, something fine, something heroic. The message which we shall carry must strike that chord of feeling. If it does, then we shall get those whom *we* want and those whom *Canada* needs—our kindred spirits.

If we can do this, and I say we *must* do this, then we who have the audacity to call ourselves *The* Canadian Scottish Regiment (Princess Mary's) can rely on this fact: The Regiment will meet its future with strength, confidence and glory.

GOAT MASCOT PRESENTED TO THE ROYAL 22e REGIMENT

WRITTEN FROM REPORTS PREPARED BY ARMY PUBLIC RELATIONS AT HEADQUARTERS OF THE EASTERN QUEBEC AREA

Traditionally the mascot of The Royal Welch Fusiliers, a white goat from the Royal Herd in the London Zoo was presented to The Royal 22e Régiment in a ceremony on the Plains of Abraham at Quebec City last October by the Governor General, His Excellency the Rt. Honorable Vincent Massey.

More than a year ago the Governor General expressed a desire to make a gift of the mascot to the Quebec regiment, which is affiliated with the Fusiliers, a British Army regiment. The animal was selected, with the permission of Her Majesty the Queen, from the Royal Herd which was started from a pair of goats presented to Queen Victoria by the Shah of Persia.

More than a thousand members of The Royal 22e Régiment took part in the ceremony, troops of the 1st and 3rd Battalions of the regiment, as well as the Regimental Depot, being on parade when the mascot, named "Batisse", was presented to the Honorary Colonel, Major-General Georges Vanier. The Commanding Officer of the 1st Battalion, Lieut.-Colonel Bernard Guimond, was in command of the parade.

The Governor General took the salute at the march-past of the regiment with the mascot at its head. Corporal Albert Gagnon, dressed in full-dress uniform with bearskin and white gauntlets traditionally worn by the Goat-Major, led the mascot, which wore a silver shield embellished with the regimental crest. His horns were gilded.

The address which His Excellency delivered at the presentation ceremony follows:

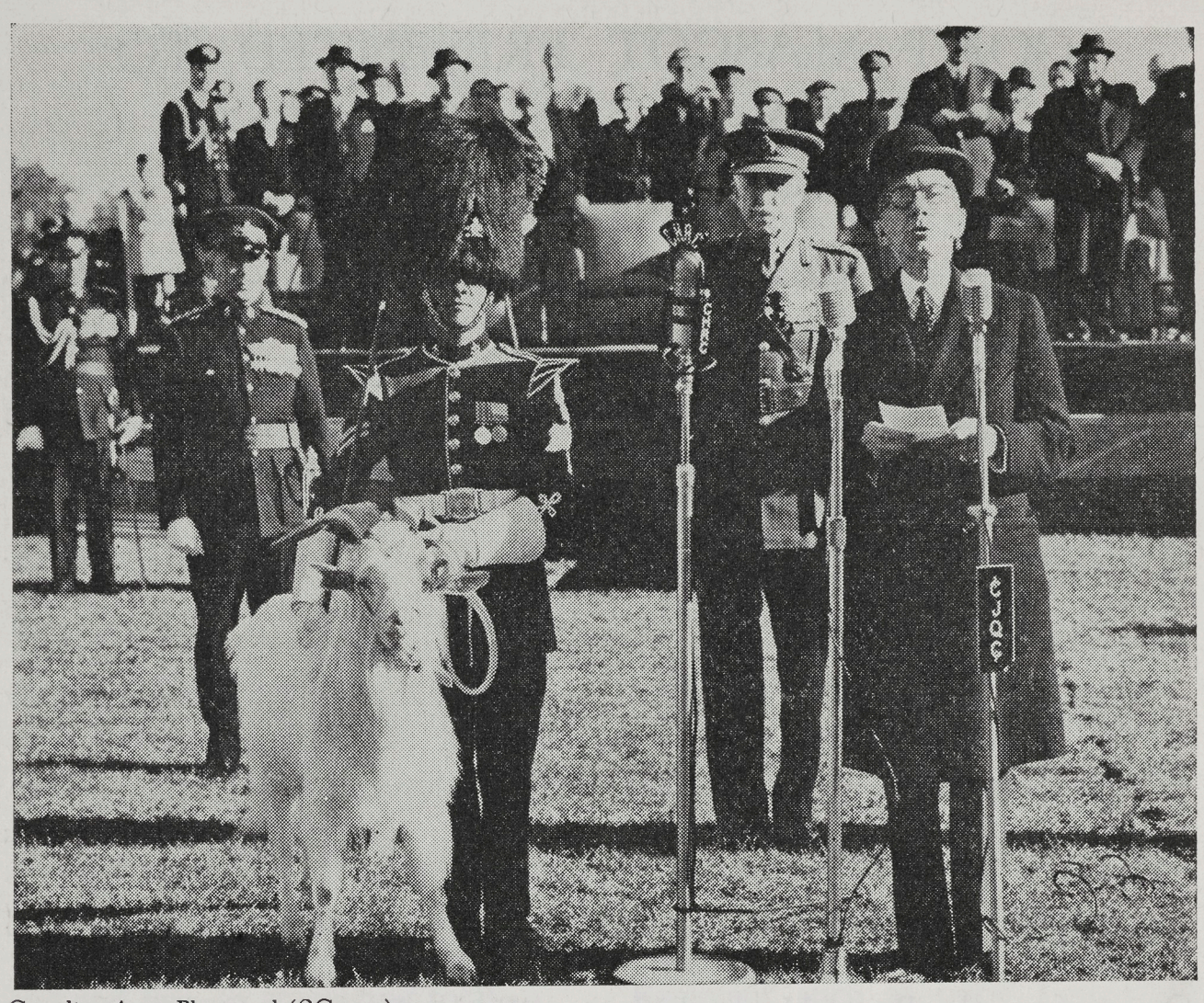
"I am delighted to have this opportunity of speaking to the Officers, Non-Commissioned Officers and men of The Royal 22e Régiment.

"Your Regiment stands high among those which have emblazoned the names of otherwise forgotten villages on the pages of history — names such as Amiens, Vimy and Casa Berardi.

"Acts of bravery of a Regiment such as yours can only come from a deep-rooted *esprit de corps* and a sense of tradition. It is of this in particular that I am thinking today, on this special occasion.

"You are affiliated with a very famous British Regiment.

"It is important, I feel, that you should share with the Royal Welch Fusiliers a tradition which has been



Canadian Army Photograph (QC-5353)

His Excellency making his presentation address. *Left to right*: Corporal Albert Gagnon, Goat-Major, holding the regimental mascot; Major-General Georges Vanier, Honorary Colonel of The Royal 22e Régiment; and the Governor General.

theirs for centuries — that of having a Royal Goat as a member of your Regiment. This Goat, which has been at Valcartier only a short time, already, I understand, feels very much at home with you, and I am sure that before long you will become very fond of him and a solid friendship will be built up.

"To The Royal 22e Régiment, and to all who serve in it, I give my heartfelt good wishes, and may your future be as illustrious as your past.

"I now have much pleasure in presenting this Goat to the Regiment."

Basis of Civilization

Civilization, it has been said, is based essentially on three processes: the discovery of knowledge, the conservation of knowledge, and the transmission of knowledge.

A REVIEW OF MILITIA CAMP TRAINING

FROM A REPORT ISSUED BY THE DIRECTORATE OF PUBLIC RELATIONS (NATIONAL DEFENCE), OTTAWA

Almost 25 per cent. more Canadian Army Militia men and women went to camp last year than in 1954.

A total of 20,568 soldiers, members of the Canadian Women's Army Corps and nursing sisters of the Royal Canadian Army Medical Corps attended 21 Militia camps across the country in 1955, compared with 16,593 in 18 camps in 1954. The figure included 4,623 officers and was by far the largest camp attendance since the Second World War.

Statistics show also that four times as many personnel attended the 1955 summer camps as in 1947.

Commenting on the success of the camp programme last year, Major-General H. F. G. Letson, CB, CBE, MC, ED, CD, Adviser on Militia to the Chief of the General Staff, said, "It is clear that the morale and enthusiasm of the Militia has increased." He added, "There has been a marked revival of interest in Militia matters with a resulting increase in efficiency."

Major-General Letson expressed satisfaction at the numbers attending camps, but said the Militia still needs many more men in all areas of the country.

Part of the success of this year's camp programme has been attributed to the introduction of camp pay bonuses. Single Militia soldiers this year received a $25 bonus over and above their Regular Army pay scales for time in camp, while the wives of married men received $40 bonuses.

Highlighting summer Militia activities was the CWAC camp programme which got into full swing for the first time since the war with almost 900 women attending camps in five provinces.

The breakdown by commands showed Ontario (Central Command) with 7,561 men and women at five camps. Figures from the other commands were: Quebec Command, 4,398; Eastern Command (Nova Scotia, New Brunswick, Prince Edward Island and Newfoundland), 3,750; Western Command, (Alberta and British Columbia), 2,614; and Prairie Command (Manitoba and Saskatchewan), 2,245.

Largest attendance was at Petawawa, Ont., where 4,343 men trained. The other 20 camps ranged in size from 2,683 at Valcartier, Que., and 1,811 at Utopia, N.B., to 67 at

Mary Hill, B.C., and 52 at Kingston, Ont., where personnel selection officers took training courses.

The Royal Canadian Infantry Corps predominated, with 6,243 men at various camps. Figures for other large corps included: Royal Canadian Artillery, 4,329; Royal Canadian Armoured Corps, 2,169; Royal Canadian Army Service Corps, 1,038; Royal Canadian Engineers, 993; Royal Canadian Electrical and Mechanical Engineers, 711; Royal Canadian Army Medical Corps, 640 (including 86 nursing sisters), and Royal Canadian Signals, 662.

An idea of the expansion shown in Militia training since the war is given in the following annual totals of personnel attending camps and the overall strengths in those periods:

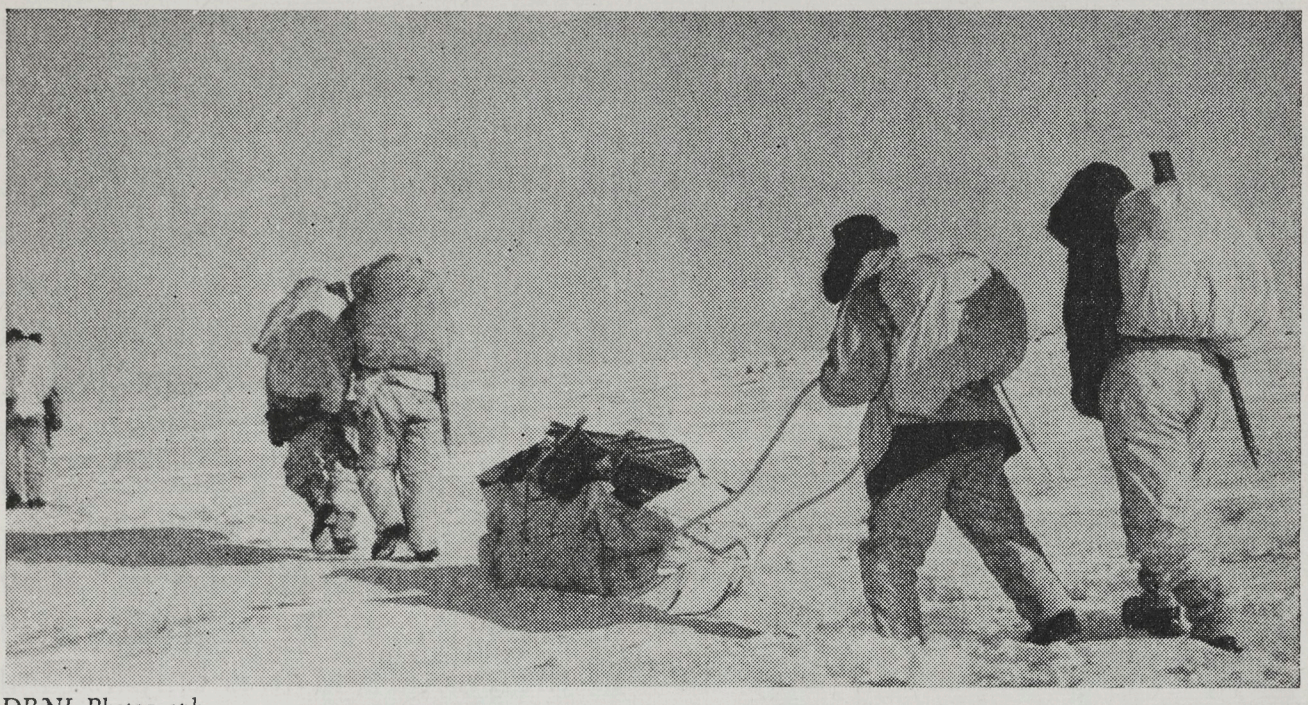
Year	Strength	No. Att. Camp
1947	33,350	4,538
1948	35,494	7,092
1949	41,327	10,204
1950	45,584	11,241
1951	46,680	11,838
1952	48,306	13,773
1953	47,382	14,568
1954	46,159	16,593
1955	45,789	20,568

Radar Rescue Sets

So that its fighter pilots can signal their positions to rescue craft when they have crash landed in the sea or bailed out over water, the Royal Air Force is equipping them with tiny, portable radar transmitters. The transmitters, reported to be effective over a radius of 75 miles, will guide the rescuers to within 100 yards of the downed airmen. Known as SARAH—search and rescue and homing—they can also be used for radiotelephone conversations. The radar transmitter is strapped to the side of the pilot's inflatable life jacket. When he enters the water, he pulls a small toggle that releases a 27-inch aerial and starts the sounding of distress signals.

The transmitters are being tested by other NATO countries and will probably be issued to other crews later.

The Air Ministry also has announced plans to ring the British Isles with helicopter units to save airmen and others in difficulty at sea. Already in operation by the RAF are five units at posts on the Channel and the North Sea. Two more will be set up soon. The units are designed to operate within a 60-mile radius of their bases.—*News Release.*



DRNL Photograph

Scientists live and move with troops on a winter exercise.

DEFENCE RESEARCH NORTHERN LABORATORY

By
Mr. A. M. Pennie, Superintendent of
the Defence Research Northern Laboratory

The Defence Research Northern Laboratory is located at Fort Churchill on Hudson Bay and is one of the eleven stations operated by the Defence Research Board. Churchill was chosen for a number of reasons. Geographically it is ideal since it is for all intents and purposes within the Arctic and is surrounded in winter time by a limitless ice box. In addition, a military establishment exists at Fort Churchill and it is possible to integrate the work of the laboratory very closely with the Services and test teams who operate in the area. It is a rail and air terminal and is virtually the crossroads to the Arctic.

The prime purpose of the laboratory is to solve or attempt to solve problems which are encountered by the Services whilst fighting and surviving in the north. As can be imagined, the problems which exist and are likely to be met are varied and numerous and come under a variety of scientific headings. This necessitates maintaining a scientific and technical staff who are qualified and skilled to tackle problems in the fields of

engineering, chemistry, physiology, psychology, physics, mathematics and biology. It is quite possible that within one single day during field exercises in the Churchill area a soldier may encounter a situation which calls for advice and assistance from scientists in all these varied fields of work.

In the majority of research establishments operated by the Board, scientists are generally recruited from closely related fields and have a great deal in common scientifically. For example, in guided missile work the majority of the scientists on the station are engineers or physicists and could be classified as "first cousins". At DRNL there is no particular family relationship, yet all the scientists have to work hand-in-glove on the many varied problems. The Board does not have one major Arctic defence project—there are many small problems in a number of different scientific fields which all add up to a major project. This project can be defined as the Effect of Arctic Environment on the Performance of Personnel and Materials in the Field. In other words, the main interest is what happens to men, materials and equipment when exposed to Arctic weather and surroundings, both in summer and in winter.

When the term Arctic is employed most people tend to think of it as Arctic winter and forget that summer exists in these latitudes. There are problems connected with fighting and surviving in the Arctic under summer conditions and these problems in the eyes of many people are much more complicated than one would expect. Instead of cold, ice, wind and snow, the elements which have to be faced in the summer are cold wet winds, boggy terrain, limited overland transport and the curse of black flies and mosquitoes.

Up to the present time the army has been the Service most interested in the Arctic and it is only natural that the problems tackled by the Laboratory have had an army flavour. Each year the army holds winter exercises in the eastern and western Arctic and these exercises, in addition to having tactical value, serve as an opportunity to prove and evaluate men and equipment.

Scientists from the Defence Research Northern Laboratory have been trained to live and move with troops in the field and participate in the tactical exercises. They live the life of the soldier and at the same time carry out scientific tests and measurements while the exercise is going on. Since very little use is made of mechanized equipment on these exercises, these scientists pull the same load, live in the same tents and eat the same food as servicemen. On northern exercises, for the past four years, the Operations Research Section of the Defence Research North-

DRNL Photograph

Controlled studies of insect protection methods help make living in summer more pleasant.

ern Laboratory has carried out evaluations of clothing and equipment, appraised methods of indoctrination training, has examined the problems of Arctic navigation, and aided in the development of navigation techniques. In addition, they have kept an eye on the northern situation generally, so that when the need for a new item occurs, or when there is need for a change or improvement in items, suggestions are forwarded as quickly as possible to the people who should be the first to hear about it. This group has also been involved in research dealing with such problems as morale and fatigue in the cold, night watchkeeping, and manual work in the cold, and leadership and discipline, as well.

Two of the members of the Operations Research Section have been trained as parachutists and are, incidentally, the only civilians ever to qualify at CJATC, Rivers. They jump with the exercise troops and their work has been concerned with problems which affect the parachutist and his performance, prior, during, and after the drop.

On Arctic exercises there usually is very little time for the exercise personnel to conduct organized investigations, as they are busy with the practical problems at hand. Scientists in this respect have been of great assistance to the military, in that they have been able to assist

DRNL Photograph

Personnel on a DRNL northern summer exercise watch a scientist explain the purpose of the exercise to the head of the Eskimo settlement.

and supervise the collection of valuable information, which can be obtained on Arctic exercises. One device that is frequently used on these exercises is the questionnaire. In using the questionnaire, troops in the field are asked to express opinions on equipment and methods and to offer any suggestions or ideas they may have which might lead to improvement. This way, it is possible to get the opinions of the man in the field on the equipment he is using, and to get it at a time when he is using it, and is most concerned with it. As a result of this method, it has been possible to discover things which were being overlooked in training, to see what mistakes people make in navigation and to point out changes and improvements which might be made in equipment. All of these findings are assisted by the man in the ranks expressing his opinion based on his own experience.

An example of the type of problem which operations research workers have dealt with is seen in the development of the new Arctic repair kit. During the winter exercises of 1951 and 1952 it was noted that a large number of stoves (the type which are used for tent heating purposes) were being declared unserviceable and returned for replacement during exercises. The troops complained that they were unable to carry out any maintenance on the stoves, because of lack of tools, but at the same time it was suspected that the stoves were

faulty, because of the high percentage of failures which were occurring.

Operations research scientists conducted a preliminary survey and it was found troops were not issued with the proper tools. They were unable to make running repairs and adjustments or replace generators, which on analysis turned out to be the main cause of the stove failure. It was also found that troops lacked proper equipment for the repair of other items. In examining the scales of issue for Arctic operations, it was noted that an Arctic repair kit was available and that it contained the necessary items to meet the requirements for small-scale field repairs. However, the kit was found to weigh approximately sixteen pounds and contained some sixty items, which ranged from a sailmaker's needle to a keyhole saw, and definitely too heavy and unwieldy to be carried by an individual tent group. A further analysis was then carried out, the opinion of troops was obtained and finally an Arctic repair kit was designed and tested. It included all the necessary items for stove repairs, as well as generator replacements, tools and material for tent equipment and snowshoe fixing, and at the same time weighed less than two pounds and contained only nine items. As a result of the use of the proper tools. stove failures have decreased markedly and at the same time the soldier has in the new Arctic repair kit all the equipment he needs to make the necessary and often vital repairs in the field and keep his tent heating equipment functioning properly.

Operations Research Section, DRNL, also concerns itself with conducting more elaborate field trials of clothing and equipment. In these tests personnel who are familiar with Arctic problems carry out well-designed tests on items of equipment to determine their efficiency and what improvements should be made. In addition, cold-room studies dealing with such problems as improving manual dexterity have brought forth valuable results which are of great assistance in helping the soldier to do a better job in the Canadian Arctic.

Because winter conditions prevail in the Arctic for the major part of the year, it is not surprising that the majority of the scientific effort of the laboratory should be directed towards the problem of cold and how it affects the human being and his fighting equipment. The problems are many sided and of great interest to scientists in many fields of research. At DRNL the problems are first tackled in the laboratory where the preliminary and basic studies are carried out and once principles have been established and clarified the work is then carried forward to the applied or field stage.

Since the major part of the field

work centres around army problems—studying the performance of personnel and equipment—it is necessary to have a representative army test team. The team at present assisting the laboratory is drawn from the 1st Royal Canadian Horse Artillery and consists of one sergeant, one bombardier, and eight men.

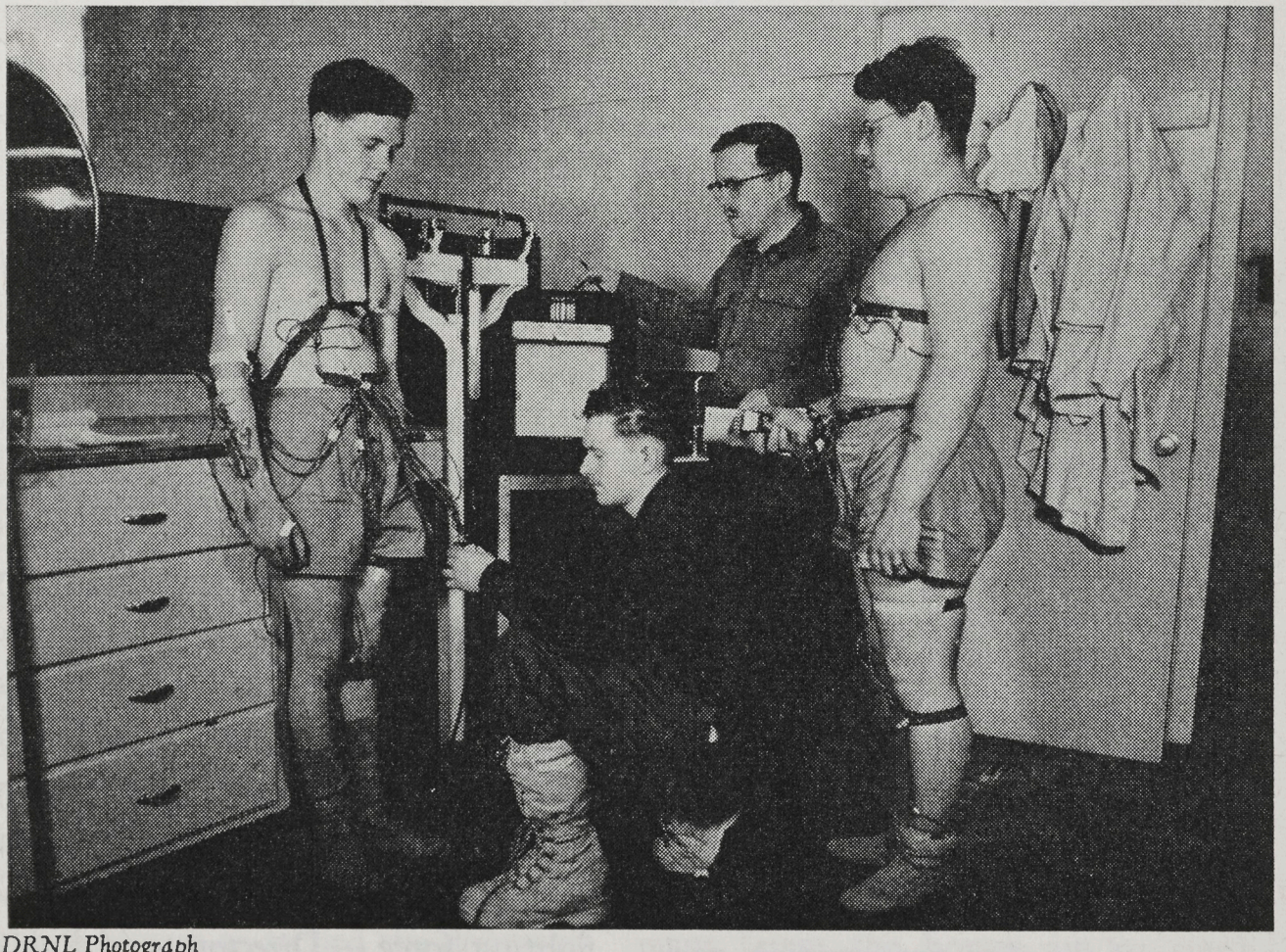
These men, after a brief Arctic winter indoctrination course of approximately ten days, have worked wholeheartedly with the civilian scientists and technicians, helping them to solve a wide range of problems. They have made forced marches with heavy loads, camped out in the open and performed a variety of difficult tasks under the worst Arctic winter and summer conditions. This group, bolstered by members of the laboratory staff and local military personnel, has conducted an extended series of controlled small-scale operations in the tree-line, barrens and far north, for the purpose of appraising summer problems from the point of view of equipment as well as logistics and tactics. This technique has proven quite successful and has turned out to be, from the viewpoint of lessons learned, an extremely inexpensive method which often produces equal or better results than the

DRNL Photograph

In summer the Arctic gets wet, and service personnel participate in a scientific study of summer problems on a northern exercise.

more costly large-scale exercise. Their co-operation and enthusiasm have resulted in a most successful field programme and the practical fulfillment of long months of laboratory research. Their assistance has been invaluable, and clearly demonstrates that civilian scientist and soldier, when working together, can perform as a happy and productive team.

The solution to many of the problems, whether it involves field testing of man or materials, requires careful and accurate measurements. Since much of the field work must be pursued in the barren and desolate areas around Churchill it is, therefore, necessary to establish mobile field laboratories. These laboratories are constructed from standard wannegans or car trailers and house the delicate and sensitive recording equipment which is necessary in field trials. Each portable laboratory has its own power supply provided by a gasoline-driven generator and can exist as a functional unit under all conditions of Arctic winter weather. By establishing field laboratories out in the barrens, many of the Arctic problems can be studied in detail on the spot and the performance of men and equipment can be recorded under operational conditions. By a system of thermocouples,



DRNL Photograph

What parts of the body get cold? Body temperature readings help in the design of better clothing.

temperatures at many parts of the body can be read and this information is of great value to the physiologists who are concerned with the effects of exposure to cold on the body and acclimatization to Arctic conditions. In addition, this same information is of interest to the group of scientists who study the performance of clothing under Arctic conditions. They can then compare the relative values of different types of footwear, sleeping bags, etc., under operational field conditions.

The operation of vehicles and automotive equipment under Arctic winter conditions gives rise to a large number of problems. The performance of new and improved batteries and lubricants are among the items under investigation, and experimental work is being carried out on devices and systems for the easy starting of motors under extreme low temperature conditions.

In addition to the normal work programme, the laboratory provides assistance, space and facilities to scientific teams from other stations within the Board, Canadian Services and U.S. and U.K. Agencies who are regular visitors to Fort Churchill for specific tests and trials.

Packaging Course at Montreal

The Department of National Defence last autumn completed the first of a series of Joint Services Packaging Courses at No. 25 Central Ordnance Depot, Montreal.

Conforming to the policy of continuous improvement in operating procedures, selected packaging personnel of the three services and other branches are being kept abreast of the most modern developments in this specialized field. The latest techniques of cleaning, preservation, packaging and packing of many types of military stores are demonstrated.

The aim of these courses is to ensure that the best methods and materials are being used to provide safe delivery of military stores by road, rail, sea or air, and to extend storage life to the maximum limits. This is a most important phase of logistical supply, and covers the many thousands of items required to maintain the complex equipment of the fighting force.—*Directorate of Public Relations (National Defence).*

A WAR PHOTOGRAPHER

By
CAPTAIN F. L. JONES, LATE THE IRISH REGIMENT OF CANADA,
HAMILTON, ONTARIO

In January 1944, a Canadian Army photographer was occupying a bed in a field general hospital at Caserta. He had suffered a misadventure in the vicinity of Ortona the previous month. Setting out one morning to get a picture of the front line, he came to a deserted place where all human activity appeared to have ceased. He was hailed by a soldier in a slit trench who asked him where he thought he was going. The photographer explained that he wanted a picture of the enemy positions. The soldier told him in no uncertain terms that they were just over there and asked the photographer to go away at once. Anything above ground was sure to attract unwelcome attention to the locality. The photographer, however, pressed on to get a really good shot of the line. He retained consciousness in an Advanced Dressing Station where minor surgery was performed. Minus his camera, he was unceremoniously hurried away to come to rest in a hospital bed. However, he had walked in a great tradition and the shade of Roger Fenton would have smiled approval.

Roger Fenton was first in the field with a camera to record the doings of the British Army, yet it was not until the centenary of the Crimean War that his letters from the Crimea were published for the first time, and a selection of his photographs made available to the public in book form. I am indebted to Helmut and Alison Gernsheim for permission to draw extensively for my information upon their book *Roger Fenton, Photographer of the Crimean War*, published in November 1954 by Secker & Warburg Ltd., London, and to quote and illustrate their copyright material.

Until the advent of photography, the general public knew war through the medium of coloured and wildly imaginative prints. The lithographic process having been brought to perfection, the hey-day of the print seller was reached in the 1840's. In that decade, the London firm of Ackermann produced its series on the Sikh wars in India and what prints they were: the charge of the 16th (Queen's Own) Lancers at Aliwal, the storming of Mooltan, the advance of the 31st Regiment at Sobraon. These and many more which stirred the blood showed an army not too far removed from the Peninsula and Waterloo. Cavalry in perfect alignment (even the horses are in step) charged masses of enemy foot with

tremendous panache. Infantry swept forward in a thin line of irresistible scarlet across crumbling earthworks to the dismay of dusky adversaries: all of which would be respectfully dedicated in a flourishing hand to the successful general and his brave companions by "their very obliged and obedient Servant, Rudolph Ackermann" and sold at his Eclipse Sporting and Military Gallery, 191 Regent Street. The cold and factual eye of the camera was to banish these exciting and highly improbable works of art from the print seller's shop forever.

The Victorian period has been presented by later writers as an age of conformity, but the Victorians themselves seemed to have been unaware of this. One of their most persistent traits was their refusal to conform. They had a penchant for engaging in a variety of pursuits and activities which was truly remarkable. The age produced diverse and many-sided men. Such a one was Roger Fenton. He was born at Grimble Hall, Lancashire, in 1819, into a family whose circumstances would have been described as comfortable. The family fortune had been made by his grandfather, a successful *entrepreneur* who at his death left property valued at half a million or more. Roger was educated at University College, London, and graduated with a Master of Arts degree. Desirous of becoming an artist, he went to Paris—the Paris of Victor Hugo and Balzac—to study painting. Like many a young man before and since, he soon learned that while painting satisfied the creative urge, his work was not likely to earn him a living.

Wisely, he returned to London about 1844 to study law. He was called to the Bar and should have immediately started to conform to the pattern of his profession (the Parisian interlude quite forgotten) by emulating his grandfather. In the fullness of time he, too, would have died, seized and possessed of a half a million pounds, thereby earning the everlasting gratitude of his heirs; but this was not to be. Although he was now a solicitor with an office in the city, Roger Fenton could not free himself from what was to become the abiding interest of his life—photography.

He had been introduced to the "science and art of photography" while in Paris, and in 1847 was one of a dozen amateurs to form the Photographers Club in London. Six years later the Photographic Society came into being under Royal patronage, and Fenton accepted the post of Honorary Secretary. The quality of his work increased in excellence and he was summoned to Buckingham Palace to photograph the Royal Family. His acquaintance with the

By courtesy of the Gernsheim Collection

"Hardships of Camp Life"—Fenton on the wheelbarrow; Sparling (who was hired to look after the Photographic Van horses) in the cap of the 4th Light Dragoons; and William, the handyman and cook.

Prince Consort was to prove a great help to him when he went to the Crimea.

War with Russia had been entered into in a mood of light-hearted optimism in 1854. The allies (Britain and France) had landed forces in the Crimea in September of that year. After fighting three battles with the Russian Army, they laid siege to the naval base of Sebastopol and found themselves committed to a winter campaign for which they were totally unprepared. It could hardly have been otherwise. Such stores as were put ashore could not be delivered to the main camp eight miles distant because there was no transport. A disaster was in the making.

The suffering of the troops in the freezing and water-logged trenches before Sebastopol became indescribable. Medical supplies, clothing, blankets, boots—practically every item necessary to keep an army in the field—was lacking. The straits to which the army was reduced may be illustrated by a macabre story about boots. One source of supply remained: the dead who lay in

shallow graves on the mist-enshrouded Inkermann Ridge. From that eerie place, young Evelyn Wood, who was destined one day to become a field marshal, paid a sailor ten shillings for a pair which would fit him. In another time, the search for those boots could have been made the subject of a terrible etching by Goya.

The result of the worst administrative failure in the long history of the British Army was the death of 10,053 soldiers from exposure and disease during the period November 1854 to April 1855. The mortality rate stood at an appalling 52 per cent. From the letters and diaries of regimental officers, a glimpse can be had of what the statistics meant when translated into human misery. Colonel Sterling of the Highland Brigade wrote: "None but people of the hardiest constitution can stand it; all the others are dead or dying. I heard of one company going into the trenches fourteen men strong; all the rest dead, sick, broken." Captain C. F. Campbell made a note in his diary: "Things are going on very badly here, and I can hardly imagine what will be the end. . . The regiments are gradually dwindling down to nothing; the 63rd had only seven men fit for duty the day I left." On the 10th of January, Captain Dixon, paymaster of the 7th (Royal Fusiliers), looked at the wreck of his regiment: "We have had eleven hundred men since we left England nine months ago and we cannot now raise 240 to go on parade. If this goes on another two months the 7th will be extinct."

It was William Howard Russell, the special correspondent of the *Times*, who made these facts known in England. He was the first war correspondent and his on-the-spot reporting has linked his name with the Crimea for all time. From the camp before Sebastopol on the 25th of November 1854, he sent a famous dispatch to his newspaper: "It is now pouring rain—the skies are black as ink—the wind is howling over the staggering tents—the trenches are turned into dykes—in the tents the water is sometimes a foot deep. Our men have neither warm or waterproof clothing—they are plunged into the miseries of a winter campaign—and not a soul seems to care for their comfort or even for their lives. These are hard truths, but the people of England must hear them." On the 19th of January, Russell wrote the obituary of the original expeditionary force: "The generation of six months ago has passed away. . . "

The publication of these dispatches in the *Times* raised a great outcry among a people who were prone to look upon their soldiers as little better than brutes, full of beef, beer and lust. Public indignation at

By courtesy of the Gernsheim Collection

The Photographic Van with Sparling on the box.

the gross mismanagement of the war turned the government out of office. Never before had the public mind become so agitated about the fate of a British army. It was then that the Manchester publisher, Thomas Agnew, decided to finance a photographic expedition to the Crimea and Roger Fenton was to go. People were avid for news from the seat of war and Agnew thought the venture should prove to be a profitable one.

Armed with letters of introduction from Prince Albert and from the authorities at the Horse Guards which gave him a semi-official status, Fenton sailed on the 22nd of February in the transport *Hecla*. It was an undertaking of some magnitude. Stowed away were thirty-six chests of photographic paraphernalia, five cameras, stacks of plate glass, chests of chemicals, gutta percha baths, printing frames, carpenter's tools, a stove, cisterns for distilled and ordinary water and harness for three horses. In the hold was a large heavy van, formerly the property of a Canterbury wine merchant, which was to serve the dual purpose of dark room and living quarters. He had engaged two assistants—William as handyman and cook, and Marcus Sparling, an ex-trooper of the 4th Light

Dragoons—to look after the horses. Later it transpired that both were addicted to the bottle, a not uncommon failing at the time. On the 8th of March the *Hecla* entered the narrow, crowded harbour of Balaclava.

Fenton went ashore to make arrangements for the unloading of his van and found himself caught up in the swirl and confusion of the little town which chance had made the main base of the Army. There was a plethora of staff officers who promised much but whose subsequent performance left a good deal to be desired. The navy was everywhere in evidence, for the harbour was jammed with shipping. Because it was presumed to know something about steam, the navy was also in charge of the small, single-track railway which had been laid up the slopes to Kadikoi where the Guards and the Cavalry were encamped. Zouaves of the French Army in fezes and baggy red trousers mingled with Irish navvies and English soldiers. Gangs of civilian labourers—Turks, Tartars, Croats, and Montenegrins—thronged the narrow, dirty streets. The grog shops were doing a roaring trade and a half-drunken Scottish lad mounted on a mule passed Fenton with the shout, "Make way for the Royal Highland Brigade."

Fenton was courteously received by a commissary officer who referred him to the harbour-master. That harried man passed him on in turn to another naval officer. A major in the Ordnance Office, to whom the desperate Fenton brought the gift of a bottle, was of the opinion that the whole matter was clearly one to be placed before Admiral Boxer, the senior naval officer. A secretary intervened and suggested a transport captain. At one point in the proceedings the manager of the local railway yard became involved in the affair. After a week of being passed back and forth between commissaries and naval officers, Fenton got the van part ashore himself with the help of the captain of the *Mohawk*, who, being a civilian, was used to direct methods. A glorious example of the successful working of private enterprise is how Fenton described it.

The van was an object of curiosity and to dispel the impression that it was a general's office—as one officer took it to be—had had the words "PHOTOGRAPHIC VAN" painted on the sides in bold black letters. This made matters worse, for he was besieged by soldiers who wanted their pictures taken. Work was begun with views of Balaclava. Fenton then moved on to Kadikoi (railhead at the time) and has left an account of meeting a despondent Guards officer. He was busy putting a padlock on a chicken coop which he had constructed "grumbling away all the time at the Crimea, at the

army and at his own particular hardships. He made me a very liberal offer of his commission, medals and other advantages if I would only get him safely back to Pall Mall." It is impossible to imagine the Guardsmen in Ouida's novels talking in a like vein. Lord de Vigne and his friend Colonel Vivian Sabretache were made of sterner stuff.

To the west of railhead lay the Sapoun Hills, a low range rising to a plateau upon which the main camp of the British Army was situated. This was Fenton's goal. Progress was slow, for the roads were little better than tracks. Moving his van presented a problem which Fenton solved by letting it be known that he wanted to take pictures of the regiment nearest the site of his next stop. The men would promptly turn out and help him make the move—the prospect of a picture of themselves or their unit was the drawing card. The Royal Artillery provided six horses to get him up the Sapoun Hills. He speaks in his letters of the kindness and hospitality shown him by various officers. He messed with them and rode about the country seeing the sights in their company.

On his arrival at GHQ he presented his credentials to Lord Raglan, the Commander-in-Chief, who received him with his habitual, grave courtesy. His forty years as military secretary to the Duke of Wellington had been excellent training in meeting all sorts and conditions of men. A photographer was something new, a pleasant change from the place seekers and disgruntled officers who had crowded his anteroom for almost half a century. Fenton then set to work to make photographs of all the celebrities. Beginning with Lord Raglan, he worked down the list of divisional commanders until he reached a Captain Walker reading orders seated on a bale of hay. He ended with a private in full marching order, a stocky young man posed outside a tent.

Fenton was unable to produce a photograph of the Earl of Cardigan. His Lordship, who suffered from a bladder complaint, had departed in his yacht the *Dryad* the previous December. He left behind him the bones of the Light Brigade as his enduring monument. Strange stories about him circulated in the camp. Writing to his publisher, Fenton let drop a hint that the full story of the fatal charge would be a very different version from the one related with such gusto by Lord Cardigan at home: "If you have not got a portrait of Lord Cardigan I should recommend you to take no trouble about it, as you will before long have a very different account of his conduct from that he has himself given."

Fenton made a casual photograph of General Sir John Pennefeather. The

General is seated in his tent peering out at the photographer. A case of the best is at his feet. A big, raw-boned man, he wears a straggling moustache favoured by Air Force officers during the Second World War. Known as the swearing general to the troops, Inkermann was his great day. In the fog and rain of that November morning, his force of 2500 men on the Inkermann Ridge was attacked by 20,000 Russians. Pennefeather's tactical doctrine was contained in the single sentence, "When you see a head, hit it." Above the roar of musketry his oaths and curses could be heard as he urged on his men against the unwieldy Russian columns which came lurching up the ravines and gullies. A brigadier who asked where he should commit his troops received the disconcerting reply, "Oh, go in anywhere. There's plenty of fighting for you." Years afterwards when he was appointed GOC Aldershot Command, Queen Victoria asked an aide if the General had taken over his new duties. "Yes, Your Majesty," was the answer, "He swore himself in yesterday."

Fenton's mastery of the camera shows at its best in his regimental groups. "The Cookhouse of the 8th Hussars" is the most pleasing of all his Crimean photographs. There is a feeling of relaxation and naturalness about this picture which is the hallmark of a versatile cameraman. Twelve figures are shown in different attitudes about two camp kettles. A corporal wearing busby and gold-

By courtesy of the Gernsheim Collection

Cookhouse of the 8th Hussars.

By courtesy of the Gernsheim Collection

"A Quiet Day at the Mortar Battery".

braided pelisse has his mess tin half extended in expectation. On the left stands a sergeant, "pillbox" at a jaunty angle, swagger cane in hand—a cavalryman *par excellence*. He looks as if he was ready for a saunter down the Strand on the look-out for a likely recruit. "Best Regiment in the Army, my lad! Charged at Leswaree, we did. You'll never regret joining the old Royal Irish Hussars." In the background a woman of the regiment is smiling shyly. There is a misty quality about this scene which is reminiscent of a wash drawing by Dennis Dighton.

"A Quiet Day in the Mortar Battery" is a little masterpiece. Four soldiers have taken the opportunity to indulge in one of their favourite pastimes, sleeping. One is asleep with his back resting against a mortar, a heavy piece of ordnance with a 13″ bore. Another is stretched out on the ground in the emplacement. A third dozes over his rifle, asleep on his feet. The fourth man appears to be keeping a perfunctory watch over the parapet, a flimsy affair of stones and sandbags. It has fallen in directly in front of the mortar, probably the result of muzzle blast. No one has bothered to repair it. A regrettable lack of interest in the war!

Life at GHQ passed pleasantly for Fenton. His letters from the Prince Consort opened doors which would have remained closed to him. He was regarded in a different light from William Russell, who was looked

By courtesy of the Gernsheim Collection

Officers of the 71st Highlanders and their dog.

upon by some as a species of camp follower. The Commander-in-Chief invited the photographer to a dinner party where he met Lord and Lady Paget. Lord George Paget had secured his niche in the Hall of Fame by riding in the charge of the Light Brigade with a cigar in his mouth. He had been enjoying a smoke when the order came which sent the Brigade down the valley and into immortality. Quite forgetting about the cigar, he did not throw it away until he rode into the Russian batteries. A quiet man, he became talkative at Lord Raglan's, enlivened by champagne. Lady Paget was the belle of the Crimea (a French officer's phrase is "*ravissante amazone blonde*"). Fenton had already seen her galloping along the Causeway Heights with an escort of Light Dragoon officers and staff swells.

Fenton had also made the acquaintance of Mrs. Duberly, wife of Captain Henry Duberly, 8th Hussars, and photographed her smiling down upon her husband from her horse. In letters and anecdotes, the adjective "dashing" is frequently

used when talking of this vivacious lady and magnificent horsewoman. A certain number of other ranks' wives were allowed to follow each regiment on service. They washed and mended clothes and helped in the cookhouse. The Turks thought they were members of the general's harem. They lived and died in obscurity, for their names did not appear in the official returns. Fenton paid one of them sixpence to wash his clothes. The class consciousness of the mid-Victorian world is evident in his tart comment, "You would be amused by the conceit put on by everyone that sports a petticoat here . . . the washerwomen toss their heads and give themselves airs."

While at headquarters, Fenton met General Pélissier and other French officers. His photograph of "General Bocquet and Staff" depicts the General pointing dramatically at some feature while one member of his staff stands like a greyhound straining at the leash. It is a picture of Gallic intensity. Fenton got along very well with the French. Perhaps their company stirred memories of *la vie bohême* and the Paris which he had forsaken. He borrowed a Zouave uniform and had a photograph taken of himself in a swashbuckling pose. The Victorians never lost their child-like delight in dressing up.

Fenton's photographs show the metamorphosis which the army underwent in matters pertaining to dress during the winter months. Away went the "Prince Albert" shakos and the constricting stocks: fur caps and mufflers took their place. Sheepskin coats which arrived at long last altered the appearance of the army so completely that no one could have recognized it as the one which had landed with all the pomp and circumstance of war in the autumn. "The 47th Regiment in Winter Dress" is typical of any line battalion. Bearded individuals in fur caps and shaggy sheepskin coats are huddled about a dixie. It is impossible to identify them as British soldiers. They look like Laplanders after a reindeer hunt—a far cry from the theatrical, little figures in an Ackermann print.

The supplies of winter clothing and comforts brought an upswing in morale. Russell wrote that "the camp is plunged into a sea of abundance, filled with sheep and sheepskins, wooden huts, furs, comforters, mufflers, flannel shirts, tracts, soups, preserved meats, potted game and spirits." It was a revived army which faced Fenton's lenses. An officer of the Guards who mentioned to a sergeant that things were looking better got the reply, "They are, sir, the men are beginning to swear again!" When spring brought the yellow crocuses to bare hillsides, the red coat made a tentative re-appear-

ance in the lines. The British Army may be said to have become its old self again: not entirely, for the veteran soldiers who lay in nameless graves could not be replaced.

"Officers of the 42nd Highlanders" is a study in contrast. Four gentlemen who have reacted each in his own way to demands made upon them by active service, have posed for the photographer. Three of them are "old hands" while the fourth is a "Johnny-come-lately." Two wear reefer jackets as shapeless as the leather jerkins issued at one time to driver mechanics. A third presents an extraordinary appearance. He wears a tartan smoking jacket in a gayer tartan than the sombre Black Watch. A black silk tie carelessly knotted and with flowing ends gives an effect of artistic disarray. To complete the ensemble, his plaid trousers are tucked into high cavalry boots. One hand on hip, the other resting on his claymore, he is an insouciant figure in a bleak landscape. Nothing quite like him has been seen since on Russian soil. The fourth officer, obviously a reinforcement, stands in the full glory of white spats, kilt, hair sporran, scarlet jacket weighed down with heavy gold epaulettes, sash, dirk and sword. His only concession to the war, the Ruskies and the weather has been the discarding of the feathered bonnet in favour of a peaked forage cap. The variations one can achieve with Highland dress are limitless.

Fine weather brought polish and pipeclay. Soldiers began to look like soldiers instead of resembling armed vagabonds. In a plate with the somewhat disturbing caption, "The Remains of the Light Company 38th Regiment", thirty men are drawn up on parade, the red coat once more in the ascendant. They are wearing the soft, round forage cap, called a "pork pie" by the infantry. There is a touch of the parade ground about the picture, enough to gladden the hearts of sergeant-majors who must have suffered untold mental anguish during the winter months.

Life for Roger Fenton was not all dinner parties at headquarters and a round of mess visits. There were incidents of an alarming nature. In its perambulations around the country-side, the photographic van came within range of the Russian batteries in Sebastopol on several occasions. They promptly opened fire thinking it was an ammunition wagon. Before going on an expedition which would take them too close to the city for comfort, Sparling, the driver, suggested that his employer take a picture of him seated on the box—just in case. Fenton himself came under fire one day while making a reconnaissance on foot. Writing home he wanted it clearly understood that "it is not at all amusing to

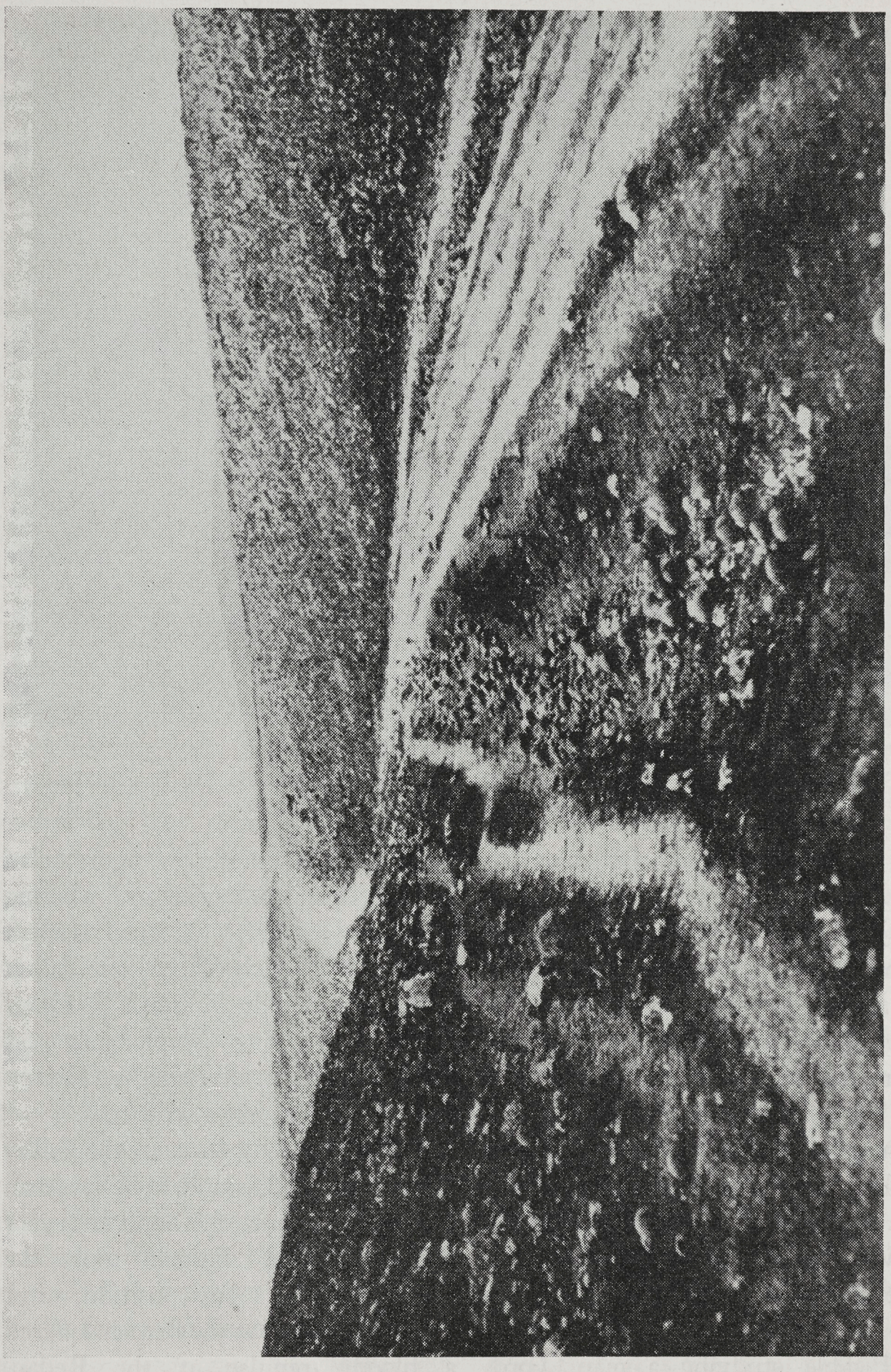
By courtesy of the Gernsheim Collection

The Council of War on the morning of the taking of the Mamelon, 7th June 1855—Lord Raglan, Omar Pasha and Marshal Pélissier.

hear the whirr of approaching cannon balls."

In June there was increased activity in the Allied lines before Sebastopol. An attack was made on the 7th of June upon the Mamelon and the Quarries, two important outworks. The attack was a success. Early in the morning of that day, Fenton photographed the three Allied commanders. He gave it the title "A Council of War" and it has been reproduced more often than any of his pictures. The three commanders are seated at a small table studying a map. Lord Raglan is an unmilitary figure, clad in a civilian frock coat and wearing a white sombrero adorned with a pugaree (a French officer once call it "*un costume de fantaisie*"). Omar Pasha is staring suspiciously at General Pélissier, described by Fenton as having a face like a wild boar.

Emboldened by success, the Allies planned a grand assault to be made on the 18th of June, the anniversary of Waterloo. The French took the Malakoff Hill, a key position, after savage fighting but the British suffered a bloody repulse at the Redan.



"The Valley of the Shadow of Death".

By courtesy of the Gernsheim Collection

Regiments with a high proportion of recruits in their ranks were called upon to carry an enemy work of great strength which the Russians held with skill and determination. The cost was 1500 casualties and nothing accomplished. William Russell wrote down the reason for the failure with his usual acumen: "Those whom the war has swallowed up have not been replaced by better men."

Fenton had watched the assault on the Malakoff and the Reda. Friends whom he had made during the past three months were carried back dying of ghastly wounds. Although he had been in the Crimea since March, this was his first experience of the aftermath of an infantry attack. He had been in poor health for some time and the scenes which he had just witnessed brought on a state of morbid depression. He decided to return to England and embarked on the 26th of June, carrying with him his precious negatives, some 360 photographs in all. No sooner had he got on board than he went down with cholera. He recognized the symptoms of the disease and coolly gave instructions as to the treatment. It is quite probable that he would have died had it not been for the attention given to him by Sparling and William who nursed him through the illness.

On his return home, he was commanded to Osborne to show his photographs to Queen Victoria and the Prince Consort, who evinced great interest in them. Fenton and his publisher, Agnew, were received at the Palace of St. Cloud by the Emperor Napoleon III. According to the *Times*' Paris correspondent, he commanded them to prepare immediately a number of copies of the views. In October, a public exhibition of his work was held by the Water Colour Society in London. People gazed with solemn faces at "The Tombs on Cathcart's Hill" and "The Valley of the Shadow of Death".

Roger Fenton continued with his photography until 1862 when he suddenly decided to return to the practice of law. He died seven years later at the comparatively early age of fifty. The Crimea was his *magnum opus*. In the extensive range of literature which exists on the conflict, Roger Fenton has been unaccountably passed over. Florence Nightingale, the nurse: Russell of the *Times:* Todleben, the Russian engineer who defended Sebastopol, and even the incredible Cardigan have all received attention. At long last, however, Fenton has come into his own, and his photographs, like Hogarth's prints, will continue to be an invaluable aid to the student of history as well as exerting a fascination all their own over the general leader.

THE BROAD ARROW

By
Colonel E. R. Rivers-Macpherson, OBE, Ottawa,
(late The Gordon Highlanders)

The Broad Arrow to which the author refers is the symbol used as a mark for Crown property. The use of the Broad Arrow in Canada was, of course, inherited from the British Army, and sometime before the First World War the mark was "Canadianized" by the addition of the letter "C" (the illustration appears on page 71). This mark was used until 1949, when it was officially discontinued as a Canadian Government ownership symbol. After the Second World War large quantities of stores were disposed of by War Assets Corporation, and the legal status of the mark denoting government ownership was considered uncertain enough to warrant its cancellation. Service stores are now marked as tested and inspected by Inspection Services of Canada only.—Editor.

* * *

The Broad Arrow has often been associated with the fleur-de-lis, and whilst the ancestry of this cypher cannot be directly traced, it may well be derived from the only symbol definitely known to have been used by the Druids—three diverging rods or rays, believed to represent the creative attribute of Deity and the origin of life and light.

Let us now trace the evolution of the three-pronged emblem through the ages. The latter has been used by many nations and assumed a variety of forms; but always with some regal, priestly, or magic significance. First,

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A War Photographer

(*Continued from preceding page*)

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The Reason Why: Cecil Woodham-Smith, London 1953.

the trisula, an emblem of enormous importance which adorns Buddhist temples in the richest profusion. The temples of Siva bear a trisula on the spire in the form of a trident. The Jewish phylactery worn on the forehead was made of leather, and on its outside was inscribed the sacred Hebrew symbol—Shin, the first letter of God's most holy name, Shaddai.

The brass sceptre of the Lamas of Tibet bears a trisula at either end. Another interesting reference to the trisula form is to be found in Plutarch, who explains that over the Gate of Apollo's Temple at Delphi the word "Ei" was engraved, and was formed like the Greek fifth letter, *epsilon*, to which he ascribes the sense of permanence and immutability as attributes of the Deity. In the coins of Elis (circa 400 B.C.) the thunderbolt of Zeus appears as a double-headed trident. If the theory that the Broad Arrow is derived from the old world trisula symbol be accepted, it will be seen that there is a direct connection between the crest of the late Board of Ordnance—"a dexter hand holding a thunderbolt all proper"*—and the familiar cypher belonging to that Board and its successors.

Poseidon or Neptune with his trident (borrowed by Britannia) is a well-known figure; Pluto, god of the underworld, bears a similar sceptre. In another form the trisula appears as a combination of the solar and lunar symbols, the crescent of lunar portion being the attribute of female deities, while the central portion would be formed either by placing the orb of the sun (almost always a male deity) or else a figure representing the sun-god within the crescent. The Turks have a crescent embracing the sun or a star, supposedly derived from Byzantine symbolism. We have similar instances in Egypt, as the figures of Osiris and Isis, and from Assyria and Babylonia.

An old sceptre in the Louvre (believed to have been that of Charlemagne) bears an ivory hand, with the thumb and two fingers outstretched, another strong presumption of the trisula form. It is also worth noting that a trisula form occurs in a number of prehistoric rock carvings, where (for lack of better explanation) it is sometimes supposed to represent the poles and walls of a tent.

The *fleur-de-lis* was originally a simple trisula. It was only later that the three members were extended beneath the cross-bar and that, presumably under the influence of decorative art, the whole became highly floreated.

In Holy Trinity Church at York (England), which has one of the few

* *See* The Historical Associations of the RCOC Badge, *October 1955 issue of the* Journal.—Editor.

surviving Trinity windows of the 15th century, we can see the figure of the Christ covered with marks, which are said to be signs of scourging, but which when examined by means of glasses, are seen to be tiny "Broad Arrows". Experts have associated the latter with the trisula in Indian mythology—the stigma of royalty. The arrangement of the Prince of Wales' feathers is probably derived from the same origin, having a true trisula form. It is also worth noting that the British Crown to this day contains two trisulas of different shape, one of which it seems evident is the *fleur-de-lis*, whilst the other resembling three arms of a Maltese Cross, is possibly of native origin.

Once established as a royal cypher, it would only be a step to use the symbol as a mark for Crown property, when its original significance became obscured and the resemblance of the cypher to an arrow-head would be obvious in a country so famed for archery. This is what seems to have occurred, for the records of the City of London state that in 1386 a man was brought before the Lord Mayor and Aldermen for having gone to the houses of several brewers pretending to be an officer and a taker of ale for the King's household, and there marked several barrels of ale with a mark called "Arrewehede", saying that these barrels were for the household of the King, whereas in truth he was not an officer belonging to the King, but falsely received divers sums of money from the brewers that they might have the ale in peace. He admitted his guilt and was sentenced to be put upon the pillory for an hour! There is also mention in 1598 of the Broad Arrow being used by the Collector of Customs at Newcastle as a mark for contraband goods seized by him.

The earliest trace of the Broad Arrow in connection with munitions occurs in 1553–4 when Sir Thomas Gresham, the founder of the Royal Exchange, was smuggling gunpowder into England. Writing from Antwerp to the Council, he mentions: " . . . giving your Lordships to understand that I have this day received 36 barrels of gunpowder, part of the complement that was lent to the Regent, which I have shipped in an English crayer, Mr. Thomas Spacke of Lye, under this mark in the margin. . . ."

But it was not a universal Ordnance mark until later, a Royal Commission appointed in 1633 being directed to mark small-arms and armour with the letter "A" and a crown—the hall-mark of the Company of Armourers of London. It was not until the accession of Charles II that a direct connection between the Office of Ordnance and the Broad Arrow was established

by the following document dated 1687: "The buttings and boundaries of His Majesty's Tower ground, called the old Artillery ground are as followeth. . . Upon all which Boundary Houses his Majesty's Tower Mark, the Broad Arrow, by his late Majesty's command, hath ever since the building thereupon, been set up."

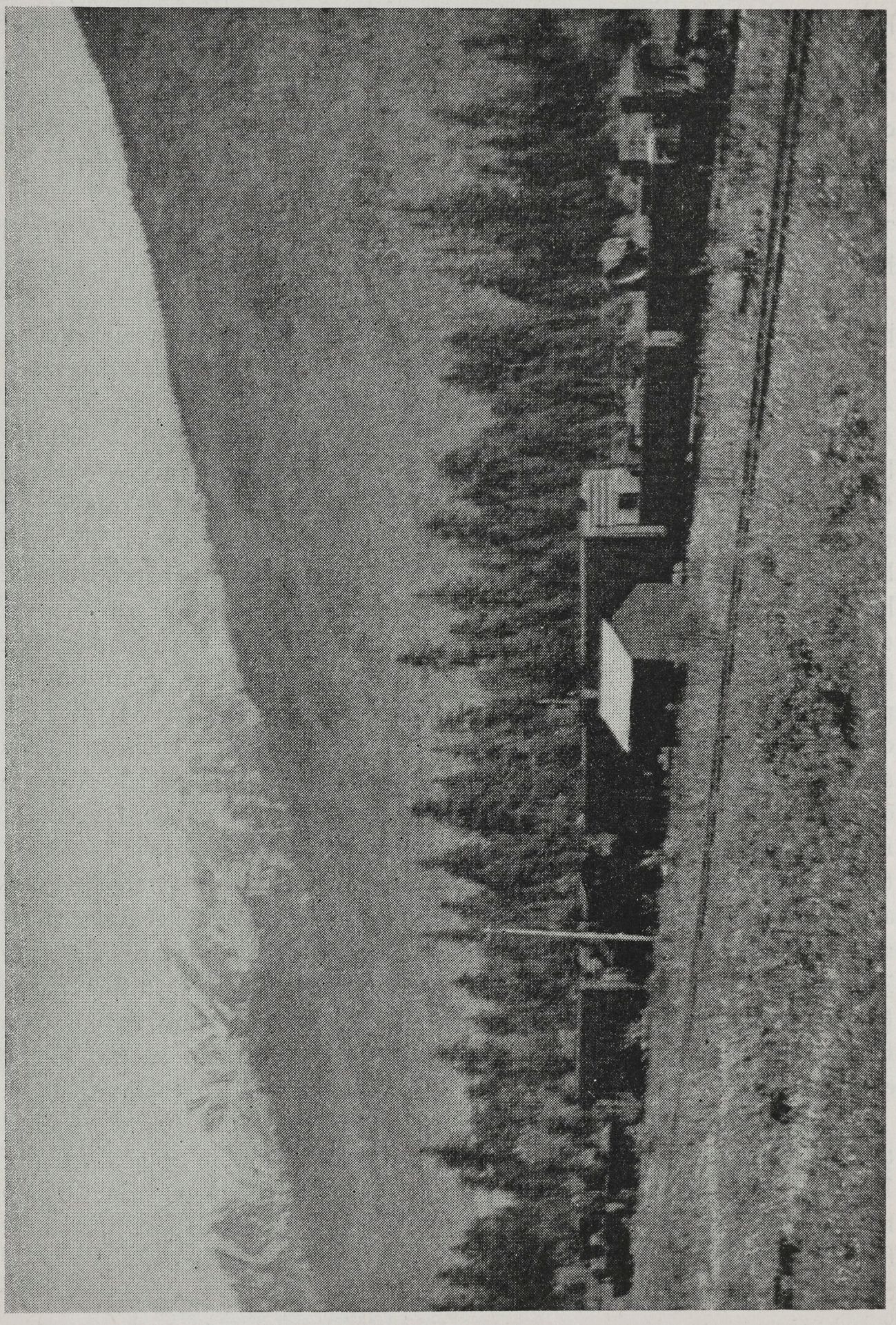
At about this time the Broad Arrow was also carved on oak-trees in the Forest of Dean, which were to be felled for building ships of war in the Royal Dockyards. Next, in 1698, the symbol was legalized for the Navy by Act of William and Mary, a heavy penalty being imposed for those in unlawful possession of government stores so branded. A proclamation of the following year defines the marks to be placed on stores of war belonging to the Board of Ordnance: "The King's Cypher in whose reign they were made, and the Rose and Crown on the barrels, and sometimes the Broad Arrow, also the King's Cypher and the [word] 'Tower' on the lock-sides of all His Majesty's muskets, and only the Broad Arrow upon all other stores except Cordage."

The last order on the subject of the Broad Arrow is worth quoting. It reads: "28th July 1806. The Board having been pleased to direct in future all descriptions of Ordnance Stores should be marked with the Broad Arrow as soon as they shall have been received as fit for His Majesty's Service; all Storekeepers and Deputy Storekeepers and others are desired to cause this order to be accordingly attended to. . . "

From that day to date the Broad Arrow has been used to stamp or brand everything supplied to Her Majesty's Forces. It is not only a certificate that the article has been examined and found fit for the Services, but serves also to identify Government property in case of theft, etc. When an article is condemned for further use, a second inverted Broad Arrow is superimposed above the first, and the article can then be dealt with in the open market, but not otherwise. It is interesting to note that until the end of the First War, convicts had their garments daubed over with Broad Arrows: thus, what was a regal emblem, became a stigma of shame.

Finally we find the symbol reduced in England from a Royal Badge to an empty cypher betokening the property of the Crown. That this change of status occurred only in our own country may perhaps be due to the fact that it was here alone that the trisula, as the Broad Arrow, retained or regained its pure original form of three radiating lines, so that it would be a simple brand to affix, just three strokes with brush or chisel.

(*Continued on page 83*)



Flashback: No. 13

CANADA'S ARMOURED TRAIN

NARRATIVE SUPPLIED BY THE HISTORICAL SECTION,
ARMY HEADQUARTERS, OTTAWA

Comparatively few Canadians know that an armoured train operated in Canada during the Second World War. The illustration on the opposite page is from a snapshot of No. 1 Armoured Train taken at Terrace, B.C., during the spring of 1943.

In 1942 the Japanese threat to Canada's Pacific coast emphasized the vulnerability of the single railway line which linked the big terminal port of Prince Rupert with the interior. For 80 miles this line ran alongside the navigable waters of the lower Skeena, and the possibility had to be considered of a Japanese demolition party being put ashore from a submarine or destroyer to blow a bridge or block a tunnel. Before the war Japanese fishing boats netted salmon up and down the wide estuary, so that detailed maps and charts of the river would not be lacking to the Imperial Navy.

To provide a mobile defence along the railway, No. 1 Armoured Train was built at Winnipeg and made its first operational journey from Terrace to Prince Rupert on 29 July 1942. Its composition (shown from left to right in the photograph) was as follows. In front was a general purpose flat car equipped with one 75-mm. gun, together with a searchlight and diesel-operated generator; then came a second general purpose car mounting two 40-mm. Bofors. A low steel parapet around each car gave the gun crews some protection from the wind.

Next, a steel covered coach carried the headquarters and one platoon of an infantry company, equipped with four 3-inch mortars and platoon and personal weapons. The locomotive (operated by a C.N.R. crew) was in the centre of the train. It was followed by another all steel car which served as train office and first aid room, and behind this was a third armoured coach carrying two infantry platoons. The final two cars of the train duplicated the first two.

Initially the Armoured Train made a return trip down and up the river each twenty-four hours. Later, when the state of emergency no longer existed, this schedule was discontinued, and the train was used in training exercises with troops of the 8th Canadian Division. No. 1 Armoured Train was disbanded on 31 July 1944.

ARMY CADETS PLAY THEIR PART IN CANADA'S GROWTH

A REPORT BY THE DIRECTORATE OF PUBLIC RELATIONS (NATIONAL DEFENCE), OTTAWA

An organization which had its inception before Canada became a nation, and which was able to provide for its country more than 160,000 partially-trained volunteers during two world wars, has materially assisted in attaining for Canada her present position in the modern world.

Dedicated to the task of assisting youths to develop within themselves the principles of leadership, patriotism and good citizenship, the Royal Canadian Army Cadet organization is nearing its centennial of service to Canada.

The Cadet movement made its first appearance in Canada in 1861 when three Cadet Corps were formed at Trinity College, St. Hyacinthe College and Bishop's College School. They were known then as "Associations for the Purpose of Drill".

There are now 560 Army cadet corps with a total enrolment of 65,000 cadets. These corps are located in centres from Yellowknife to Windsor and from Victoria to Newfoundland.

Since the end of the Second World War more than 5700 former cadets have enrolled in the ranks of the Regular Army and many others have been commissioned. Thousands of ex-cadets have gone into Militia units.

More than 120,000 ex-Army cadets voluntarily enlisted during the Second World War; of this number more than 19,000 received commissions, and more than 2700 were awarded decorations.

The present strength of 65,000 has been divided among military commands across Canada, based on the number of boys in secondary schools and the popularity of cadet training within the various commands.

Eighty per cent. of these youths train with "school cadet corps", under the sponsorship of local boards of education. The remainder are members of "open corps" —cadet units formed outside school under the sponsorship of Canadian Army units, service clubs, and other organizations and persons.

Although Royal Canadian Army Cadet Corps vary in strengths up to 779 cadets, the minimum for any one unit has been set at 30 cadets.

Establishment for officers and non-

commissioned officers within a cadet corps is patterned on the Canadian Army. Cadet training is carried out by the officers and civilian instructors of the Cadet Services of Canada under the supervision of the instructional and administrative cadre of the Regular Army.

The cadet training programme is broken down into training at the headquarters of a cadet corps and training at summer camps. Local headquarters training is given on a three-year progressive instructional course, the aim being to give the cadet sound instruction in subjects such as drill, small arms and rifle shooting, organized sports, wireless signalling, map reading, fieldcraft, and first aid; and fundamental instruction in administration, welfare and other subjects.

Summer training for about 6000 cadets is carried out at command cadet trades and specialties training camps during school summer holidays. The training is of seven weeks' duration and is designed to qualify cadets as military drivers, wireless operators, rifle coaches and basic training instructors. The basic instructors course, called the Senior Leader Course, is designed to train selected cadets as cadet officers and cadet non-commissioned officers.

In addition to the trades training camps, there are two-week camps for junior cadets (under 15 years of age). These camps at present are on an experimental basis and are designed to train junior cadets as potential non-commissioned officers.

As an award for outstanding cadet service, 235 carefully selected cadets attend a National Cadet Camp. This camp is of three weeks' duration and is held at Banff, Alta., in the heart of the Rocky Mountains. Here, aside from normal subjects, the syllabus includes one week of touring interesting points in the vicinity, and one week bivouacking in the mountains under the instruction of National Parks rangers and Army personnel.

Provision is made for cash bonuses to individual cadets who achieve a high standard of signal training during the local headquarters training period and to cadets who complete trades training camps in the summer.

An extensive programme of annual rifle competitions has also been developed. Keen rivalry exists between various corps in this field, and many of the nation's finest marksmen received their initial instruction and developed the seed of competitive spirit in the Royal Canadian Army Cadet Corps. Highest honour in this respect is to be chosen as a member of the Cadet Bisley Team of twelve. This team competes at the National Rifle Association meet held annually at Bisley, England.

The period which a boy spends as a cadet serves to establish a military association which many boys are

Change of Commanders in Germany

National Defence Photograph (EF-5292)

Sergeant Jack Whyte of London, Ont., lowers the pennant of Brigadier W. A. B. Anderson, OBE, CD (right), former Commander of the 1st Canadian Infantry Brigade, during the change-over ceremony in Germany last autumn. Brigadier Roger Rowley, DSO, ED, Commander of the 2nd Canadian Infantry Brigade, awaits the raising of his pennant.

Army Cadets

(Continued from preceding page)

keen to preserve. They do this by enrolling with affiliated Militia units, where they find that their previous training and education in regimental traditions materially aid their advancement.

Cadet corps may wear the headdress of the same design and colour as their affiliated unit, and in many instances, with the concurrence of the commanding officer, they have adopted the regimental cap badge. These practices inevitably assist in the development of an *esprit de corps* amongst cadet units and forge a valuable bond between the Cadets and the Militia.

SENIOR ARMY APPOINTMENTS

From a report issued by the Directorate of Public Relations (National Defence), Ottawa

The following changes in senior appointments in the Canadian Army have been announced by the Honourable Ralph Campney, Minister of National Defence:

Major-General H. A. Sparling, CBE, DSO, CD, 48, of Toronto and Ottawa, former Vice Chief of the General Staff, succeeded Rear-Admiral DeWolf as Chairman, Canadian Joint Staff, at Washington, D.C., on 2 January 1956.

Major-General N. E. Rodger, CBE, CD, 47, of Amherst, N.S., General Officer Commanding Prairie Command since 1952, succeeded Major-General Sparling on 22 November.

Major-General W. J. Megill, DSO, CD, 48, of Ottawa, who served as Military Adviser to the Canadian Commissioner in Viet Nam (Indo China) prior to his present appointment, succeeded Major-General Rodger at Headquarters, Prairie Command, Winnipeg, on 14 November.

Maj.-Gen. Herbert Alan Sparling, CBE, DSO, CD

Major-General Sparling was born in Toronto, Ont., 2 June 1907, and educated at schools in Saint John, N.B. In 1929 he graduated from the Royal Military College, Kingston, Ont.

He began his military career after graduation, becoming a lieutenant in the Royal Canadian Horse Artillery. He served as a regimental officer until 1933 when he attended the Gunnery Staff Course at Woolwich, England.

Upon return to Canada he served as a gunnery instructor at the Artillery School in Winnipeg from 1935 until 1938. He then went to Army Headquarters in Ottawa as a General Staff Officer, Grade Three, in the Directorate of Military Operations.

Prior to the outbreak of the Second World War, he attended the British Army Staff College at Camberley, England. He returned to Ottawa to become a General Staff Officer, Grade Two, in the Directorate of Military Training and Staff Duties.

In April 1940 he was appointed Brigade Major, Royal Artillery (BMRA) with the 2nd Canadian Infantry Division, and went overseas to the United Kingdom. He returned to Canada in May 1941, to become a staff officer in the Directorate of

National Defence Photograph

Maj.-Gen. Megill

National Defence Photograph

Maj.-Gen. Sparling

Military Training in the rank of lieutenant-colonel. From July to September 1942 he was acting Director of Military Training.

Major-General Sparling again went overseas in September 1942 in the rank of lieutenant-colonel to command the 13th Field Regiment, RCA. In October 1943 he was promoted to the rank of brigadier and appointed Commander, Royal Artillery (CRA) of the 3rd Canadian Infantry Division. In December 1943 he was Commander, Royal Artillery, with the 5th Canadian Armoured Division in Italy, serving in that appointment for a year.

In the last year of the war he was Commander, Corps Royal Artillery (CCRA), with the 1st Canadian Corps in Italy and North-West Europe.

He returned to Canada in June 1945 to command the Divisional Artillery of the Canadian Army Pacific Force. When this force was disbanded he returned to Germany to become Commander, Royal Artillery, with the Canadian Army Occupation Force.

In May 1946 he returned to Canada and was appointed District Officer Commanding Military District No. 2 at Toronto. When this formation was absorbed by HQ Central Command, he was appointed Officer-in-Charge of Administration in the rank of brigadier.

National Defence Photograph

Maj.-Gen. Rodger

In June 1947 he was appointed Commander, Western Ontario Area, in London, serving there until July 1949. He then went to Army Headquarters in Ottawa to become Deputy Chief of the General Staff. In December 1949 he attended the Imperial Defence College in England.

He returned to Canada in November 1950 and was promoted to the rank of major-general, and appointed Vice-Chief of the General Staff at Army Headquarters.

Major-General Sparling is a Commander of the Most Excellent Order of the British Empire and also won the Distinguished Service Order during the Second World War. He was awarded the United States Legion of Merit.

* * *

MAJ.-GEN. N. E. (ELLIOTT) RODGER, CBE, CD

Major-General Rodger was born in Amherst, N.S., 30 November 1907. He graduated from Royal Military College in 1928 after which he received a Bachelor of Science degree (civil) from McGill University.

He was commissioned in the Royal Canadian Engineers in the rank of lieutenant in 1928 and after completing studies at McGill in 1930, he went to the United Kingdom to study at the School of Military Engineering at Chatham, England. His next appointment was at the War Office in London in Aerial Survey work.

In April 1932 he returned to Canada and served at National Defence Headquarters in Ottawa. In January 1937 he was posted to the staff of Military District No. 13, Calgary, Alta. One year later he was appointed District Engineer Officer at Military District No. 3 in Kingston, Ont.

In January 1940 Major-General Rodger went overseas to the United Kingdom to assume the appointment of General Staff Officer, Grade Three, at Canadian Military Headquarters in London. The same year he went on to the Staff College at Camberley and then was appointed Deputy Assistant

Quartermaster-General with the 1st Canadian Infantry Division.

In April 1941 he was appointed General Staff Officer, Grade Two, at HQ 1st Canadian Corps, holding that appointment until December 1941. He was then promoted to the rank of lieutenant-colonel and appointed Personal Assistant to Lieut.-General A. G. L. McNaughton, then GOC of the 1st Canadian Corps.

A further promotion followed in September 1942 to the rank of Brigadier. He was then appointed Brigadier General Staff at Canadian Military Headquarters in London. From November 1943 until February 1944 he commanded the 10th Canadian Infantry Brigade, and then for the remainder of the war served in Europe at Headquarters, 2nd Canadian Corps.

Returning to Canada after the war his first post was with the Canadian Army Staff (Washington). In March 1946 he was promoted Major-General and appointed Quartermaster-General of the Canadian Army at Army Headquarters in Ottawa.

In January 1951 he went to the Imperial Defence College in the United Kingdom and then returned to Canada as General Officer Commanding Prairie Command, with Headquarters at Winnipeg.

Major-General Rodger is a Commander of the Most Excellent Order of the British Empire, and also was awarded the Order of Orange Nassau (Netherlands) and the United States Legion of Merit.

* * *

MAJ.-GEN.
WILLIAM JEMMETT MEGILL, DSO, CD

Major-General Megill was born in Ottawa, 26 June 1907, and was educated there and at Queen's University, Kingston, where he received a degree in electrical engineering.

He enlisted in the Canadian Signal Corps in 1923 at the age of 16 and was appointed lieutenant in that corps in the Permanent Force on 1 May 1930. Upon the outbreak of war in 1939, he was a major attending the Staff College at Quetta, India. In September 1940, he became a General Staff Officer (Grade II) with the 3rd Canadian Infantry Division and proceeded overseas with that formation in June 1941. In October the same year he was appointed to Canadian Military Headquarters in London with the rank of lieutenant-colonel. After a further tour of duty with the 3rd Division he returned to CMHQ and was promoted to colonel. In June 1943 he reverted to the rank of lieutenant-colonel to assume command of the Algonquin Regiment and in February 1944 became commander of the 5th Canadian Infantry Brigade with the rank of brigadier.

At the war's end he served for a

time with the occupation forces in Germany and upon his return to Canada was appointed Deputy Chief of the General Staff. In 1948 he attended the Imperial Defence College and in 1949 again resumed the appointment of DCGS. In August 1950 he was appointed to command Headquarters, B.C. Area. During the early phase of the Korean war he commanded the 25th Canadian Infantry Brigade Replacement Group at Wainwright, Alta., and subsequently returned to HQ B.C. Area, Vancouver.

In August 1954 he was promoted to the acting rank of major-general and appointed Military Adviser to the Canadian Commissioner in Viet Nam (Indochina).

Major General Megill won the Distinguished Service Order during the Second World War and was appointed an officer of the Order of Leopold and was also awarded Belgium's *Croix de Guerre avec Palme.*

Arctic Islands

A small group of rocky islands in Foxe Basin above the Arctic Circle has been plotted for the first time on Canadian charts of the Arctic. The islands, only 10 to 20 feet above sea level, are about 14 miles southwest of Rowley Island in the northern end of Foxe Basin between Melville Peninsula and Baffin Island.

It was reported that existence of the group may have been known before, perhaps by Eskimos, but their position had never before been mapped. They were charted in the summer of 1955 by hydrographers of the Royal Canadian Navy's Arctic patrol vessel *Labrador.* They have not yet been named.—*News Release.*

The Broad Arrow

(*Continued from page 73*)

The Broad Arrow should be treated with respect, as it is the only symbol in use to-day in the British Commonwealth which has its roots in the mists of antiquity. Our Armed Forces are the best equipped in the world; let us live up to the tradition which is proudly emblazoned on our weapons of defence.

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THE PROBLEMS OF HIGHER DIRECTION

Reviewed by Colonel C. P. Stacey, OBE, CD, Director of the Historical Section, Army Headquarters, Ottawa

Here is a book* on the higher direction of war (and the organization of the armed forces in peace) by a senior RAF staff officer of wide experience and independent mind. Air Vice-Marshal Kingston McCloughry has a rather unusual background for a regular officer of the Royal Air Force—he is an Australian for one thing, and a university graduate for another—and perhaps this has made him less inclined to accept conventional patterns of thought. Moreover, in the Second World War he held appointments that enabled him to see a great deal. He was chief operations planner at HQ Allied Expeditionary Air Force in the days before and during the invasion of North-West Europe. Later he spent two years on committees engaged in planning the future defence organization of India, and in this connection studied closely the war organization of many countries. More recently he has served at the Ministry of Defence. His little book will repay careful reading.

It really is two books. It is a personal memoir of the author's Second World War experiences, and it is an essay on the higher direction of war in which he tries to apply the lessons of those experiences.

In spite of a pervading absence of dates which suggests that he is writing from memory—and therefore, alas, casts doubt on all facts he states that cannot be checked by other evidence—the personal memoir has much interest. Readers should be warned, however, against accepting the AVM's statements on matters on which he is not possessed of first-hand knowledge. Like many distinguished officers, he is more interested in drawing lessons from the facts of history than in making certain that he has got the facts right. Many examples could be given. Here is one beauty—the author's description of the Normandy landings. "Our troops got ashore with little difficulty. The U.S. 1st Division was the only party to meet opposition. They struck an enemy reserve division of low standard

*The Direction of War. A Critique of the Political Direction and High Command in War. By Air Vice-Marshal E. J. Kingston McCloughry. London, Cape: Toronto, Clarke, Irwin & Company Limited. $3.25.

which happened to be out training near the beaches. Actually, there was not a single German regular division in the whole of Normandy and this proved critical [*sic*] to our success." It would be hard to lever more errors into four sentences. AVM Kingston McCloughry also accepts the hoary American popular legend that it was Lord Montgomery who was responsible for the refusal to let General Patton cross the Army boundary south of Falaise in August 1944. (The Eisenhower and Bradley memoirs have made it very clear that the decision was in fact General Bradley's, and that it was supported by the Supreme Commander.)

On air matters in North-West Europe, however, the author, writing from personal knowledge, produces some important facts which so far as this reviewer knows have never been published before. They relate chiefly to the use of heavy bombers in direct support of the armies. He relates that his chief, Air Chief Marshal Leigh-Mallory, A.O.C.-in-C. Allied Expeditionary Air Force, was anxious to use them this way from the moment when the Second Army got stuck in front of Caen; but he met opposition from Lord Tedder (Eisenhower's Deputy) and Air Marshal Coningham, commanding the 2nd Tactical Air Force ("whose relations with Montgomery were most strained"). The first attempt at planning bomber intervention ended in disaster. "In the middle of our meeting Air Chief Marshal Tedder, Air Marshal Coningham and Air Vice-Marshal Broadhurst burst into the room. The atmosphere was electric. Air Chief Marshal Tedder asked what was going on and then instructed all Air Force officers to leave the meeting and to gather next door, where Air Marshal Coningham addressed us. The Air Marshal stated that he had all the tactical air forces necessary to support the Army and that no heavy bombers were necessary. It occurred to some of us to ask how this could be correct since the Army was bogged down, but the occasion did not seem very opportune." (Unfortunately this is one of the episodes which the author doesn't date; but since he was there he can hardly be wrong on the major facts.) He says (and this is more doubtful) that finally Churchill told Montgomery that he must break through at Caen or give place to someone who could. The Field-Marshal's alleged reply was that he could take Caen over the week-end with heavy bomber support. The British Prime Minister then "overruled the objections of the 'Bomber Barons' " (Harris and Spaatz); and the bombers intervened, and continued to intervene. This was a case where the effect of inter-service rivalry was reinforced by intra-service "personal disharmony" ("between

Leigh-Mallory [and] Tedder and Coningham and the 'Bomber Barons' ").

The efforts of such personal disharmony are one of the author's main lessons and themes. He has a good deal to say also, however, about the present United Kingdom defence organization and what he considers its shortcomings. He gives, incidentally, a clear factual picture of the machine and its working, and since so much of our own Canadian machine is modelled upon the British one his account can be read with advantage by Canadian officers, most of whom are not too well informed about our higher direction.

He considers that the basic weakness of the present organization under the Ministry of Defence is the "triple approach": "At the present time the Whitehall machine is so rigidly geared that, except for the Prime Minister himself, the real power in military Service affairs rests with the three separate Service Departments—co-ordination between them is largely by mutual consent." Service officers in the Ministry of Defence are subject to divided loyalties—and if they are considered to push the inter-service loyalty too far their careers may suffer. AVM Kingston McCloughry suggests that there should be an annual inter-service confidential report on each such officer, as well as the one originated merely by his own individual service. The essentiality of eliminating the triple approach is his basic point: "war and circumstances today demand the integration of concept, direction and plans in the truest and widest sense". He suggests that the Minister of Defence should be served by an inter-service Inspector General who "would ensure that adequate exercises and trials were held in each of the services, singly and collectively".

The author argues that the weakness of the Chiefs of Staff Committee in the United Kingdom is the absence of permanent chairmanship. The Minister of Defence, he explains, can preside but seldom does; the presiding officer is normally the senior Chief present. He believes that the Minister of Defence should attend and preside. The American (and, he might have added but didn't, the Canadian) system is to appoint a fourth service officer as permanent chairman; but this procedure, says the AVM, "is alien to British ideas". Rather amusingly, since his book was published the British Government has done the un-British thing and appointed a permanent chairman, the first incumbent being a distinguished air force officer.

This is a thought-provoking book which many people won't like. But it is certainly a valuable contribution to the discussion of issues which at

MARLBOROUGH AND THE WAR OF THE SPANISH SUCCESSION

Reviewed by Richard A. Preston, Professor of History,
Royal Military College of Canada

John Churchill, Duke of Marlborough, has been generally regarded as the greatest of British military commanders. He was ranked by Lord Wavell as one of the six greatest commanders of recorded history. Hence, no soldier can neglect to read and study his campaigns in the War of the Spanish Succession. But the accounts of those campaigns are buried in expensive general works or in volumes that have long been out of print. Lieut.-Colonel Nicholson of the Historical Section of the Canadian Army's General Staff has therefore done us a most valuable service by writing a new account of Marlborough's campaigns in a book which is full enough to provide material for serious study yet can be read straight through in an evening.

This was an age when social, political, technical, and geographic conditions imposed very definite limitations on vigorous action in warfare (except on occasions when armies blundered into each other and men standing shoulder to shoulder fired bloody and devastating volleys at close quarters). Marlborough was the greatest of the few commanders of the age who carried out dextrous manœuvres with the object of forcing his enemy to accept the gage of battle and of making his challenge even when he was not necessarily in possession of a vastly superior force in a position of decisive advantage. His mastery of strategy and his genius for tactics enabled him to surmount the limitations of his age and to win great battles.

To achieve his ends he had frequently to free himself from restraints imposed by his Dutch allies and to trick Imperial generals like Louis of Baden, with whom he shared command, as well as to deceive the French. His stratagems designed to

**Marlborough and the War of the Spanish Succession.* By Lieut.-Colonel G. W. L. Nicholson, Deputy Director of the Historical Section, Army Headquarters, Ottawa, Queen's Printer, Ottawa. 75 cents.

Higher Direction

(*Continued from preceding page*)

this moment are of the greatest importance to the future of every one of us.

confuse friend and foe alike have since also mystified some historians. The results of his campaigns, however, tell a tale of genius that cannot be contradicted. The methods by which he achieved those results are naturally of great interest.

Lieut.-Colonel Nicholson has told the military story clearly and well. He has exploited the sources with professional skill and has used many pithy quotations to give force to his narrative. Complicated and tortuous manœuvres are easy to follow in his book, especially when graphically illustrated by simple maps. Every chapter containing a battle or campaign ends with a valuable interpretative summary of the operations in terms of the Principles of War.

These analyses will be especially valuable to those readers who will take the trouble to think back through the narrative in order to work out the application of the principle for themselves. It might have been better, in order to encourage the leader to get the greatest possible value from the narrative, to have kept back the author's conclusions about the application of the Principles of War to an appendix. Only when the Principles are realized to be primarily pedagogical devices can they be of the greatest value to the soldier-student of military history. The campaigns of the great captains do not teach by a process of intellectual osmosis. The mind of the future commander can be trained only by active effort on his part.

Marlborough's greatest asset was the consummate political skill with which he bound together a loose collection of allied governments whose interests varied widely. He commanded an army which was as international as any U.N. force in our day. The Duke was, therefore, as great an actor in politics as he was in military affairs.

Lieut.-Colonel Nicholson has been at great pains to set the military story in its political background; but he has not felt it possible to discuss the many controversial elements in that background. Scholars are still greatly divided about the correct interpretation of the political problems of this period. Take a case which has a direct military bearing. British military students of Marlborough have always attacked the Dutch for their reluctance to permit the allied armies to move far from their borders. But the reason for the Dutch attitude can be understood when it is remembered that Louis XIV's army had overrun their country within living memory and the Dutch believed that another invasion might mean their extinction as a nation. They could not consider wide strategic moves with the same detachment as a professional soldier fighting on foreign soil whose homeland was securely

protected by "wooden walls". What small success Marlborough had in persuading the Dutch to allow him freedom of action can thus be seen to be an even greater achievement in the light of their very real, and possibly excusable, fears.

Another great political controversy was about the adherence to a war policy after 1708. Lieut.-Colonel Nicholson tells of the growing split between Marlborough and Queen Anne without giving much space to contemporary criticisms of Marlborough's war policy. He does not mention the growing war weariness in England which has been suggested as the basic cause of English abandonment of the Allies and of the negotiations for a separate peace. Nor is he able to enter into a discussion of the Tory thesis that Marlborough's wish to carry on the war was the product of his own ambition.

It is possible to make a case for the argument that English insistence that Louis XIV should undertake to expel his grandson from Spain was not really essential to England's security when the earlier negotiations for peace were under way in 1708. The fact that the English people believed France had been completely humbled by the Duke's victories, and that the government therefore instructed him to demand the full pound of flesh, does not entirely exonerate Marlborough. In this case he could not really plead the soldier's defence of "acting under superior orders" because this was a political matter; and, in any case, as his wife had long been the favourite of the Queen, he himself had some responsibility for the formulation of the general lines of the war policy. The Battle of Malplaquet to which England was virtually committed by the failure of the negotiations of 1708, was a victory at such a cost that, if it had been repeated, it might possibly have given France the victory in the war. After three more years of campaigns, England gained at Utrecht no more than she could have gained in 1708.

The whole question of Marlborough's character and ambition is still subject to some disagreement. Lieut.-Colonel Nicholson hints at this when he questions whether concern for the Protestant religion was an adequate explanation of young John Churchill's desertion of King James II in the face of the enemy. The reader is left to infer that there was another motive, presumably self-interest. But in later years Marlborough's request for the Captaincy-General for life is merely described in this book as "a mistake". Is there not reason for some suspicion that Marlborough was once again, consciously or unconsciously, motivated by personal ambition? The memory of Oliver Cromwell's military tyranny was still too fresh in England for

any danger of another to be treated lightly by either politicians or people.

All these points are not raised here as adverse criticisms of an excellent book. Had Lieut.-Colonel Nicholson endeavoured to speculate upon them he would have clouded the military lessons which he has so clearly conveyed. But Marlborough was a political general as well as a professional soldier. Some judgment of his political role must be attempted in the full light of the complex political background.

Such a judgment is surely the concern of professional soldiers as well as of political historians. We must avoid any assumption that the soldier-student must not concern himself with political controversy. This assumption arises from the accepted principle that the soldier must not become involved in politics. While it is true that the soldier of today must not publicly interfere in the formulation of policy, even of military policy, it is equally true that he must fashion his operations with full understanding of the political background within which they take place. And the ultimate overall objective of military operations must be, in the last analysis, political and not military.

In his reading, therefore, the soldier-student of military history must be made aware of the controversies of the political background within which the military operations of the past were conducted. It is to be hoped that some of Lieut.-Colonel Nicholson's readers, having learned from him the military lessons of Marlborough's campaigns which he has so ably presented, will go on further to study the politics of Marlborough's day and the intriguing problems of his character and personality. Only by so doing can they help to prepare themselves for high command.

New Buckle For Gunners

A new dress belt buckle for "walking out" wear has been approved for the Royal Canadian Artillery. The buckle will be worn with the normal web belt and is being bought at no cost to the public.

The regimental buckle incorporates the badge of the Royal Canadian Artillery on a plain brass background. The badge is detachable. Overall dimensions are 2 inches by 2½ inches.

Orders have been placed for the manufacture of the buckles and delivery is expected soon.

Members of the corps, Regular and Militia, are eligible to wear the new buckle.—*Directorate of Public Relation's (Army), Ottawa.*

ATOMIC WEAPONS AND ARMIES

Reviewed by Lieut.-Colonel J. M. E. Clarkson, MC, CD, Military Assistant to the Chief of the General Staff, Army Headquarters, Ottawa

It is doubtful if there has ever been a time when the future cast of military tactics and organization has been so obscure and yet at the same time so urgently sought. Science, which during these last ten years has leaped forward with such a determined pace, has opened up new vistas so continuously that the outlines of the future's shape have become virtually submerged in the dazzling kaleidoscope of change. The result of this apparently endless mutation has been to present Commanders and their staffs with a series of problems so complex and yet paradoxically so fundamental that it has even become a problem of no mean proportions to select and sort the problems themselves into a clear and orderly array. As Mr. Forrestal foretold eight years ago: "There are many sciences with which war is concerned, but war is not a science and any forecast for the indefinite future presupposes a certitude that is not possible."

But if to the commander and the military planner, constantly seeking to be aware of each new development, the problems are legion and the horizon unknown and obscure, to the relatively uninformed the picture must appear to be confused beyond recognition. Thus, it is a pleasure to light upon a book which can set out some of the principal problems in clear and simple terms, together with suggestions that may lead to their solution, with clarity and backed by an informed opinion. Lieut.-Colonel Miksche has a highly deserved reputation for his originality of thought, and in his latest study, *Atomic Weapons and Armies*,* he has addressed himself to the conundrums now facing the staffs of every modern army:

"Based on . . . . . the experiences of two wars, the main chapters of the book deal with the probable tactical forms of the future. Will fire-effect of atomic weapons on the battlefields of tomorrow be greater than the possibilities of movement? How should future armies be organized? What will be, within the framework of tactics, the role of infantry, artillery, mechanized forces or paratroops? What will be the relationship between ground and air forces, or between front and rear? All these problems, though difficult to solve, are of vital importance. For it may well come to pass that the whole future existence of

Atomic Weapons and Armies, Lieut.-Colonel F. O. Miksche, Faber & Faber Ltd., 24 Russell Square, London. Canadian Agents: British Book Service (Canada) Ltd., 1068 Broadview Ave., Toronto 6, Ont. $5.00.

Elliott & Fry Ltd. Photograph

Lieut.-Colonel Miksche.

Western civilization will depend upon the finding of the right answers. The army which creates an organization, armament and tactics corresponding to the future forms of war will indubitably secure for itself decisive advantages; while, at the same time, there is great danger that vast millions will be spent on equipment of limited utility or even no value whatsoever, as a result of faulty deduction from past experiences. Much thought is needed to discover the deeper truths and to grasp their full significance when found."

With this prefatory admonition, Lieut.-Colonel Miksche turns to his task. Opening with an analysis of the changes that have taken place in military tactics during the last fifty years, he relates the resultant impact of these changes to the fundamental twin factors of fire and movement, discussing them in terms of the introduction of new weapons, of industrial development and in the light of the differing conditions in both time and space which have been experienced by different nations in Europe. After considering the tactics used in the First World War he moves into the period between the two wars when the emergence of new machines was engendering new thinking and new tactics, and from this he enters into a thorough discussion of the successive strategies and tactics displayed across Europe and in Africa in the Second World War. He analyzes the genesis of the dynamism that both permitted and re-introduced the factor of strategic surprise, thus forcing an abandonment of the linear tactics of the First World War in favour of a novel and sudden concentration in time and space, the *Blitzkrieg*, whose essential ingredients, mechanization and the aeroplane, provided both a new mobility and a new dimension to war. From this he proceeds to a discussion of what he terms the "Counter Blitz", and to an elucidation of the tactical and technical developments which, in the end, led to the mastery of the *Blitzkrieg*.

All this, as Lieut.-Colonel Miksche says, is "but a necessary introduction to stimulate our researches concerning the future"; and "stimulate" is here the operative word. With an

engaging change of pace he promptly launches into a rehearsal of the 1940 campaign in the Lowlands, postulating that both sides are equipped with tactical atomic weapons. With this the stage is then set for a thorough discussion of some of the basic problems facing armies in atomic defence and offence from which there emerges, in outline, the principles that he considers should guide the solutions to both. Thence it is but a step to a discussion of the organization of future armies, from the rifle section to the corps, and lastly, but no less important, to the organization and deployment of the vast area to the rear of the fighting forces in the communications zone.

While this historical analysis of the changes in military tactics is both provocative and rewarding, it will be to the second half of this book that the deepest attention will be paid, for it is here that the author tries to probe the futute. In particular, his thinking on Atomic Tactics will be widely studied for this chapter outlines a tactical conception for the future without which no study can proceed to a rational discussion of any fundamental change in the organization of field formations.

It is Lieut.-Colonel Miksche's conclusion that a linear ground defensive system, intimately linked with an "Atomic Command" which would integrate within itself all forms of aerial and ground atomic delivery systems, is the one which will emerge in the future. This linear form of defence, he suggests, should consist of three separate defensive lines, each separated by sufficient distance (four miles) to establish a maximum security from atomic destruction, the whole defensive system having a total depth of about eleven miles. He sees the first and second lines of the system being held by a series of infantry divisions, each either with two brigades forward on the front line and one back on the second, or with brigades splitting their battalions between the two lines. He sees the third line being held by the mobile reserves, the bulk of which would be armoured, together with the various services of the divisions.

This linear form of defence has many attractions. It is not easily subjected to infiltration and thereby avoids the ensuing mêlée that prohibits the defensive use of the atomic weapon; it offers a minimal target to an atomic weapon; and pre-eminently it forces the attacker to concentrate his formations prior to breaching the first line, thus in turn forcing him to present an acceptable atomic target to the defence. Moreover, as Lieut.-Colonel Miksche points out, the attacker, being in the open, should be far more vulnerable to the effect of atomic weapons than should the defender who can have burrowed

underground with all the available arts of camouflage and concealment.

Though there is no doubt as to the validity of these arguments, there is another side to the coin. In this proposed linear defence a divisional frontage of 6.9 miles is advocated. As a linear defence may have no open flanks, and using the Central European front between Switzerland and the North Sea as an example, it would therefore take some 58 infantry divisions to man the first and second lines that would stretch over these 400 miles of frontage. Even on the basis of an infantry division of 8,500 men, as Lieut.-Colonel Miksche proposes, this would represent a force of close to half a million men and even this figure would not include the armour and other corps troops he suggests nor any other of the units or formations which, however severely pruned, would be essential to the tactical and logistical support of these divisions. Linear defence has a great deal to recommend it but over a wide front it is liable to be expensive in the most precious item of all, manpower.

In his analysis of atomic tactics Lieut.-Colonel Miksche is drawn irresistibly towards the strength of the defence. Visualizing the defender as lying deep in his covered and concealed emplacement and as waiting coiled with atomic weapons ready to be launched at the attacker concentrating in the open, he sees the passing of the mobile and fluid war and a return to tactical factors that would be not unlike those that created the trench war of 40 years ago. He doubts the future ability of armoured forces to thrust deeply since he claims it will be difficult for them to manœuvre in the face of the speed of jet aircraft and of the widespread power of the atomic weapon, and even harder for them to ensure, in the face of these offensive agents, a viable logistic support.

There may be considerable validity in these conceptions, but in each case they presuppose, on the part of both sides and particularly of the defence, a knowledge of the enemy that is certain and, simultaneously, they ignore a factor that is paramount. For nowhere in his book does Lieut.-Colonel Miksche seriously discuss one of the fundamental problems of the future, the accurate and swift acquisition of intelligence. One of the few approaches he makes to this problem is contained in this paragraph:

"Air-spotting and radar detection have the important function of reporting enemy concentrations and movements. Their role is decisive for A-weapons. A problem of tactical and eventually strategic nature is that of deciding whether located targets should be dealt with at once, or only when the intentions of the opponent become clearer. In the latter case it should be easier to ascertain which are the particular sectors of the defence aimed at by the assailant, and thus to reinforce them in time, mainly with A-artillery. On the other hand, there has to be accepted as a calculated

risk the possibility that observed, but not immediately attacked, targets may disappear and eventually emerge at other points of the battlefield, where their destruction may prove more difficult. As in every sphere of tactics, here also the targets should be dealt with at the right moment, with sufficient strength and with the proper weapon."

This is a curiously bland statement that begs a number of fundamental questions. It assumes that aerial photography and spotting is a mere mechanical process and it makes no reference to the problems that would arise if the defender did not possess air superiority over the enemy's territory. It assumes, irrespective of the air situation, that there should be little difficulty in establishing permanent daily coverage of an enemy's army area to the depth and width that would be required in a search for tactical atomic targets, for there can be little doubt that no commander will concentrate his forces for any great length of time prior to an attack and certainly not within range of the defender's binoculars. And lastly but equally important, even assuming that accurate information can be obtained regularly, there is no discussion of the techniques that would presumably be needed to ensure rapid transmission of this vital target information to those centres of decision within the defence in time for action with an atomic weapon to be taken before the tactical target disappears. It is not difficult to see that an army's intelligence and command system will be faced with a complex problem that will tax science's ingenuity to the uttermost, and it is certainly deserving of attention in such a study of future tactics and organization.

Nevertheless, there is much provocative thinking in this new book and Lieut.-Colonel Miksche is to be thanked for his interesting look ahead. While there will be many who may dispute the army organization he proposes, there will be few who will question his emphasis on the need for simplicity in future weapons and tactics, and for a drastic increase in the ratio of "teeth to tail". He is in very good company when he questions the cumbersomeness of the armoured division, for as recently as last October, Field Marshal Montgomery advocated the elimination of the armoured division and its replacement by the inclusion of armour within a "standard" division. And it is hard to question his advocacy of the introduction of air transport to solve the problems of supply and concentration, though neither should one disregard his warning of the dangers of overhead that will accompany such an organization.

Finally, in spite of his search into the future, Lieut.-Colonel Miksche warns that,

"the shape of future warfare will be generally determined by the character of the opening

IN SEARCH OF THE MAGNETIC NORTH

Reviewed by Colonel C. H. Smith, Director of Military Survey, Army Headquarters, Ottawa

Dr. Stanley, Head of the Department of History, Royal Military College, has edited the hitherto unpublished letters* of Lieutenant J. H. Lefroy, who in 1843–44, under the patronage of the Royal Society, with the co-operation of the Hudson's Bay Company and the backing of the British Treasury, carried out magnetic observations in what is now the Canadian North-West.

The letters are personal ones, chiefly to Lefroy's immediate family, and they tell the story of his journey and describe the country and its people. They are well written, though by our standards somewhat formal for personal letters, and in addition to painting a vivid picture of the country and its inhabitants, manage to convey a lively impression of their author. To quote Dr. Stanley, "John Henry Lefroy was a soldier-scientist. As such, he was in some ways a type of man more likely to be found in a modern army than in one of an earlier era; he was, nevertheless, the product of his generation and environment, Victorian England, the Anglican Church and the British Army. He was thoroughly the English gentleman, with an English gentleman's sincere belief in the inevitable

* *In Search of the Magnetic North: John Henry Lefroy—A Soldier-Surveyor's Letters from the North-West, 1843–1844.* Edited by George F. G. Stanley. The MacMillan Company of Canada Limited, Toronto, Ont. $2.00.

Atomic Weapons and Armies

(*Continued from preceding page*)

actions. And nobody in this world is at present sufficiently knowledgeable to be in a position to prophesy what their pattern will be".

From this he draws the only logical conclusion: armies will be needed, "but armies which are easily adaptable, able to fight conventional *or* atomic-type wars, as circumstances dictate". There can be no question of the basic importance of this conclusion; and yet it is this essential ambivalence that provokes so many of the future's problems.

This is a first-rate look into the future of armies in the field, and anyone who is concerned with the future's problems would do well to read it.

superiority of things English. . . . Underneath his surface coat of starched dignity he was genial, cheerful and kind of heart, without pettiness or vanity."

His journeys by canoe, by dog-sled and by pack-horse, took him from Montreal up the Ottawa, across the Great Lakes to Lake Winnipeg, thence to Hudson Bay and return to Lake Winnipeg. From there he went to Lake Athabasca, where he wintered; then overland to the Mackenzie river and down that river to Fort Good Hope at the Arctic Circle. He then came up the Mackenzie and Peace rivers, thence overland to Fort Edmonton and returned to Toronto via the North Saskatchewan river, Fort Garry and the Great Lakes. All of this journey, being over the main routes of the Hudson's Bay Company, was in that day not at all remarkable, and, in fact, Lefroy makes no claim for distinction on this account; but one must admire his blithe acceptance of the inevitable hardships of the journey and marvel at the tremendous length and difficulties of the lines of communication of the fur trade. It was indeed fortunate for the destiny of Canada that the Hudson's Bay Company maintained effective control over that vast area for so long.

The reader cannot fail to be impressed by the improvements resulting from the advent of radio and modern methods of travel, but at the same time, if he knows the north at all, he is also struck by how much of Lefroy's description is still apt, and how relatively slowly the development of the North-West Territories has taken place. With the exception of a few widely separated points, such as Churchill and Yellowknife, the entire country remains much as it was in his day.

He was not far wrong when he prophesied: "I do not think this country will ever differ much from the condition in which it now is. The difficulties of internal navigation will always prevent extensive commerce, even if any valuable production, such as minerals—not bulky—should be discovered. It can never support a large population, for the greater part of it is a surface of rock without three inches of soil. I look upon it as an argument against civilization ever being universal, or being of itself a feature of such transcendant importance, that such immense regions are unfitted for the support of a civilized race."

In these days one tends to think of the Hudson's Bay Company as a department store, but their fur-trading operations are still carried out in some of the same establishments and in much the same way as in Lefroy's day. If he were to drop in at Fort Norman or Fort Good Hope today, he would note some improvement in the amenities and some

increase in the variety of goods sold, but he would probably find the factor, or manager as he is now called, very much the same sort of person he knew and he would see a familiar group of Indian squaws shuffle into the trading post to stand diffidently on one side until the white man had been served, while outside he would hear the howling of the direct descendants of the dogs he wrote about. Certainly the mosquitoes, black flies and "bull-dogs" to which he frequently refers have not changed and in their proper season are still an ubiquitous element in the north country. Even the gastronomical treats he records—moose nose, caribou tongue and beaver tail—are still esteemed, not only by Indians but also by white trappers and prospectors.

Lefroy was concerned about the state of heathen ignorance of the Indians and about the way in which they were being decimated by periodic ravages of famine and disease. During the past century these things have in some degree been remedied and the Indian in most places is now cared for both spiritually and temporally by the missionary and Indian agent, respectively. He is given religious instruction, some education and protection from starvation. Nevertheless, his lot does not seem to have improved greatly. The reader may, or may not be able to subscribe to Lefroy's rather comforting conclusion that "viewing the Indian population generally, they neither suffer more from want nor endure more hardship than any other poor people and the few who exhibit marked industry never fail to exhibit a marked superiority of condition" and, apropos of the fact that they were apparently a dying race, agree with him that it is part of Divine purpose that they should ultimately disappear in favour of the white race.

In Search of the Magnetic North does not deal with the technical aspects of Lefroy's task, but the value of his scientific work should not be overlooked on that account. His was the first systematic series of magnetic observations to be carried out in the North-West and his data for many years was the sole basis for computing the magnetic declination in that area. The importance of this can be adduced from the fact that extremes of magnetic variation occur in this section of the world and that, along Lefroy's route, the compass needle would start by pointing as much as 15 degrees west of true north and gradually swing until it pointed about 40 degrees east as at Fort Good Hope. The Dominion Observatory reports that his work is still highly regarded and that they have considered it worth while to re-establish as many of his stations as possible and thus obtain valuable data on the long term

or secular trends in geomagnetism.

Sappers will wonder how it came about that Lefroy, a gunner, came to be regarded as an authority in a scientific field that would seem to have been more in the province of the Royal Engineers. Professor Stanley quotes from Lefroy's autobiography as follows: "It was my ambition to obtain the Engineers, and I should probably have done so, but for a black eye with which I went up to the examination and for which decoration I had to thank Captain Chapman, now Colonel Chapman of the Engineers,—a very distinguished gentleman and officer. A nefarious attempt of his to rob my table of a very crusty loaf had led to an exchange of blows; he being the aggressor was kept back one term. I was sentenced to the Artillery; then, and long afterwards, a sort of penal corps in the eyes of the authorities."

The maps showing Lefroy's route are excellent. The cartographer, Captain Bond of the Historical Section, General Staff, has shown skill and an admirable restraint in including only such detail as is relevant and in not omitting any significant geographical feature mentioned in the text. It appears, however, that he must have been a little doubtful about one item because, though he shows the Assiniboine River correctly, he does not show Fort Assiniboine. It would seem that the "Assiniboine" River that Lefroy mentions, and on which Fort Assiniboine was located, was in fact, the Athabasca River. The omission of Fort Assiniboine is, however, a very minor one and does not detract in the least from the general usefulness of the map.

It seems a pity that these excellent maps are not better displayed; they are worthy of better treatment than to serve as an inside lining of the book cover, (and with the western map on the right of the eastern one). Maps are so much easier to consult if they are bound into the book so that they unfold clear of the text.

Speaking of Lefroy's "Assiniboine", in his description of swimming the horses across that river, there occurs on page 124 a typographical error calculated to puzzle the reader. The text describes wild horses that had never before been "backed"; obviously the word Lefroy used was "packed".

The financial side of the expedition is not without some interest. The Royal Society persuaded Treasury to agree to an estimated expenditure of £900 to cover all charges in excess of the normal pay and allowances of Lieutenant Lefroy and his Corporal Henry on the understanding that all transportation and accommodation would be furnished by the Hudson's Bay Company. That company kept a careful record of the services which it provided and subsequently pre-

U-BOATS AT WAR

Reviewed for the *Journal* by Mr. E. C. Russell, Naval Historian, Naval Headquarters, Ottawa

There probably has never been a soldier who, crossing the Atlantic in a trooper, has not done a turn or two on the upper deck for a breath of fresh air and a smoke. And there probably has never been such a soldier who did not, at least for a moment, scan the seas rather apprehensively. In fact, even to the watch on the bridge of a destroyer escort, there comes a time when one's own ship seems like a sitting duck, there for the plucking. The German submarine or U-boat just over a decade ago was a very real menace. Today, the submarine is an even more formidable opponent.

Everyone has heard of U-boats and periscopes and torpedoes. But just how do they fit into a pattern of attack and counter-attack? How do these submariners navigate the vast reaches under the sea? How do they fare when hell breaks loose from above in the form of bombs and charges? Harald Busch tells the story* well and in a rather unusual way.

**U-Boats at War.* By Harald Busch. McLelland & Stewart Limited, 25 Hollinger Road, Toronto 16, Ontario. $4.25.

In Search of the Magnetic North

(*Continued from preceding page*)

sented the Royal Society with a bill for transportation amounting to some £1,200. On the assumption that the pound sterling of that day would have the purchasing power of at least $10 today, this was quite a tidy sum and the consternation of the Royal Society and of Treasury can readily be imagined. Lefroy was, however, at some pains to point out that this was a case of genuine misunderstanding and that the Hudson's Bay Company was undoubtedly entitled to some compensation for its expenditures on his behalf.

In Search of the Magnetic North is an obviously authentic, carefully edited and very readable book. The interest is well sustained throughout and to anybody concerned with the history or geography of the northwest, it is doubly enjoyable. For the Army, the book contains a moral in Lefroy's own words, "the ranks of the army can at all times furnish men for special services of this nature and their employment is much to be encouraged, as maintaining the diversified experience, the high standard of intelligence, and the activity of mind, which now enter more than ever into military efficiency."

Busch was a war correspondent attached to the German submarine service during the late war. He went to sea in operational U-boats. He shared with the boats' companies the exhilaration of attacking Allied convoys and British ships of war. He suffered the terrors of being depth charged, of being slowly choked by gas in the pitch darkness of a holed, stalked, motionless submarine playing possum on the bottom, yet not daring to drop a wrench or start a bilge pump.

Most books about submarine warfare are written by submarine commanders themselves. These are valuable works, but so often they reflect only the views and opinions of one man. *U-Boats at War* is the work of a more objective writer, a rather shrewd observer. He seems to sense what is going on in men's minds and records their reactions to success, fear, monotony and despair. He shows too a pretty fair working knowledge of things technical, radar search receivers, the attack problem, and the complexities of submarine diesel engines and electric motors that drive the screws.

There is, perhaps, a suggestion that the book was written for the English-speaking market. Certainly, there is no mention in the text of the words "Nazi", or "der Fuehrer", or of that surly, cocky arrogance so common amongst captured U-boat men. To balance, however, there is a ring of authenticity to the stories, for dates, convoy numbers and the names of ships engaged tally for the most part with official documents.

The problems of discipline, morale, and healthy, cheerful relations amongst men confined in a small space for a long time have, and always will be, with us. The locale may be a lonely radar station in the frozen North, the ordeal of survival from a wrecked aircraft or the mess deck of a tiny fighting ship—the problem is always there. So it is, with surprise and delight that, in Mr. Busch's book, is to be found one German officer's formula for solving these problems. It is the chapter entitled "Command of Men in a U-Boat" by Kapitän-zur-See Wolfgang Lüth; like the rest of the book, it is well worth the reading.

Books for Reference

It is good to vary one's reading. Anyone who wishes to start a course of rewarding reading might do worse than ask his librarian for Wells' *Outline of History*, Durant's *Story of Philosophy*, and Dr. Logan Clendening's *The Human Body*. These have ample references to other works, leading the reader along delightful paths of exploration and gratifying discovery.

HANNIBAL'S FAMOUS MARCH

Reviewed by Captain D. J. Goodspeed, Directorate of Scientific Intelligence, Defence Research Board, Ottawa

In the long history of warfare there are some few military exploits which shine with a lustre all their own. They catch the public imagination in all generations by virtue of the brilliance or daring with which they were conducted. Of these the best known are probably Ney's rearguard action on the retreat from Moscow, the tiny English attack which defeated the towering galleons of the Spanish Armada, and, most famous of all, Hannibal's march across the Alps into Italy.

*Alps and Elephants** deals in large part with the details of Hannibal's famous march, and Sir Gavin de Beer brings a great wealth of scholarship to the examination of his problem. That problem is: which way did Hannibal actually go? To the general reader this may well seem to be one of the byways of history and even to the enthusiastic student of Hannibal's campaigns the scholarly difficulties of determining the Carthaginian route may seem insurmountable.

This is undoubtedly a scholarly book. There are frequent references to the original manuscripts; the date of Hannibal's march is decided from astronomical data; the identity of a river in Southern France is deduced from its seasonal rates of flow; and the problem of whether Hannibal's elephants were African or Indian is discussed with the help of contemporary coins.

To pass judgement upon the validity of the research or upon the probable rightness of Sir Gavin's conclusions would require a degree of recondite scholarship which is certainly not possessed by this reviewer. From the evidence presented it would appear (as might be suspected) that some portions of the route are considerably more likely than others. Certainly all those who have puzzled over this problem in the past will read the book with avidity. Yet it is possible, too, that *Alps and Elephants* may be of interest to more than professional historians, for it is in a sense a detective story — and a very well written one at that.

* *Alps and Elephants: Hannibal's March.* By Sir Gavin de Beer. Geoffrey Bles Ltd., 52 Doughty Street, London, WC 1, 1955. 10s 6d.

Duke of Kent on Armoured Corps Course

UKIS Photograph

H.R.H. The Duke of Kent, who was posted to the Royal Scots Greys as a second lieutenant late last year, is shown here undergoing training at the Royal Armoured Corps Depot at Lulworth, Dorset. The course provides instruction in gun drill, tank driving and vehicle maintenance.

Duke of Edinburgh Presents Colour

National Defence Photograph (EF-5283)

Wound and Service Stripes

FROM THE *Army Newsletter* ISSUED BY THE DIRECTORATE OF PUBLIC RELATIONS (ARMY), OTTAWA

Wound stripes and service chevrons for officers and men of the Canadian Army (Militia) will soon be making their appearance across the country. Manufacture of the new badges is complete and delivery can now be made to Militia units; the badges will be worn only by Militia soldiers and will not be adopted by the Regular Army.

For each wound from enemy action in the Second World War or in Korea, Militia soldiers will wear one gold stripe on their left sleeves. The stripes are one and one-half inches long and one-eighth of an inch wide. Wounds suffered prior to the Second World War will be marked by red stripes of the same size.

Service chevrons have been authorized on the basis of one chevron for each two years' service up to ten years, and a maple leaf will be added after ten years, worn above the five service chevrons on the right sleeve. Additional chevrons will not be awarded to personnel with more than 12 years' service since they are then normally qualified for the Canadian Forces Decoration, and this, together with rosettes, indicates long service.

The service chevrons will be coloured French grey on a drab background for wear with drab uniforms, but background colour will vary with different orders of dress. Service chevrons previously were red and were issued one for each year's service in the Second World War, but their wear was discontinued, together with wound stripes, after the war.

During a ceremony held last October at Fort York, near Soest, Germany, Lieut. E. Argue of London, Ontario, Regimental Colour Officer of the 2nd Battalion, The Royal Canadian Regiment, receives the unit colour from His Royal Highness the Duke of Edinburgh.

New Task Force

With the raising of the United States, Italian and Atlantic Pact flags at Vicenza, Italy, the South European Task Force (SETAF) came into being. This new North Atlantic Treaty Organization element is composed of 5500 United States soldiers who are the first U.S. combat troops to be garrisoned in Italy since the Second World War. They have been joined by an artillery unit, formerly stationed in West Germany, which is equipped with *Honest John* rockets.—*News Release.*

New Field Telephone

FROM THE *Army Newsletter* ISSUED BY THE DIRECTORATE OF PUBLIC RELATIONS (ARMY), OTTAWA

A new field telephone, more rugged and having better performance than the current models, has gone into large-scale production and will be in general army use early this year.

The new instrument, known as the TA-43, replaces the familiar Second World War "F and L" sets which have been in use for 15 years wherever the Army has served.

The new Sets are American-designed, but have been approved for use by the Canadian Army. They are being produced in this country in considerable quantities (more than 6000 initially) by the Northern Electric Company of Montreal. The set has a working range up to 20 miles

National Defence Photograph (Z-7571-1)

Quartermaster Sergeant (WO 2) C. E. Fralic, City View, Ont., a member of the Royal Canadian Corps of Signals, sends a message over the new telephone.

using field wire. It is made of materials specially selected for durability and long wear under the toughest field conditions and is completely waterproof.

The weight of the new equipment is about eight pounds. It is designed to "talk" and "listen" much better than the old "F and L's" and will be utilized for all field switchboard work. Its signal "bell" actually is not a bell at all but a "clacker" which makes a noise comparable to that of a woodpecker. Volume is adjustable and extensive tests have shown the "clacker" is more audible under battle conditions than the conventional 'phone bell.

The set's new magneto generator is a "free-coaster" and can be operated with nothing of the hard labour associated with the old sets. The new telephone can be used either as a desk set or mounted vertically on a tree or a pole.

Science to Probe Earth, Sea and Air

Some of the scientific riddles that may be answered during the International Geophysical Year which begins in 1957 were enumerated by Sir Edward Appleton, principal of Edinburgh University, to the 10th world congress of the Junior Chamber International in Edinburgh in November 1955. They were:

Do continents drift, and, if so, at what rate?

Is the earth's climate getting warmer?

Are sun spots the origin of certain types of cosmic rays?

What is the cause of airglow—the faint background luminosity in the night sky which can be observed at all latitudes?

Scientists of many nations, including the USSR, Sir Edward said, would be co-operating in a vast investigation of the earth, the sea and the atmosphere to find out what is there and why it is there.

Much of the work that would be done during the Geophysical Year could be classified as pure science. "But history has taught us to regard pure science as a kind of capital of scientific knowledge—capital that in the past paid surprisingly good dividends in the way of useful results," Sir Edward said.

"One might reasonably hope that the intensive study of the atmosphere at great heights during the International Geophysical Year would lead to better weather forecasting and better radio communications; but it may well happen that the major outcome is something entirely unexpected."—*News Release.*

SUEZ CANAL IMPROVEMENT PROGRAMME

FROM A NEWS RELEASE IN THE *Military Review* (U.S.)

Condemned as too narrow for modern shipping, the Suez Canal is now undergoing another major improvement programme. Because of the increase in traffic in post-war years on the 103-mile canal, there have been serious traffic jams, and, in addition, the construction of larger vessels has made the 197-foot wide canal too narrow.

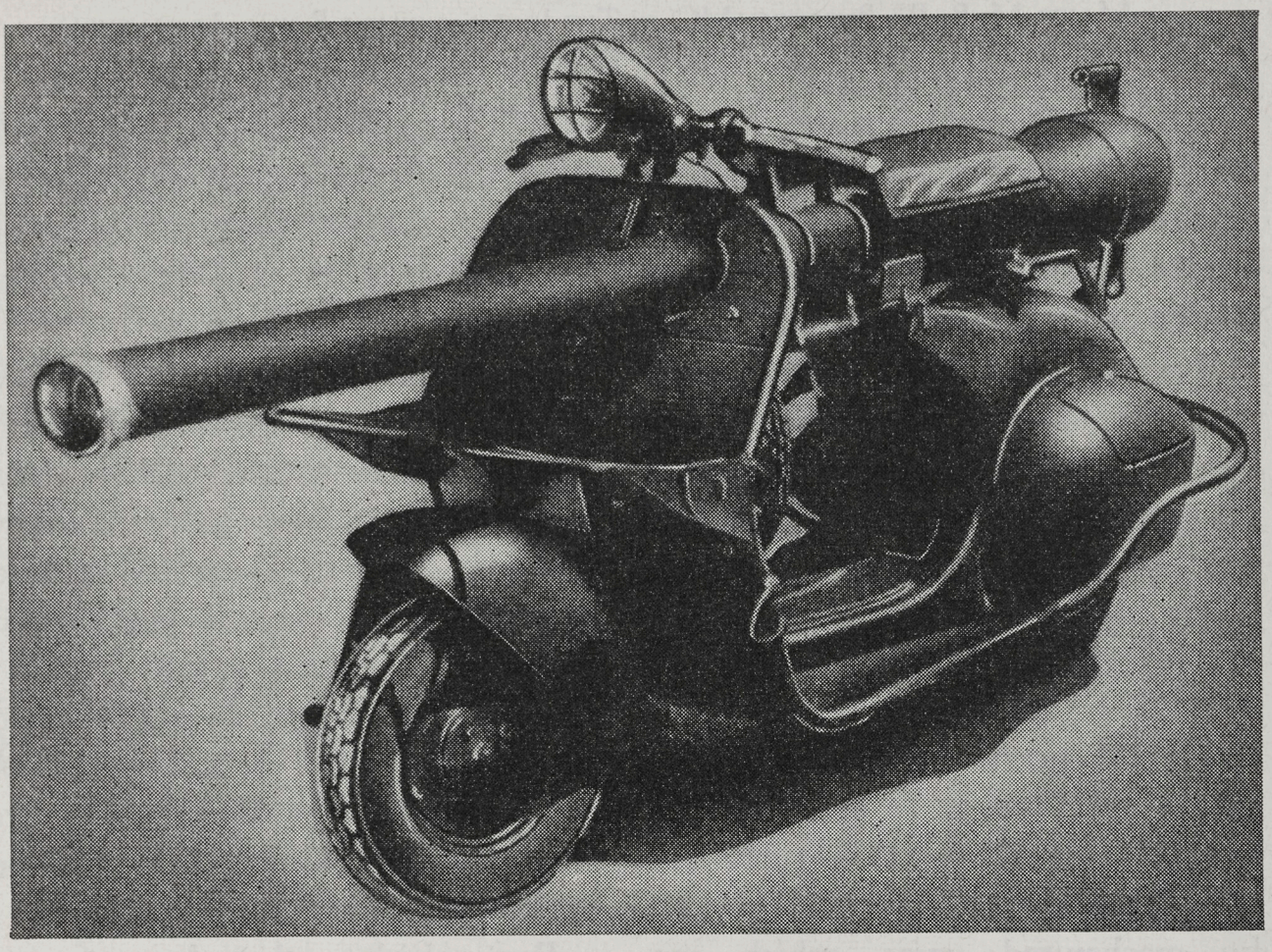
To cope with the problem, the Suez Canal Company has launched a 22-million-dollar improvement programme. To relieve traffic jams, two new by-pass canals are being built. One is near the northern end, while the other is at the southern exit. A third bypass midway along the canal has been in operation for four years. The two new bypasses will enable the canal to handle an average of 48 ships a day, with a peak of 60, instead of the present daily average of 36 ships. Before the war the average daily number of ships using the canal was only 14.

Ships still will have to travel in convoys under the new system. In addition to the bypasses, the canal will be widened in certain places and deepened over half its length to allow the passage of vessels of 36-foot draught.

It Hasn't Changed a Bit

50 Years Ago: President Roosevelt believes that the U.S. Infantry should have more and better instruction in marching with full equipment. With this end in view, he has sent a memorandum to the General Staff suggesting that an executive order be promulgated directing each company of Infantry to receive instruction in marching with full kits at regular intervals of time.—*Army-Navy-Air Force Journal* (U.S.).

Scooter Carries Anti-Tank Cannon



Courtesy Marine Corps Gazette (U.S.)

Anti-tank equipment must be able to hit hard and move out fast. The French Army's answer to the mobility problem is this "Scooter Shooter", which travels at 40 miles per hour. It is armed with a 75-mm. recoilless cannon, and, to fire, the gunner must dismount from the scooter and emplace the cannon.

Canadian Regimental Histories

Readers interested in Canadian military history may like to know that Mr. C. E. Dornbusch of the New York Public Library has compiled a *Preliminary List of Canadian Regimental Histories.* This has been mimeographed and is available from Mr. Dornbusch, whose address is 50 Chauncy Avenue, New Rochelle, N.Y., for $2.00. The compilation of the list was the work of many months. It includes over 200 titles arranged in four sections: Histories for extended periods, South African War, First World War and Second World War. The majority of the books listed are in the enormous collection of the New York Public Library, many very obscure ones having been located and obtained by Mr. Dornbusch with great difficulty.

The Forcing of an Obstacle in an Atomic War

Major M. R. W. Burrows, MC, in The Journal of the Royal Artillery, United Kingdom

An obstacle will be crossed successfully [in an atomic war] if surprise is achieved, and a powerful force is passed across the obstacle before the enemy can concentrate against it.

An obstacle will probably be defended mainly by mechanized forces, because infantry must be dug in on good tactical features, which will be obvious atomic targets.

A conventional infantry attack would present dangerous atomic targets to the enemy. Airborne troops must concentrate on their objective where they would be in danger of atomic neutralization. Therefore the obstacle should be crossed in strength by mechanized units, which can dominate the area about the objective without occupying it in strength.

Surprise can be achieved if preliminary concentrations are avoided. Assault units should not be brought into assembly areas earlier than necessary. Comparatively few quick-firing guns and rocket launchers should be deployed. Maintenance should be by helicopters direct from Maintenance Areas to unit A Echelons.

The obstacle should be crossed quickly on a broad front. The assault force must penetrate deeply and avoid containment in a shallow bridgehead. Ford-laying tanks and caissons should enable mechanized forces to cross rivers quickly.

Follow-up troops should be used to exploit success. Concentrations of vehicles must be avoided. Helicopters and good communications must be available for commanders.

Few vehicles, other than infantry and armour, should advance initially. Therefore long-range guns are needed and helicopters must maintain the force, and transport engineers, R.E.M.E. repair squads and casualties, as required.

Proposed Engine

For superior all-round performance, an English aircraft designer has proposed a combination jet and liquid rocket engine. The chief advantage is that the liquid rocket improves with height, while the power of the jet decreases. It is estimated that at high altitudes a rocket could double the speed of a plane travelling at Mach 1 in a minute or less, an acceleration that would take a pure jet 10 minutes or more—Air Training (*Great Britain*).

Trades Training for RCEME Militia

There are now new trades training opportunities for members of Militia units of the Royal Canadian Electrical and Mechanical Engineers.

The extended opportunities for trades training mean RCEME Militia soldiers can acquire new skills in a wide range of Army trades and will be eligible for trades pay when qualified. These trades hitherto have been restricted to Regular RCEME soldiers.

The eight new trades are: Electrical Mechanic, Gun Mechanic, Machinist Fitter, Radar Technician, Radio Technician, Vehicle Mechanic (Tracked), Vehicle Mechanic (Wheeled) and Welder.

The training programme in these trades has been designed to enable RCEME Militia soldiers to qualify as Group 1 tradesmen.

Opportunities are also open for RCEME Militia craftsmen to gain more advanced trades qualifications by attending courses at the RCEME School at Barriefield, Ont.—*Directorate of Public Relations (National Defence)*.

120-Passenger Airliner

Some of the leading aeronautical engineers of three nations are collaborating on the design of an advanced type of civil airliner. They represent the Bristol Aeroplane Company of Britain, Convair of the United States and Canadair Limited of Montreal, which, it is learned, is the leading contender to assume construction responsibilities.

The aircraft is to be a 120-passenger, 500 m.p.h. design with a 5000-mile range. It is to be powered by propeller-driving turbine engines of British design. Its appearance on the world airline market is tentatively scheduled for 1960.

Each of the three companies has its own approach to the design problem. It was reported that all are agreed, however, on the selection of a power-plant—the Bristol BE-25 constant-speed turbine engine of 8500 h.p. The BE-25 is a fairly revolutionary engine. It delivers maximum power at any altitude. In other words, it is running at the same speed at sea level as, say, at 20,000 feet.

It has yet to be decided whether the airliner will be designed for a single or a double deck.—*News Release*.

NAVAL SHELLS—1855 TYPE

One of the last skirmishes between the early American pioneers in Washington and the Pacific Coast Indians occurred in 1855. On January 26th of that year, a band of Indians under Chief Leschi attacked the then small village of Seattle. Fortunately, the Americans had been warned of the impending attack, and men from a sloop-of-war, the *USS Decatur*, were ready and waiting. An American writer comments on the engagement as follows:

It was the ship's shore parties, marines and seamen, and more particularly her delayed-action howitzer shells that turned the tide of battle against the Indians. The shells that *mox poohed*—fired twice—were too much for the simple redskins. In his spiced account of the siege, Lieutenant Phelps says that as the first shell went screeching over the village to land in the woods, the braves were fascinated. Joining hands, they performed a ceremonial dance around the sputtering projectile, which seemed to them to be strong medicine. But it was strictly white man's medicine, for the dance ended abruptly when the powder-filled shell exploded violently a second time. . .

The last of the *Decatur's* shells delayed its second *pooh* for a number of years, only to blow up Dexter Horton, one of Seattle's founders and leading financiers. Fire Chief Gardner Kellogg had saved the "dud" as a souvenir of the battle, but later he decided to try an experiment in quick stump removal. Building a brisk fire under a stump, he rolled the historic cannon ball in on top of the flames.

Banker Horton, out for a walk, stopped to warm his backside at the fire. He and the shell warmed up at the same time. When the shell *poohed*, the banker was propelled several yards through the air to land in a bramble thicket. Nothing but his dignity was seriously damaged.—An extract *from Gordon R. Newell's* S.O.S. North Pacific (*Portland, Ore., 1955*) *p. 16. Contributed by Lieut. R. H. Roy (Militia), Victoria, B.C.*

Bows and Arrows—1813

Bows and arrows, the chief projectile weapons used in warfare for some thousands of years, fell out of use late in the reign of the first Elizabeth. They did, however, come back into use briefly during the Napoleonic wars.

At the battle of Leipzig, 16–18 October 1813, the Russian troops engaged included some Bashkir tribesmen. These untrained soldiers were armed only with bows. Since they were completely undisciplined, they could never shoot their arrows horizontally without running the risk of hitting their own men, who were riding about at random, and instead had to let their arrows go skyward in the hope that they would hit something on the way down.

The few arrows that found a target were ineffective, since most of their force was spent by the time they reached the French lines. The French General Baron de Marbot records in his memoirs, however, that an NCO called Mentin was transfixed from breast to back by an arrow. Seizing it in both hands, he broke it in half and pulled it out, but died soon after. — *Contributed by S/L N. W. Emmott, Air Force Headquarters, Ottawa.*

ROYAL CANADIAN ARTILLERY

MILITIA MAA REGIMENTS GIVEN NEW ROLE

WRITTEN ESPECIALLY FOR THE *Journal* BY MAJOR D. K. BROWN, RCA, UNDER THE DIRECTION OF THE DIRECTOR OF THE ROYAL CANADIAN ARTILLERY, ARMY HEADQUARTERS, OTTAWA

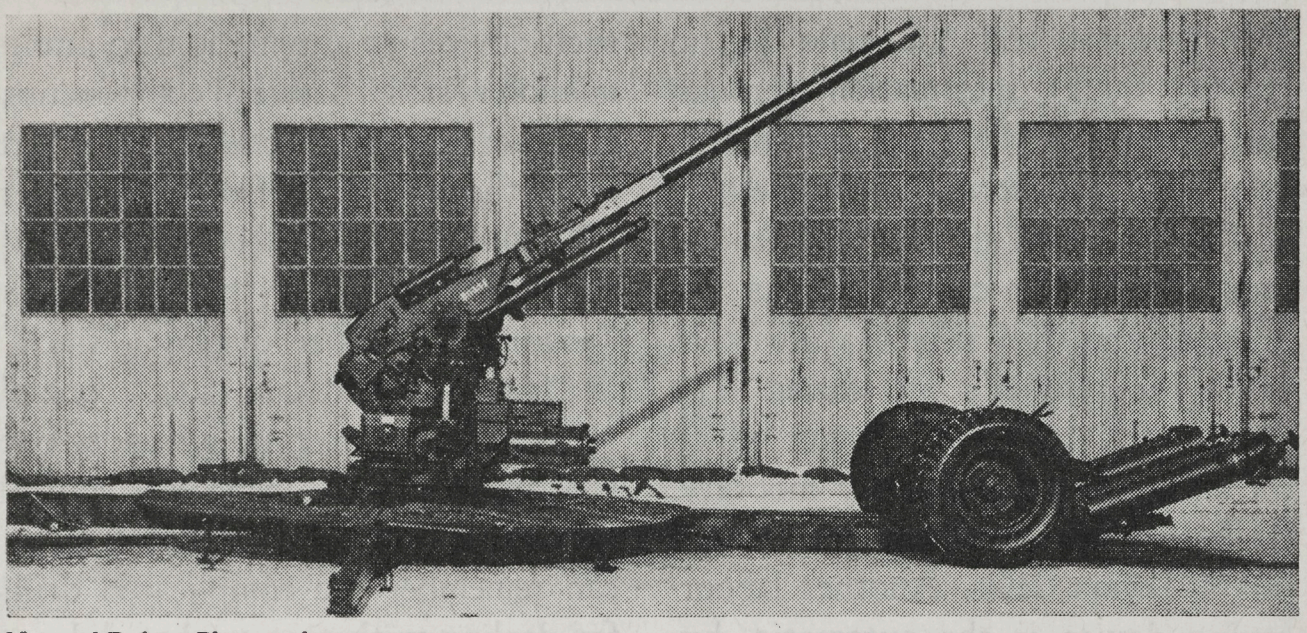
A great deal of publicity has been given recently to the importance of guided missiles in the field of air defence. It may be well to remember, however, that the army will not advance to the guided missile stage in one single step. Intermediate steps toward that goal are necessary, particularly for the anti-aircraft units which will be called upon to defend our field forces from air attack.

It is heartening to note that one of these progressive intermediate steps was in fact taken last autumn when it was announced that the Militia's 3.7-inch guns and associated fire control equipment would be replaced by 90-mm. guns and M33C fire-control system. This change of equipment was part of a policy decision which dealt with the employment of anti-aircraft in the Field Force. It gave a "new look" and a new future to the existing Canadian Army (Militia) Regiments.

Many readers will no doubt notice that one of the changes introduced was that the old unit designation "Heavy Anti-Aircraft" (HAA) was replaced by "Medium Anti-Aircraft" (MAA). This was done in recognition of the fact that the equipment provided is designed to cover the medium altitude zone, from approximately 3000 feet up to 20,000 feet, most effectively.

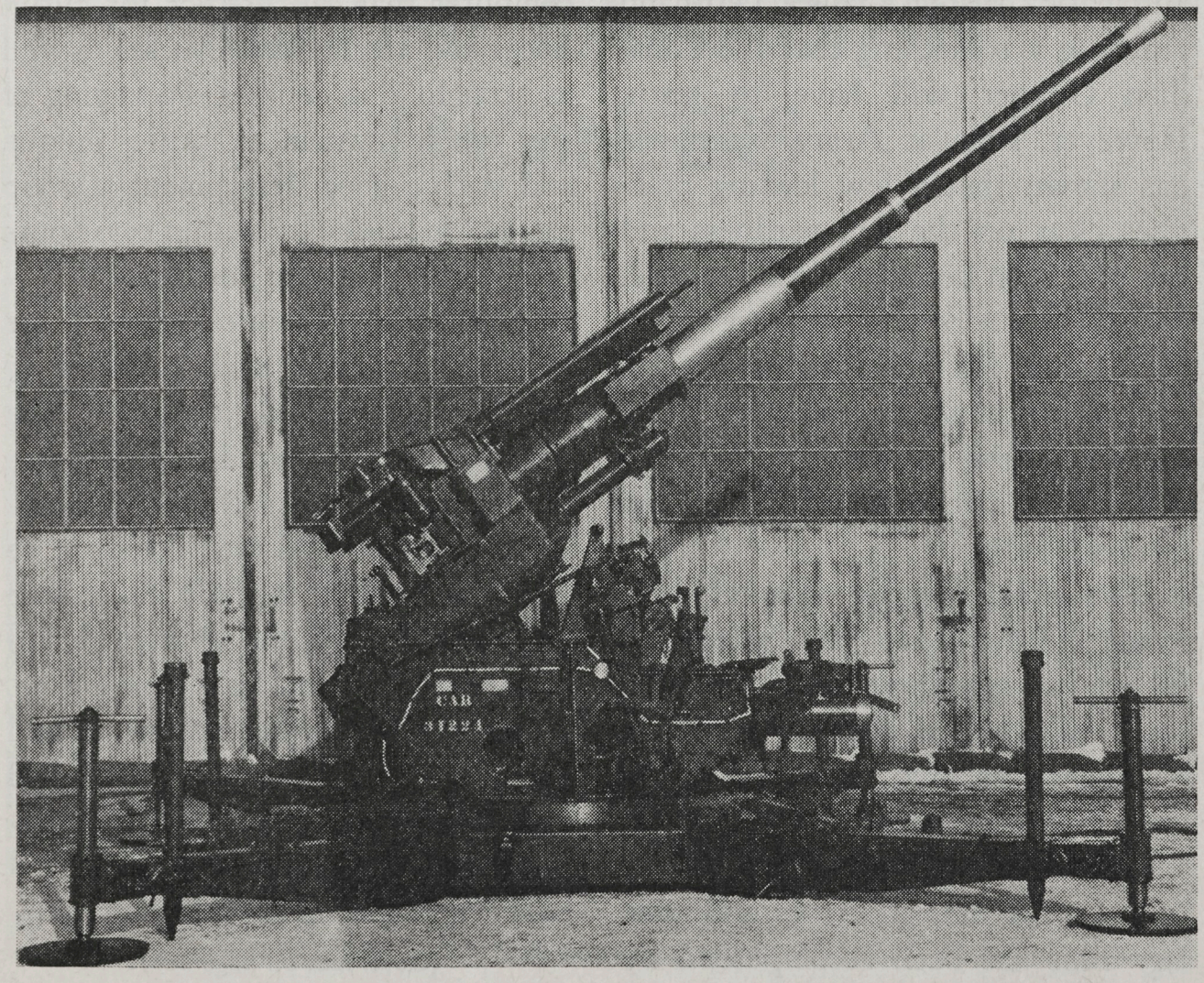
The thing most likely to please the Militia Gunners, of course, is that the MAA regiments will now be organized and trained for a mobile role with our Field Forces. A new establishment has been provided, which should lend a considerable impetus to recruiting.

The 90-mm. gun and its M33C fire-control system is considered to be the best gun-type MAA equipment available today. Without becoming too technical, it can be said that the main advantage over the old combination of the 3.7-inch gun, predictor and two separate radars lies in the M33C fire-control system rather than in the 90-mm. gun itself, although the fact that the latter responds automatically is a great improvement. The old 3.7-inch gun was a good weapon but it had to be manually operated. Furthermore, the unreliable performance of its asso-



National Defence Photographs

Shown above is the 90-mm. gun which replaces the 3.7-inch gun (below) in the Medium Anti-Aircraft Regiments of the Canadian Army (Militia). The 90-mm. gun and its M33C fire-control system is considered to be the best gun-type MAA equipment available today. The M33C is an integrated fire-control system which reduces the work of 30 men and six pieces of equipment to two pieces of equipment operated by nine men.



ciated radars and the time lag in passing target information through the system to the guns resulted in relatively ineffective "engagements".

The 90-mm. gun, while it has much the same capabilities as the 3.7-inch gun, has some features that make the gunner's life easier. The 90-mm. is a two-wheeled gun which increases the cross-country mobility, facilitates man-handling and in and out of action drills. Another labour-saving device is the automatic, hydraulic traversing and elevating mechanism. However, hand-operation training is still required in case the automatic system fails. Left-hand ramming is something that the Canadian Gunner will have to learn. However, Regular Army experience has shown that a few loading practices clear up the awkwardness and the drill soon becomes second nature. Militia Gunners will have to watch their step for the first few drill periods on the 90-mm. The gun has a metal platform and any quick movement with steel-cleated boots can be troublesome.

The Anti-Aircraft Fire Control System—M33C—is an integrated fire-control system which reduces the work of 30 men and six pieces of equipment to two pieces of equipment operated by nine men. A big advancement has been made by the reduction of human errors and time lag. This has been accomplished by such devices as automatic data transmission systems between components. Another big improvement is the fact that the Tactical Control Officer (TCO) has all the elements of his control system at hand; target "acquisition" radar display, "track" or fire-control radar data, control room and computer are all under one roof and under the immediate control of the TCO. Many an AA Gunner can remember the complicated drills for dealing with targets that did not oblige by flying a "straight and level course". This difficulty has been simplified in the M33C by means of a computer that can predict for curvilinear and acceleration courses, as well as straight line courses. Packaging of the whole system is quite unique and with a good detachment a troop can be "in business" within two hours of entering the gun position.

As stated at the outset, this change is a step along the way to the introduction of guided missiles. The development of ground-launched surface-to-surface and surface-to-air missiles has been, and will continue to be, a natural and orderly process in the evolution of the Army's traditional artillery arm. In the meantime, however, considerable experience and know-how on problems such as field employment, electronics, communications and fire direction can be obtained by training on this latest gun-

(*Continued on page 137*)

THE CORPS OF ROYAL CANADIAN ENGINEERS

HISTORY OF THE MILITARY ENGINEERS ASSOCIATION OF CANADA

PREPARED FOR THE *Journal* BY DIRECTION OF COLONEL E. H. WEBB,
CHIEF ENGINEER, ARMY HEADQUARTERS, OTTAWA*

The Military Engineers Association of Canada, a member of the Conference of Defence Associations, is the corps association of the Corps of Royal Canadian Engineers. The object of the association as stated in its constitution is to bring into closer relationship Engineer officers, both Regular and Militia; to assist in the development of the Corps of Royal Canadian Engineers; and to discuss military matters generally from the Engineer viewpoint.

The association was originally organized in 1912 with the following principal officers: President, Colonel Henry Harrison, Montreal; Honorary Secretary, Captain S. H. Osler, Ottawa; Honorary Treasurer, Captain W. B. Anderson, Ottawa. In 1914, Colonel Harrison was succeeded as president by Major G. A. Inksetter of Hamilton, who was killed in The Great War (1914–1919). Particulars of membership and branches prior to the war are not available in the records. Following the close of the war, repeated efforts were made to revive the association, but for various reasons, it was found impossible to accomplish this until 1928 when Colonel Harrison again became President with Lieut.-Colonel F. H. Emra as Honorary Secretary-Treasurer. Branches existing at this time were London, Toronto, Ottawa, Montreal, Calgary and Vancouver.

In 1933, as a temporary measure, the principal officers were located at Ottawa for a two-year period, following which a revised constitution set out three areas (Eastern, Central and Western), each of which, in turn, provided the president and two directors, the two vice-presidents succeeding to position each year. In 1936, a further change was made whereby the honorary secretary and the honorary treasurer were appointed by the executive committee instead of being elected; it was also decided that these two officers would be permanently located in Ottawa. Shortly before the commencement of The Great War (1914–1919), branches were started in Regina, Halifax and Thetford Mines.

At the end of the Second World War, reorganization was begun actively with the first post-war annual

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This history was written originally by Lieut.-Colonel R. A. V. Nicholson of Ottawa, who was for many years Secretary of the Military Engineers Association of Canada.—Editor.

meeting in November 1946. New branches were established at Winnipeg, Edmonton, Noranda (Northern Quebec), St. John, N.B., and a sub-branch at Trail, B.C. The present membership is approximately 250.

It may be of interest to note that this is one of the two Service associations whose titles differ from that of the arm of the Service concerned. There were two reasons for the adoption of this title at the time of organization: one, that the military engineer has a counterpart in civil life and, also, that the association admits, to associate membership, civilian engineers who may belong to other arms of the Service.

Of the various achievements since reorganization in 1928, the most outstanding is probably that of the production of the Book of Remembrance for all Sappers killed in The Great War (1914–1919) and The Second World War. More recent achievements of the association have been the reintroduction into competition of some old Militia Engineer trophies and the provision of additional trophies for competition between Militia units*; assistance in the operation of the Corps paper "The Canadian Sapper"; and continual efforts through its branches and the Provincial Professional Engineers Associations and the Engineering Institute of Canada to recruit graduate engineers for the Regular Force.

The executive of the association for the year 1956 is as follows:

President: Major J. Oliver, Vancouver.

Past President: Lieut.-Colonel M. E. Allan, OBE, Toronto.

1st Vice-President: Lieut.-Colonel D. L. Calkin, Halifax.

2nd Vice-President: Lieut.-Colonel S. W. Archibald, London.

Directors: Lieut.-Colonel R. E. Wilkins, Vancouver; Major J. S. Kennedy, Vancouver.

Honorary Secretary: Major J. H. Collins, Toronto.

Honorary Treasurer: Captain H. M. Woodroffe, Ottawa.

Honorary Colonel Commandant, RCE: Brigadier J. L. Melville, CBE, MC, ED, Ottawa.

Outstanding Sappers who have held the office of President of the Association are:

1912–13: Colonel Henry Harrison, VD, Montreal.

1914: Major G. A. Inksetter (K), Hamilton.

1928–29: Colonel Henry Harrison, VD, Montreal.

1929–31: Lieut.-Colonel W. P. Wilgar, DSO, Kingston.

1931–32: Lieut.-Colonel A. T. MacLean, MC, Vancouver.

1932–33: Lieut.-Colonel C. S. L. Hertzberg, MC, Toronto.

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* *See "Royal Canadian Engineers Militia Trophies" in the July 1955 issue of the* Journal. —Editor.

1933–35: Lieut.-Colonel J. L. Melville, MC, ED, Ottawa.

1935–36: Captain E. A. Baker, OBE, MC, Toronto.

1936–37: Lieut.-Colonel G. H. Whyte, MC, VD, Vancouver.

1937–38: Lieut.-Colonel N. B. MacLean, DSO, Montreal.

1938–39: Lieut.-Colonel A. C. Spencer, ED, London.

1939–40: Major F. G. Bird, MC, Calgary.

1946: Lieut.-Colonel F. G. Bird, OBE, MC, ED, Toronto.

1947–48: Brigadier D. K. Black, CBE, DSO, Montreal.

1948–49: Brigadier C. A. Campbell, DSO, OBE, Toronto.

1949–50: Lieut.-Colonel H. H. Minshall, Vancouver.

1950–51: Major-General G. R. Turner, CB, MC, DCM, Ottawa.

1951–52: Lieut.-Colonel T. F. Howlett, ED, Toronto.

1952–53: Lieut.-Colonel A. Webster, MBE, Vancouver.

1953–54: Lieut.-Colonel R. J. Cassidy, OBE, ED, Fredericton.

Of these Presidents, some of the most outstanding were:

Lieut.-Colonel W. P. Wilgar, DSO, who for many years was head of the Civil Engineering Department of Queens University.

Lieut.-Colonel (now Brigadier) A. T. MacLean, CBE, MC, VD, who was Chief Engineer, Canadian Army, during the Second World War.

Lieut.-Colonel (later Major-General) C. S. L. Hertzberg, CB, MC, VD, the first CE of the Canadian Army in the Second World War.

Lieut.-Colonel (now Brigadier) J. L. Melville, CBE, MC, ED, who was CE 1 Canadian Corps and is now chairman of the Canadian Pension Commission.

Captain E. A. Baker, OBE, MC, who has been for many years national chairman for the Canadian Institute for the Blind.

Brigadier D. K. Black, CBE, DSO, who was CE 2 Canadian Corps in North-West Europe during The Second World War.

Brigadier C. A. Campbell, DSO, OBE, who was first CE 1 Canadian Corps in Italy during The Second World War.

Major-General G. R. Turner, CB, MC, DCM, CD, whose military record and activities are very well known.

Free Libraries

I choose free libraries as the best agencies for improving the masses of the people, because they give nothing for nothing. They only help those who help themselves. They never pauperize.—*Andrew Carnegie.*

THE ROYAL CANADIAN CORPS OF SIGNALS

SIGNALS' ROYAL VISITOR

PREPARED ESPECIALLY FOR THE *Journal* BY THE DIRECTORATE OF THE ROYAL CANADIAN CORPS OF SIGNALS, ARMY HEADQUARTERS, OTTAWA

The month of October 1955 saw the fulfilment of a cherished ambition of the Royal Canadian Corps of Signals. Ever since the appointment of HRH The Princess Royal as Colonel-in-Chief of the Corps in 1940, it had been hoped that some day she could visit Signals units in Canada. During the Second World War she inspected most RC Sigs units overseas but it was ten years later before Her Royal Highness was able to pay her first visit to this country.

The 58-year old widowed aunt of HM The Queen arrived in Quebec City on the *Empress of France* on September 30th, at the invitation of the Honorary Colonel Commandant of Royal Canadian Signals, Brigadier A. W. Beament, CBE, VD, CD. Representatives of the Corps were in the welcoming committee.

The principal Corps functions in honour of the Colonel-in-Chief took place at Vimy Barracks, Kingston, but others were held in Montreal, Ottawa, Toronto and Vancouver. In Victoria, she was the guest of The Canadian Scottish Regiment (Princess Mary's) of which she is also Colonel-in-Chief.

In Montreal Her Royal Highness attended a tea in the armouries of 11th Signal Regiment (Militia). While there she unveiled a plaque in memory of members of the Corps from the Montreal area killed in the Second World War. Many of their next-of-kin were present.

In the meantime, at the Royal Canadian School of Signals at Vimy Barracks, the finishing touches were being put on preparations for the biggest week-end the School had ever known. After months of preparation, the troops were at the peak of perfection and the white buildings of the School, beautifully flood-lit by night, were resplendent by day amid special decorations.

By Friday morning, October 7th, everything was ready, and just before 10 a.m. the Princess stepped from the Royal railway car and was greeted with a Royal Salute by a 100-man guard of honour from the Corps School, and the scarlet-clad Royal Canadian Corps of Signals Band. Her Royal Highness then inspected the guard, after which she met His Worship the Mayor of Kingston and other civil and military officials and their wives.

After a 15-minute call at city hall, The Princess Royal visited Fort

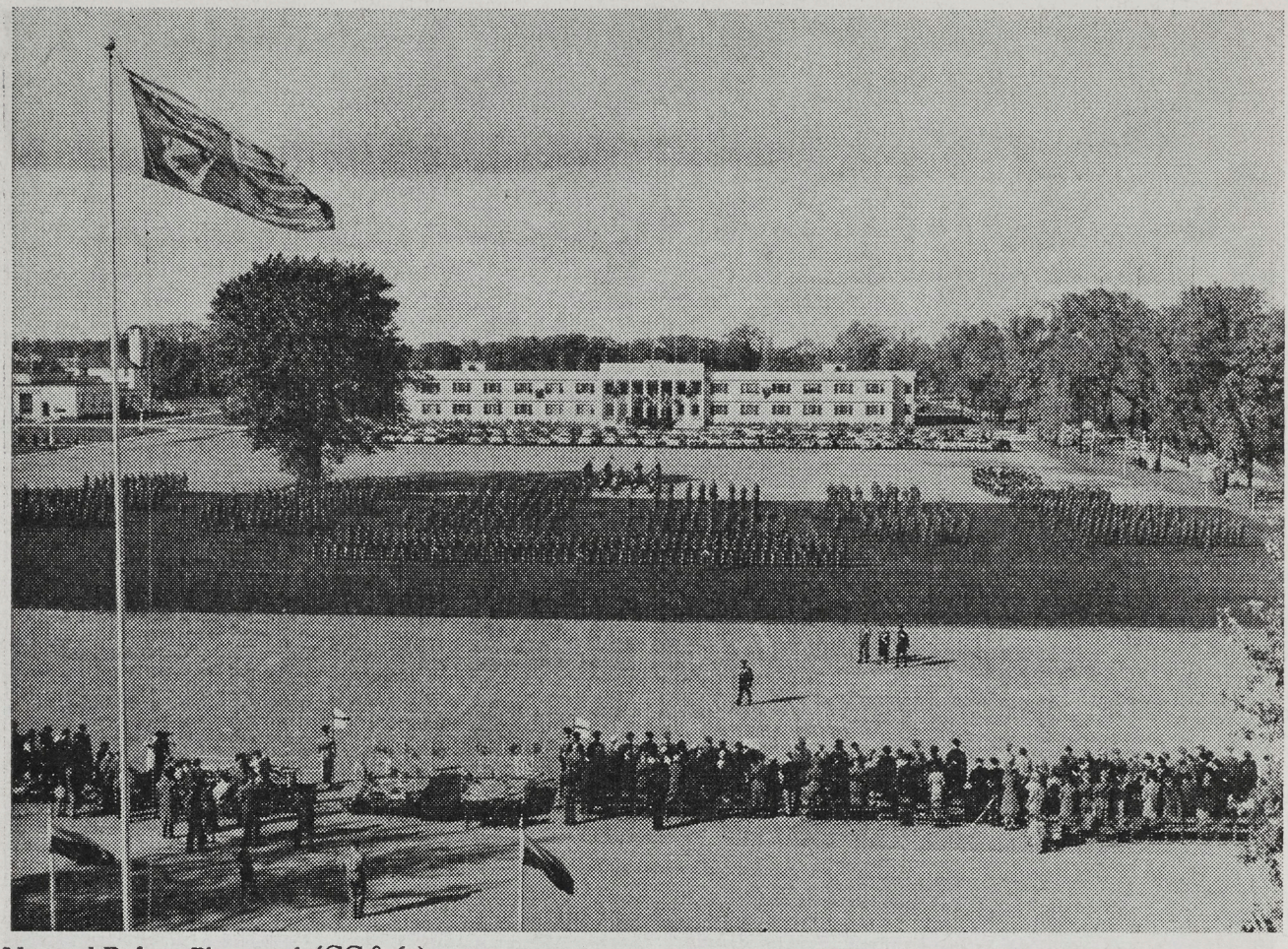
National Defence Photograph (CC-8373)

Wearing the dark green uniform of a Major-General of the Women's Royal Army Corps, HRH The Princess Royal inspected 600 men of Regular and Militia Signals units, including three scarlet-coated bands. Here she is accompanied by Major H. E. Good, MC, as she passes through the ranks of 1 Canadian Infantry Signals Regiment (Regular), followed by Brigadier A. W. Beament, CBE, VD, CD, Honorary Colonel Commandant of the Corps.

Henry, where she was given a 21-gun salute fired by century-old field guns. The Fort Henry Guard carried out drill as it was done in 1867. For one thing, this meant that during the Royal Salute the National Anthem was played through entirely. Today's regulations stipulate the playing of only six bars of the anthem for the Royal Salute.

At 2:30 p.m. the guard at the entrance to Vimy Barracks snapped to attention as the Royal party approached and passed under the huge "Welcome" sign which spanned the roadway.

The Colonel-in-Chief made a brief but thorough inspection of the School, showing particular interest in the men's barracks, recreational facilities and messing accommodation. After visiting two representative married quarters in the adjoining Fort Henry Heights area, the Royal party arrived at the Corps Sergeants' Mess where the members, with their



National Defence Photograph (CC-8361)

With the Royal Standard flying, Her Royal Highness returns to the saluting base. Troops on the ceremonial parade at Vimy Barracks represented Regular and Militia Signals units from Halifax to Vancouver.

wives, were waiting, in No. 1 Dress. After meeting the warrant officers and their wives, she sat for nearly an hour chatting and taking coffee with a great many sergeants and their wives.

That evening the Corps' major social event of the visit took place at the Officers' Mess at Vimy Barracks. The Princess was entertained at a formal candle-lit dinner by 80 representative officers of all branches of Royal Canadian Signals—Regular, Militia and Supplementary Reserve. Her arrival at the mess was signalled by a colourful Royal Fanfare. At a reception afterwards, a large number of officers, who could not be accommodated at the dinner, were presented.

On Saturday morning, Her Royal Highness visited the Royal Military College where a Cadet Wing parade and a reception were held, and she was entertained at luncheon by the Gentlemen Cadets. Meanwhile, a mile away at Vimy Barracks, detachments from Signals Militia units all over Canada were arriving and getting their instructions for the Ceremonial Parade in which they were to participate that afternoon.

When the Princess' car drew up at the saluting base in front of the Forde Building, more than 700 troops —including three bands wearing scarlet—were on parade, every man wearing the badge of the Royal Canadian Signals. Just as Her Royal Highness stepped from the car her personal standard was broken from the mast-head.

As the Princess took up her position on the reviewing stand, the parade commander, Colonel H. A. Millen, OBE, CD, called for the Royal Salute. As one man, the 100-man guard of honour snapped into the "present arms" while all officers saluted, with the exception of those in attendance on the Princess. Colonel Millen then reported to Her Royal Highness that on parade were 48 officers and 720 other ranks representing the School, the 1st Divisional Signal Regiment from Camp Borden and detachments from every militia Signals unit in Canada.

Wearing the dark green uniform of a Major-General of the Women's Royal Army Corps (of which she is Controller Commandant), Her Royal Highness, accompanied by the Honorary Colonel Commandant, the Commandant of the School and her Canadian aide-de-camp, Major A. J. Morrall, MBE, first inspected the Guard of Honour, then the various Regular and Militia detachments drawn up in the rear of the guard. Departing from her custom of inspecting front ranks only, she went through every rank, chatting with one or two men in each.

Across the rear of the parade, a splash of colour was provided by three bands: the 55-man Corps band, which played during the inspection, the volunteer Royal Canadian School of Signals Trumpet Band, and the 2nd Signal Regiment Trumpet Band of Toronto.

Then followed a stirring march-past, at which the Colonel-in-Chief took the salute. The three bands played in front of the reviewing stand, and for the ensuing quarter hour the Signals Despatch Rider Display Team took the spotlight with its exciting motorcycle feats.

As the roar of the last motorcycle died away, the twelve Corps fanfare trumpeters heralded the coming of the highlight of the parade, the presentation of a gift from all ranks of the Royal Canadian Signals, serving and retired, to their Colonel-in-Chief. The presentation party then advanced to the saluting base: a Regular Army warrant officer, a signalman apprentice and a sergeant from the Militia unit winning the Malloch Trophy. The apprentice signalman carried the gift, the warrant officer gave the brief presentation speech on behalf of all ranks of the Corps, and the Militia sergeant handed the gift to the Princess. The

National Defence Photograph (CC-8331)

Her Royal Highness meets members of the Corps Sergeants' Mess and their wives at an informal garden tea.

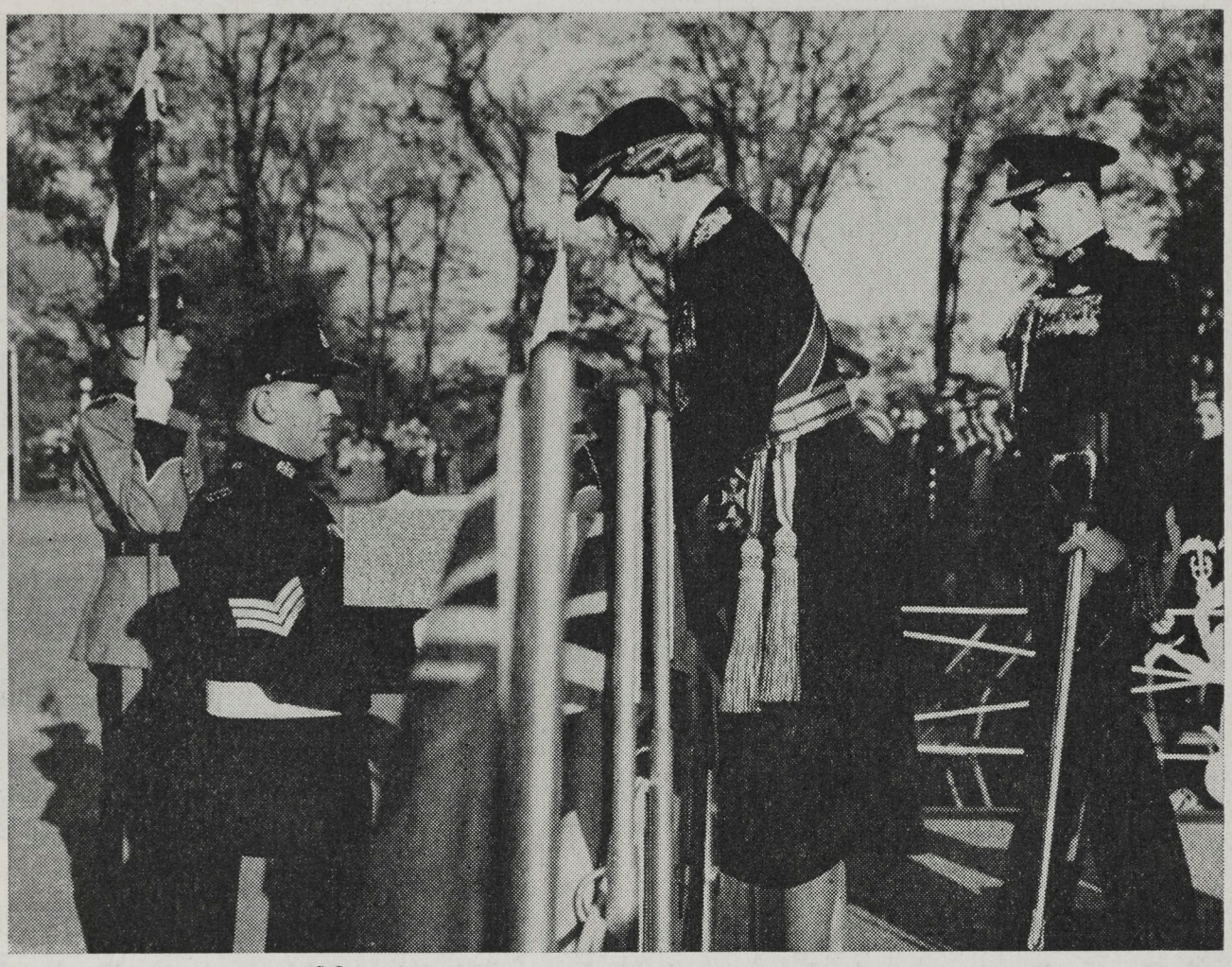
box contained a beautiful stole of Canadian mink, with Her Royal Highness' personal cipher and the Corps badge delicately embroidered in the lining.

Her Royal Highness was visibly moved as she expressed her appreciation.

Before leaving the saluting base for a tea with representative signalmen and corporals, and their wives, the Princess presented trophies won in the Canadian Signals Association competitions, and congratulated the winning units.

On Saturday evening, after a private dinner served in nineteenth-century style in the Fort Henry officers' mess, The Princess Royal met many more Signals officers and their wives at a reception and formal ball at Vimy Barracks.

On Sunday morning a saluting base was set up on the Kingston Market Square, and there, before about 1000 spectators, the Colonel-in-Chief reviewed a march-past of Regular and Militia detachments as they paraded to Divine Service at the Cathedral Church of St. George.



National Defence Photograph (CC-8367)

A highlight of the ceremonial parade was the presentation to The Princess Royal of a Canadian mink stole, a gift from the officers and men of the Royal Canadian Signals. The presentation was made by Sgt. J. E. Kilmartin of 3 Signal Regiment (Militia), Ottawa.

The Royal Party occupied the front pews, and Signals officers and men filled most of the church. Lessons were read by the Honorary Colonel Commandant and Colonel C. A. Peck, OBE, CD, Director of the Royal Canadian Corps of Signals. In his sermon the Area Chaplain likened the signalmen, the communicators of the Army, to all Christians and their responsibilities as communicators of God's word.

A luncheon in the Signals Officer's Mess preceded Her Royal Highness' departure from Kingston by car, early Sunday afternoon. The Royal Party was escorted to the outskirts of the city by the entire Despatch Rider Display Team.

In Ottawa, a 100-man guard of honour from the Royal Canadian School of Signals was drawn up at the base of the Peace Tower when The Princess Royal visited the Parliament Buildings on October 10th (Thanksgiving Day), and music was provided by the RC Sigs Band. After leaving Parliament Hill, the Royal

party drove to the armoury of the 3rd Signal Regiment (Militia).

A cheer went up from the three hundred or so people gathered outside the Cartier Square armouries when she arrived. She was met by the Commanding Officer and Honorary Colonel of the regiment and their wives.

Inside she met members of the Officers' and Sergeants' Messes and their wives, and in the Sergeant's Mess received a bouquet of roses from the 7-year old daughter of one of the members.

During her visit to Toronto, the Princess was greeted on her arrival at the Parliament Buildings by a guard of honour from 1 Canadian Infantry Divisional Signals Regiment of Camp Borden, and the trumpet band of 2nd Signal Regiment (Militia) of Toronto. On October 12th, The Princess Royal was guest of honour at a mess dinner in the Signals Armouries, given by the Signals officers of the Toronto area. Among her other engagements while in the city was a visit to Sunnybrook Hospital.

After a visit to Niagara Falls, the Royal party left Toronto by air for Victoria, beginning the third week of the visit. Brief stops were made at Winnipeg and Calgary on the way.

In Victoria most of the military functions were arranged by The Canadian Scottish Regiment (Princess Mary's),* and on October 21st Her Royal Highness sailed to Vancouver on HMCS *Athabaskan*.

Signals Day, observed annually on the nearest Saturday to the Corps Birthday (October 24th) fell during the Colonel-in-Chief's stay in Vancouver. Appropriately, she inspected Regular, Militia and Cadet units of Royal Canadian Signals on that day, October 22nd, at Jericho Beach. Afterward, she met members of local Signals and Canadian Scottish Regimental Associations, and then attended a joint reception by the officers of West Coast Signal Regiment (Militia) and HQ B.C. Area. This was held at the Area Headquarters Officers' Mess.

On leaving Vancouver, the Princess said she would return to England with a deep affection for the Canadian people. She called her tour "a treasured memory which the passage of time will never dim."

Princess Mary, in a farewell to the "many friends I have made here", was replying to an address by Mayor Hume at a civic luncheon in her honor. She said, "As you know, this is my first visit to Canada. I have had the privilege of travelling through this vast country from coast to coast and have now finished my

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* *See the article in this issue entitled "The Princess Royal Visits The Canadian Scottish".* —Editor.

National Defence Photograph (QC-5459)

Before re-boarding the *Empress of France* at Montreal at the conclusion of her month-long Canadian visit, HRH The Princess Royal inspects a Corps guard of honour commanded by Captain J. W. Sheen.

tour here in Vancouver at Canada's western gateway.

"Everywhere I have been you have made me feel that you were glad to see me and I shall return to England with a deep affection for Canada and the Canadian people.

"Canada is already one of the leading countries of the world and she has before her a development far beyond the most optimistic dreams."

Following her visit to the west coast, The Princess Royal returned to Montreal by air.

Her month-long visit to Canada at the invitation of the Royal Canadian Corps of Signals at an end, Her Royal Highness sailed from Montreal on the Empress of France on October 25th. The guard of honour from the Royal Canadian School of Signals and the RC Sigs Band were on hand for the departure ceremonies, and final farewells on behalf of the Corps were said by the Honorary Colonel Commandant and the Director, Royal Canadian Corps of Signals, while a 21-gun salute was being fired from the pier by a composite troop of the 34th and 37th Field Regiments, RCA.

RADIO SET AN/PRC-510

WRITTEN ESPECIALLY FOR THE *Journal* BY
THE DIRECTORATE OF ELECTRICAL AND COMMUNICATIONS DEVELOPMENT,
ARMY HEADQUARTERS, OTTAWA

The new Radio Set AN/PRC-510 is a battery-operated, portable transmitter-receiver for frequency modulated voice communication in the 38.0 to 54.9 megacycle portion of the very high frequency band. It has a working range of five miles and is primarily for battalion-company communication and similar roles. It will normally be used as a man-pack set but it can also be set up as a ground station or as a vehicular set. The photograph on the facing page shows the complete station with the various items.

The station is contained in a web carrying-case which serves both for storing the set and for carrying it when in use. For cold weather operation a special cable allows the operator to carry the battery inside his clothing to prevent it from freezing. The complete radio set weighs about 22½ lb. and is approximately 18 x 10 x 3½ inches in size. Due to its weight and shape the set is normally worn on the back in place of the small pack.

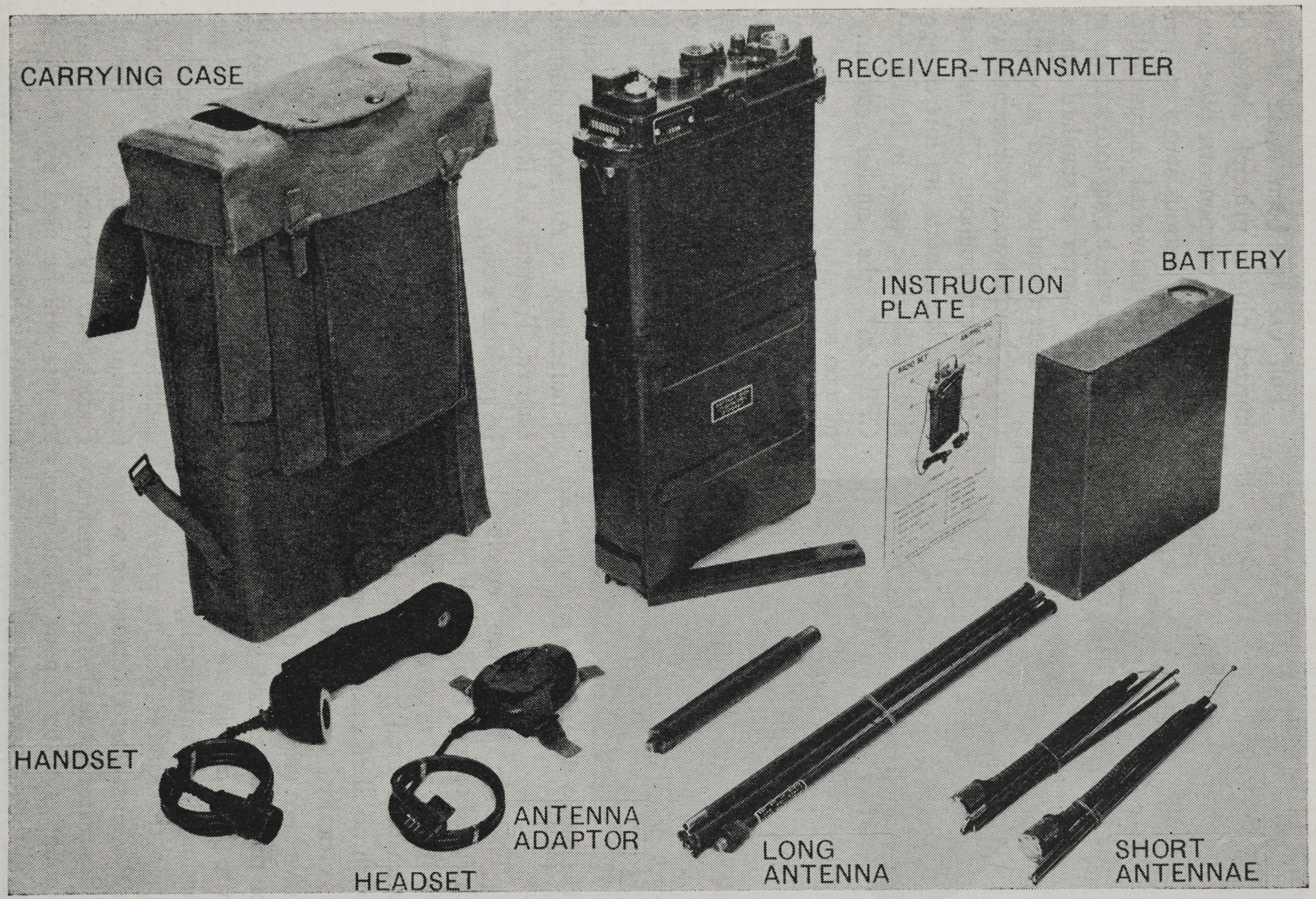
Accessories with the station include a slim, plastic handset for send-receive operating and a single earpiece rubber headset for monitoring purposes. Sectional 4- and 10-foot whip antennae for man-pack and ground station use, respectively, are also included.

The battery, which constitutes over a third of the set by weight and volume, has a life of approximately 24 working hours. Battery replacement is simple, the battery box at the base of the set being held by two spring clamps.

The set is continuously tunable over its entire frequency range. By means of crystal-controlled calibrating check points across the dial, the operator can set his frequency accurately and come on the air without having to "net" with other stations.

A feature of the equipment is its relay operation: by means of a special cable, two sets may be connected "back to back" to form an unattended relay station. Thus, by siting the relay station midway, the normal range may be extended considerably or obstacles to line-of-sight communications such as hills, dead ground, woods, etc., may be easily overcome.

Another feature is the remote antenna which consists of a spiked antenna base and 50 feet of light coaxial cable. The antenna is removed from the set and, with the special base, is mounted on the ground or on a tree or building. Thus the operator is able to take cover with his set and still carry on communications.


CARRYING CASE
RECEIVER-TRANSMITTER
INSTRUCTION PLATE
BATTERY
HANDSET
ANTENNA ADAPTOR
HEADSET
LONG ANTENNA
SHORT ANTENNAE

The method of wearing the set for man-pack operation.

The set has been specifically designed to withstand rough physical treatment and is completely sealed to withstand total immersion in water with no ill effects. Mechanically and electrically, several new techniques have been used in the design. Instead of the usual formed sheet steel, the case and chassis are die-cast magnesium alloy combining lightness with strength. Rubber gaskets provide a seal against dust and moisture, while a desiccator inside absorbs the minute amount of water vapour which may be in the set when sealed.

Full use has been made of the unitized plug-in principle. Most of the electrical components, tubes and wiring of the various stages are contained in individual hermetically-sealed cans which plug into sockets in the same manner as standard tubes. The latest miniature and sub-miniature techniques and components have been used throughout. The majority of the plug-in units are interchangeable with those used in Radio Set CPRC-26*, the smaller company-platoon set.

The set is an improved version of the American AN/PRC-10 and was achieved after considerable development in Canada. The U.S.A. has now adopted the AN/PRC-10A which is similar to our AN/PRC-510.

Radio Set AN/PRC-510 is being manufactured at Addison Industries Limited, Toronto, and is expected to be available soon.

**This set was described in an article published in the April 1953 issue of the Canadian Army Journal (page 99)*—Editor.

Jets for Germany

Three hundred French twin-jet training planes are to be built by the Messerschmitt firm in West Germany under an agreement between the German company and the French Fouga firm. Informed sources said the jets will be used by the West German air force.—*News Release.*

THE ROYAL CANADIAN ARMY SERVICE CORPS

FEEDING THE CANADIAN ARMY

by
Captain E. E. S. Wright, ARRC, CD, RCAMC, Dietician,
Directorate of Supplies and Transport, Army Headquarters, Ottawa*

Food service, or "Catering" as it is called in the Canadian Army, is the responsibility of the Royal Canadian Army Service Corps. This is a far-reaching responsibility, since it includes all areas where troops are stationed in Canada and any unit or formation serving outside Canada, such as the 2nd Canadian Infantry Brigade now in Europe.

The catering services of the Canadian Army are organized under the Director of Supplies and Transport at Army Headquarters, Ottawa. The Assistant Director of Supplies and Transport (Catering), assisted by a supervisory staff, is directly responsible to the Director for all matters related to Army catering. Each Army Command has a permanent catering element consisting of a Command Catering Officer assisted by one or more additional catering officers and kitchen organizers of warrant officer or senior NCO rank. Specialist RCASC Catering Officers are also provided at Canadian Army training schools, camps, etc. All cooks, butchers and bakers for all units of the Canadian Army are RCASC personnel and members of this "catering team". They are allotted to units according to a scale sufficient to meet the needs of the individual unit.

National Defence Photograph

The author.

* *The author joined the Canadian Army as a dietitian in May 1941 and later served overseas with Royal Canadian Army Medical Corps General Hospitals. In August 1945 she was posted to the Montreal Military Hospital where she served for approximately a year. After a short tour of duty with DGMS at Army Headquarters, Ottawa, she was posted to the Toronto Military Hospital in August 1946. In April 1949 she was posted to her present appointment in the Catering Section of DST at Army Headquarters.*—Editor.

National Defence Photograph

A field kitchen—Camp Gagetown, N.B.

The training of catering personnel is also a responsibility of the RCASC. This is carried out at the RCASC School, Camp Borden, Ontario, where courses are conducted for basic and advanced cooks, butchers, kitchen organizers and catering officers. Bakers are trained at one of the three field bakeries operated by the RCASC.

Napoleon's oft repeated statement that "an army marches on its stomach" is today a recognized fact through the provision of an acceptable and nutritionally adequate diet or "ration", a "ration" being the amount of food authorized for one man for one day, i.e., one 24-hour period.

The rations authorized for the Canadian Army may be issued in one of two forms—"bulk" rations or "packaged" rations—the form required being dependent upon the particular operation or exercise in which the troops are engaged. Bulk rations are issued where normal cooking facilities are available, while packaged rations or ration packs are used under field conditions where limited or no cooking facilities can be provided.

Regardless of what form the ration may take, it is planned so that it will be equivalent in the three services. This policy of equivalence was established after the conclusion of the Second World War, and is today maintained and co-ordinated through regular meetings of the Joint Services Food and Nutrition Committee. This

Committee may obtain assistance and advice on nutritional problems from the Panel on Nutrition—a permanent panel of the Defence Research Board comprised of civilian scientists.

To provide the individual soldier with the opportunity to voice his opinion regarding the meals served in his unit, a Men's Messing Committee is appointed by the unit commander for the purpose of advising the unit commander and unit catering staff on the likes and dislikes of the members of the Men's Mess.

The Canadian Army is cognizant of modern trends in kitchen equipment and every effort is being made to keep abreast with these trends through the provision of labour-saving equipment wherever practicable. This applies particularly to static units which are located in permanent-type buildings and so can be provided with well-equipped and attractive kitchens and dining rooms.

Field units are operational units and therefore must be completely mobile; they present quite a different problem. The troops must receive nutritionally adequate, well-balanced, attractive and acceptable meals, but at the same time the cooking equipment provided must be kept at a

National Defence Photograph

Baking buns in a static kitchen.

National Defence Photograph

A field kitchen illustrating desirable concealment in location—Wainwright Camp, Alta.

minimum so that operational efficiency will not be hampered.

Food preparation and service under field conditions present many problems. The ration provided must be of minimum weight and fit into a limited storage space; the cooking equipment must be of limited weight and readily transportable; water, both hot and cold, must be provided; eating utensils must be kept to a minimum: in short, all the requisites of a static situation must be provided with a minimum of equipment.

To overcome these problems, research and development work is constantly being carried out. As the standard of living for all Canadians goes forward, so does that provided for troops in the Canadian Army.

Militia MAA Regiments

(*Continued from page 116*)

type equipment. The techniques can be readily extended into the field of guided missiles when required.

It is encouraging to realize that these Militia MAA Regiments represent an invaluable potential of men who will have the basic skills and knowledge required of future artillerymen. The CA(M) Regiments have, in effect, been given a new lease on life and their future activities will be followed with keen interest.

The Greatest Art

The art of distributing troops is the greatest art in war. A general always has enough troops, if he knows how to use them.—*Napoleon.*

Second World War Reminiscences

MOVEMENT CONTROL IN THE MIDDLE EAST

By
Captain R. C. Stacey, Royal Canadian Army Service Corps (Militia),
Edmonton, Alberta

At the age of 23 years, on the sweltering plains of India in the year 1941, I was commissioned as a Second Lieutenant in the 8th Punjab Regiment. I had been serving in the ranks of the Grenadier Guards and had been recommended for a commission, and so I was eagerly looking forward to joining my infantry battalion and seeing service in the Middle East.

However, these hopes were short-lived: a signal was received from GHQ Delhi posting me to Movement Control, Persia and Iraq Force.

I was alarmed when I received this startling information: I hadn't the faintest idea what Movement Control was. In fact, I had never heard of it. So on the advice of my friends, and mustering my courage, I approached the Headquarters of the District and was interviewed by several senior officers, who regarded my posting instructions with varying degrees of suspicion. They shook their heads knowingly, and then referred me to someone else. After three or four hours of this (and they were very trying ones, too), one officer ventured the opinion that as far as he knew Movement Control was something to do with the issuing of railway warrants, but he was not to be quoted on this!

After all my hopes and expectations and military training as a potential infantry officer, this posting and its duties sounded awful, but all my pleadings to have it changed were to no avail. So with the knowledge that Movement Control was something to do with personnel and railway warrants, I embarked from Bombay for Basrah in Iraq with the posting instructions in my pocket and wondering why I had ever joined the army.

During the following five years I received an education in the vast and formidable tonnages and movement of personnel demanded by the armies and air forces in their pursuit of the enemy across the North African and European continents.

Commencing my duties as a Movement Control officer, I found myself standing on the dock-side of a port in

Persia and saw thousands and thousands of tons of railway lines and other matériel being loaded by rail for shipment to the Caspian Sea for the the USSR.

Up to this time the only knowledge I had of anything pertaining to railways was the purchasing of a passenger ticket from Paddington to Brighton or for some such journey. So all the loading of this matériel, together with the marshalling of trains and such technical details as braking power and safety loads were completely alien to me. The matériel had to be man-handled from the dockside to rail cars by approximately 200 Arabs. In this respect, the Movement Control officer required a strong arm, an extremely good parade voice, a wide vocabulary of certain Arabic words, plus the ability to yell at the top of his voice in the native tongue such words as "Quickly—hurry up!" and "Come on!"

A great sense of comradeship developed between the Arabs and myself in that we formed a mutual dislike for the "staff wallahs" in GHQ Baghdad. Daily at 1000 hours a priority telephone call was received from them requesting the previous day's loading figures of stores for Russia. At the beginning of the Aid to Russia Lift the off-loading capacity was 300 tons per day, but Baghdad was never satisfied. After receiving the figures, the conversation always ended something like this: "What? Only 800 tons yesterday, old boy?", to which my usual reply was, "Well, old chap, that is an improvement. In fact, so far it is our highest"; then they would come back with "Yes, but still, old boy, only 800 tons? That *is* terrible! I don't know what the Brigadier will say when he gets the figures."

This was no job for an officer with a low medical category, unfit for further combatant service and whose main occupation would be to sign railway warrants. Unfortunately, this appears to be the opinion of many. He must be hard, physically, and unexcitable, mentally; he must possess a first-class knowledge of Army, Navy and Air Force staff duties; must have a thorough knowledge of all the highways, ports, towns and transport facilities—their operating conditions and work-load capacity from coast to coast in the country in which he is serving.

Leadership and ingenuity of the highest order was required of Movement Control officers; this was necessary in order that he could improvise methods to overcome the ever-existent transportation difficulties. He must have a general technical knowledge in all fields of Movement Control, such as the operation and construction of railways and docks, the berthing, loading and discharging of ships' cargoes and the operation of

barges by the Inland Water Transport.

Gone were the days of 1914–18 when transportation was not such an essential factor in the conduct of war. In those years, on the arrival of a convoy at a port in France the "G" planners could prepare plans for the battle for the following months. The front at that time was static within a hundred yards or so. Capacity of the ports and railways was known, and they were not subject to continuous air attack. The distance and time factor did not vary as far as the arrival time for men and supplies in the forward area was concerned.

In the Second World War the situation was decidedly different. Until the Allied Air Forces obtained overwhelming air superiority, transportation installations were the targets for constant attacks by enemy aircraft. Owing to the damage suffered in these attacks, the review of the Movement Control transportation plans to meet army requirements necessitated day and night scrutiny; this was essential so that these plans could be changed to ensure that the highest efficiency was maintained so that men and matériel could be supplied to forward areas with the utmost speed and without loss in numbers and tonnages. An air attack on a port or rail installation by four or five aircraft in a raid lasting only a few minutes could reduce its tonnage capacity 25 to 50 per cent. Unless this loss in supplies was reduced with a minimum of delay, the reduction in the amount of supplies available in forward areas would affect the whole outcome of the battle.

During a campaign there can be several lulls in the fighting, but an army can never have too many supplies or too few troops movements. There is a strain on Movement Control throughout. Each and every day produces a fresh crisis for Movements in meeting the transportation demands of the Navy, Army and Air Forces.

During the course of our advance through Italy and Germany, the captured ports or rail centres were always found to be lacking in workable facilities to operate these prizes. What had not been destroyed by our own aircraft had been destroyed or removed (if in working condition) by the enemy before his withdrawal. "G" planners demanded estimates on the completion date of repair of these strategic assets, together with future unloading capacity and daily lift, no matter how formidable the damage and difficulties were. The time factor and the correct estimating of the damage and the time required to repair it have an important bearing as far as the outcome of the battle and the pursuit of the enemy are concerned.

In many cases towns like Termoli, Vasto, Torino de Sangro and Ortona became places of major strategic importance overnight when they were captured by the Eighth Army. Previous to this, they had been small, sleepy, wayside stations operating one or two trains per day and having one small off-loading siding capable of holding three or four rail cars. During the war, however, they became vast marshalling yards with off-loading sidings capable of accommodating 300 or 400 rail cars a day. This meant almost the complete rebuilding of the centre, as well as the construction of road circuits and bridges in the immediate area in order to maintain a smooth flow of army road vehicles supplying the army formations from the railheads.

The Movement Control staff officer must, in conjunction with representatives of railway operation, construction and maintenance, and in collaboration with the Services, arrange for the siting of depots, road surveys and the co-operation of the civilian authorities pertaining to work in the Army Transportation Area. In the case of ports, the navy must have their say. The Movement Control officer must then consolidate his report and submit it to the "G" Branch Battle Planners.

In an occupied country, it is necessary for the occupying arm to gain the good-will of the natives. Therefore, train services for the civilian population (on a restricted basis) must be allowed for. This again is a Movement Control responsibility.

Oceans, mountains, jungles and climatic conditions, all of which were formerly natural defensive barriers, are no longer insurmountable problems. In all planning for invasion by sea, airborne attacks or advances planned to cover large territories, Movement Control co-ordinates the mass armada of transportation and organizes and maintains the movement and supply of matériel and men from the training depots and factories to the forward areas of the battlefield; they must arrive at the right time and at the right place, even though the distances may be many thousands of miles.

I think one will always regret being denied the experience of serving with his battalion on Active Service. However, during my six years as a Movement staff officer I found many compensations in my unusual experiences, including command of 150 wild but very loyal Kurds from Kurdistan and a Jewish Docks Operating Company from Israel.

At the termination of my posting, I was given two months leave in Syria and Alexandra; then, from Italy, posting instructions returned me to India for a period. I was employed on staff duties at GHQ Delhi, and this was followed by rail duties in

ARMY'S NEW MACHINE WRITES 50 LANGUAGES

From the Army-Navy-Air Force Journal (U.S.)

A typewriter-like device utilizing more than 50 foreign language type fonts has been developed for the [United States] Army. By its use soldiers will be able to prepare messages in totally unfamiliar foreign tongues. This durable space- and weight-saving machine will be incorporated in mobile psychological warfare printing units.

Research on this multi-language modified Vari-typer was undertaken to satisfy requirements of the United States for a means of communicating with populations in the major political and geographic areas of the world.

With interchangeable type fonts, the Army's problem with languages in the Latin alphabet was simple. The problem was different with Hebrew, Arabic, the Indo-Chinese languages using Sanskrit, or a language such as Burmese, with over 700 characters in comparison to the 26 letters in the English alphabet.

Now, as a product of exhaustive research in languages, hundreds of engineering changes and countless experiments, the Army has a Coxhead Vari-typer which writes in more than 50 languages, including a reverse carriage model which types from right to left, needed for writing Hebrew, Arabic, Persian, Urdu, Malayan, Jowi, and Pushtu. Many of these languages are spoken by relatively small linguistic groups. The Coxhead-Liner does a similar job in large-size types for headlines.

This new "50 Language Vari-typer" is simple to operate. The message is written by a linguist in the language desired. The linguist then substitutes appropriate numbers for the characters, with diagonals, circles and squares to indicate punctuation. With the proper font in the machine, the operator merely strikes the keys according to the numerical sequence of the message. Completed, the typing resembles commercial printing. This is photographed, an off-set plate is quickly made and printing begins.

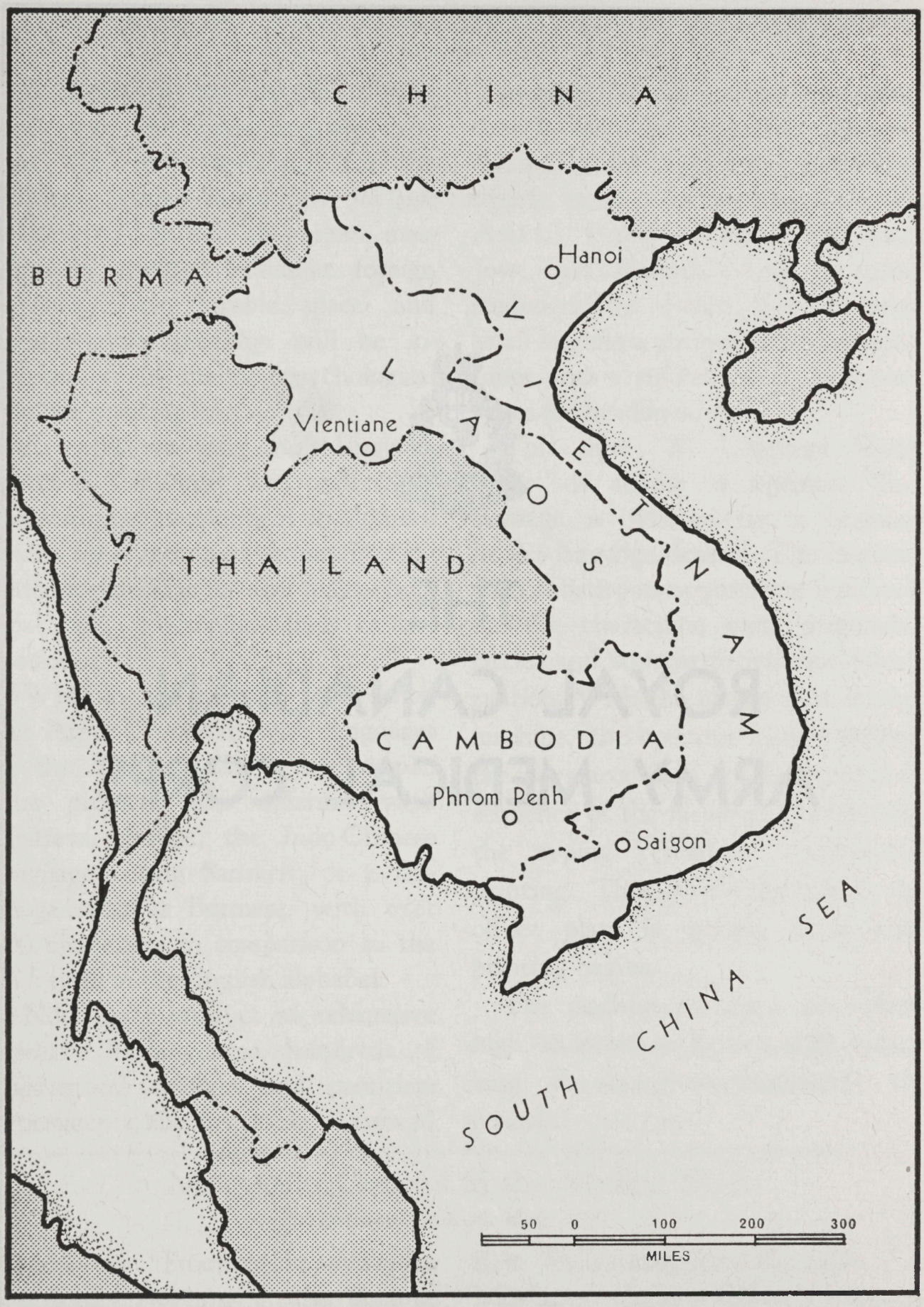
The machine is about 12 inches high, 18 inches in depth and 27 inches long. It weighs approximately 40 pounds.

Movement Control in the Middle East

(Continued from preceding page)

Bengal, Air Trooping at Arkonam and finally shipping at the Port of Madras for the invasion of the Far East. Thus I completed the cycle of a Movement Control Officer's employment in all its phases.

THE ROYAL CANADIAN ARMY MEDICAL CORPS


CHINA
BURMA
Hanoi
LAOS
Vientiane
VIETNAM
THAILAND
CAMBODIA
Phnom Penh
Saigon
SOUTH CHINA SEA
50 0 100 200 300
MILES

Prevention is the Best Cure

THE RCAMC IN INDOCHINA

By
LIEUT.-COLONEL M. FITCH, CD, DIRECTORATE OF MEDICAL SERVICES,
ARMY HEADQUARTERS, OTTAWA*

INTRODUCTION

"It takes an epidemic to make people appreciate the value of preventive medicine!"

This plaintive remark is often repeated by public health specialists who feel that although their labours may prevent thousands of cases of smallpox or diphtheria, this will bring them less credit than one case of pneumonia successfully treated or one appendix safely removed.

Even in military medicine where the emphasis is predominantly on preventive aspects, one rarely gets a fully convincing justification of the great pains taken to protect soldiers from disease and to maintain them in the highest possible state of health.

For this reason it is particularly gratifying to review, at this time, the health record of Canadian troops serving with the International Commission for Supervision and Control in Indochina. During the first fifteen months of its existence, these servicemen, mostly from the Army but with representatives from both Navy and Air Force, have carried out their duties with the Commission under what most of us would consider appalling sanitary conditions. Moreover, this has been done in an environment and climate which combined to provide the greatest test of preventive measures that the Royal Canadian Medical Corps has ever been called upon to face.

Needless to say, the health record of these troops does not compare with that of personnel stationed in the salubrious environments of Canada and North-West Europe. A great deal of minor (but temporarily disabling) illness was encountered. Much time had to be devoted to maintaining health, and not a little was lost through lack of it. Indeed, some personnel had to be returned to Canada because of illness. However, considerable satisfaction can be derived from the fact that, in spite of the greatest hazards to health, these

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* *The author is a graduate of McGill University Medical School, and has had postgraduate training in Public Health. He holds the appointment of Assistant Medical Director 5 (Preventive Medicine) in the office of the Director General of Medical Services.*—Editor.

servicemen have managed to carry out their assignment with much less serious illness than was expected, and with a degree of energy which does credit to our country. That this could be done is evidence of the disciplined and intelligent use to which they have put their training in preventive medicine.

Political Situation

During the summer of 1954 the war between the French Union forces and the Communist Viet Minh, after alternately smoldering and flaming for eight years, finally ended with a truce. As a result of a conference held in Geneva, an International Commission consisting of representatives from India, Canada and Poland was set up to supervise and report on the manner in which all parties adhered to the provisions of the Geneva Agreements. Canada's share of the responsibility was placed in the hands of the Department of External Affairs, and Military Advisers and staff were assigned to assist in the task. It was decided to establish headquarters at Hanoi in North Vietnam, at Vientiane in Laos, and at Phnom Penh in Cambodia. In addition, a subsidiary headquarters was to operate at Saigon in South Vietnam. Since the Geneva Agreements divided Vietnam into separate spheres of influence above and below the 17th parallel, the Commission had to deal with four separate countries. Although there are many differences between these countries they are alike in that they have a very low standard of hygiene.

Preliminary Medical Plan

At the end of July 1954 the Director General of Medical Services was asked to formulate a medical plan for the Canadian military component. Within two weeks of this request the following preparations were made:

1. A thorough study was made of available medical intelligence.
2. A decision was made as to what protective immunization procedures would be used.
3. A booklet, "Health Precautions —Indochina", was prepared and published.
4. Arrangements were made to give briefing talks on the medical situation to all personnel posted to Indochina.
5. A detailed list of special equipment required for personal protection was prepared, and action taken to supply these items rapidly.
6. An individual hygiene and first aid kit was designed, produced and issued to members of the military component.
7. A specialist in preventive medicine who was stationed in Korea was despatched to Indochina with the advance party and was soon joined there by the Deputy Director General

National Defence Photograph

Brigadier K. A. Hunter (left), Director General of Medical Services for the Canadian Army, and Colonel R. J. Nodwell, Deputy Director, examine the first aid kit used in Indochina.

of Medical Services,* who had been sent out to get a first-hand picture of the medical situation.

That the preliminary plan of the DGMS was a sound one was confirmed later by the fact that only minor amendments had to be made as a result of the "on-the-ground" review and experience in the theatre.

Some idea of the nature of the challenge which faced the Corps at that stage can be obtained from the following summary of medical intelligence which was written in 1944:

"The chief disease in French Indochina was malaria; a fifth of all patients in hospitals in 1937 were admitted for treatment of this condition. Enteric diseases were frequent, and this was especially true of bacillary dysentery. Epidemics of cholera have occurred. Syphilis, gonorrhea and chancroid constituted a problem. Plague was endemic, at the time of the last report. Injuries caused by heat were not to be dismissed lightly; diseases of the skin, typhus fever, dengue fever, rabies, relapsing fever, filariasis, infection with flukes and with various helminths, all were noteworthy. Leprosy, beriberi, typhoid fever, trachoma, pneumonia, yaws, addiction to alcohol and to the use of opium, all were important so far as natives were concerned. Anthrax, tetanus, sparganosis, melioidosis, kala-azar, cerobrospinal meningitis, acute poliomyelitis, scarlet fever, diphtheria, goiter,

* *Colonel R. J. Nodwell, CD.*

sprue, and cutaneous leishmaniasis also occur."*

Although this report referred to conditions in 1937, it was not expected that they would be more favourable in 1954. During their long period of control the French were known to have established very good public health services and, to some extent, these reached into even the rural areas. However, little was done along these lines during the Second World War and a steady retrogression resulted from the long drawn-out war between the French and the Viet Minh which followed. The destruction of roads and railways alone would have caused great deterioration of all public services, and added to this were many other factors which would result in a reversion to primitive conditions of sanitation.

Medical Survey on the Ground

The Deputy Director, as a result of his visit, was able to confirm this impression and to evaluate the extent of the medical problem arising from these unhygienic conditions.

Treatment Services Available

The Deputy Director met the RCAMC Medical Officer from Korea (later designated Medical Adviser to the Canadian Delegation)† in Hanoi on the 25th of August. *En route*, he spent two days at Saigon, where the situation was discussed with senior French military medical authorities.

The most reassuring information obtained was that French hospitals, both military and civilian, existed in the larger centres and that, though crowded, these would be available to members of the Commission. Some of these hospitals were visited and were found to have a good standard of personnel and equipment so that the treatment of casualties, once they reached hospital, would not be a great problem.

The Indian delegation's plan provided for a senior medical officer and a medical officer for each headquarters. The Indians planned, also, to provide a small hospital at Hanoi when the French Military Hospital was withdrawn (as was to happen in November 1954). The Canadian members were to make use of both these facilities and those of the French, as required. The Polish delegation had made their own arrangements for care of their personnel.

Methods of Evacuation

The great difficulty would be to get patients to a doctor when profes-

* *Global Epidemiology* by Simmons, Whayne, Anderson & Horack (Lippincott). The authors were members of the Preventive Medical Service of the United States Army Medical Corps.

† *Major K. D. McQuaig held this appointment from August 1954 to February 1955 when he was replaced by Major R. Fournier. The material for this article was largely obtained from their reports and that of Colonel Nodwell.*

sional care was needed. There was, of course, no problem in areas where French hospitals existed. However, it was proposed to have some 26 fixed teams and an equal number of mobile teams operating throughout the four countries in outlying areas and this would certainly produce problems. As had been foreseen, travel by road was quite impossible in many areas. A courier service, by air, was being established and arrangements were made to tie in with this as much as possible. Seven light aircraft, four helicopters and one Dakota were assigned to these tasks.

Eventually plans were evolved for evacuation from all of the fixed team sites. It was appreciated, however, that these might be nullified at times by the combination of foul weather and difficult terrain.

Evacuation to Canada was planned only for those with long-term illnesses since all acute cases could be handled in the theatre. Such evacuation was possible by four alternative routes—by civilian airline to Hongkong and thence to Canada by Canadian Pacific Airlines; by the U.S. military route via Manila, Guam and Honolulu; by French air evacuation; by French hospital ship to France.

Health Problems

Attention was now turned to the problem of preventable diseases. These could be grouped under a number of main classifications for which common measures would be required:

1. Mosquito and fly-borne diseases such as malaria, dengue, filariasis.
2. Intestinal diseases (caused by ingesting infected food or drink) such as bacillary dysentery.
3. Effects of heat—heat stroke, heat exhaustion, prickly heat.
4. Skin conditions resulting from a combination of poor sanitation and heat.

The above does not by any means exhaust the list of possible illnesses and, in fact, does not even mention such relatively common ones as infectious hepatitis or such potentially dangerous ones as smallpox, typhus and plague. All these and more had to be considered. In addition, it was recognized from the first that, as much as possible, only people who were stable and in a very good state of physical health should be selected for this posting. The monotony of isolation, of climate, and of food and the frustration resulting from employing soldiers in a supervisory capacity which precluded direct action on their part were expected to take their toll of highly-strung, over-conscientious individuals.

There were other dangers, too. The possibility of an unexpected encounter with a tiger or a wild boar, with a venomous snake or a

National Defence Photograph

A typical native kitchen in Indochina.

rabid dog—all happily rare—would add to the precariousness of the general situation.

Preventive Measures Adopted

Having arrived at the above conclusions, it was time to decide on the preventive measures which would be needed. As a result, decisions along the lines indicated below have been made and are now in effect.

In general, the measures used to protect people from disease are of two kinds. They are group measures and individual measures. The former include provision of a safe water supply, disposal of sewage and garbage, control over the safety of food products, eradication of insect breeding places, and similar large-scale projects. Such measures are not applicable in the present situation because the members of the Canadian delegation are deployed over great distances and in small groups, sometimes individually. Accordingly reliance must be placed entirely on individual measures.

Immunization

One aspect of these individual measures—namely protective immun-

ization—is carried out by the medical service before personnel leave Canada. All are immunized against smallpox, typhoid and para-typhoid fevers, tetanus, diphtheria, cholera, plague and typhus. Otherwise, the health of each individual depends on the use he makes of the advice and equipment which he is given for his protection. It soon becomes evident that one of the features distinguishing life in the tropics from that in temperate climates is that in the tropics a much larger portion of each day is given over to tasks which are essential for personal health and survival.

Education and Supervision

The next step, after immunization, is the issue of the hygiene and first aid kit which includes a copy of "Health Precautions—Indochina". These two items were originally prepared by Lieut.-Colonel H. M. Stephen, CD (now retired), who designed both the kit and the booklet on the basis of medical intelligence reports. Although slight changes were later made in these items, everyone who had occasion to use them agreed that they suited the requirement excellently. The kit (see page 147) contains bandages, iodine and scissors (for treating minor injuries) anti-malaria tablets, salt tablets, water sterilizing tablets, vitamin tablets, foot powder, aspirin, laxative tablets, and sulphaguanidine for treatment of mild bouts of dysentery when no doctor is available. Such a kit is issued to each individual member of the Canadian delegation. The booklet is similarly distributed. It contains a brief discussion of the health hazards of Indochina and explains the precautions to be taken against them. The use of the items in the hygiene and first aid kit is also explained.

In order to ensure that the use of these items is understood, a preventive medicine specialist has a briefing period with each group before it leaves Canada. Emphasis is placed on the preventability of the conditions described. Upon their arrival in Indochina, the Canadian Medical Adviser, as part of the indoctrination, gives another medical briefing with emphasis on the practical aspects of health as related to local conditions. He re-examines all personnel, discusses personal medical problems with them and ensures that their immunization is complete and that they understand the instructions in their booklet. Periodically thereafter the various sites are visited by one of the Canadian Medical Advisers.* The health of all Canadian personnel is checked and recommendations made to the Military Adviser regarding

* *Captain N. R. T. Fink was sent to Indochina in January 1955 as Assistant Medical Adviser.*

National Defence Photograph

Drinking water may be drawn from sources such as this busy watercourse.

change of employment, necessity for leave, etc.

Control of Insects

Malaria is the greatest disease problem. This disease is transmitted by the bite of certain mosquitoes. Control measures are of two kinds. A suppressive drug, paludrine, is taken daily. Persons taking this drug will not have attacks of the disease even though bitten by infected mosquitoes. Such persons may have attacks of malaria after discontinuing the drug but the attacks are usually mild and can be cured fairly easily. In fact, the majority are cured by the routine use of a second drug, primaquine, which is taken for two weeks after leaving the theatre. However, malaria is not the only disease transmitted by mosquitoes and every precaution must be taken to avoid being bitten. To this end, each member is issued with an anti-mosquito bed net, a headveil and insect repellent. He is instructed to roll down shirt and trouser legs an hour before dusk and to cover all exposed areas of skin with insect repellent every two hours while in a malarious area. Living quarters are to be made mosquito-proof insofar as possible. Aerosol bombs containing DDT and pyrethrum are issued to each team for group protection.

It has been found that the chief difficulty is to get Canadians to take the mosquito problem seriously. As pests, the mosquitoes in Indochina are much less troublesome than in many parts of Canada. Further, it is noted that natives do not take the precautions prescribed for our people and there is a tendency to think that we are being overcareful. It may be forgotten that exposure to the local diseases has produced a race of people who are much less susceptible to them than are newcomers from healthier parts of the world.

Water Supply

An article could easily be written around this problem alone. Suffice it to say that there is no such thing as a safe water supply in Indochina. Even in the centres where a piped

National Defence Photograph

An officer checks on the purity of water in a Lyster bag.

water system exists and where some type of filtration or purification is practiced the supply must be considered dangerous until further treated. It is noteworthy that, in the largest centre where it is claimed that the water is purified, the better hotels let it be known that they boil all water used for drinking or cooking. Much of it is derived from surface sources which are heavily polluted. A glance at the photograph (page 152) gives some idea of the extent of river traffic, and it requires little imagination to picture the filth of the water. Local practice is to collect such water and hold it in settling tanks until most of the visible dirt has been precipitated. Frequently this is the only treatment the water receives before use. Accordingly, Canadians must be provided with their own equipment for group and individual water purification. When it is considered that each man's water intake is many times greater than it would be in cooler climates, it is apparent that the problem is a formidable one.

Special arrangements must be made to ensure that the day's supply is scrupulously collected, treated and preserved against contamination. In some cases it has been found necessary to seal the containers of purified water. Otherwise, a well-meaning native assistant might come along and refill the container from an untreated supply. Sometimes it is virtually impossible to obtain a usable source, and in such cases bottled water must be purchased. This, of course, is very expensive and is used only as a last resort.

In the early days of the Commission the Canadian water purification equipment was all that was available and it was much appreciated by the other members of the delegation. Small hand-operated filtration units capable of handling 15 gallons of water per hour were issued to fixed or mobile teams. Lyster bags, in which chlorination could be carried out, were also supplied. Each individual, in his hygiene kit, was issued with 300 water purification tablets, each capable of treating one water-bottle full of raw water. Since then the French have provided larger purification units for the fixed sites but the Canadian equipment is still used by the mobile teams. It is noteworthy that in this, as in all aspects of disease prevention, the Canadian group was equipped for any eventuality.

Food Hygiene

This is probably the most difficult situation with which to deal. It is inevitable that much food prepared by the natives must be consumed and there is always a potential danger of infection. There is little conception of sanitation among the native population. One illustrative anecdote points this up strikingly. The Medical

Adviser was inspecting the kitchen of an hotel. In a room set aside for washing dishes he found a small native, in bare feet, squatting happily on the drain-board amid the dishes he was drying. The representative of the hotel staff paid no attention to this situation which was apparently quite normal!

It must not be thought that this is an isolated example. It is, rather, cited as a characteristic native attitude to foodhandling and dishwashing problems. Other problems associated with food depend on the fact that there is a great tendency to under-cook meat and fish and these dishes are a constant source of intestinal parasites. Raw leafy vegetables, which are often attractive in appearance, are an almost certain source of parasites and infection. Detailed instructions are issued as to which foods are acceptable, which require special treatment to make them safe, and which should be avoided entirely.

Effects of Heat

Indochina is a tropical area of high temperature and humidity. Conditions in most parts, through eight to ten months of the year, are similar to the worst heat waves ever encountered in Canada. In order to avoid the ill effects of such a climate, personnel must develop new living habits and outlooks. Whereas most can withstand the effects of heat and humidity for a short time without special precautions, all are affected in time. Fatigue and weight loss are the commonest results. Collapse may occur as a result of loss of fluid and salt through perspiration. Judicious use of the salt tablets provided, keeping up the fluid intake, avoidance of effort during the hottest part of the day, and use of suitable clothing are all stressed in the instructions.

The high incidence of skin diseases such as prickly heat, and of infections from minor cuts and scratches pose special problems. Fungus diseases such as athlete's foot are just one manifestation of the rapid growth of all mould-like organisms in humid climates. Although not of medical significance, reports have been received of personnel having their clothes covered or their boots filled with mould-growth if neglected for a few days.

Results

In conclusion, it is appropriate to consider briefly the results of the programme which has been described. Obviously, direct comparison with Canadian statistics would be unfair. The group in Indochina are carefully selected from the point of view of health and motivation. On the other hand, the number of times they report sick is limited by the availability of doctors and the necessity for a certain amount of self-

(*Continued on page 160*)

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***This index has been prepared for the convenience of readers who want a ready reference for all subjects dealt with in Volume IX of the* Journal. *The majority of the subjects have been cross-indexed: e.g., the title "New Anti-Tank Weapon is Developed for Canadian Army" is also listed under "Anti-Tank" and "Weapon", and "Brief History of the Corps of Royal Canadian Engineers, A" also appears under "History" and "Engineers". In practically all cases, the subject matter of an article is indicated in the title. The indices for Volumes I to VIII, inclusive, were published in the issues of the* Journal *for March 1948, April 1949, March 1950, March 1951, March 1952, April 1953, January 1954, and January 1955, respectively.*—Editor.**

The RCAMC in Indochina

(*Continued from page 155*)

treatment. Lacking the ordinary public health facilities enjoyed in Canada, their risk of disease is much greater. It is difficult to make appropriate allowance for all these variables. However, it is encouraging to note that both the proportion of the group in hospital at any one time and the proportion reported as attending sick parade are about the same as recorded in Canada.

On the debit side, it must be noted that nearly all members of the delegation suffered from dysentery to a greater or lesser extent. Some of this may have been of a non-infective type due to changes in food and water. As a result of this ailment and in combination with the effects of heat and fluid depletion, most of the personnel lost weight and experienced varying degrees of fatigue and lethargy. Of eight persons returned to Canada for medical reasons, five were suffering from some form of amœbic disease. The majority, in spite of all difficulties, carried on for their full tour in relatively good health and spirits.

It is concluded that the combination of medical planning, careful selection of personnel and rigid health discipline paid dividends in contributing to a fine health record in this group of Canadian servicemen in Indochina.

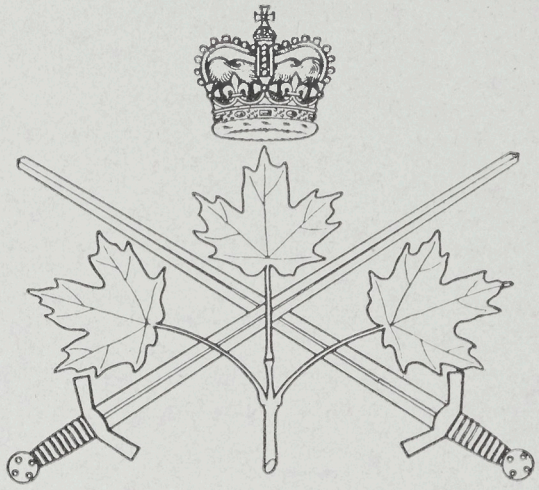
Official History of the Canadian Army
in the Second World War

VOLUME I

SIX YEARS OF WAR

by

Colonel C. P. Stacey, OBE, CD.
Director, Historical Section.



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