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The aim of the Canadian Army Journal, which is published quarterly by the Directorate of Military Training under authority of the Chief of the General Staff, is to provide officers of the Canadian Army with information designed to keep them abreast of current military trends, and to stimulate interest in military affairs. The views expressed by authors are their own and are not necessarily those of the Department of National Defence. Reproductions of the text, in whole or in part, including quotations from the Journal are permitted only if readers are informed of this fact by suitable introductory or interpolated note.

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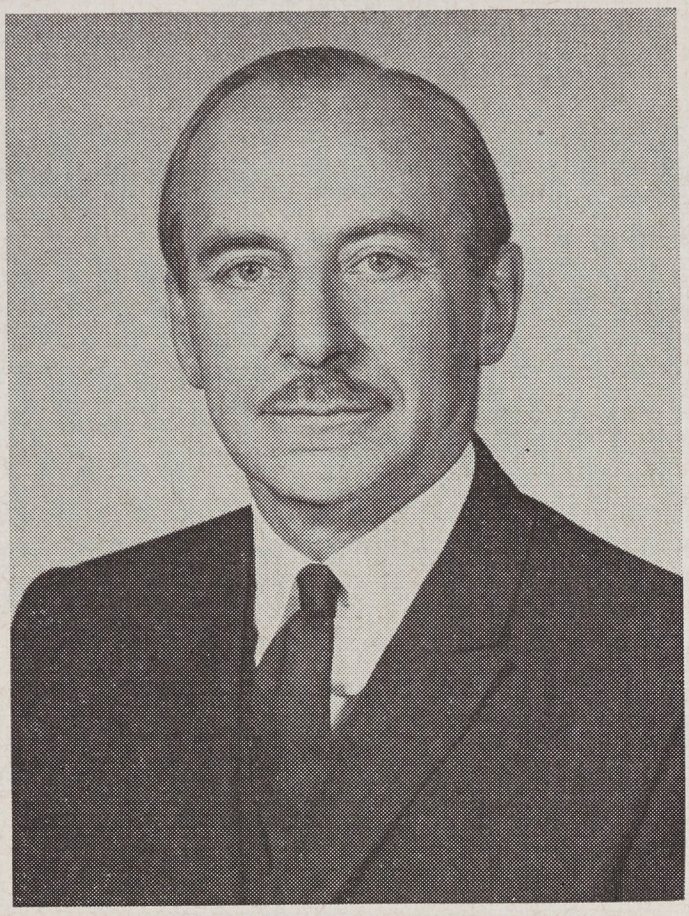
The Cover

A knight and pawn in combat dramatize the art of war gaming which goes back to ancient times and evolves from the game of chess. See "The Development of War Games" (first of a series), page 4.

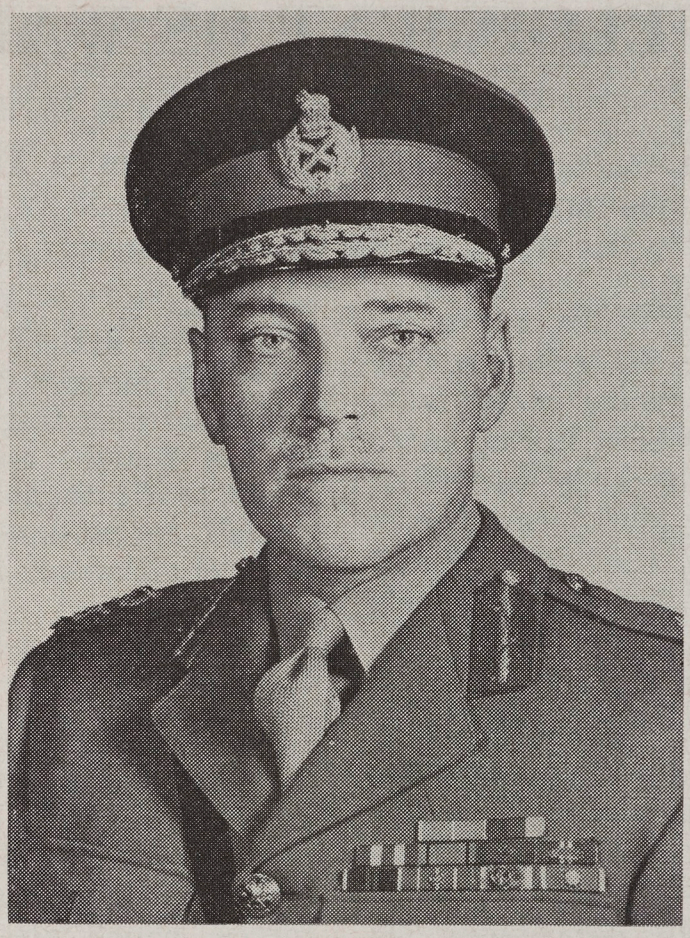


New Year's Message from the Minister of National Defence

This is my first opportunity to use this publication to express my high regard for Canadian troops who are on duty at home and abroad in the defence of our country and in the interest of world peace.

I hope and pray that our unceasing efforts on behalf of peace will continue to meet with success in 1961, and I should like to expend my best wishes for the New Year to all soldiers and their dependents.

Minister of National Defence



New Year's Message From the Chief of the General Staff

All of you, serving both at home and abroad, bring great credit to the Canadian Army by the effective, efficient and understanding way in which you discharge your important duties. I am confident that during the coming year each one of you will play your full part in carrying on these fine traditions.

I wish to extend to all of you, wherever you are serving the cause of peace and freedom, and to your families, my sincere wish that the New Year will be one of good health and happiness for all.

E. L. Clark

Lieutenant-General
Chief of the General Staff

THE DEVELOPMENT OF WAR GAMES

By

MAJOR J. K. HJALMARSON, MBE, ED, CD,* CANADIAN ARMY OPERATIONAL RESEARCH ESTABLISHMENT, WITH AN INTRODUCTION BY H. H. WATSON, DIRECTOR OF THE ESTABLISHMENT

War Gaming

Readers of the *Canadian Army Journal* are well aware of the vast changes that have been taking place in the concept of waging war. Most of these changes have been thrust upon us through the development of new weapons, necessitating new tactical doctrines, and usually resulting in changes in war establishments and logistical considerations.

What may have escaped the reader is the painstaking manner in which these changes have been studied and analyzed before their adoption, and the part played by operational research agencies in assessing the ramifications of the changes.

For those readers who are interested in paying a literary visit with one of these research agencies, a series of articles describing the function and background of War Games has been prepared for the *Journal* by the Canadian Army Operational Research Establishment.

The first article, which appears hereunder, gives the story of the development of the war game from ancient times. The second article will relate the operation of the war game as it is played in CAORE. The third article will provide you with an insight into the scientific appraisal resulting from war games. In the fourth, an attempt will be made to fit the war game into the overall operational research picture. *—H. H. Watson, Director, CAORE.*

* * *

Definition

War games have been defined as an imaginary military operation usually conducted on a map and employing various movable devices intended to represent the opposing forces, which are moved about according to rules reflecting conditions of actual warfare. Many different types of military operations may be represented, such as small battles or large campaigns, defensive or offensive situations, movement of troops or supplies, or coastal operations and beachheads.

Purpose

The most frequent use of war games has been to train officers to solve problems arising during a campaign against an enemy whose plans are unknown and whose dispositions are only imperfectly known. More recently, war gaming has teamed with scientific research to produce information calculated to assist in policy planning for the future.

History

The story of war gaming may be

**A graduate of the 1st Course, Canadian Army Staff College, Major Hjalmarson is now a member of the War Games staff of CAORE. His war service includes the Dieppe Raid, various overseas staff appointments and with the Governor General's Foot Guards (21 Armoured Regiment) in North-West Europe. He is now a member of the Lord Strathcona's Horse (Royal Canadians) and has had more than thirty years' service in the Militia and Regular Force.*—Editor

grouped conveniently into four distinct periods.

1. The first period goes back to ancient times when the war game evolved from the game of chess. It extends to the turn of the nineteenth century when war gaming was recognized as an extremely valuable military training aid as opposed to its previous conception as an escape from the tensions of the day.

2. The second period begins in 1824 with the invention of "Kriegspiel" marking the abandonment of the chess-board in favour of more realistic charts and maps. Although many modifications were introduced, this type of game remained substantially the same until 1872.

3. The third period, sometimes called "the period of competitive map manoeuvres", lasted from 1872 to 1918 and was marked by controversy as to methods of play and a trend toward a freer play of the game.

4. The fourth period, from 1919 up to the present, is characterized by the extensive use of the game in modern military establishments and a strong trend toward the application of the game as a research tool.

The First Period: ? to 1823

Chess has often been described as the oldest form of war game. The origin of chess has been traced to India where it appeared as a Hindu battle game called "Chaturanga". This early game was played on a board, a highly conventionalized map, using various pieces to represent the arms of the service then in existence, i.e. elephants, horses, chariots and foot soldiers. It was played by four persons according to fixed rules and the effects of the various moves were determined by dice.

With the passing of time, chess increased in popularity as a game of skill and relaxation, especially in the courts and among the more leisurely classes. The challenge of its play continued to inspire several types of war games with different points of view but always with the basic intention of exercising the military mind. For example, in 1644, a Christopher Weikhmann of Ulm, Germany, introduced such a game which he called the "King's Game", and which was designed to serve not only as a recreational pastime, but also as a study of military and political principles of the time. The game remained popular among the Germans for a number of years and, because of its military implications, came to be referred to as "military chess". This designation carried over to many other games of the same type introduced during this period.

A hundred years later, two card games appeared in the French court —*Le Jeu de la Guerre* and *Le Jeu de la Fortification.* Military symbols printed on each playing card were intended to aid in teaching military students the basic facts of miiltary life.

The next stage of the first period in war gaming was the abandonment of the random factor (exemplified by dice and playing cards) and the adoption of a rigid mathematical approach to the science of war. It now ceased to be a form of relaxation and tension dispeller! With true Teutonic thoroughness, from Prussia came the incentive to place this new science in the curriculum of the most renowned seats of learning. Battles were now to be fought for art's sake and it was deemed preferable to

forego victory rather than to achieve it by unscientific methods.

During the remainder of the eighteenth century, several types of war games were invented. Most were variations of the chess versus mathematics inspirations, but one in particular deserves mention for it symbolized the beginning of the detachment of the war game from the chess-board.

Helwig, Master of the Pages at the court of the Duke of Brunswick, invented a game to instruct his pages in the art of warfare while they were in his service. He used a board with 1666 small squares which were tinted in various colours and grouped so as to represent various features of the terrain. Each of these colours was painted on one side of a cube, and the colours represented as follows:

Black and white represented level ground.

Red indicated mountains that were inaccessible to troops and that made firing impossible.

Green indicated marshes, which, although impractical for the passage of troops, permitted firing over their surface.

A darker shade of green represented forests.

Blue alone served to indicate lakes or ponds.

A line of blue squares represented a river that could be crossed only with the aid of pontoons; and

Half blue or half red squares denoted buildings, villages or cities.

This game was invented in 1780. The colours have withstood the whips and scorns of time rather well.

Play of Helwig's game involved the use of symbols similar to those used in chess and these represented battalions of infantry as opposed to individual soldiers. The infantry, like the queen in chess, could move in any direction in a straight line. It is speculated that the expression referring to infantry as the "queen of battle" had its origin in Helwig's game. In any case, the game achieved considerable success, and play spread to France, Austria and Italy, where once again history repeated itself with the birth of modified versions of this game and the more extensive use of rules, maps and other aids.

The Second Period: 1824 to 1875

Von Reisswitz, Jr., a lieutenant in the Prussian Guard Artillery, is credited with adapting the war game to actual military operations when in 1824 he transferred the game to realistic map-like charts having a scale of 1:8000. His father, though a civilian, had stirred the imagination of military thinkers when he transferred the war game from the chess-board to the sand-table and introduced it to King Frederick William III of Prussia who had given it his immediate approval and support. Through King William's enthusiasm, matches were organized for visiting foreign dignitaries which resulted in its spread to foreign capitals. There is a record of a royal game having been played in the Russian court in St. Petersburg in 1817 on the occasion of the visit of Prince William of Prussia to the Czar's court.

In 1824, von Meffling, then Chief of the German General Staff, consented to witness an exhibition of Lieutenant von Reisswitz's game. It is said he received the players somewhat coldly, but as operations expanded on the map, the old general's face lit up and he exclaimed, "It is not a game at all! It is a training for war! I shall recommend it most

emphatically to the whole army". Which he did! From his letter of instruction, the following extract is recorded:

. . . "Whoever understands the art of war can, in this game, perform the functions of a commander of troops, even if he has never seen the game played. By practising on good maps representing real terrain, and (by) changing them, it becomes the more instructive, because it permits a variation in the dispositions to be made and order to be given. I shall endeavour, by all means at my disposal, to increase the number of maps now existing".

In reviewing the method of play prescribed in von Reisswitz's war game, one cannot fail to be impressed with the great similarity of his game with the type now being played. Planning, movement, intelligence acquisition, success or failure in battles, time delays, calculations of odds, all took meaning within the framework of von Reisswitz's game and are still in use with modern interpretations and variations. During the fifty years after von Reisswitz developed his war game, certain refinements were introduced in keeping with advances of equipment and technology. However, it cannot be said that it was a popular game due primarily to its tediousness and complexity of play.

One finds great Prussian military names now being associated with war gaming, notably Prince William of Prussia, Count von Moltke (the founder of a kriegspiel club called the "Magdeburg Club"), and General von Falckenstein. The enthusiasm of these persons led to a re-awakening of interest in war games about the time of the Prussian campaigns in Austria, 1866, and France, 1870.

The Third Period: 1872-1918

Events in the last ten years of the Second Period gave indication that the playing of war games would never achieve universal popularity unless the rigid rules of play were relaxed. After the campaign of 1866 and 1870, it was generally agreed among German officers that the conduct of the war game did not satisfactorily represent the many factors present in actual warfare and the rules governing play were far too many for convenient use. Accordingly, an eminent instructor in the German Army, Colonel von Verdy du Vernois, in 1876 led a movement for a much freer conduct of the game, with the result that there developed two schools of thought on the conduct of war gaming. These schools divided devotees into separate groups—the "Rigid Kriegspiel" group which retained all the rules and formalities developed throughout the years, and the "Free Kriegspiel" group which insisted on fewer rules and a free evaluation of tactical problems using the experience and knowledge of a director or umpire.

With the advent of the Free Kriegspiel, war gaming flourished remarkably and spread to many countries. The English copied von Reisswitz's game with one called "Aldershot" published in 1872. Other games developed therefrom. Austria-Hungary came under its influence shortly after the Prussian successes against them in the war of 1866. Italy followed suit in 1873 and used it in the Italian War College. The French War College adopted it in 1899. Russia ordered its incorporation in the Officers' training schools in 1875. Turkey and Japan came into the league before the turn of the century, and the United

States started play of the Kriegspiel in 1883 although war chess had been played there earlier in the century.

War gaming now existed in three forms: the ancient and honourable chess game version which was played purely for pleasure, the Rigid Kriegspiel played by those devotees who believed in strict standards of play, and the Free Kriegspiel which was used for the training of junior officers. From all accounts, it would appear that the modern tactical exercise without troops, or TEWT, approximates the playing of the Free Kriegspiel, while the Rigid Kriegspiel harboured as yet unrecognized potential for analysis, research, and planning, and would eventually become the father of the modern war game.

It is interesting to note that during the third period of war gaming, each real campaign or war fought was followed by intense war gaming activity by both winner and loser alike. Notably, in the United States, the Civil War inspired Major Livermore, an engineer officer, to compile a game called "American Kriegspiel" based mainly on the writings of von Tschischwitz of Germany. This game followed the Rigid Kriegspiel pattern and was exceptionally well equipped with rules and regulations based on the American Civil War and the Prussian Wars of 1866 and 1870. In comparison with other games of this period, the American Kriegspiel was considered to be an extremely flexible game and had a much closer approximation to the conditions of war than did the other games. However, it was no more successful in the United States than was von Reisswitz's Rigid Kriegspiel in Europe, and for the same reason—complexity of play.

Several variations of the Rigid Kriegspiel were tried out in the United States toward the close of the nineteenth century, but all met the same player resistance—too complex. Finally, at the turn of the century, war games of the Free Kriegspiel type were introduced and proved more acceptable, as had been the experience in a large number of European countries. However, in no country did war games assume the place of eminence which they enjoyed in Germany in the early part of the twentieth century just prior to the First World War.

The Fourth Period: 1919-1960

So many were the limitations imposed on the Germany Army after the First World War, both financial and in manpower, that wargaming was due to enjoy unprecedented popularity. The German General Staff used the Rigid Kriegspiel to test their theories of warfare. The Free Kriegspiel was used by the German War College and by each regimental headquarters and detached battalion for the training of its officers. Each regimental officer was required to devote one evening of each week to this form of training. In addition, at the Wehrmacht Academy, big military - political games were frequently conducted with participants who included representatives of all branches of the Wehrmacht and representatives of politics, business, the armament industry and the Propaganda Ministry. One cannot help but wonder to what extent this intense war game fervour contributed to the rapid growth and successes of the German Armies in later years.

It seems that Germany was the only nation that pursued war gam-

ing for a definite and determined purpose during the early part of this fourth period. The United States used war games in their training schools and staff colleges, but only in conjunction with course work and not as separate studies. A relatively modern war game was described in the *Journal of the United Service Institution* of India and is presumed to have been played there. However, no noteworthy war game achievements are recorded anywhere except in Germany in the period between the First and Second World Wars.

The Germans carried war gaming into actual operations during the Second World War. For instance, the Ardennes attack was war-gamed prior to its launching. As part of this exercise, the staff of 5th Panzer Army was engaged in rehearsing some defence measures between the 5th and 7th Armies against a possible American attack. The attack actually took place while the exercise was in progress. Field Marshal Model ordered the game continued, using real reports from the front as input information and decisions from the war game were transmitted to the front for executive action.

The Japanese, too, made use of war games to further their war effort. The Total War Research Institute established in 1940 undertook to programme Japan's future course of action by a series of war games. Players were drawn from the government, the diplomatic service and the military and resulted in a plan of action which started with the attack on Pearl Harbour in 1941. Subsequently, further games were conducted at the War College in Tokyo which resulted in a carefully planned schedule for the occupation of Malaya, Burma, the Dutch East Indies, the Philippines, the Solomons and the Central Pacific Islands.

In reviewing the successes and failures of these two great nations during the war years, it is significant to note the successes which invariably accompanied plans founded on the lessons of war games played!

Modern Uses of War Games

Training

Perhaps the most common use of war games has been as a training device. Since almost every operation of war, from small-scale patrols to conflicts between large armies can be represented on a map, the war game provides an excellent device for teaching methods of conducting war. It is generally agreed that war games are a valuable supplement to field exercises and give military men additional practice in map reading, manoeuvering troops, making decisions, and issuing orders.

Historical Studies

By using situations taken from actual historical battles or campaigns, war games tend to arouse an interest in the study of military history by providing the means of analyzing the tactical or strategic lessons to be learned. Care must be exercised that all the problems of the particular era are recognized, otherwise the game will be sidetracked through using unrelated rules and concepts.

Planning Operations

Another use for war games is the testing of combat principles and plans for future operations. This is particularly valuable when maps for the exact terrain proposed for the operation can be used. The Germans found in the last war that their op-

erations in 1940, both against the western allies and against Russia, had been so well rehearsed through war gaming that each commander down to company level was thoroughly familiar with his initial missions, the nature of the enemy forces facing him, and the difficulties he would likely encounter.

Logistical Training

War games can be designed to produce administrative information equally as well as on the operational aspects of campaigning. The communications system, in particular, can be appreciated much more readily following a series of war games. Once again the Germans made use of this system to bring their administrative problems out in the open during the last war. It is reported that when the invasion of Britain was war-gamed by the Germans at Tourcoing in 1940, the technical and administrative complications that were brought out in this game caused the deferment of Operation "Seeloewe" indefinitely.

The Future of War Games

With the advent of the computer, it is expected that play of war games, particularly of the rigid type, will be speeded up. With such impediments as a voluminous book of rules removed, and the tardiness of performing minute calculations eliminated, the game should once again assume its rightful place in influencing the planning and thinking of our military strategists.

The war game has entered the field of politics and international diplomacy. A large American corporation, which devotes a considerable portion of its energies to research, has developed a political war game for the training of students of foreign affairs and employees of the State Department. The game is now in play and its results are under assessment.

The war game has made its impact on big business and, with the assistance of the computer, new approaches are being surveyed and outmoded procedures discarded in the field of industrial and business development. It may be of interest to note that the construction of the St. Lawrence Seaway involved many probabilities that could not be approached directly by pencil and paper methods and it was through the construction of a model that a proper approach was made to finding solutions for some of the many problems. It is this same approach which is used in physical war gaming.

In the Canadian Army, the war game operated by CAORE has earned recognition from military authorities both in the United States and Great Britain. A few months ago, when setting up a war game specifically for combined naval-military operations, the United States Marine Corps decided to pattern their game on the CAORE version after having made a detailed study of other games operating both at home and abroad. CAORE was very pleased and proud to cooperate with such a gallant corps in this project.

No doubt reading this will introduce questions as to when the CAORE war game was set up, what it does and whether it has been trying to emulate the "silent service" in its achievements. As one learns to crawl before one can walk, the war game has had its growing pains over the past three years. However, I think we are now in a position to

FIRST AID TRAINING IN THE CANADIAN ARMY

and

Awards and Trophies Presented by The Priory of Canada of The Most Venerable Order of the Hospital of St. John of Jerusalem

By

COLONEL P. A. COSTIN, CD, ASSISTANT DEPUTY SURGEON GENERAL (ADMINISTRATION), AND MEDICAL ADVISER FOR NATIONAL SURVIVAL OPERATIONS, ARMY HEADQUARTERS, OTTAWA

Nearly 17,000 soldiers have already qualified for certificates under a programme instituted by the Adjutant General Maj.-Gen. J. D. B. Smith, CBE, DSO, CD, to give both Regular and Militia Forces the St. John Ambulance first aid training as a fundamental part of National Survival preparedness. Approximately 11,000 first aid awards have been made to officers and men of both forces in Canada this year, more than double the number in 1959. Colonel A. G. Cherrier, OBE, CD, (Ret.), Executive Commissioner of the St. John Ambulance (Priory of Canada), Ottawa, has stated that a nation-wide knowledge of the fundamentals of first aid could play a most important part in recovery from a nuclear attack. Details of the programme are contained in the following article.—Editor.

Among the functions given to the Canadian Army in Survival Operations, the responsibility for "re-entry operations" and "provision of first aid" loom very large. It can be executed with fair success if we prepare by serious training on sound and simple standards of training, and by repetitive training on these basic standards. The system of awards granted by the Order of St. John help provide incentives to train effectively towards the gaining of higher individual awards. The Order in Canada also sponsors annual military competitions for provincial and national championships.

This article is in three parts:

Part I: Fundamentals of First Aid—an exposé.

Part II: The 1960 National First Aid Competition—papers and critique.

Part III: The Mary Otter Trophy —history and results.

PART I

FUNDAMENTALS OF FIRST AID

Situations of mass casualties may

The Development of War Games

(Continued from preceding page)

answer some of your questions and will try to do so in another article which will appear shortly in the *Journal.*

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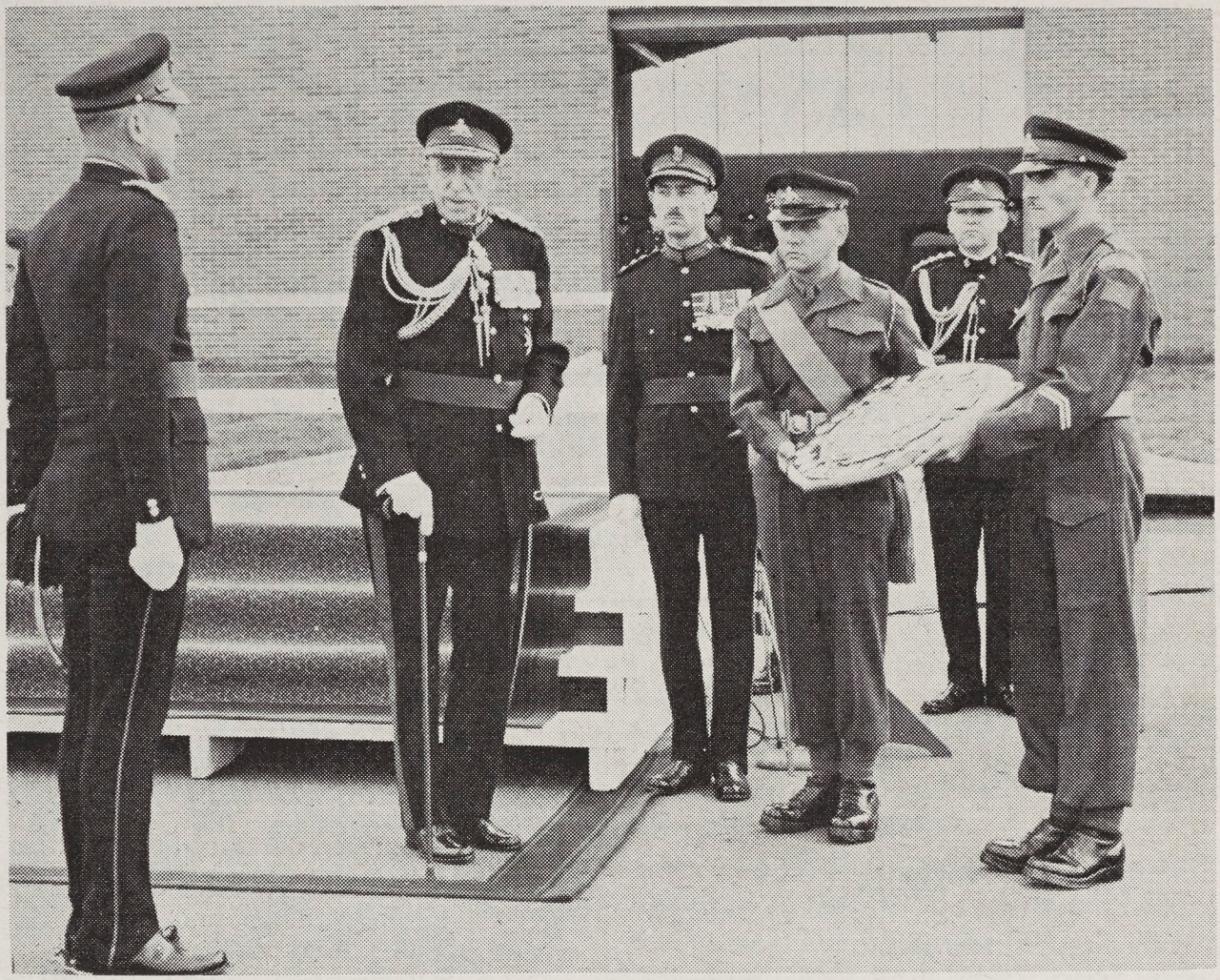


His Excellency Major-General G. P. Vanier, DSO, MC, CD, the Governor General, who is Prior of the Order of St. John of Jerusalem (Priory of Canada), presents the Mary Otter Trophy at Camp Valcartier to the Third Battalion, The Royal 22e Régiment, winners of the award for 1960. The Governor General is Colonel of the Regiment. *Left to right:* Lieut.-Colonel J. A. G. Sevigny, DSO, MBE, CD, Commanding Officer; His Excellency the Governor General; Colonel J. A. Dextraze, DSO, OBE, Commander, Camp Valcartier; L/Sgt. L. B. Gilbert; Captain J. A. J. Lajeunesse, ADC; Pte. R. Pineault.

come in field operations and against the civilian population, making necessary the survival operations. In all instances the need of the patients for succour will become paramount and all other activities must be reconciled to this major requirement.

In field operations, casualties are expected with a constancy which vindicates the system of collection and evacuation and the medical service to minister to the patients. Records of past wars reveal that the death rate of all injured has been reduced from 22 per cent in the Crimean War to about 2.4 per cent in the Korean conflict. This accounts for all patients after they have become a medical responsibility from the time of admission at the forward medical station. Generally, during the same period records show a constant ratio of 25 per cent killed in action or dying before being attend-

ed to by medical personnel. Under anticipated mass casualty threats, the ratios of "killed in action" and "wounded in action" will increase in surges and the effort to salvage human lives cannot be less. If the effort in medical personnel cannot be more, new techniques and methods must be proposed. Part of the answer appears to be mass indoctrination in "Fundamentals of First Aid" for the practice of techniques and methods of "self aid" and "buddy aid".

In survival operations, we can only speculate that the management of mass casualties will be a greater problem still. To prepare for them is to organize "Rescue", "First Aid", "Self Aid" and medical support to manage the collection and evacuation of the injured and adequate treatment facilities. To obtain any success in Survival Operations, the complete resources of this country must be brought to bear. Major responsibilities have been vested in the Department of National Defence and particularly in the Army. These responsibilities specifically outline "Rescue" and "First Aid" functions. To be effective the rescue must be prompt and the practice of first aid must become an instinctive reaction.

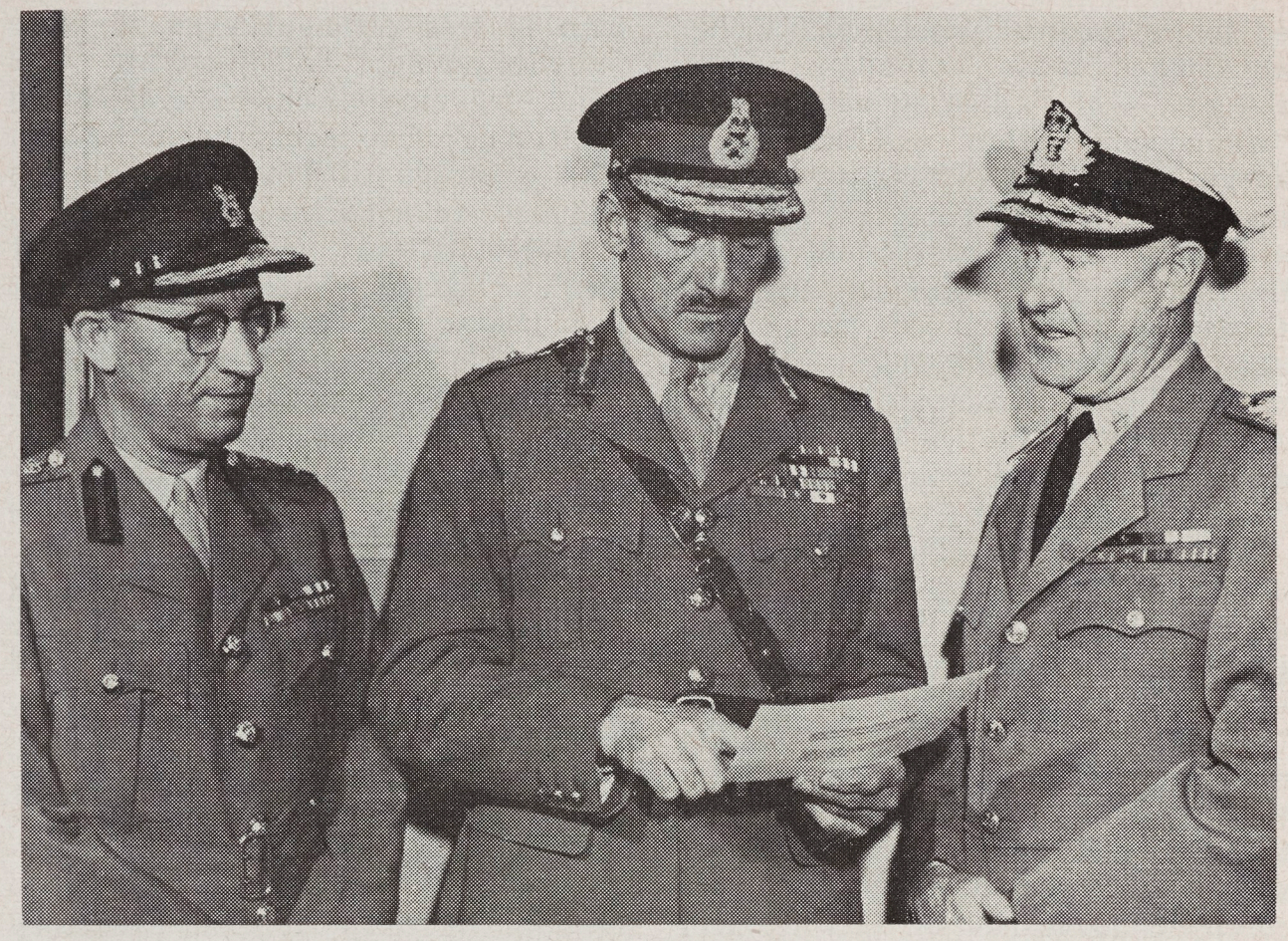
The practice of first aid should be an instinctive reaction or a "defence mechanism". If the standards of training are sound and the practices follow well-understood principes, the procedures dictate themselves and become more or less intuitive methods. In summary, the understanding of principles dictate the application of first aid procedures. The more the explanation of principles is complicated by physiological and anatomical details, the more the application of procedures become diversified, and the practician is less efficient even if more knowledgeable. To illustrate this point, we may discuss the first aid treatment of external haemorrhage. The principle of treatment can be summed up with three words: Rest, Pressure, Elevation. Regardless of site and extent of bleeding, the first aid procedures remain the same. Lectures of the physiology and anatomy of blood circulation, clotting time, etc., will not improve the efficiency of the first aider but contribute to confuse him and hinder his efforts.

All major first aid procedures, all major points in first aid can be schematized under five essential steps for survival care:

1. Wound dressings.
2. Arrest bleeding.
3. Emergency splinting.
4. Handling of patients.
5. Artificial respiration and maintenance of open upper respiratory pathway.

Factual and simple knowledge imparted to the soldier will give him the confidence to make him do what is necessary until the patient can be seen by a doctor. "To call the doctor" is an axiomatic prescription of first aid. In survival operations, the axiom means the handling of the patient until he is brought to the doctor.

When only one patient is involved, the resources are most adequate. But with the increase in the number of patients, even the first aid resources become saturated and another principle of management becomes a necessity—the necessity to distribute the resources (human and material) for the benefit of the "greater number". This principle suggests some selectivity by first aiders at the level of first aid care. Time, material and effort must be



Canadian Army Photograph

Major-General J. D. B. Smith, CBE, DSO, CD, Adjutant General, receives a St. John's Ambulance Certificate from the Surgeon General, Rear Admiral T. B. McLean, CD, QHS, at a presentation ceremony at Army Headquarters. On the left is Colonel P. A. Costin, CD, author of the accompanying article.

oriented to the patients who can benefit from it. It has been suggested in certain quarters that to exercise this judgment, a number of super-first-aiders must be trained or that courses in "advanced first aid" must be given to selected leaders. If we follow this trend, we gradually will evolve towards a decision to provide the rescue teams with medical diagnosticians. This trend will continue towards greater and greater abilities to make this first selection a medical sorting function which in principle must remain a first aid decision.

The standard of training in First Aid in the Canadian Army is based on "Fundamentals of First Aid" by Dr. R. A. Mustard, BA, MD, FRCS (C), published and approved by the Priority of Canada of The Most Venerable Order of the Hospital of St. John of Jerusalem. This manual was written to "emphasize principles rather than procedure" to lead "to effective action in real emergencies". With the author, we strongly support these views, having in mind that first aid teaching is not a subject in isolation. This training is integrated with basic military training which further develops discipline, leadership and other subjects such as rescue, as well as specialized handling of threats from "Special

Weapons" or hazards. Therefore, repetitive reviews of "Fundamentals of First Aid" are held sufficient to impart the intuitive reactions necessary for survival operations.

Part II

The 1960 National First Aid Competition*

The National Competition is normally conducted by an examiner selected by The Priory of Canada of the Order of St. John. By agreement with the Surgeon General for the Canadian Forces, an officer of the Canadian Forces Medical Service was selected to carry the examination in 1959 and 1960. Provincial representative teams were selected by the Command Medical Officers who advised one team per Army Command for the National Competition. The following teams were selected:

1. Eastern Command: No. 1 Medical Company, Canadian Army (Militia), Newfoundland.
2. Quebec Command: Winner of Mary Otter Trophy for 1960—No. 3 Battalion Royal 22e Régiment.
3. Central Command: CFMS Training Centre team.
4. Western Command: Alberta Military Hospital team, Calgary.

The test is carried out in two distinct examinations: one individual test on first aid knowledge and proficiency in practical applications; and a team test where the team captain becomes the leader of a team effort.

The team problem was written in cooperation with Major E. K. Fitzgerald (now Chief Instructor at the CFMS Training Centre). The aim of this test was to illustrate a survival operation problem. This problem is presented with this article to help officers and men grasp some meaning of the functions of rescue and first aid as given to the Army.

A: Team Problem

To the Captain:

You and your team are members of a rescue platoon of a mobile survival column engaged in the rescue of civilian personnel living in a city that had been subjected to an enemy missile nuclear attack approximately 24 hours earlier. In the first day of your rescue work you and your platoon rescued, with little difficulty, eight people from the basement of a church. When the first person is brought out of the rubble the platoon reports there are seven remaining and these are brought out, one at a time, at one- to two-minute intervals. Little first aid can be performed in the rubble of the church basement due to the hazard of a cave in and lack of space. You and your team render first aid to these patients whilst the remainder of the rescue platoons engage in further rescue work in nearby buildings. The patients, all covered in dust, are rescued as follows:

Patient 1: A man of 70 years of age who has a number of minor cuts on his face and right arm; his left hand has been cleanly sheared off at the wrist; he is walking in a rather dazed fashion but there is very little bleeding from any of his wounds. He is quite concerned about the others but has done nothing to aid himself.

Patient 2: A man of 40 years of age who had been pinned down in the rubble by a heavy beam across his legs. He is dazed but walking;

**Requests for additional information concerning competitions and awards should be addressed to Command or Area Medical Staffs, or to the Surgeon General for the Canadian Forces, Dept. of National Defence, Transportation Bldg., 48 Rideau St., Ottawa, Ont.*

he has deep and extensive lacerations of his thighs, which are not bleeding.

Patient 3: A girl of 10 years of age who is carried out by two rescue men. She is unconscious but breathing; she has a large piece of wood embedded deep in her abdomen and some bowel is protruding. Her skull has been opened and a large mass of brain tissue, badly torn and covered with clotted blood, lies on her forehead. It is obvious she has recently vomited a large quantity of blood.

Patient 4: A boy of 15 years of age who is carried out. His legs are tied together. The right leg midway between the knee and hip has a very large wound with a shattered end of bone protruding. He is conscious but a sickly grey blue colour, cold and clammy to touch. He has other multiple minor cuts and bruises over his body.

Patient 5: A woman of 35 years of age is carried out. She has a few minor abrasions and lacerations, she is sobbing and crying, dazed and is rather aimless in her actions and speech, she can walk but must be led.

Patient 6: A woman of 60 years of age walks with help out of the ruins. She reports she is unhurt and capable of looking after herself. There are a few minor lacerations and bruises.

Patient 7: An infant, (the mother is patient 5, the father patient 8) who has obviously been in a protected place and is not injured at all. The mother, when offered the infant, refuses to take the child.

Patient 8: A man of 40 years of age who was the most difficult to rescue as his right lower leg was pinned by a heavy wooden beam. The right leg from the knee down is completely shattered, being a horrible mass of torn skin and muscle, small shattered pieces of bone covered in dried blood and dirt. There is little bleeding, but the man, though conscious and not in pain, is weak and very pale and cold. He is brought out on a stretcher wrapped in blankets.

ACT AS YOU SHOULD.

B: Additional Information to the Candidates Before the Test

General

The problem this year is a departure from previous years in that three features have been added:

(a) Increased number of patients.
(b) The need to sort the patients.
(c) The national survival aspects of the problem.

Though these features may not be fully covered in "The Fundamentals of First Aid", the candidates, and particularly the team Captain, should be capable of handling these additional problems. The Canadian Forces are committed to National Survival and the problems presented are in keeping with the situation for which they are training. The common sense application of first aid training to this particular situation will result in good marks.

Hazards Present: Normal rubble (brick, stone, wood, etc.) from such an explosion. Residual radiation at this level is of no consequence. There are no fires in your area or dangerous electrical wires.

Meteorology: M i d - d a y, early springtime, overcast skies, temperature 60°-65°. Has been raining since explosion. Nights quite cool, 35°-40°.

Nearest Doctor: 2-3 miles away at an aid station which is receiving patients from entire column.

This team from the 3rd Battalion of The Royal 22e Régiment, Camp Valcartier, Que., won the Mary Otter Trophy in the 1960 first aid competition. *Back row, left to right:* Sgt. L. B. Gilbert, Team Instructor; Pte. G. Heroux; Colonel P. A. Costin, CD, examiner for the Priory of Canada of the Order of St. John of Jerusalem; Lieut.-Colonel J. O. A. Letellier, MBE, ADC, Commanding Officer at the time the competition was held; Lieut.-Colonel P. H. Bazinet, CD, Area Medical Officer, Eastern Quebec Area; Pte. R. Pineault; Major M. Falardeau, Team Captain; *Front row, left to right*: Pte. J. N. Ouellet, Pte. W. Begbie, Pte. C. Beauchamp, Pte. J. P. Pelletier, Cpl. J. J. A. J. Dubois.

Nearest Ambulance: 600-700 yards away is the ambulance loading point —the furthest point into the target area a wheeled vehicle can go.

Route to Ambulance: Formerly a road now covered with rubble, trees, etc., with some buildings in various states of damage lining route. The litter carry is moderately difficult.

Other Assistance: Some of your rescue platoon can help to carry one litter, but the bulk of the platoon is continuing its rescue operations.

Equipment: You have litters and blankets plus shell dressings, roller bandages, etc., but no manufactured splints. You all carry water and "C" rations for 24 hours.

Nuclear Incident: The weapon was delivered by a missile, was of the megaton range and detonated almost 24 hours before.

C: Examiner's Marking Data

Approach to Problem

Immediately, Captain questions hazards.

When the first patient is rescued the Captain learns there are seven more patients. He must then or-

ganize his team to handle the patients as they appear and prepare litters. He assigns one or two members to each patient after he rapidly examines each one. As more and more patients are rescued, he must adjust his allotment to meet the demands of the more serious cases. He must be willing to do nothing at first for the minor cases while concentrating on the serious ones. The Captain must appreciate that these patients have survived 24 hours with their initial injuries and a few minutes delay is not going to jeoparrize them too much.

Examination of Patients

Captain must very rapidly examine each patient. The injuries have been detailed in the handout and are quite straightforward. He must maintain control of his team at all times and not allow anyone to question his authority and direction. During his examination he reassures each patient.

TREATMENT

Patient 1 (One first aider can handle this patient): Shell dressing or similar dressing to stump of left wrist. Reinforce shell dressing. Support left arm in sling. If time allows, small dressings to minor cuts. Allow to rest, reassure him and make comfortable; may walk to ambulance with help.

Patient 2 (One first aider can handle this patient): Shell dressing or equivalent to deep lacerations. Allow to rest and reassure him; may walk to ambulance with help. Light food and water permitted.

Patient 3 (One first aider can handle patient): Patient should be immediately recognized as hopeless. Simple dressing to skull wound. Try gently to remove wood from abdominal wound but it is too deeply embedded. Do not attempt to replace bowel; dress wound; trim piece of wood and support it if possible. Patient must be made warm and comfortable and if possible removed from direct observation of others.

Patient 4 (Two first aiders required to splint leg, otherwise one can handle patient): This requires one man to be finished with another patient (preferably Patient 2) and the Team Captain to leave Patient 3 to one man. Patient 1 can be left later when the Captain proceeds to Patient 5. Patient has been placed on a litter. Keep warm. Dressing to wound while STEADYING leg with traction applied. Splint wound with improvised splint or leave as tied by rescue personnel (improve if necessary). There must be adequate immobilization above and below fracture.

Patient 5 (One first aider required): Have patient rest and try to reassure. When the demands of the other patients permit, more attention may be paid to her. Any additional comforts (water and a little food) may help. Someone must "keep an eye" on her to ensure she does not wander off into the rubble and hurt herself.

Patient 6 (One first aider required): No time need be spent on this patient once she has been quickly examined. She should be reassured and told to rest pending evacuation. She may assist in helping with other patients especially Patient 7.

Patient 7: The Team Captain on examining this infant offers the child to the mother and is refused. The child should then be turned over to another patient (Patient 6) to hold and carry.

Patient 8 (Two first aiders required): This patient is seriously in-

jured and should receive priority care once rescued. Elevate foot of stretcher and keep patient warm. Apply roller dressings and/or shell dressings to cover right leg, one man steadying leg as best as possible. The limb is best immobilized between slats or flat boards extending up to the hip. This patient is one of top priorities for evacuation.

Evacuation To Ambulance Loading Point

Team should realize it will take 40-50 minutes to make one trip and return.

The suggested priorities for patients are:

I, 4, 8: both lying; II, 1, 2: walking; III, 5, 6, 7: walking; IV, 3: lying.

Teams may vary in their selection of priorities, but they should realize Patients 4 and 8 are top priority and that little can be done for Patient 3. Two of the team should start out carrying Patient 4 on a litter and accompanied by those able to walk who are ready to move when Patient 4 is ready. When Patient 8 is ready to be evacuated, the other two on the team will start out (with those left who can walk). Patient 3 is left alone if necessary or watched by a nearby rescue platoon member in need of rest or by one of the patients.

D: Examiner's Comments

Generally, the knowledge of first aid was evidenced as excellent throughout the competition; the principles are well understood and the practices were of the highest quality. The selection of the top team was made on the following points:

1. *Leadership:* The demonstrated ability of the team captain to take control, to visualize the problem in its entirety and to make decisions pertinent to the situation.

2. *Conservation of Resources:* In some cases, the team captain was left alone after the third patient had been rescued, having sent members of his team with litter cases to the ambulance loading point. The major decision to be made was to attend to all patients emerging from rescue and to wait for their disposition only after rescue of the 8 patients is completed.

3. *Selectivity:* Good judgment and selective ability were well demonstrated by all teams. Unhappily, team captains realized too late that early commission of resources leaves one suddenly empty handed to distribute help adequately.

This competition has helped emphasize, in a small way, the problem which will face the Mobile Survival Columns working in damaged areas with only their knowledge and limited resources to initiate the measures which will save lives. It is evident that first aid thus practised, to be successful, must recognize the contribution made by sound general military training.

Part III

The Mary Otter Trophy—1960

History

The Mary Otter Trophy was presented in September 1923 to the Canadian Branch of the St. John Ambulance Association for annual competition by the team winning the St. John Provincial Military Trophy in each of the Provinces in Canada for the purpose of fostering interest in First Aid among members of Canada's Armed Forces. It was presented by General Sir William D. Otter, KCB, CVO, LL.D, in

Members of the Alberta Military Hospital First Aid Team, runners-up in the 1960 competition. *Front row, left to right:* Colonel P. A. Costin, CD, Major A. N. Campbell (Commanding Officer of the hospital), Colonel K. J. Coates, OBE, CD (Command Medical Officer). *Back row, left to right:* Sgt. H. Lewis (Team Instructor), Pte. E. F. Murley, Cpl. E. C. Mellon, Sgt. N. D. Johnston, L/Cpl. L. T. Norris, Sgt. J. E. Brooks (Team Captain).

memory of his wife, Lady Marion (Mary) Otter.

General Otter, an Officer of the Permanent Force, saw service in the Fenian Raids, the North-West Rebellion and the Boer War, was Chief of the General Staff in 1908-09, Inspector-General from 1910 to 1912 and retired from the Canadian Army in 1920 in the rank of General. For a number of years he had taken a keen interest in the work of St. John Ambulance Association and served as an Executive Officer and Honorary Vice-President of the General Council of the Canadian Branch until shortly before his death in 1929.

The Mary Otter Trophy was first competed for in 1924, and every year since, with the exception of 1932 and the years from 1940 to 1954 when the St. John Ambulance in Canada did not hold First Aid competitions. The following list contains the names of the winning teams year by year:

List of Winning Teams

1924: Sub-Staff, M.D. No. 13, Calgary, Alta.
1925: 19th Field Ambulance, RCAMC, Hamilton, Ont.
1926: H.Q., Royal Canadian Regt., London, Ont.
1927: Royal Canadian Navy, Esquimalt, B.C.
1928: No. 3 Det. RCAMC, Kingston, Ont.
1929: No. 3 Det. RCAMC, Kingston, Ont.
1930: 4th Div. Engineers, Montreal, Que.
1931: No. 3 Det. RCAMC, Kingston, Ont.
1932: No competition held.
1933: Toronto Scottish Regt., Toronto, Ont.
1934: 1 Bn., Canadian Scottish Regt., Victoria, B.C.
1935: 15th Field Ambulance, RCAMC, London, Ont.
1936: Toronto Scottish Regt., Toronto, Ont.
1937: Perth Regiment, Stratford, Ont.
1938: Winnipeg Light Infantry Regt., Winnipeg, Man.
1939: Toronto Scottish (MG) Regt., Toronto, Ont.
1940 to 1954: No competitions held.
1955: RCAMC School, Camp Borden, Ont.
1956: No. 5 H.Q. Militia Group, Moncton, N.B.
1957: H.Q. RCAMC, B.C. Area, Vancouver, B.C.
1858: 1 Bn., The Royal Canadian Regt., Camp Ipperwash, Ont.
1959: 1 Bn., The Royal Canadian Regt., Camp Ipperwash, Ont.
1960: 3 Bn., The Royal 22e Regt., Camp Valcartier, Que.

Prizes

Prizes are awarded to the individual members of the team finishing in first place in the National Competition for the Mary Otter Trophy. These prizes are silver-plated trays engraved with the name of the member.

With reference to the Provincial Military Trophies, prizes are awarded to the individual members of the teams finishing in first place — a rectangular silver-plated tray suitably engraved.

In provinces where five or more teams have participated, prizes are also awarded to the individual members of the teams finishing in second place—a round silver-plated tray suitably engraved.

Congratulations are extended to all candidates and winners of the 1960 Competitions, and best wishes and good luck are offered to the 1961 candidates. May they be as numerous and as competent as their predecessors.

NATO from a Military View

It is now ten years ago since NATO was formed as the defence organization of the Western democracies. We are in no doubt that as a defence organization it has fulfilled its purpose, and that it has contributed effectively to consolidate the democracies in Europe and to prevent war. From a purely military point of view, we feel much safer today than we did ten years ago.—*A statement by Norwegian Prime Minister E. Gerhardsen during the observance of the tenth anniversary of NATO.*

DEVELOPMENTS IN ARMY FINANCIAL WELFARE

By

H. C. CHADDERTON, NATIONAL SECRETARY OF THE ARMY BENEVOLENT FUND*

The Canadian Army Financial Welfare Programme, which embraces the Army Emergency Loan Fund and the Army Benevolent Fund, together with financial counselling and case work, has now been in operation for some seven and one-half years. During that period, $3,000,000 has been loaned to soldiers of the Regular Force together with assistance through grants and other services of nearly $2,500,000. (See accompanying statistical summary for details).

These would have to be considered as large amounts—but the significant development in the financial welfare programme cannot be measured in dollars and cents! It is, instead, the progress which has been made in regard to the development of general interest within the army concerning the financial welfare of its members. This interest has been generated in two definable areas, as follows:

1. Education in money management at the family level;
2. Availability of means whereby officers can solve financial welfare problems of army families.

Education in Money Management

The provision of education in money management is part of the training of members of the Canadian Army (Regular), given under the title "financial counselling". This type of training is considered essential, inasmuch as heavy involvement in debt on the part of a soldier can very obviously effect his performance, plus the well-being of his family and the efficiency of the army as a whole.

It is difficult to obtain specific information regarding the extent of indebtedness among army personnel. It has been determined from surveys, however, that many Army families are carrying considerably more than the so-called safe limit, (i.e. 20% of the yearly income). This would mean, in the average Private to Corporal group, a manageable debt load of approximately $680. Our surveys show that, in many areas, married soldiers have an average of $1400 in consumer credit debts.

It is interesting to analyze the reasons for this heavy involvement in household debts. In the opinion of the administrators of the Army programme, these reasons can be classified under four headings as follows:

1. The motivation to attain a standard of living, as represented by the acquisition of household appliances, furniture and an automobile.

2. The extension of credit facilities which makes it possible for the purchase of consumer goods with very little or no down payment, hence encouraging "impulse buying". *This factor appears to be most important,*

**The author is the Chief Administrative Officer of the Canadian Army Financial Welfare Programme which is managed for the Army by the Army Benevolent Fund organization in accordance with an arrangement between the Board of Directors of the Canadian Welfare Fund and the ABF Board.* —Editor.

as it eliminates any necessity to plan family expenditures.

3. The extension of borrowing facilities which can be used to consolidate indebtedness. *This is another most important factor* because it means that low-income families need have no fear of over-committing their *monthly* income, because they can always consolidate their debts. This consolidation permits them to pay the loan company an amount which will be considerably smaller than the three or four payments which might have been required individually by the creditors to whom individual payments were due prior to the consolidation. Another danger inherent in this re-financing of household debts is that, because of the one reduced monthly payment, many families will then consider that they have a surplus available which can be committed for further credit buying.

4. Army life in itself represents certain potential dangers with respect to financial management, as represented by postings and disturbance in the way of life of the army family. This movement of personnel creates many problems for which provision cannot be made through the compensation available as a public charge. These problems include the need for housing, unfamiliarity with the cost of living and merchandising in new areas, supplementary requirements for schooling and the necessity to change or convert power-operated appliances.

The solution to problems which arise from (1), (2) and (3) above appears to be along educational lines. It is considered that if soldiers and their dependents can be encouraged to keep their household expenditure within the limitation of their incomes, and if they can be given sufficient information regarding the pitfalls in credit buying and financing, army families can avoid these problems—and the very severe consequences which arise from faulty money management.

With regard to those financial difficulties which arise directly from posting and other service factors, as set out in (4) above, the answer is simply that the soldier and his wife must be better financial managers than their civilian counterparts who do not have to risk the consequences of moving from province to province, or beyond the borders of Canada every few years.

It may be of interest to review briefly some of the information used in financial counselling of the troops. A list of the subjects, together with a brief explanation, is given below:

1. *Budgeting*: The soldier is necouraged to establish a "three-figure" budget system under which he (a) determines his monthly income, (b) subtracts his regular living expenses and (c) arrives at his surplus income which can be used for savings, purchase of additional items, etc.

2. *Operation of an Automobile:* The soldier is taught to watch for "finance packs", balloon payments", and other gimmicks in purchase contracts. He is warned that, with depreciation, insurance, licence, gas, oil and maintenance, the cost of operating an automobile will average $75.00 monthly. He is counselled that, in disposing of his automobile, he must make certain that he is not liable for any balance due on a contract. Also he must watch credit notes which often can be used only with one dealer and/or on the purchase of a new car.

3. *Sales Resistance:* He is taught

to remember that the trained salesman is usually "a smarter seller than the soldier is a buyer". He is asked to watch for danger signals in high-pressure salesmanship. Some of these are:

(a) The "bait-and switch" technique which offers an appliance at an absurdly low price following which the salesman agrees to take back the cheaper article (usually of little value) as a trade-in on a more expensive model.

(b) Contest selling, where the winning of a consolation prize may lead to a call from the company representative selling an expensive piece of equipment.

(c) Off-brand merchandise, particularly when the salesman condemns brand names and tries to switch the prospective buyer to "famous-make" goods which are unknown.

(d) The manufacturer's ticketed price, which is often misleading, particularly when the manufacturer and the dealer have agreed on an inflated price so that the dealer can show a fictitious reduction.

(e) "No charge for credit" deals, where the merchant has inflated the selling price in order to cover the cost of financing.

4. *Credit Buying:* The soldier is cautioned to get the cost of credit in dollars and cents—not percentages—so that he will understand the full cost of the article, including financing. He is cautioned against using revolving budgets and other means of credit for the purchase of small articles wherein, in effect, he is paying finance charges on his toilet goods, clothing, etc. These revolving budgets are often referred to as "budget wreckers", as they permit the purchase of goods on tic when the bi-weekly allotment for such sundry goods is exhausted.

The two general rules taught to the soldier concerning credit buying are:

(a) The total debts should never exceed 20% of the net yearly income.

(b) Total monthly payments on such debts should never exceed 10% of the monthly pay.

5. *Personal Loans*: The soldier is warned against borrowing unless the need is justified. For every dollar borrowed he may receive only about 75c worth of value. This is called "shortening-up" on his income, which has the same effect on his purchasing power as if he took a sizable cut in pay. Some of the specific points about borrowing are as follows:

(a) *Cost:* This is difficult to calculate but may run at 26.8% per annum, or higher.

(b) *Security:* He will usually be required to sign a chattel mortgage which transfers ownership of all his worldly goods to the lender until the loan is repaid.

(c) *Consolidation:* To consolidate all one's debts in a single loan materially increases the total debt. The soldier must ask himself the question "Can I borrow my way out of debt?" It is suggested that a better solution would be for him to work out a debt repayment plan, using his surplus to be pro-rated among all his creditors.

(d) *Extension and Re-financing:* A borrower is often encouraged by the lender to extend the loan beyond the original repayment plan, and to re-finance the loan time and again. These procedures make money for the loan companies, but they are costly to the borrower!

(e) *Low Cost Loans:* Some Army members are able to obtain loans from chartered banks and credit unions. It is advisable for them to

SYNOPSIS OF BENEFITS

ARMY EMERGENCY LOAN FUND

Emergency Loans, up to $150, repayable through assignment in ten months or less without interest, to meet transportation, rent or other genuine requirements for immediate funds.

Central Loans, up to $750, in conjunction with the plan of assistance prepared by ABF officials to meet serious financial problems.

Preventive Welfare Loans, between $100, and $500, inclusive, to purchase essential goods and services, repayable through assignment in 21 months.

ARMY BENEVOLENT FUND

Financial Grants to assist in serious medical problems, disaster cases, serious debt situations and financial problems arising from service conditions. The ABF section of the programme also includes:

(a) Debt Adjustment and reductions from creditors;

(b) Representations to other sources of financial assistance on behalf of the soldier's family;

(c) Financial counselling;

(d) Financial case work where contact with creditors and other agencies is involved.

remember that, regardless of the cost, a loan is no bargain if it is not really necessary.

(6) *General Tips:* Soldiers are advised to avoid co-signing promissory notes and financial contracts. They are given specific information concerning the contracts including the necessity to "understand the fine print" and to ensure that all blank spaces are either filled in or cancelled out. As a general rule, they are told to remember that their *signature* can be their most costly possession.

Man-Management

It was mentioned, earlier in this article, that one of the significant developments in the 7½ years of the Army Financial Welfare Programme was the value which this programme has come to represent as the resource for officers in man-management. More and more, it is apparent that financial welfare problems can lead to administrative and disciplinary problems, which of course end up on the Commanding Officer's desk. Accordingly, under man-management, officers have been making extensive use of the Financial Welfare Programme to assist the soldier and his dependents—and thus to assist in the general administration of the Canadian Army.

Without the necessary Financial Welfare facilities at his disposal, an officer could do very little to assist the soldier who becomes a financial casualty. With the inception of this programme in 1953, the officer was

GRANTS FOR PERSONNEL OF CANADIAN ARMY (REGULAR)

From 1 April 53 to 30 Sep. 60

Amount granted from CAWF monies	$ 780,652
Amount granted from ABF Statutory monies	505,435
Value of reduction by creditors	650,373
Value of assistance obtained from other sources	324,748
TOTAL	$2,261,208
Number of grants from CAWF monies	3,472
Number of grants from ABF Statutory monies	2,355

Classification of Cases

Grants approved on behalf of Regular Army soldiers and their dependents were classified during 1959/60 as follows:

Medical	31%
Removal, head of household	15%
Disaster	13%
Administrative problems	19%
Problems arising from service	22%
TOTAL	100%

LOANS TO PERSONNEL OF CANADIAN ARMY (REGULAR)

From 1 April 53 to 30 Sep. 60

Total amount loaned	$3,038,480
Amount written off	3,790

Classification of loans made during 1959/60 is as follows:

Emergency Needs (fire, flood, etc)	11%
Transportation in family crisis	6%
Medical, dental and funeral expenses	12%
Legal action (seizure, eviction, etc.)	22%
Housing	29%
Movement (special problems created thereby)	20%
TOTAL	100%

given some tools with which to work. He can, for example, arrange a loan through Army Emergency Loan Fund where it is necessary for the soldier to have immediate funds to visit his home, or to arrange for hospital admission or make payment on a debt where legal action is threatened.

If the case is of a more serious nature, the officer can initiate an

(Continued on page 28)

The financial structure of a Canadian Army Financial Welfare Programme is not always understood. We are reproducing herewith a chart which shows the various functions and explains in graphic form the financial structure. It will be noted that the Canadian Army Welfare Fund is the source through which funds are raised for AELF, and for grants through ABF on behalf of soldiers who are non-veterans. CAWF does *not* exist outside of AHQ and all grants are made through the ABF Organization which maintains Committees in each Province and Overseas.

FINANCIAL ARRANGEMENTS CANADIAN ARMY FINANCIAL WELFARE PROGRAMME

CANADIAN ARMY WELFARE FUND

Contributions from Maple Leaf Services and Regular Army Institutes

ARMY BENEVOLENT FUND

Monies from Second World War Canteens, Auxiliary Services and NAAFI

RECEIVER GENERAL OF CANADA

CAWF Account* | ABF Account*

ARMY EMERGENCY LOAN FUND

Loans for Personnel of Regular Army

Types of Loan

Emergency—up to $150 repayable in 10 months.

Central—up to $750 repayable in terms appropriate with budget.

Preventive Welfare—$100 to $500 for essential needs, repayable in 21 months.

ARMY BENEVOLENT FUND

Grants for Personnel of Regular Army

(1) ABF Account if Second World War Army Veteran
(2) CAWF Account if non-veteran

Categories of Grant

Medical
Removal—Head of Household
Disaster (fire, flood, etc)
Administrative problems
Distress arising from Service factors (posting, housing, etc)

Case Work Services

Debt adjustment
Referral to other agencies
Financial counselling

**Both accounts managed by the Army Benevolent Fund.*

application to the Army Benevolent Fund which can result in an outright grant of assistance, together with a referral to other agencies if homemaker services, legal advice, medical treatment, etc., are required.

The availability of the Financial Welfare Programme has considerably eased the problem of the officer, and has encouraged and assisted in the development of better man-management due to the fact that the machinery had been placed at the disposal of the officer through which cases formerly hopeless could be handled.

Preventive Welfare Loans

As a direct result of the interest in man-management with respect to financial problems, a demand grew for a new type of loan. In the first seven years of the programme, AELF had offered what was known as "emergency" loans. These were used mostly to remedy problems, once they had reached an acute stage. It was considered by many staff and regimental officers that, if a preventive-type of loan could be available, which would make it possible for the soldier to borrow from AELF rather than become involved in "outside" financing, many of these financial problems could be avoided. Also, the availability of a preventive-type loan through the Army would mean that the soldier would bring his problem to the Commanding Officer, which would provide an opportunity to counsel the soldier and perhaps suggest the best course of action.

In order to meet this demand, the Board of Directors of the Canadian Army Welfare Fund approved adoption of the PREVENTIVE WELFARE LOAN PLAN as of 1 July 1960. A monthly allocation was provided for this purpose, out of which field committees can make these Preventive Welfare Loans for the purchase of essential goods and services required by the soldier.

The Preventive Welfare Loan Plan met with immediate acceptance by officers and men. The amount of money available in the initial months has been small. It is expected, however, that this amount can be increased in due course and within a few years, it should be possible to provide sufficient funds to meet essential requirements for soldiers and their dependents.

These Preventive Welfare Loans can be made in amounts between $100 and $500, and are repayable in 21 months through an assignment of pay.

Underwater Helicopter

A "lift appendage" that will enable a tank-like vehicle to "swim" underwater has been designed for the [U.S.] Navy's new remote-controlled underwater vehicle.

The device essentially is an "underwater helicopter" with rotor blades that will permit the vehicle to perform tasks now impossible for man at 20,000 feet under the sea.

The vehicle presently crawls along the ocean bottom, but when it is equipped with the lift appendage, it will be able to raise or lower itself in the water, move sideways, hover like a helicopter or "float".—*From the Army-Navy-Air Force Journal (U.S.).*

THE CANADIAN ARMY IN PEACETIME

A REPORT ISSUED BY THE DIRECTORATE OF PUBLIC RELATIONS (ARMY), ARMY HEADQUARTERS, OTTAWA

The year 1960 saw the Canadian Army complete a decade of the most active and extensive operations in their peacetime history in service under the United Nations, the North Atlantic Treaty Organization and, at home, in the vital role of planning national survival should nuclear war ever become reality.

During the same year, the Army entered a new, sensitive area of the troubled world scene as part of a United Nations protective force to preserve peace in the Congo Republic.

Canadian soldiers now serve from the Middle East to the Far East, from the Arctic Circle to the Congo equatorial belt.

Since 1950, more than 67,000 troops have served abroad in fulfilment of Canada's international obligations. Nearly half of them saw service in the Korean conflict. Another 30,000 have kept Canada's 5500-man NATO brigade group at operational strength in West Germany. Others are serving with the UN Emergency Force on the Gaza Strip and with the Truce Commission in Indochina. Canadian soldiers also serve as UN Observers in Palestine, India, Pakistan, and Korea.

Across Canada troops of both regular and militia forces have become deeply involved in a new and serious role — planning for national survival under nuclear war. Army commitments in this field include responsibility for early warning of nuclear attack to the Canadian public and re-entry operations in devastated areas.

No small part of national survival preparedness has been the intensified programme during 1960 to qualify all troops in first aid under the St. John Ambulance. Some 17,000 soldiers received their official certificates from the St. John Ambulance.

Meanwhile, the regular business of the Army in training for modern warfare goes forward. Militia units rendered obsolete by changing tactics of battle have been converted or absorbed. Brigade groups of the Regular Army continue to hold large-scale exercises testing new battle tactics at major camps across Canada and in Germany. "Mobile columns" are planned for National Survival duties involving both Regular and Militia units.

In London, Ont., the 2nd Battalion, The Royal Canadian Regiment, has maintained a state of combat readiness throughout 1960 as Canada's "standby" force to assist the United Nations if called upon.

Announcement of adoption of the Honest John rocket system was made during the past year and troops have been training on the use of the new weapon at U.S. bases. Other new weapons and equipment are undergoing field trials, notably the Canadian-designed troop-carrying vehicle, the "Bobcat".

The Army also adopted a new, NATO pattern steel helmet in 1960 and continued exhaustive tests on newly-designed combat clothing and boots.

A paramount factor in the adoption of any new item for the

Canadian Army Photographs

The Canadian Army during 1960 continued to serve for the cause of peace in many parts of the world including the Congo, Kashmir, North and South Viet Nam, Cambodia, and the Middle East. The Canadian Army also maintains a Brigade Group in Germany serving with the NATO Land Forces. These overseas commitments have seen a total of approximately 67,000 troops serving outside Canada in the last 10 years. *Top Left*: Scout cars from the armoured regiment with the 4th Canadian Infantry Brigade Group in Germany pass through the town square of Luneburg during one of the many exercises held by the Brigade. *Bottom Left*: Sergeants J. L. Pelletier of Ottawa, left, and E. A. Chaisson of Lameque, N.B., members of 57 Signals Squadron serving with the UN forces in the Congo, take time out from their work to make friends with some of the native children. *Top Right*: Trooper M. McDougall, a member of the Reconnaissance Squadron of the Fort Garry Horse, serving with the UNEF in the Middle East, gives some water to Bedouin children during a stop on a patrol along the Egyptian-Israeli border. *Bottom Right:* The changing of the Guard ceremony on Parliament Hill in Ottawa, carried out daily from July 2 to September 15 last year by members of the 2nd Battalion, The Canadian Guards, was one of the major tourist attractions in the capital.

Army still evolves around possible NATO standardization.

Historical milestones of 1960 brought about the centennial year of The Queen's Own Rifles of Canada, the Army's oldest infantry regiment that is but five years younger than the Canadian Army itself. One of the youngest corps — the Canadian Provost Corps — observed its 20th anniversary.

In the far reaches of the north country, a team from the Ottawa-based Army Survey Establishment covered nearly 50,000 square miles mapping little known Banks Island, northern Victoria Island and the Western Arctic archipelago. This was done during the short summer months inside the Arctic Circle.

At the same time Canadian Army engineers continued to maintain the vital North-West Highway System linking Alaska over a 1921 - mile stretch of roadway. An important link in this system was restored last summer when the new Peace River bridge was opened.

While the Army assumes new duties in the tropics, one of its oldest jobs in the vast Canadian north has been passed on to the Department of Transport (DOT). Operation of the far-flung North-West Territories and Yukon Radio System, a responsibility of the Royal Canadian Corps of Signals for 36 years, was turned over to DOT last summer.

In the realm of personal amenities, 1960 was a good year for the soldier. Troops were granted a pay increase. Maple Leaf Services (MLS), a non-profit corporation operated by and for the Army, added new shopping centres in Camps Petawawa, Borden and Valcartier. MLS chalked up nearly $13 million gross in sales, by far their biggest year yet. Every penny of net profit from MLS is channelled back to the soldier in providing recreation, welfare and related services.

Although the Canadian soldier is well fed in major camps, research continues to improve his rations in the field and isolated localities. A new rapid freeze-drying method of dehydrating foodstuffs has been developed. It will provide dehydrated raw and pre-cooked meats the same in taste and appearance as the original following reconstitution by cooks.

In international competition, a Canadian soldier from New Westminster, B.C., Sgt. Gunnar Westling, won the coveted Queen's Prize at Bisley, England, last July. This is the Commonwealth's highest shooting award.

Early in 1960, the Canadian Army became the first in the world to complete its official history of the Second World War. The third and final volume of this history completed the official story of Canadian soldiers at war from 1939 to 1945.

Canadian troops at home and abroad are encouraged to be good citizens as well as good soldiers. In Germany and other countries they are active in community affairs and helping the under-privileged. Soldiers serve on volunteer fire departments, scouting movements and charitable organizations. They are on call in times of disaster, search and rescue and the maintenance of order. During the past year troops were on hand to fight the rampaging floods of Quebec, the forest fires of the Maritimes and to blast away with artillery guns the threatening snow avalanches in the Canadian Rockies. Working with Department

Cook Retreats with Rations on the Run

Soest, Germany: German Panzers broke through their lines and a new kind of hero was born. Private David Biss of Oakville, Ont., keeper of kitchens, fought the battle as only a cook knows how, and won.

"Bad news," said the major — it was grave tidings for Canada's NATO Brigade on exercise "Holdfast" last fall. "German Panzers have broken through our lines and we move in five minutes."

All the instincts of his calling lent speed to Private Biss's action as he made plans to prevent the supper from becoming the fruits of victory for the 18th Panzer Brigade taking part in the exercise.

To economize on space he tipped the half-cooked potatoes and carrots into a cauldron of half prepared soup. On to the truck went the field cooker, still burning, in which reposed the roast of beef. Next he stationed himself in the rear of the truck and the convoy began the 15-mile "retreat".

The following hour was rather hectic for Private Biss. As the truck bounced over cobbled roads and dirt tracks, he found that both gloved hands were required to hold the cauldron of combination soup and vegetables on the cooker, while one foot had to remain on the door handle of the oven to prevent the roasting beef from bouncing out onto the road. To add to his problems, this was hardly the ideal position from which to resist the clouds of steam which were billowing from the protesting cooker, and the clouds of dust coming in from outside.

It should, perhaps, be mentioned here that, while most of us take meals served in the field for granted, much credit goes to Army cooks who frequently prepare the rations under adverse conditions.

Shortly after arriving in the new location, Private Biss, somewhat debilitated from his impromptu turkish bath, served supper. Having used the same kind of inventiveness that prompted Edison to produce the electric lamp, and Bell the telephone, he found that the vegetables had not suffered at all by being cooked in the soup, while the "compo" soup had improved immensely under the arrangement. Even more surprising was the tenderizing of the roast of beef, resulting from its bouncing around in the oven.

An old English proverb says "the proof of the pudding is in the eating." The supper was delicious.

The Canadian Army in Peacetime

(Continued from preceding page)

of Transport last summer, Army radar groups tracked rain-making aircraft as they seeded cloud formations.

Few nations in the world with a small peacetime regular Army are today maintaining such widespread global commitments for the preservation of peace as Canada. To provide for a reasonable rotation of troops serving on the more arduous and hazardous overseas posts, many soldiers have done two or more tours abroad during the past decade.

Because few complain may be one reason why senior officials have placed Canadian Troops "among the most adaptable and resilient in the world."

PRINCIPLES OF WAR AND THE CANADIAN ARMY

By

CAPTAIN D. G. LOOMIS, MC, THE ROYAL CANADIAN REGIMENT

The author, a student at the Canadian Army Staff College, wrote this essay as part of the Military Writing series in the 1959-1961 course. A number of other essays on the same subject have been received by the Journal, and it is planned to publish some of them in subsequent issues.

The subject of this essay is:

"The Principles of War which are recognized by the Armies of today differ not only from those which were accepted by the great commanders of the past, but also from one Army to the other. In the light of this historical fact, do you consider that the advent of nuclear weapons will require additions, deletions or modifications to the current principles of war of the Canadian Army or their application? Justify your views."

It will be appreciated, of course, that the opinions expressed in the following essay are those of the author, and do not necessarily reflect the views of the Department of National Defence.—Editor.

"War should be made methodically for it should have a definite object; and it should be conducted according to the principles and rules of the art."—Napoleon, Maxim Five[1].

Introduction

The purpose of this discussion is twofold. First, to show that present lists of Principles of War are inadequate and confusing to the student of war, when considering present day warfare. Secondly, to suggest that these defects may be overcome by producing two lists, one of Principles of War, the other of Rules of War. The problems presented and the solution offered both arise from the changes in warfare which have taken place in recent decades because of technological advances, the most spectacular of which is the development of nuclear weapon systems.

The advent of nuclear weapons in the mid-twentieth century has affected not only the military services but also the whole of society. The immense power of nuclear weapons has complicated the problems of defence more than any other single advance in history because few nations have the technology to build them and small nations cannot afford them. They have accelerated the move towards supranationalism and continental combinations. Their existence has been ruthlessly exploited in diplomatic exchanges. War has been pushed further towards its extremes, the war of extermination and the war of nerves.[2] In fact, the indistinct border betwen war and peace has been erased except in the fields of religion and idealism.

Thus, any valid consideration of the Principles of War must have a broader basis of discussion than we have been accustomed to. The practice of listing, as Principles of War, factors which are essentially useful only for tactical ground operations is inadequate for considering war in

all its aspects. The starting point for this discussion must be a definition as to what constitutes war. In particular, it is essential to underline some vital factors of war which are commonly overlooked at present. With this as background, the welter of ideas on the Principles of War will be reviewed. From this review it will be suggested that the lack of agreement between various lists of Principles of War can be resolved if we follow Napoleon's fifth maxim and create a list of Principles of War, as well as a list of Rules of War.

Concept of War

What is war? It may seem fatuous to spend time defining what is meant by war. If this were the nineteenth century, it would be unnecessary, as war was defined within narrow limits. This is no longer true. In the course of a day one is liable to come across such terms as Great War, Global War, World War, Limited War, Nuclear War, Broken-back War, Cold War, Psychological War, Economic War, Guerrilla War, Price War, and so on.

It is clear that war involves more than physical violence by military forces. War also includes such non-violent means of exerting force as applying economic, psychological and diplomatic pressure. As has already been touched upon, nuclear weapons have given added emphasis to these non-violent aspects of war: for instance, the 1958 Soviet diplomatic action concerning the status of West Berlin.

Clausewitz's dictum that war is a continuation of politics by other means and the Soviet twist to this, "If war is a continuation of politics, only by other means, so also is peace a continuation of struggle, only by other means"[3], cover both the violent and non-violent aspects of war. Yet we need not go so far afield. Encyclopaedia Britannica states, "At the opposite extreme from wars of extermination you have conflicts which are hardly more than police actions or 'war of nerves' in which the object is to persuade another state to modify its policy and yield some practical point by the mere threat of war."[2]

From this the meaning of war taken from Webster's dictionary assumes a broader scope than we are accustomed to when we read that war is, "The state or fact of exerting violence or force against another."[4]

Violence is well understood but force is not. Again from the dictionary we find "force is power to exert effective action, to persuade or convince or impose obligations". Too often war is considered only in its limited context, that of merely applying violence and all that is required to make it effective. In the past this was not so important. Now the existence of nuclear weapons makes the application of force (war without physical violence) extremely potent. Therefore, anything so fundamental as the Principles of War must apply both to the violent and non-violent aspects of war.

Principles as They Now Stand

To review the development and current principles of war is to open a Pandora's box of confusion. Neither nations nor individuals can agree on a list of Principles of War. Individual attempts to define them began approximately one hundred years ago with Jomini, while national attempts are all confined to this century.

The initial attempt by the British Army appeared in Field Service Regulations, 1932. The list had eight principles. Since then it has been revised to include ten principles. This list contains not only principles but also methods, as is freely admitted by Sir F. Maurice: "Strictly speaking, surprise, mobility, offensive action, cooperation and economy of force are not principles. They are methods by which certain results can be obtained . . . as long as we know what we mean when we talk of principles of war it is not necessary to be pedantic in the use of words."[5]

The United States Army first authorized a list of Principles of War in 1922. This list has been revised four times since then. At present they advocate nine Principles of War of which seven are common to the British list.

The Russian Army does not have a list of Principles of War but does list five permanently-operating factors. If the reader is not familiar with these he is well advised to read Garthoff's review of their status in Russia from 1945 to 1959.[6] Of all the lists the Russian list more nearly approaches what may be termed principles. They list first, "Stability of the rear, defined as encompassing the economic, political and morale potentialities of the state." The others are morale of the army, the quantity and quality of divisions, the armament of the army and the organizing ability of command personnel. They do not officially list Surprise, as has often been suggested.

The lack of agreement is even more pronounced among individuals. Napoleon denied that principles were of great utility: "Napoleon remarked that Jomini had set down only principles, whereas genius worked according to intuition."[7] However, his writings have been culled to yield one hundred and fifteen maxims. No less a soldier than the elder Moltke agreed with Napoleon. "Moltke denied that strategy was a science and that general principles would be established from which plans of operations could be logically derived."[8]

Nevertheless, the majority of soldiers recognize Principles of War in one form or another.

Some lists of principles are not specific. Foch concluded his list with:

Principle of economy of force.
Principle of freedom of action.
Principle of free disposal of forces.
Principle of security.
etc.[9]

In speaking of the Canadian-British Principles of War, Major-General Macklin concludes,[10] ". . . the object of the student of the art of war is to adapt NEW METHODS TO ESTABLISHED PRINCIPLES." But in the same article he also states, "It may be that the time will come when air forces and armour will become so effective as weapons of pursuit that this method may be generally accepted as a principle of war." This illustrates an unhappy tendency among military writers of modifying the principles of war to meet changing conditions. It would be far better if a list were established of principles which were suitable to meet the requirement of being able to adapt new methods to established principles.

The confusion is deepened if we turn from Army writers to a Naval authority. Admiral Mahan[11] listed six fundamental factors of sea power (geographical position, physical con-

formation, extent of territory, population, national character and government institutions), as well as four principles (central position, communications, concentration of force and power of offensive action). A study of these reveals them to be a cross between our list of Principles of War and the Russian permanently-operating factors, with added feature of the importance of terrain. It is noteworthy that Mahan had two lists, one of fundamental factors, the other of principles.

Finally, if we turn to writers on particular types of warfare we become even more mystified when we read their lists of principles. One of the most important of such writers is Mao Tse-Tung.[12] He, in 1937, listed and expanded in great detail upon six principles of guerrilla warfare. The headings for these principles are:

"On our own initiative, with flexibility and according to plan, carry out offensives in a defensive war, battles of quick decision in a protracted war, and exterior-line operations within interior-line operations.

"Coordinate with regular warfare.

"Establish base areas.

"Undertake strategic defensive and strategic offensive.

"Develop into mobile warfare.

"Establish correct relationship of commands."

It is not my purpose to try to explain what these mean in this discussion. However, I consider what Mao has to say about his principles is militarily sound. Any serious student of war should carefully study Mao's writings, as the six principles he speaks of were followed almost to the letter by Ho Chi Minh in Indo-China and followed in outline more recently by Castro in Cuba.

This review has shown that confusion exists. The current Canadian Army Principles of War are, in fact, useful for land operations and consist mainly of methods. That is not all. Our list of principles claims to be of use at all levels of command. In this they fail. For instance, "Grand strategy must be governed by the main principles of war and such others that affect the task at hand."[13] What others? Do they include Clausewitz's principle "to gain public opinion"?[14]

Confusion concerning current Principles of War is due to three factors: first, trying to contract the important ingredients for success in war into a few words and sentences; secondly, tackling the problem from too narrow a viewpoint; thirdly, and most important, from a lack of precision in the use of words. We speak not only of Principles of War but also of principles of attack, defence, administration, documentation and so on. General Sir Richard Gale has said, "Precision of thought is essential to good generalship: and precision of thought is almost impossible without a proper understanding of the meaning of words."[15]

In order to resolve the apparent confusion and present a broader basis of discussion it is proposed that two lists be used as follows:

1. *Principles of War:* Fundamental truths concerning the exertion of violence or force against another, where violence involves physical action and force involves power to persuade, convince or impose obligation.

2. *Rules of War:* Prescribed guides for the successful exertion of violence or force against another. These guides may be set by regulation and common practice.

Principles of War

Principles must first lead to clear and logical thinking on war. They must be fundamental truths which take all possible cases into account. They must not only cover air, sea and ground operations but also all other endeavours within a nation directed towards waging war. They must be comprehensive and pertinent to all levels of command both military and civil. They must be constant and unaffected by variations in the geographical location of the war, the society which wages it and the level of technological development at the time the war is fought. Finally, the rules of war must derive from the principles of war as being important methods for obtaining success.

From a study of the development and current concepts of the principles of war there appear to be six principles of war which meet the conditions laid down. As with fundamental truths in other fields, they appear almost too simple to state. Nevertheless, failure to apply them in past wars has led to defeat and will doubtlessly do so in the future.

The closest approach to the first principle is the first listed of the Russian permanently-operating factors: stability of the rear which encompasses the economic, political and morale potentialities of a state. With this as a starting point it is possible to divide war into four aspects as follows:

1. *Economic Aspect:* Concerns all elements required to keep a man in being and physically able to act. At one extreme it involves shelter, food and clothing. At the other extreme it involves a nation's industry, technology, natural resources, location, communications and so on.

2. *Diplomatic Aspect:* Concerns the collective interaction of groups of men. It acts primarily on the mind. It not only involves international interaction but also interservice, interdepartmental and labour-management interaction. In fact, it takes in all cases where the collective views of a group are presented as opposed to those of any individual.

3. *Psychological Aspect:* Concerns the individual man. It acts on the mind. It involves among other things, psychological warfare, morale, mental robustness, power of decision and individual knowledge.

4. *Military Aspect:* Concerns the physical interaction of groups or individuals on each other. It is characterized by physical violence with anything from fists and shell fragments to gamma rays and biological warfare agents.

The first Principle of War is to recognize, first, that war is fourfold in nature; second, that all four aspects are involved in any war, either passively or actively; and third, that war may be conducted by applying force to any or all of these aspects. In particular, Cold War is the application of the economic, diplomatic and psychological aspects actively, with the military aspect passively applied in most instances. This may not be very important to an aircraft captain or a platoon commander, but is of great importance to the high level civil and military commanders. What is of even more importance, is to realize that in this type of war, the remainder of the Principles of War apply just as much as in a military war.

The second Principle of War is that the selection and maintenance

of an aim is a prerequisite to successful action. In order to obtain useful results in war, force must be directed. This is accomplished by selecting an aim which focuses the action of force. The ultimate aim is to destroy the enemy's will to resist. Each phase of war will have a more limited aim directed towards this supreme aim. Once the aim is decided all available force must be directed towards its accomplishment until a changed situation calls for a re-appreciation and probably a new aim. At the highest level the aim must focus the actions of all aspects of war. For example, "To overthrow the Batista Government in Cuba", "To destroy capitalism" or "To contain communism" involves all aspects of war. At intermediate levels the aim focuses the action of one or more aspects of war. For instance, "To suppress the Hungarian revolution with the least damage to international communism", involves diplomatic, psychological and military action. At the lowest level the aim focuses the action of part of one aspect of war. For example, "To destroy the enemy on hill Y," or "To increase the production of radar sets by 5%," respectively involve military and economic aspects alone.

In all cases the aim given must be clear-cut, direct and concise. Every aim must be tested by its bearing on the supreme aim. It must be given in time for it to be acted upon. At all levels of command one person must be made responsible for the execution of the given aim. Finally, in selecting an aim and maintaining it, best results are obtained with simple aims and simple plans.

The third Principle of War is that success in war depends on the quantity and quality of force. This is a relative matter between contending sides. The quantity of force depends on the amount and type of natural resources of a nation, the size and composition of its population, the size of the armed forces, the size of the Civil Defence services, the size of the labour force, the economy level, the state of technological advancement, and so on. The quality of force depends on the geographic location, the type of society and its organization, the extent of preparation and training for war, the type of armament and equipment, the ability of leaders, the professional skill, physical and mental fitness of its members, the state of morale, and so on. It is true that quality can make up for quantity and vice versa, but only within certain limits. In the end the outcome of war is determined by quantity and quality of economic, diplomatic, psychological and military force. This principle is especially important because changes in the quality and quantity of force primarily determines the changes in the detailed methods by which war is conducted.

The fourth Principle of War is that action may be either offensive or defensive. Offensive action seeks to reduce the enemy's or opponent's capacity for action. It must be taken to obtain success and victory. It confers the initiative, it gives increased freedom of action and upsets the enemy's equilibrium.

Offensive action may be applied to all aspects of war. Blockades and embargoes are offensive actions applied to the economic aspect of war. Offensive action in the military aspect of war is too well known to discuss in detail here.

Defensive action is that taken to counter enemy offensive action or

his capacity for it. When applied to all aspects of war it covers security in its widest sense. It includes preparation and training for war, as well as active operations to defend or protect vital interests. In detail, maintenance of morale and gaining public opinion (at home) are defensive actions in the psychological and diplomatic aspects of war. Administration is defensive action in the economic aspect of war.

In war offensive and defensive action are closely allied. One cannot be effective without the other. One of the most difficult problems facing a commander at all levels is to reach the right balance between the two. In war this balance is continually changing. In order to cope with this, information not only about the enemy but also about our own forces is necessary. To adjust to this continual change forces must be highly flexible. They must be willing and able to cooperate at all levels in order to coordinate actions to an optimum degree.

The fifth Principle of War is that all action in war is connected in time and/or space. This, too, is a relative matter. The side which is able to connect its actions most closely has a decided advantage, while loosely connected actions lead to failure as has been pointed out by Napoleon:

Maxim 26: "It is contrary to true principles to require forces which have no communications with each other to act separately against a central force whose communications are good."[15]

Maxim 34: "It is a principle never to leave intervals through which the enemy may penetrate . . ."[16]

Action broken in time or space courts disaster. An important factor in connecting action in time and space is the ability to move. This ability is governed by the types of transportation as well as the amount of each. More important are such factors as position on the ground, type of terrain and climate, as well as Mao Tse-Tung's considerations of interior versus exterior lines, Mahan's value for central position, and Foch's thoughts on freedom of action and communications. Also important are intercommunications, especially those used for command and control. By correctly balancing offensive and defensive action and connecting them advantageously in time and space one can obtain concentation of force and economy of effort in war.

It must be underlined that the fifth principle applies to all aspects of war. Napoleon's two maxims quoted here were written for military action, but they apply with equal force to the other aspects of war. For instance, diplomatic action must be closely tied to the economic, psychological and military capabilities of a nation. It is no use waging a diplomatic offensive in one direction while military action is aimed in another — the two must be connected in time. As for intervals through which the enemy may penetrate, more is implied than the physical separation of battle lines. Consider the psychological aspects of war: within any nation or group of nations there is a host of sociological soft spots which the enemy may penetrate, such as religion, colour, division of power, economic status, and so on.

The sixth Principle of War is that to every action there is a reaction. This has been one of the more sadly neglected Principles of War in the past. No action is an isolated event, though it may be of little import-

ance. Every action produces a reaction either on our own forces or those of the enemy. Foch states, "In war everything is co-related."[17]

Action in one aspect of war may vitally affect other aspects. For instance, a victorious military action affects morale, both of our own forces and those of the enemy. The period following the Second World War illustrates how profoundly military action can affect the economic and diplomatic aspects of war. The Soviet statements[18] that "Foreign policy and internal affairs of a nation are closely related", and "The actions of one nation must determine the actions of others", are reflections on basic principle. It is very difficult to predict reactions in war as so many variables are involved. It is noteworthy that great commanders of the past have had an amazing sense in applying this principle, not only as it affects the enemy but also as it affects their own forces. In applying this principle against the enemy, surprise is most important. In applying it to our own forces the passage of information, leadership, cooperation and simplicity are important factors.

Each of these six principles could be expanded a great deal with many examples taken from warfare in the past. However, enough has been shown to indicate that they are applicable to all aspects of war, to all levels of command, to all services, as well as to government and industry directly associated with waging war. Further, it is submitted that they encompass the concepts brought forth in all lists of Principles of War. Finally, it is considered that they are fundamental truths and that their application to problems of war will materially assist in clear thinking. They may be summarized under the following abbreviated headings:

1. War is Fourfold in Nature — Economic, Diplomatic, Psychological and Military.
2. The Selection and Maintenance of an Aim is a prerequisite to successful action in war.
3. Success in war depends on the Quality and Quantity of Force Applied.
4. In war all Action is connected in Time and/or Space.
5. All Action in war is either Offensive or Defensive.
6. To every Action in war there is a Reaction.

The Rules of War

The Rules of War stem from the Principles of War and may be considered under four headings as follows:

1. The rules of economic action.
2. The rules of diplomatic action.
3. The rules of psychological action.
4. The rules of military action.

The remainder of this discussion will be concerned with the rules of military action. However, a few remarks will be made concerning the other rules of action to indicate their nature.

From a consideration of Napoleon's Continental System and the British blockades of Germany in the First and Second World Wars, it would seem that a rule of economic action could be formulated: "Offensive economic action should cover as much time and space as is possible." The validity of this rule is further borne out by the Russian economic offensive against Finland in 1958, and the Arab League's economic policies against Israel during the past decade. An analysis of the oil embargoes against Italy in 1935 and the United States'

embargo on Cuban sugar in 1960 reveals a second rule: "Offensive economic actions should be directed at the most critical portion of the enemy's economy."

Some important rules to diplomatic action are: public opinion must support diplomatic action, foreign policy and internal affairs of a nation are closely related, and the action of one nation must determine the actions of others.[18] From a consideration of Russian diplomatic offensives during the Brest-Litovsk negotiations with Germany in 1917, and more recently in 1958-1959 against the West over Berlin, it would appear that offensive diplomatic action must be backed by a strong military potential. In this respect, nations possessing nuclear weapons are in the most effective position to wage a successful diplomatic offensive.

Finally, by considering Germany's prewar actions such as the Saar issue of 1935 and Munich in 1939 as well as Russian cold war offensives, another rule would appear to be that each diplomatic victory must be made to appear the last. If the opponent believes that a final concession has been made, he will wish to avoid further clashes and so drop the matter. In addition, he will be less prepared to meet a new diplomatic offensive when it is launched.

One important rule of psychological action is that information must be disseminated as widely as possible by all available means. A second, that best results are obtained by concentrating on specific targets. A third, the truth must be told, but not all of it. Finally, the emotional appeal brings the widest and fastest results.

Rules of Military Action

The rules of military action remain the same as those for any period in the history of warfare. However, their relative importance varies with a number of factors. The three primary factors are: the geographical location of the war; the society in which the war is fought; and the level of technological advancement at the time of the war. The principal difficulty arises from trying to decide which rules to include and which to leave out at any one time. Associated with this problem is the general level of professional knowledge and experience of those to whom the rules are directed. If they are highly skilled in war then they, like Napoleon, do not need a list of rules. If they have little or no skill then the list of rules must be comprehensive. Finally, when any list of rules has been compiled, it must be carefully reviewed when any of the three primary factors which determine the nature of war changes. This has happened during the last two decades in the technological field, primarily due to the advent of nuclear weapons and high speed, long-range missile delivery systems together with substantial improvements in inter-communications and mobility.

At all levels of command, technological advances have led to profound changes in the military aspect of war. At the high levels of civil and military command these advances have led to new concepts. First, there has evolved the concept that the primary task of military forces is to prevent a military war. Secondly, there has been a realization that no one nation can be militarily self-sufficient. Thirdly, arising from the second point, there has

evolved the concept of collective security.

At the lower levels of military command, technological advances have led to radical changes in military equipment, organization and anticipated tactics. It is not proposed to discuss these changes in detail as a vast amount of literature is available on the subject. As with most things connected with war, there is a wide variation of opinion concerning the detailed nature of future conflict. Nevertheless, there seems to be general agreement on the overall pattern of future military warfare involving these weapons.

As yet, no adequate defence has been evolved to counter the nuclear weapon-missile combination. There has evolved a general concept of variable dispersion which is a combination of movement and dispersion. Concentrations of men and material are to be dispersed in three dimensions: on the ground, in the air and under the sea. Static dispersion must be avoided. To this end Strategic Air Command (SAC) maintains a portion of its aircraft in the air at all times, while navies keep as much of their fleet at sea as is possible. Where feasible, missiles and nuclear warheads are mounted on trains or trucks and kept moving. The requirement for variable dispersion has led to the development of long-endurance submarines, and to the large-scale introduction of army aviation, as well as increased numbers of overland vehicles for ground forces. To variable dispersion has been added emphasis in concealment, hence camouflage, deception and night operations have been underlined.

The effect of technological advances on offensive operations has been less clearly defined. The traditional role of the navy has been vastly changed. The navy now has the capability of engaging large land areas, giving it an additional role overlapping the role of the air force in this respect. The nuclear weapon-missile combination can be used to attack a large number of targets simultaneously and in depth. On the ground, offensive actions will be preceded by intense reconnaissance. The action will take place over a wide front with a number of thrust points moving quickly to exploit nuclear fire.[19] This main effort system will be sustained by reserves fed from great depth.

The effect of these changes on the methods contained in the current lists of Principles of War has often been discussed. The general conclusion that those now recognized should still remain is not disputed, but most of them should be called rules rather than principles. In fact, the importance of the thoughts expressed by them has been increased because of technological advances, as has been well covered by Lieut.-Colonel Lathrop.[20] In nuclear war there will be little or no chance to rectify mistakes which could have been avoided by the intelligent application of principles of war.

One of the more important rules of military action is Security. As mentioned before, Security in its widest sense involves defensive measures applied to all four aspects of war (economic, diplomatic, psychological and military). Maintenance of Morale is a defensive aspect of psychological warfare, and Administration is a defensive aspect of economic warfare. These two rules should be included under security. To do this does not debase their value or importance but it does put them in a more logical place.

Our current manuals have this to say about Security:

"A sufficient degree of security is essential in order to obtain freedom of action to launch a bold offensive in pursuit of a given aim. This entails adequate defence of vulnerable bases and other interests that are vital to the nation or the armed forces. Security does not imply undue caution and the avoidance of all risks for bold action is essential to success in war; on the contrary, with security provided for, unexpected developments are unlikely to interfere seriously with the pursuit of a vigorous offensive."

This is good as far as it goes, but it only includes active defensive measures. It is considered that passive defensive measures should also be mentioned. This is because security problems will be multiplied due to the tempo, dispersion and increased area of operations in future war. The possibility that whole units may be instantly destroyed, and the probability of a short-duration war coupled with long periods of training now required, make preparation for war of primary importance.

The necessity of reducing target vulnerability by variable dispersion and of not being located has already been mentioned. Finally, there is the vital matter of readily available reserves. These have always been important. In future war they will be essential if sudden losses at vital points are to be replaced, and the other rules of war intelligently applied. Thus, the passive defensive measures of preparation for war, creation and maintenance of readily available reserves, and reduction of target vulnerability should be added to the rule of military action—Security.

The other rules of military action require little change in wording. These rules are Surprise, Concentration of Force, Economy of Effort, Flexibility and Cooperation. Some require review as to the implications of their application to future battles. To illustrate this, let us take the rule Concentration of Force. As far as nuclear weapons are concerned, the level of command is important when considering this rule. At the lower levels of command it must be assumed that the enemy has a sufficiency of nuclear weapons available for a given task, while at the same time, at a high level of command, the enemy may be severely limited in the number of nuclear weapons he can use. Also, it must be realized that a small concentration (a few men, a vehicle, a ship or an aircraft) in possession of a nuclear weapon represents a very large Concentration of Force.

There are many other rules. The changes brought about by recent technological advances have made three of these so important that they must be included as rules in any future list. These are Information, Simplicity and Mobility. It is also possible to argue that others should be included, for example, ability of commanders and coordination. However, if a list of rules becomes too long it will lose its value. Thus, the list of rules of military action should be confined to those which are of paramount importance in gaining success during the time frame under consideration. Information, Simplicity and Mobility fall into this category now and in the forseeable future. These factors have always been important in war and they have all, at one time or another, appeared in lists of Principles of War. They are of increased importance now because in future war they will be

more difficult to apply and deal with than previously. This applies not only to projected nuclear battefields but also to guerrilla and counter-terrorist operations.

Information is of fundamental interest during all stages of war. In future it will be more difficult to obtain, not only about the enemy but also about our own forces. Information must be obtained before an aim can be selected or plans made to maintain the aim. In fact, information is required before any of the Principles or Rules of War can be applied with optimum results in any kind of war. In nuclear warfare, the effective and safe employment of the one-shot nuclear weapon makes it imperative to obtain accurate and timely information. In counter-terrorist operations the enemy cannot even be found until a great deal of information has been collected from the local populace.

Simplicity has always been an important factor leading to success in war. Aims must be simply stated. Plans must be simply stated and more important, simple to execute. Equally important as operational simplicity is administrative, technological and training simplicity. Simplicity is of such fundamental importance that a separate heading should be used to discuss it. In this connection the connotation given to simplicity by the United States Army's Principles of War should be used as a starting point (this explanation deals mainly with the need for simplicity in planning). To this, and what has been said above, might be added Moltke's advice regarding orders: "An order shall contain everything that a commander cannot do himself but nothing else."[21]

The final rule of military action to add to our list is Mobility. It is of special importance under conditions of nuclear warfare. The application of mobility is the first consideration in avoiding nuclear attack. The exploitation of mobility is the primary method of consolidating decisions made by nuclear strikes. Commanders at all levels must attempt to gain and maintain a mobility differential in their favour in order to obtain maximum freedom of action. Mobility involves the means of movement, its quantity, endurance, range, speed and intercommunications. It also involves organization and coordination within the tactical plan. It is fundamental to success or even existence on the nuclear battlefield. A force without mobility in a nuclear war is a force lost. Of all the additional rules mentioned, mobility will probably be of greatest importance in future military actions.

Conclusion

I have aimed at establishing a list of Principles of War and a list of Rules of War. I hope there will be a great deal of discussion and questioning as a result. However, certain facts should be kept in mind during such a discussion. First, the concept of war on which they are based is not new. In fact, the definition of war was taken from a standard dictionary and an encyclopaedia. What I have done is to underline the role of force as opposed to violence in war, and reviewed some ideas and concepts on the Principles of War. I think that a great deal of confusion now exists in this important field. Different nations and individuals now utilize lists of Principles of War which are remarkable for their lack of agreement. I trust I have shown that most of these were not true lists of

principles but rather methods by which success may be gained in the military aspect of war.

I think that an urgent need exists for a list of Principles of War applicable not only to the army but also to all agencies of a nation involved in waging war. Attempts to do this are not new. So far none has received widespread recognition, but this does not negate the fact that such a list is required. Admiral Mahan's list of fundamental factors of sea power and the Russian Army's list of permanently-operating factors meet some of the requirements, but neither list is complete or universal enough. The six principles I have isolated are considered to be true principles, that is, fundamental truths concerning the exertion of force or violence against another in war. I submit that they cover all aspects of war, all levels of command, all agencies of a nation involved in war, and are unaffected by variation in geography, society and technological background of war. These six principles are summarized by abbreviated headings in Table I.

In addition to these principles, a number of Rules of War can be identified. These rules are prescribed guides for the successful exertion of violence or force against another in war. These guides may be set by regulation and common practice. The Rules of War can be segregated into rules of economic, political, psychological and military action. I have discussed the rules of military action in detail, but the remainder have been mentioned to show the general train of thought. Their full development must be left to those who are knowledgeable in these aspects of war. A complete list of military rules of action and a partial list of the other rules is shown in Table I.

Of what use are these Principles and Rules of War? They are of limited use to the military geniuses but remember that even geniuses have made errors in applying them. Napoleon failed to obtain information about Blücher's force in 1815 as a result of failing to anticipate the German's reaction to a rebuff. At the same time he underestimated the quality of Wellington's force. Hitler underestimated the quantity of Russian forces in 1941. In Malay, in 1942, the British suffered their worst defeat since Yorktown. Here they underestimated Japanese quality of force; they failed to anticipate their own reaction to jungle warfare; they failed to connect their actions in time and space; and selected a poor aim which they failed to maintain by an overall plan as a basis of operations. More recently, the Communists in Eastern Europe failed to anticipate the reaction of the people living in Hungary and Germany. In Indo-China it would appear that the French did not understand the nature of the war they were waging and persisted in trying to deal with it in purely military terms until it was too late.

What is most distressing at this time is that the nations facing Communism in the Cold War have not successfully applied any of the Principles of War to the problem. It appears that the nature of the war is not fully understood. In fact, some people do not realize that we are at war and that, in its own way, it is just as desperate as either of the last two World Wars. An overall suitable aim has not been selected, let alone a comprehensive plan. The quantity and quality of force required is not understood. For

instance, the need for collective security is not universally recognized and even so many people still look at the Cold War in terms of the military aspects alone. Action is not connected in time and space. For instance, diplomatic action is only remotely connected to psychological actions such as the Voice of America and Radio Free Europe. (Even these latter two agencies in the same field of war are only loosely connected.)

Moderate success has been obtained in defensive action, yet nearly half the world has been lost and the "battlefield" is shifting towards the Americas. Offensive action has seldom been taken except in desperation. Finally, the reaction of the enemy is seldom anticipated. All this is in marked contrast to the apparent actions of the enemy. Thus, these Principles and in a like manner these Rules of War are useful in a practical manner. In addition, they are useful to the student of war to assist in studying the history of warfare, in analyzing situations and in solving academic problems of war.

TABLE I
THE PRINCIPLES AND RULES OF WAR

The Principles of War

1. War is fourfold in nature—Economic, Diplomatic, Psychological and Military. All four are always involved in war, either passively or actively. War may be conducted by applying force to any or all of these aspects.
2. The selection and maintenance of an aim is a prerequisite to successful action in war.
3. Success in war depends on the Quality and Quantity of Force applied.
4. In war all action is connected in Time and/or Space.
5. All action in war is either Offensive or Defensive.
6. To every action in war there is a reaction.

The Rules of War

Rules of Economic Action

1. Offensive economic action should cover as much time and space as is possible.
2. Offensive economic action should be directed at the most critical portion of the enemy's economy.

Rules of Diplomatic Action

1. Gain public opinion.
2. Foreign policy and internal affairs of a nation must be closely related.
3. The action of one nation must determine the action of others.
4. Offensive diplomatic action must be supported by a strong potential for military action.
5. Each non-military victory must be made to appear the last, as far as the opponent is concerned.

Rules of Psychological Action

1. Wide dissemination of information.

2. Concentration on specific targets.
3. When engaging in offensive psychological action always tell the truth—but not all of it.
4. Emotional appeals bring the widest and fastest results.

Rules of Military Action

1. Security (expanded to include maintenance of morale, administration, preparation for operations, creation and maintenance of readily available reserves and reduction of target vulnerability).
2. Surprise.
3. Concentration of Force.
4. Economy of Effort.
5. Flexibility.
6. Cooperation.
7. Information.
8. Simplicity.
9. Mobility.

(Note: The Rules of Economic Action, Diplomatic Action and Psychological Action listed above are not complete and are included only to show the general idea.)

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DRB PROGRAMME REVIEWED

A REPORT FOR 1960 PREPARED BY THE DEFENCE RESEARCH BOARD, NATIONAL DEFENCE HEADQUARTERS, OTTAWA

The Defence Research Board's scientific programme during 1960 stressed fundamental research activities aimed at contributing to long-term problems facing Canada and to the collective security of the NATO alliance. Because of continuing rapid and spectacular advances in technology, increased attention was directed to forecasting future scientific and technological military developments in addition to the Board's primary role of providing scientific assistance to the Armed Forces.

The four major areas which received particular attention during the year included anti-submarine investigations, the air defence of North America from bombers and ballistic missiles, the employment and tactics of ground air forces in the European theatre, and National Survival. Continuing study will be devoted to these pressing defence requirements.

Noteworthy in the field of development after almost 10 years of basic and applied research at the Naval Research Establishment (NRE), Dartmouth, N.S., was the acceptance for operational use of the variable depth sonar (VDS), a new submarine detection system which marks a valuable advance in the field of anti-submarine warfare.

Towed below naval vessels, the system permits the lowering of sonar gear through the thermal layers of the ocean for the detection of submarines which previously could hide successfully in or below the various temperature strata of the water.

The result of close collaboration between the Board and the RCN, VDS has been accepted as operational equipment by the Royal Navy. A number of other NATO powers are also considering adopting the new Canadian development.

Two launchings at Fort Churchill in mid-October marked the first firings of the Black Brant 2 research rocket being developed by the Canadian Armament Research and Development Establishment (CARDE), at Valcartier, Quebec. The rockets were tested for aerodynamic stability. Although similar in size and appearance to the Black Brant solid propellant test rockets first launched late in 1958 and subsequently employed to investigate the upper atmosphere, the Black Brant 2 is being designed to attain relatively high altitudes to further upper atmosphere investigat-

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The Principles of War

(Continued from preceding page)

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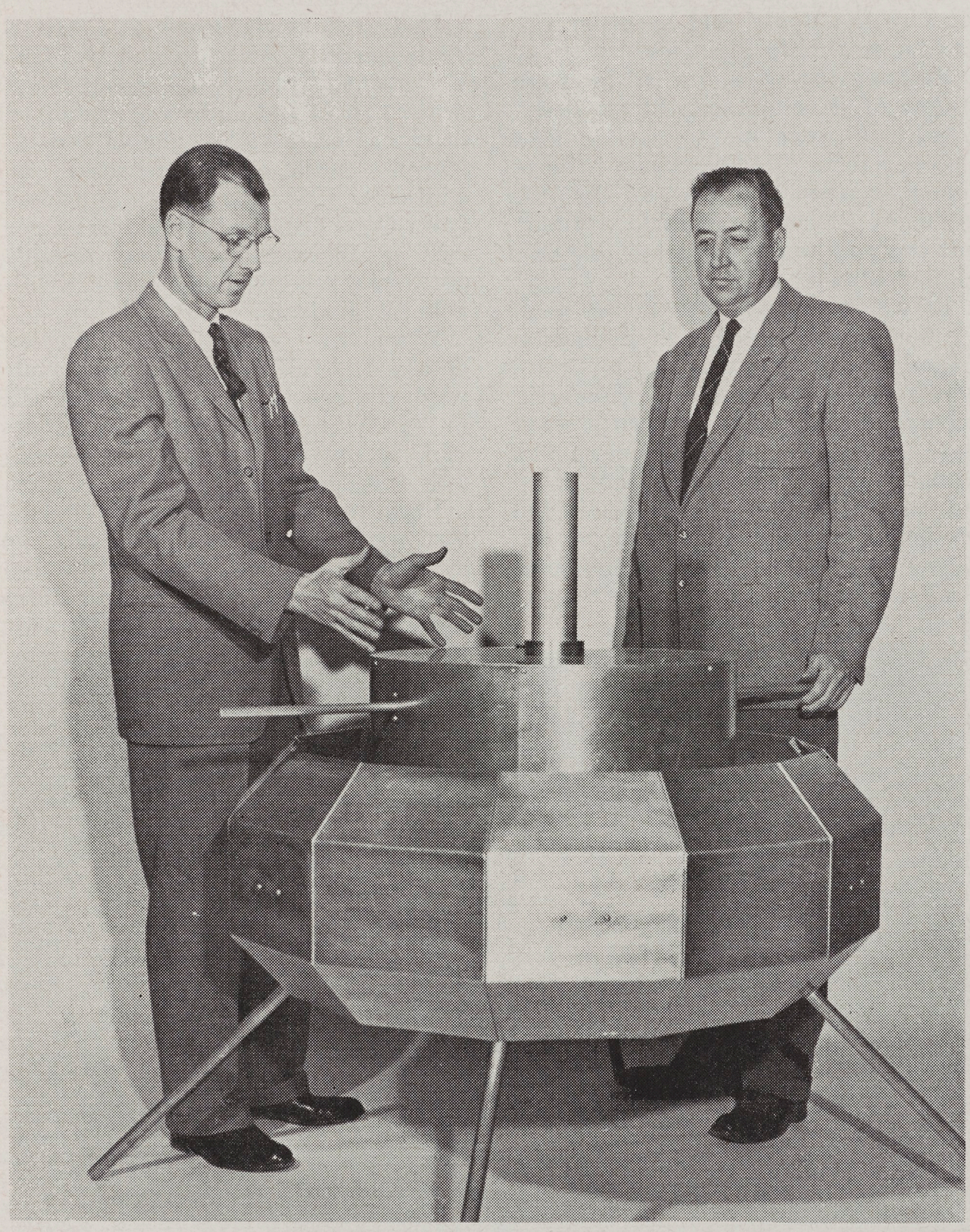


National Defence Photograph

R. Keith Brown, left, who is in charge of the Defence Research Telecommunications Establishment group which is constructing a satellite with instrumentation to sound the ionosphere's top levels, discusses an antenna problem with Dr. R. C. Langille, Superintendent of DRTE's Electronics Laboratory. Long, ionisphere-probing antennae will be fitted to the DRB satelitte which will resemble this aluminum mock-up.

ions by the Board and by other Canadian scientific agencies.

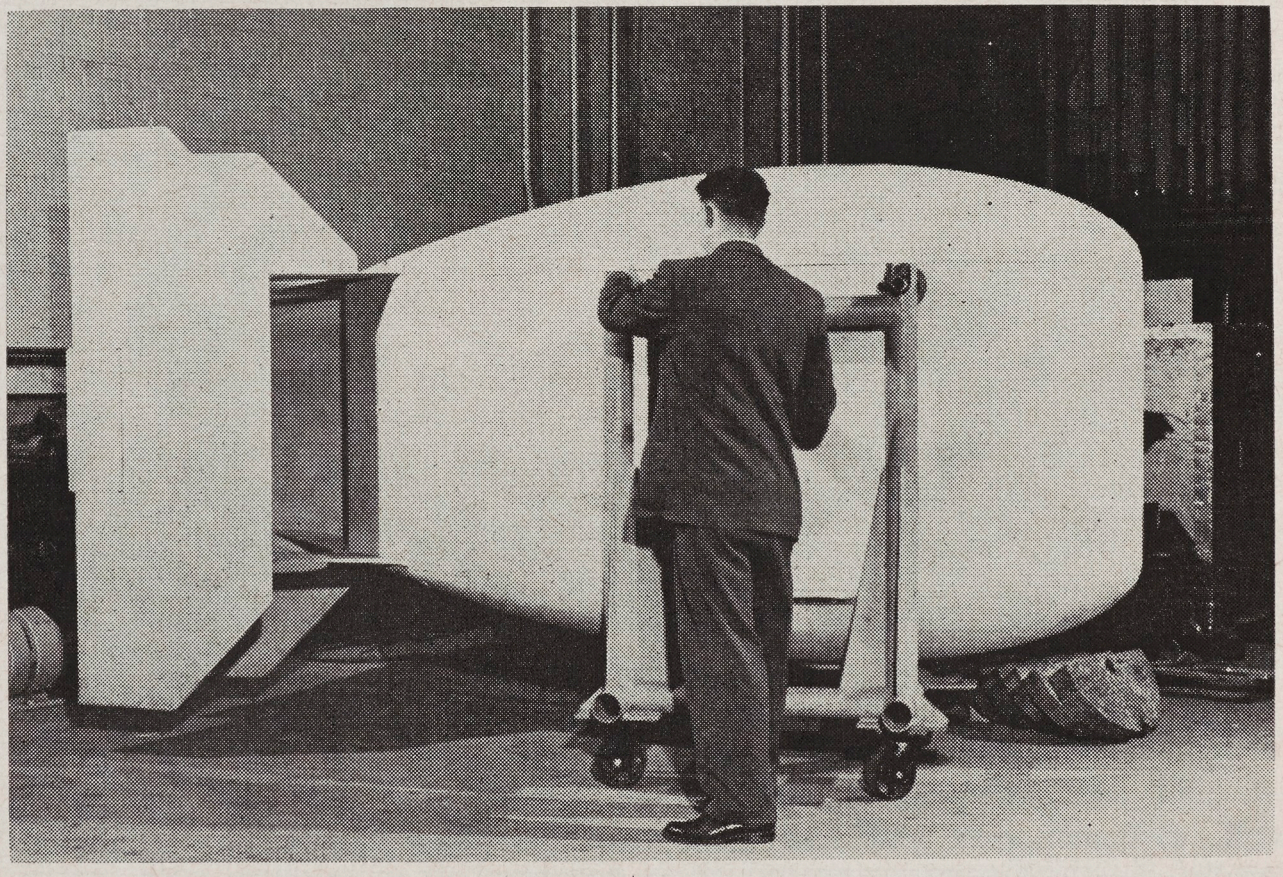
Because the motor is in the final stages of development, Black Brant I engines were employed for the October tests. Modifications to nose cones, engines and fins of the original propellant test vehicle will permit the new research rocket to reach higher altitudes.

RCAF support made possible an 11-month DRB project at Ascension Island in the South Atlantic Ocean which has resulted in the successful recording of radiations from rocket nose cones re-entering the earth's atmosphere. A Canadian contribution to anti-ICBM studies conducted on behalf of the US Advance Research Projects Agency, the joint DRB-RCAF project was called Operation Lookout.

Instruments designed at CARDE were placed in wing-pods of two CF-100 fighter-interceptor aircraft at Ascension Island and were employed to record ultra-violet, visible and infrared radiations generated by whitehot US nose cones launched from Cape Canaveral. During 90 per cent of the missions flown, valuable data was recorded and made available for analysis.

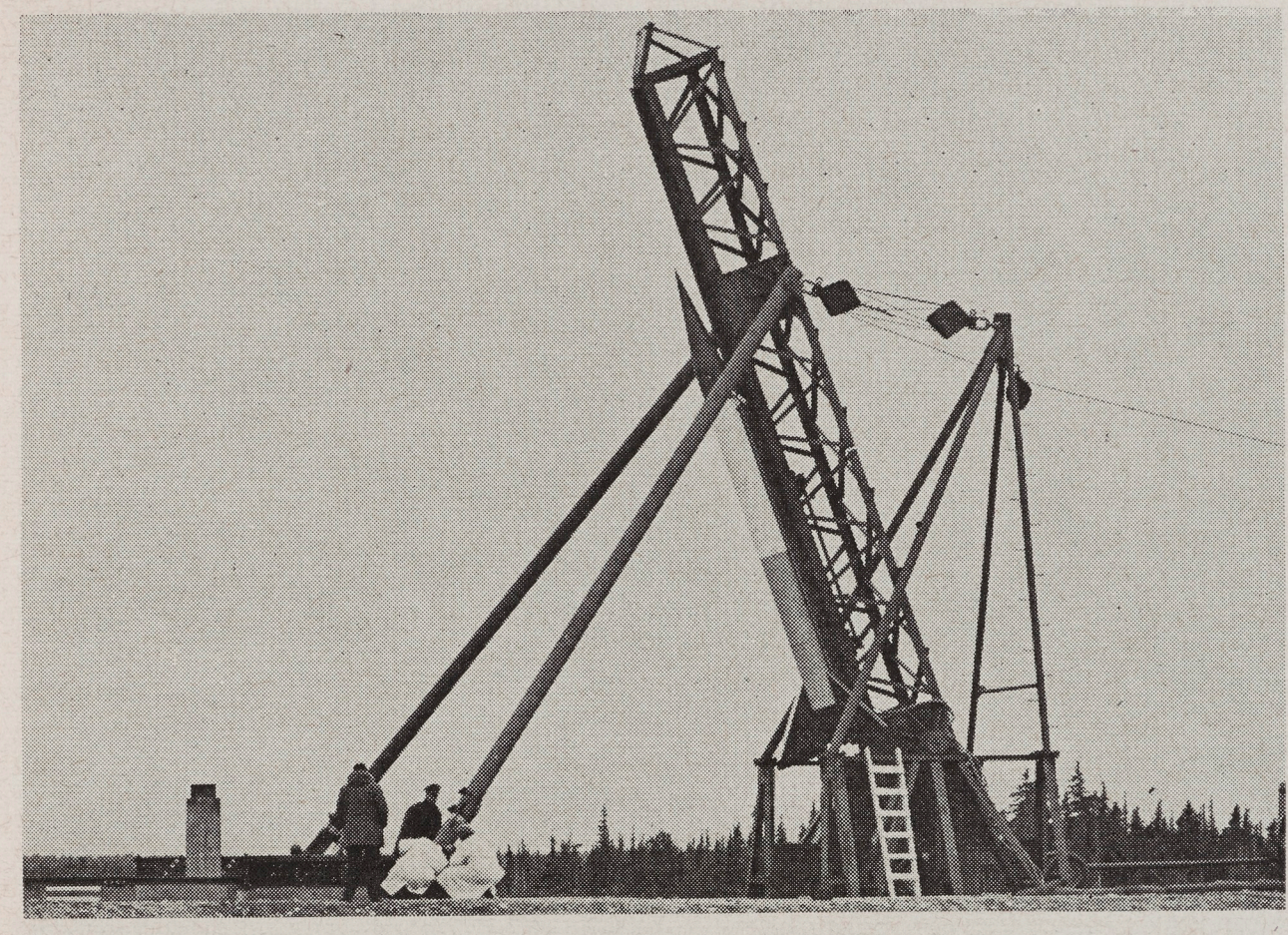
When the scientific information obtained is fully processed and analysed, the results should help the US in clarifying the feasibility or otherwise of developing an infrared system for detecting incoming ICBMs.

Progress is continuing on the design and construction of a satellite by the Electronics Wing of the Defense Research Telecommunications Establishment (DRTE) at Ottawa.



National Defence Photograph

This Variable Depth Sonar is one of DRB's most successful long-term projects. VDS has been accepted as operational equipment by the Royal Canadian Navy, and represents a notable advance in submarine detection.



National Defence Photograph

A Black Brant propulsion test vehicle is placed on an inclined launcher at Fort Churchill, Man., prior to firing last September. The 17-inch rocket engine was developed at DRB's Canadian Armament Research and Development Establishment at Valcartier, Que.

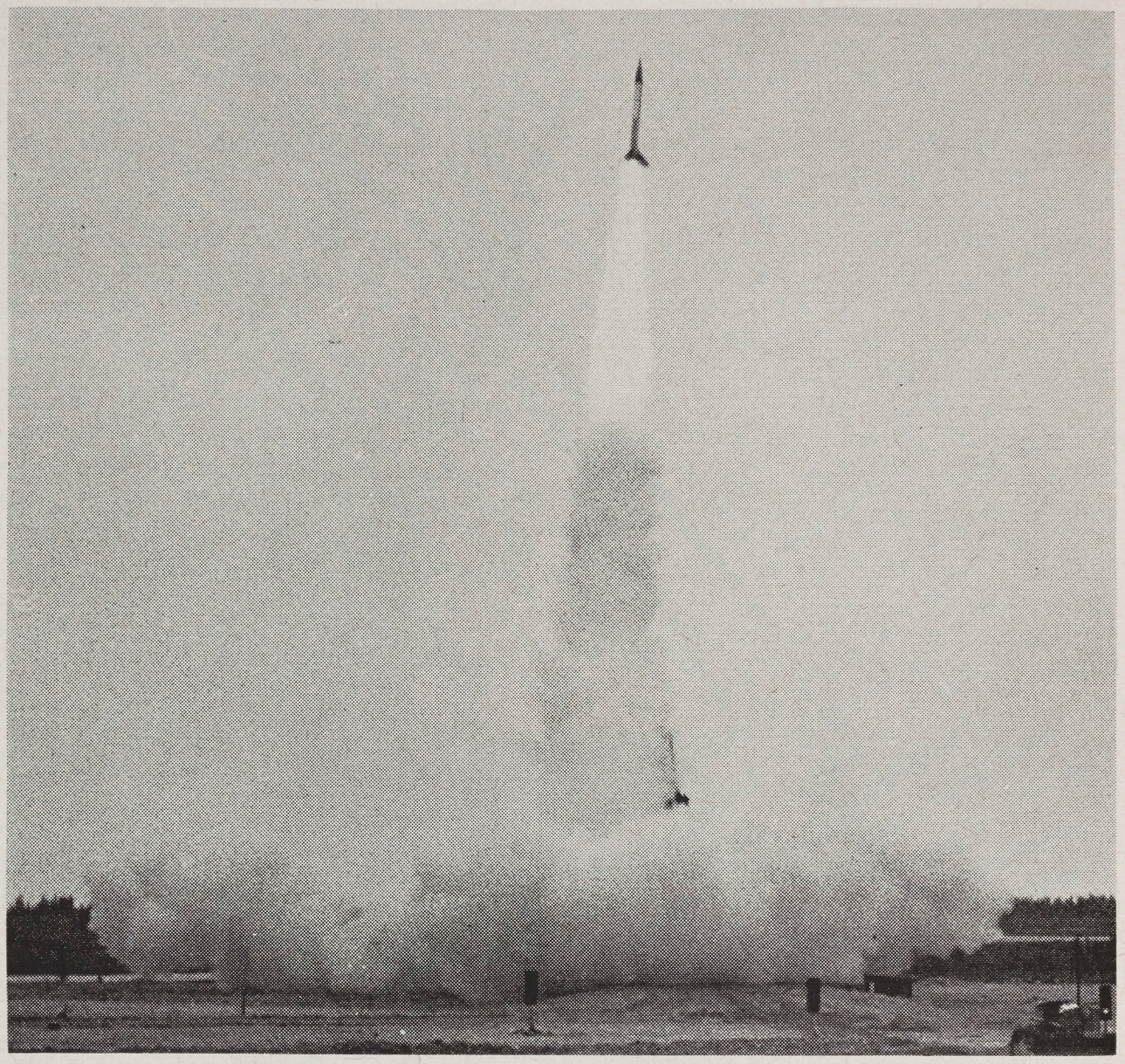
It will probe the top layers of the ionosphere by means of radio pulses and should therefore provide data unavailable either from instrumented rockets or from ground-based research equipment.

A joint DRB-US aeronautics and Space Administration project, the satellite will be placed in orbit by a US rocket at Vandenberg Air Force Base in California during the first six months of 1962.

Instruments designed by the same establishment for US satellite Transit 2A were launched into orbit last June. Important records of spatial radio noise were received by a number of international receiving stations, including the Board's Electronics Laboratory in Ottawa.

The data obtained permitted the scientists to decide on the power needs for the DRTE satellite. In addition, it demonstrated the soundness of the techniques and instrumentation employed by the laboratory for upper atmospheric investigations.

A series of eight rocket launchings at Fort Churchill during 1960 provided valuable data about the upper atmosphere. In addition, a phenomenon due to energized particles ejected from the sun during major solar flares, which blacks out long-distance radio communications, was



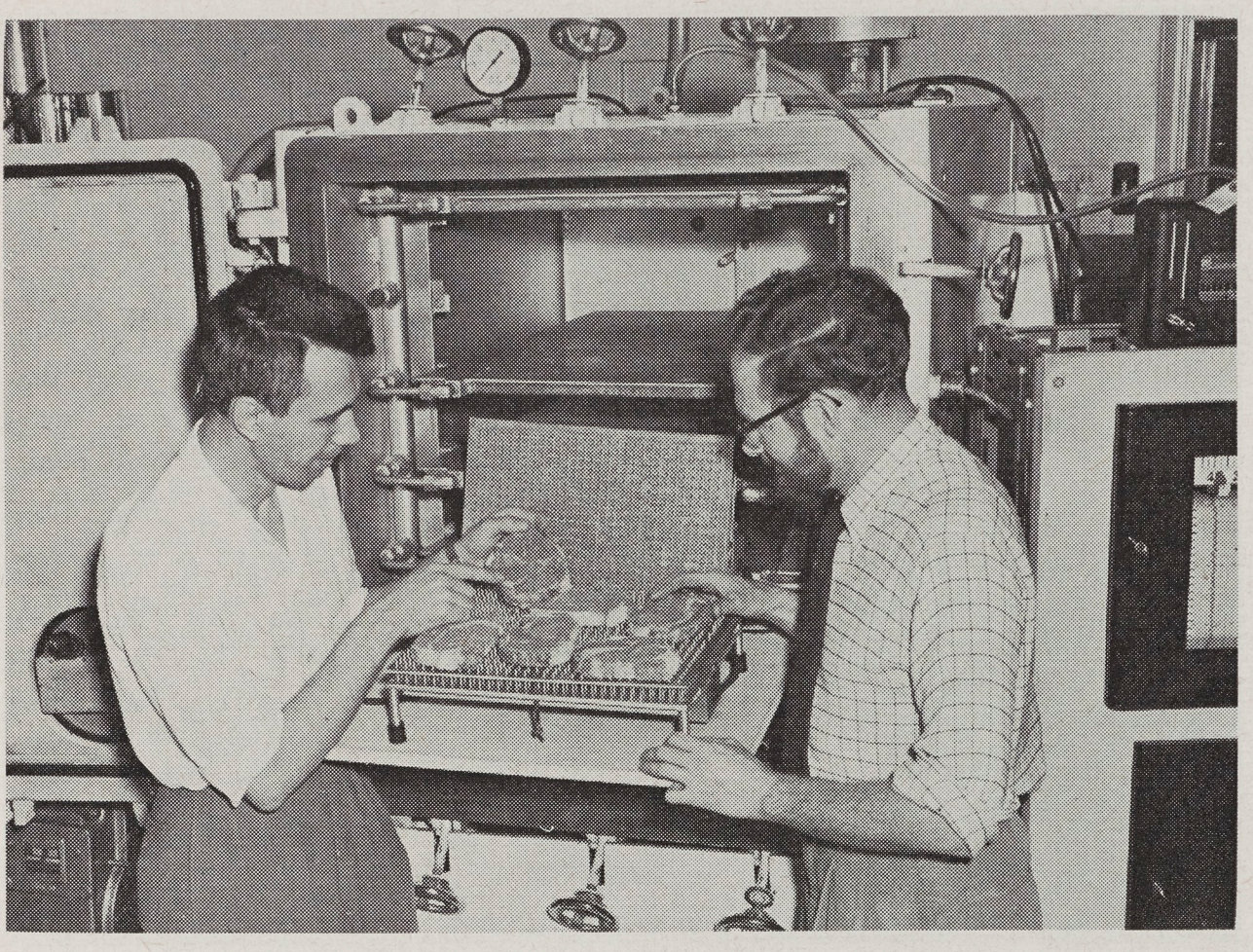
National Defence Photograph

The Black Brant immediately after firing. Four of these 24-foot propulsion test vehicles developed by CARDE were successfully launched at Fort Churchill to climax several years of research and development on solid propellant fuels for use in future Canadian research rockets for upper atmospheric studies.

investigated by means of instrumented rocket nose cones. This phenomenon will be investigated further in 1961.

With the commercialization by Toronto and Hamilton firms of rapid freeze-drying, a method of dehydrating meat and fowl developed at the Defence Research Medical Laboratories (DRML), at Toronto, another long-term research and development programme was completed.

The Toronto plant will construct and install freeze-drying equipment for initial running-in tests. The Hamilton firm will establish and confirm economical procedures for the dehydration of raw and cooked meats and combination dishes. Quantity manufacture of dehydrated



National Defence Photograph

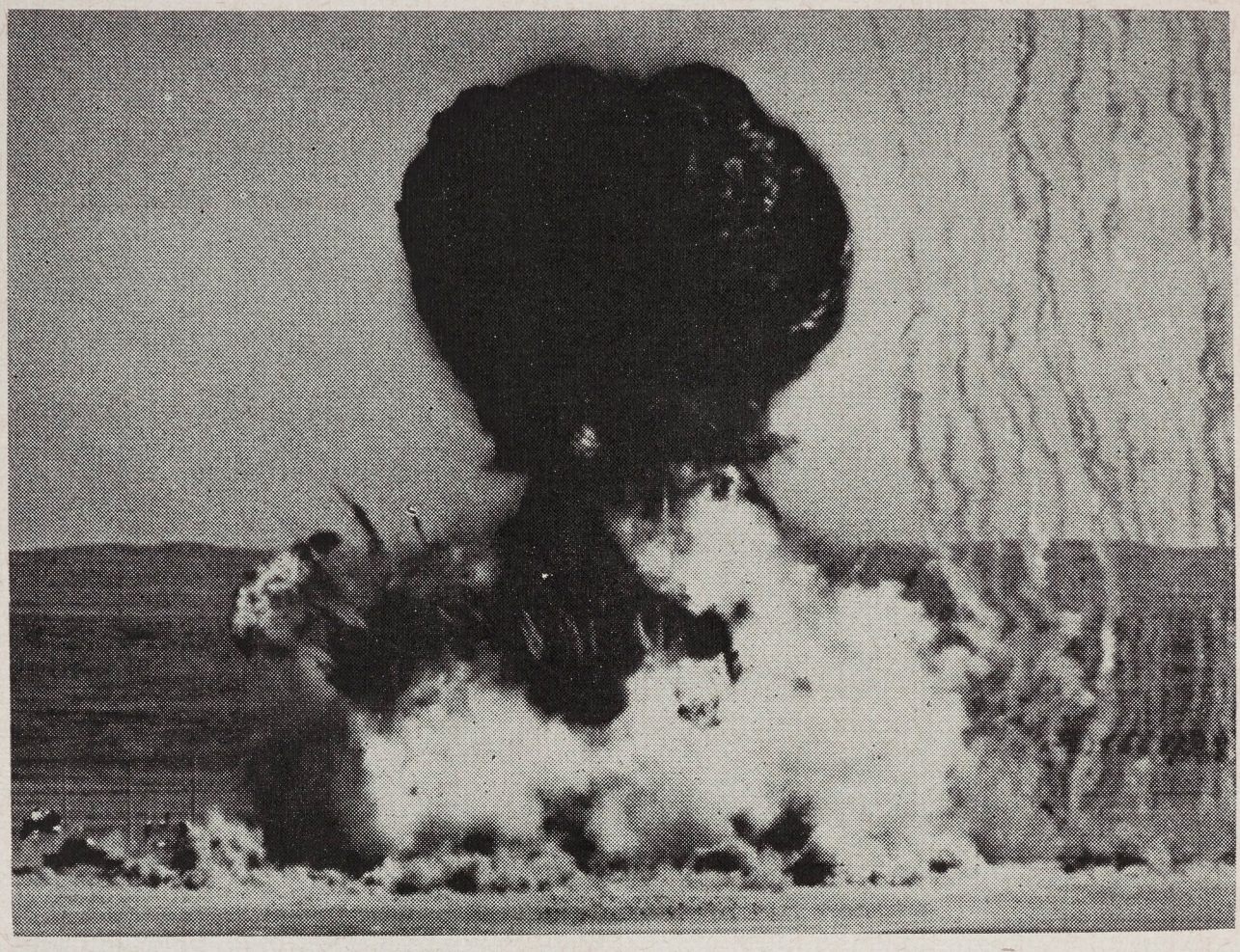
Dr. Carl Brynko and Dr. W. R. Smithies of the Defence Research Medical Laboratories at Downsview, Ont., press frozen steaks on to the aluminum spikes of a dehydration apparatus developed at DRML. The heat which passes from the spikes uniformly throughout the meat, fish or poultry being processed lessens materially the time required by conventional dehydration methods. Following rehydration and normal cooking, the products are both tasty and tender.

foods for Canada's Armed Forces and the civilian market can then be effected.

DRB scientists at Suffield Experimental Station (SES), near Medicine Hat, Alta,, continued their investigations into the behaviour of shock and blast waves with further trials involving large-scale non-atomic explosions.

The most dramatic trial in the series took place in August when a 40,000-pound hemisphere of TNT (trinitrotoluene) was exploded. The experiment permitted comparisons of blast-measuring instrumentation used by Canada, the US and the UK during past nuclear trials. Assessments of damage to Service equipment placed in the trial area were also conducted and SES scientists obtained further valuable data for the shock and blast research programme.

At the Pacific Naval Laboratory (PNL), in Esquimalt, B.C., the most significant activity during 1960 was the mounting of research expeditions to investigate some fundamental aspects of the detection of



National Defence Photograph

Twenty tons of TNT were exploded for test purposes at the Suffield Experimental Station, Ralston, Alta., last summer. This resulting "cloud" was photographed one minute after the initial blast.

submarines operating under the ice of the Arctic Ocean.

The Board's organization remained unchanged during 1960, apart from the establishment of a small directorate at Headquarters called the Directorate of Maritime Research. The staff concerns itself with coordinating maritime research generally and, in particular, scientific aspects associated with ocean, surface and sub-surface environments; underwater acoustics; submarine detection, tracking and killing, and counter-measures against the submarine threat.

Creation of the new directorate became necessary because of increased interest in Maritime activities by Canada's defence forces, along with the expanding technology in the fields concerned. The objective of the directorate is to affect closer coordination of all scientific research related to Maritime defence activities.

Information for Service Bands

A Canadian Armed Forces Information Bulletin dealing with the effect of weather on Service bands has now been issued and is available on request from the Chief Inspector of Bands, Directorate of Administration, Adjutant-General's Branch, Army Headquarters, Ottawa.

National Survival

The Attack Warning System

A REPORT PREPARED FOR THE *Journal* BY THE DIRECTORATE OF SURVIVAL OPERATIONS AND PLANS, ARMY HEADQUARTERS, OTTAWA

Within the terms of Privy Council Order 656 of 1959 and pursuant to the Civil Defence Order of 1959, the Minister of National Defence has been charged with the responsibility of exercising certain powers, duties and functions in connection with national survival. These responsibilities included:

"Provision of technical facilities and operation of a system to give warning to the public of the likelihood and imminence of attack".

The Privy Council Order further specified that these various duties and functions would be assumed by 1 September 1959. The Army was designated the responsible agency within the Department of National Defence for the establishment and operation of the warning system.

It is reasonable to assume that the air threat facing Canada today is not necessarily the one that will apply tomorrow or next year, and, that the threat is changing both in regard to its potential for destruction and in types and speeds of weapon delivery over long distances. The paramount threat in 1961 is the manned bomber capable of carrying a thermonuclear weapon long distances, but at speeds which would probably provide a warning period of up to three hours from the time it penetrated our outer perimeters of tactical warning. In the near future the threat may change to the inter-continental ballistic missile which will take twenty minutes or less from its point of original detection to reach its target. Submarine-launched missiles may shorten this time to as little as five to ten minutes.

Any warning system designed to prove effective in the light of a manned bomber attack will be of relatively little value if it cannot be adapted to the speed of delivery of the weapons of tomorrow. This condition necessitates that for reasons of efficiency and economy, a system developed to meet today's demand must be capable of conversion to cope with the needs of advancement in weapons with a minimum of redesign.

Deterioration of international relations which could lead to a future conflict may be apparent and thus provide a measure of strategic warning. Within the current and future means of waging war strategic alerts may not occur. Even under optimum circumstances it is unlikely that strategic warning will provide exact data on just when an attack against North America will take place and the locations on which it will be centered.

We may, however, expect to secure a measure of tactical warning from many agencies concerned with the active air defence of North America, including:

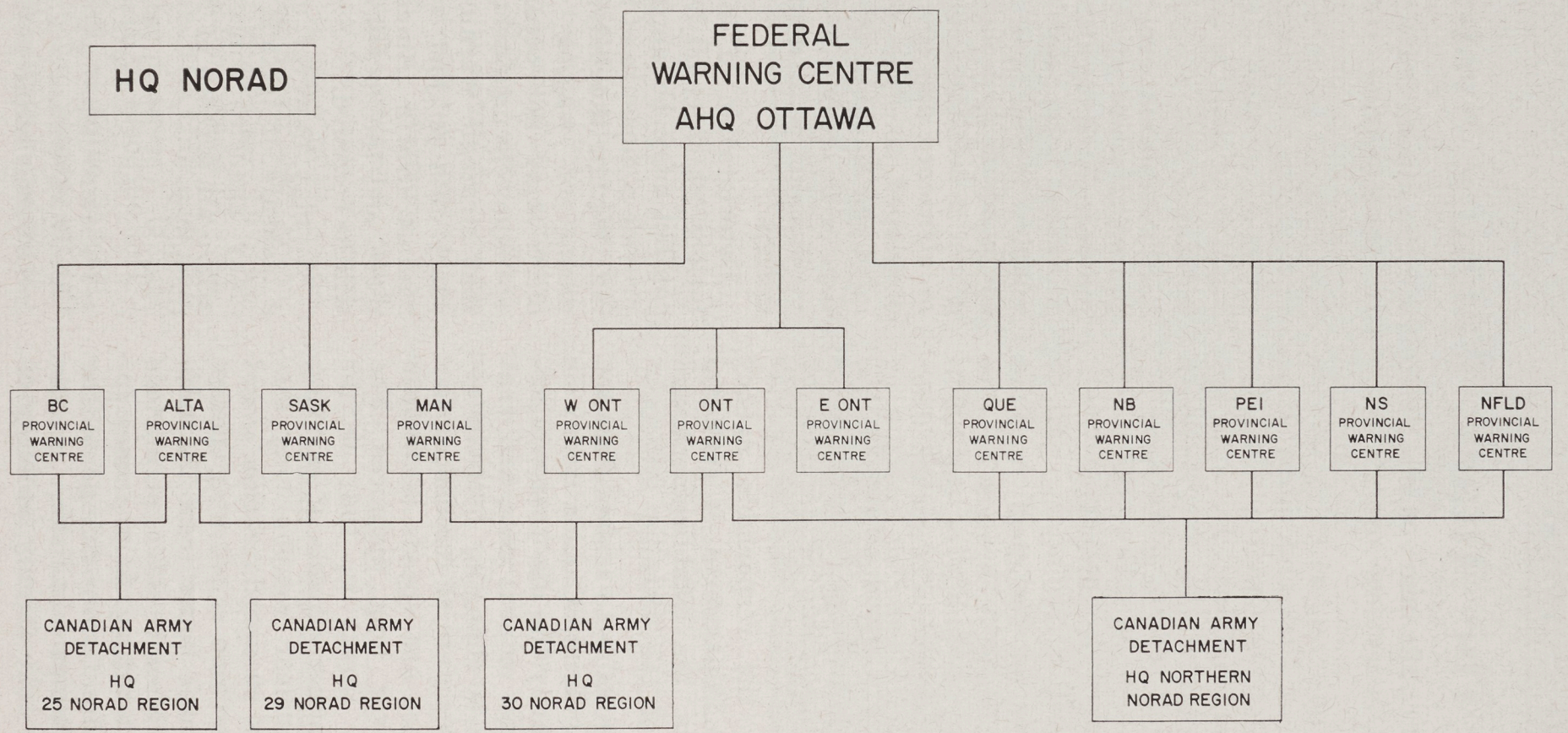
The outposts of the Dew line;

Picket ships in the Atlantic and Pacific oceans;

Airborne radar patrols;

DIAGRAM No 1

PRIMARY NETWORK



The Mid-Canada Line; and

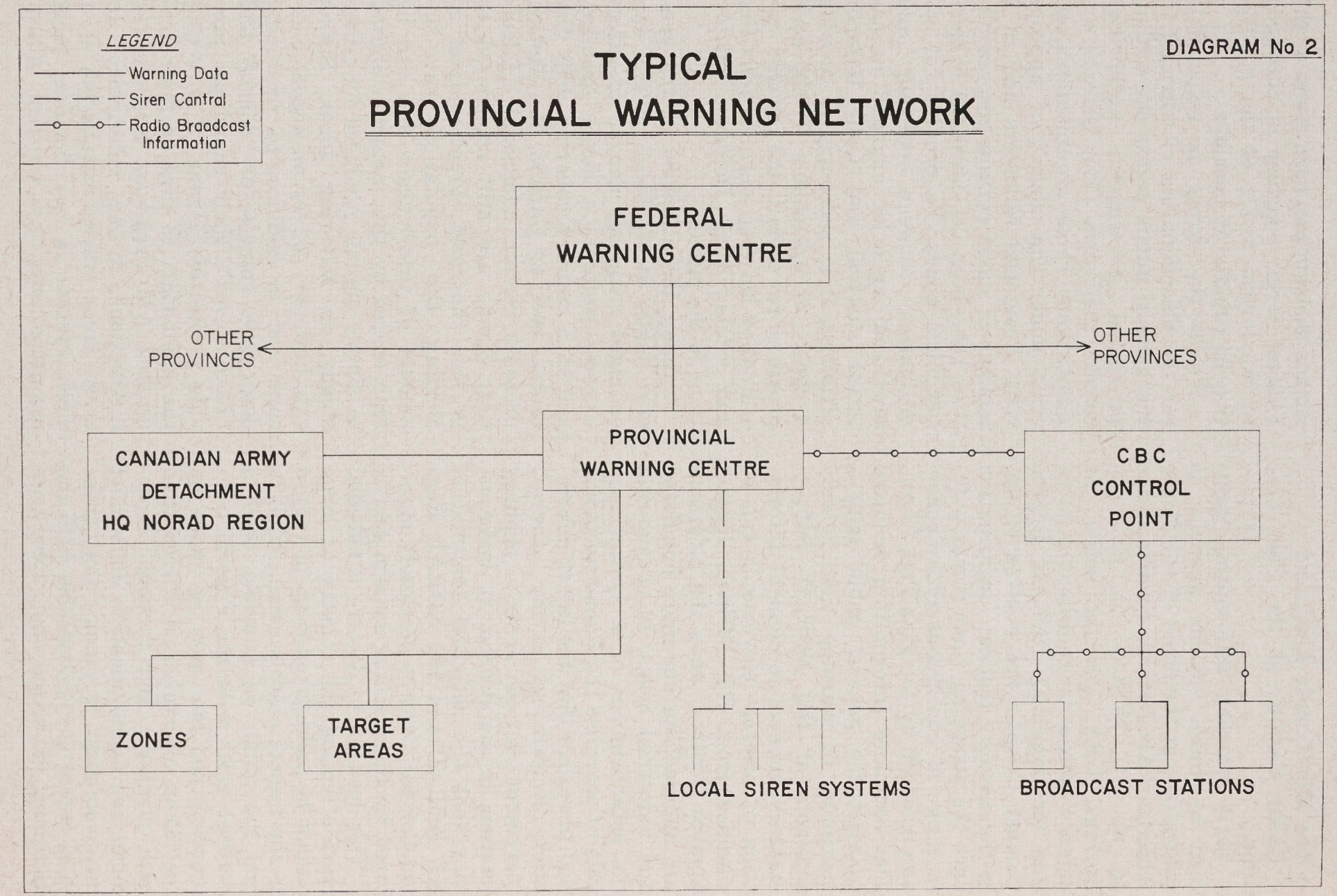
Radar stations of the Pine Tree Line.

Early warning information gathered by these various agencies is centralized at the heart of the North American Air Defence System located at HQ NORAD in Colorado Springs, USA, and the active air defence battle is coordinated from this location. HQ NORAD Region Combat Centres are sources of up-to-the-minute tactical information once the attacking force comes within range of contiguous radar coverage provided by the Pine Tree Chain. The complete information required to alert the general public with a maximum of warning time is only available at HQ NORAD. Supplementary moment-to-moment information of aircraft movements can be obtained from HQ NORAD Region Combat Centres, when the attackers are approaching our more populated and industrial areas. In considering the establishment of a system capable of warning the Canadian public and to ensure that the latest information concerning enemy aircraft movement over our areas of primary interest is maintained, it is necessary that the activities centered at HQ NORAD and HQ NORAD Region Combat Centres be closely monitored by the warning system staff.

The decision to declare a national alert affecting the country at large cannot be undertaken without regard to the impact on commerce, industry and the public as a whole. Such a decision rests with the Federal Government and can only be made on the basis of evaluated information both strategic and tactical. Procedures and communication links must be established to ensure that these vital elements are available with the minimum of delay—and, that once such a decision has been made at the Federal level, warning is conveyed to the lowest levels of the population as rapidly as possible.

Whilst the Army is responsible for the dissemination of warning to the general public across the nation, provincial government authorities control their own Civil Defence organizations. These organizations operate under the control of appropriate Provincial Ministers and in a number of cases certain responsibilities have been decentralized to geographical zones. To provide for coordination between military and provincial agencies engaged in national survival and Civil Defence activities, it is necessary to provide a centre of operations within each province to permit the closest coordination between warning activities and related Civil Defence instructions to the public.

Gaining the attention of the general public at all hours of the day or night with any degree of effectiveness presents a major problem, and in a country covering vast distances, such as Canada, its solution presents certain additional difficulties. Sirens are still considered to provide the most direct method of alerting the population but the amount of information that can be transmitted by this means is limited to simple signals produced by either steady or wavering tones. Sirens can, however, convey an urgent message and in addition to producing descriptive signals for "Alerts" and "Take Cover", their soundings provide a positive means of directing the population to tune to their designated AM Broadcast Stations for instructions in an emergency. In those areas where installation of a siren system is not feasible, local resources such as whistles, alarm


LEGEND
Warning Data
Siren Cantral
Radio Braadcast Infarmatian
DIAGRAM No 2
TYPICAL
PROVINCIAL WARNING NETWORK
FEDERAL WARNING CENTRE
OTHER PROVINCES
OTHER PROVINCES
CANADIAN ARMY DETACHMENT HQ NORAD REGION
PROVINCIAL WARNING CENTRE
CBC CONTROL POINT
ZONES
TARGET AREAS
LOCAL SIREN SYSTEMS
BROADCAST STATIONS

bells and other devices may be pressed into service to alert the public.

The varying elements, functions and actions previously outlined must be linked into a complete system if effective warning is to be achieved. Networks capable of handling high priority traffic are of primary importance and the warning systems reliability can only be as good as its communications. These needs vary at the different echelons and agencies of the warning chain but can be related primarily to the degree of speed, required clarity, volume of traffic and type of functions being performed. Networks linking primary sources of warning and tactical air battle information with the Federal and Provincial Warning Centres must provide rapid and accurate communications with a written record which will remove any doubts from the minds of persons on the receiving end. A full-time teletype network meets these demands and can be readily fitted into the Canadian Army's present signal system so that a normal line circuit can be "backed-up" by military radio. Teletype lends itself to further adaption at a later date to meet the needs for increased traffic speeds as the threat develops. The Canadian Army's National Survival Attack Warning System employs a teletype network as its primary means down to Provincial Warning Centres, probable target locations and certain subordinate HQs. Provincial AM Radio Broadcast Networks employing "voice" transmission circuits will emanate from Provincial Warning Centres to provide wide coverage for dissemination of warning and Civil Defence information within the provinces. The use of police, fire, utility and other government radio networks as a means of providing these "back-ups" are being explored with a view to their incorporation within the system.

The Army assumed responsibility for the National Survival Attack Warning System on 1 September 1959. Federal and Provincial Warning Centres have been established, Canadian Army personnel are located at appropriate HQ NORAD Region Combat Centres and the system is manned on an around-the-clock basis. The primary communications system is fully operative and is manned and functioning at this very moment. The programme of siren installations is being accelerated and provincial broadcast and communications networks are being extended. In brief, the system is now in being. It is designed to meet todays needs which is the threat of the manned bomber. It must be made adaptable to the high speed ICBM era which is envisaged in the future. This is an extensive project and it must be completed to ensure the warning of the nation in any future conflict.

New Space Chamber

The Republic Aviation Corporation (U.S.) reports that its new $500,000 Space Simulation chamber has the capability of taking a human more than 300 miles above the earth in simulated space flight. An installation in the company's Research and Development Centre, Long Island, N.Y., the space chamber is 14 feet wide and 30 feet long.—*From the Army-Navy-Air Force Journal (U.S.).*

National Survival

ARMY TESTS WARNING SIRENS

FROM A REPORT ISSUED BY ARMY PUBLIC RELATIONS, CENTRAL ONTARIO AREA, ORTONA BARRACKS, OAKVILLE, ONTARIO

Metropolitan Toronto's 48 Civil Defence sirens were heard on 3 December in the first large-scale test of sirens undertaken by the Canadian Army in Ontario. It was conducted with the assistance of Metropolitan Toronto Civil Defence Officials and Metropolitan Toronto Police, augmented by more than 1200 civilian observers and technicians reporting the volume and range of the sirens by telephone and mail.

Canadian Army Photograph

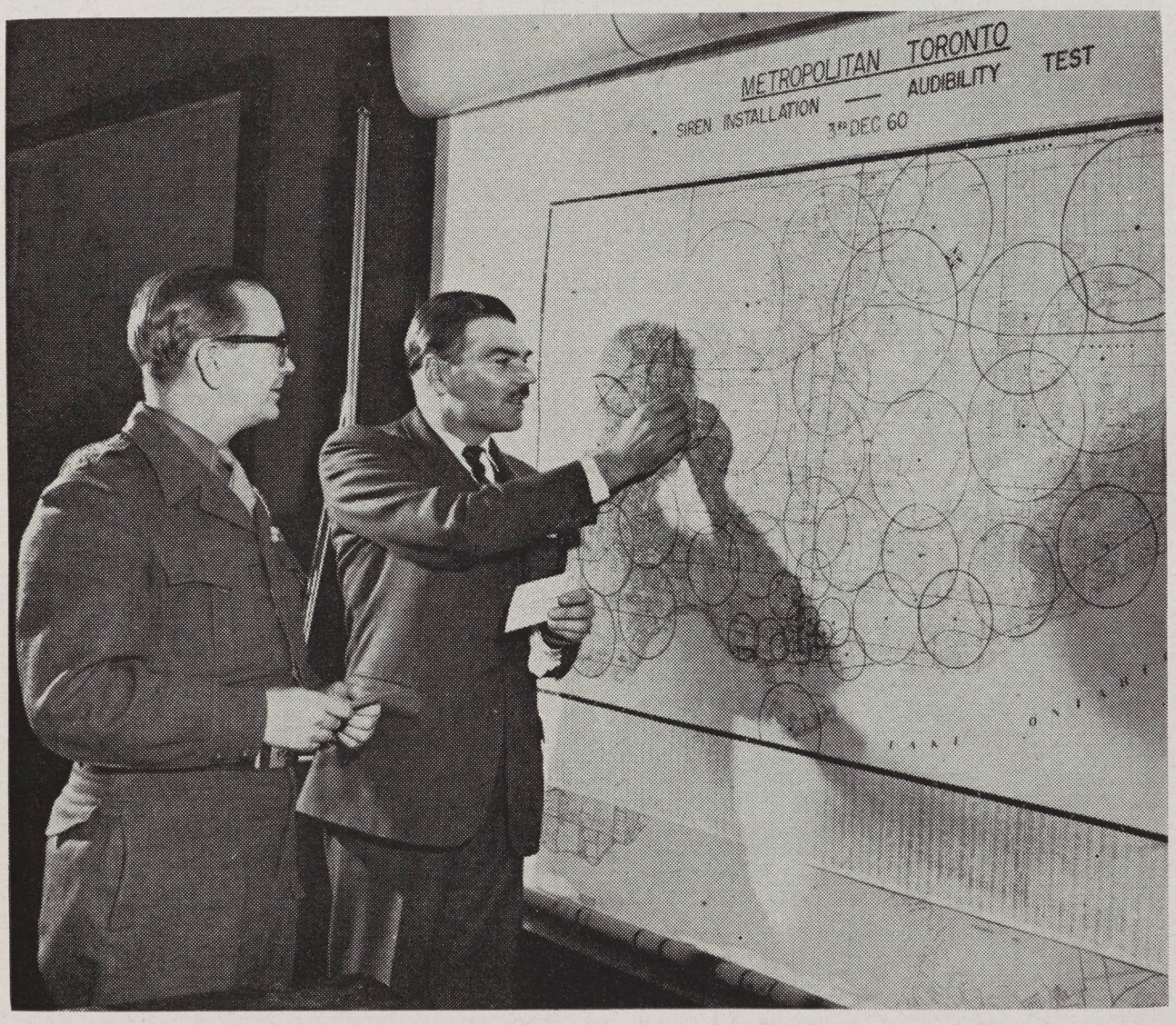
Checking on one of Metropolitan Toronto's Civil Defence prior to the test are two engineers—J. R. Teague and Lieut. A. Clare, Royal Canadian Engineers. A portion of the city's business section may be seen in the background.

The successful test was designed to ensure that all residents of the area would receive positive warning in the event of a hostile air attack. During the six weeks preceding the test all sirens were overhauled and modified to ensure peak performance. During the test a technician representing the contractor was positioned at every siren to check its operational efficiency.

Results of this "guinea pig" test will determine procedures and methods for similar tests in other Ontario municipalities.

Six Army officers were located at critical positions to distinguish the siren sounds in relation to their surroundings—high business buildings, heavy industry, etc. Strength and direction of the wind also entered into the calculations.

To receive reports from certain municipalities outside the Metropolitan area in the Counties of Ontario, York and Peel, observers were stationed in the Rouge Hill, Thornhill, Lakeview and Malton Airport



Canadian Army Photograph

Preparing to plot the results of the warning system siren test in Metropolitan Toronto are Captain C. M. Grant, Staff Officer, National Survival, HQ Central Ontario Area, and G. G. L. Jones, Communications Officer for the Metropolitan Toronto Civil Defence.

districts.

Brigadier H. E. Brown, OBE, ED, CD, Commander of the Central Ontario Area, and Reeve H. O. Waffle, Chairman of the Metropolitan Civil Defence Committee, jointly initiated the test by pressing the siren control button in the Communications Branch of the Metropolitan Police.

Coordinating arrangements for

Canadian Army Photograph

Reaching for the button that activates the Civil Defence sirens in Metropolitan Toronto is Sgt. F. Holmes, second-in-command of the Communications Bureau of the Metropolitan Toronto Police Force. On the telephone is Police Constable G. Shaw, radio dispatcher.

the siren test were made by Captain C. M. Grant, MBE, CD, Staff Officer, National Survival, at Headquarters for the Central Ontario Area; H. H. Atkinson, Coordinator for Metropolitan Civil Defence; and Staff-Inspector G. H. Long, Metropolitan Police. The test was directed from the College Street Armoury.

The sirens were activated in the following sequence:

1. A steady note for three minutes for "Alert Warning", followed by a three-minute silence.

2. A warbling note for three minutes. This is a series of rising and falling notes which is the signal for "Take Cover".

In a time of national emergency, the "Alert Warning indicates that an enemy attack is probable and the public would then switch on their radios and tune to their local stations for further instructions.

In a time of national emergency, the "Take Cover" would indicate that an enemy attack is imminent. The public would take shelter in the best cover available within 15 minutes and stay tuned to their local radio stations for further instructions.

The "All Clear" signal is no longer sounded by sirens. In a time of national emergency, following an attack, Provincial authorities would notify radio stations to broadcast the "All Clear" to citizens in their shelters.

Future tests will be conducted at regular intervals to ensure that the warning system is functioning at top efficiency.

The 48 siren locations were first planned by a sound engineer, taking into consideration local noise levels in different parts of the city. Approval to instal sirens was obtained from all property-owners concerned. The control circuits are designed to permit operations of all sirens simultaneously from one central point.

Ion Treatment for "That Happy Feeling"

The [U.S.] Navy is investigating the possibility of using negatively charged ions to maintain high morale among sailors aboard nuclear submarines. The research may have an application in homes and offices.

By increasing the concentration of negative ion particles in the atmosphere, it is suspected, submarines can be given an increased sense of well being and be kept in a good mood.

Ions are electrified particles formed when an atom or group of atoms loses or gains one or more electrons. Ions may have either positive or negative charges.

Recent scientific research indicates that a preponderance of positive ions in the atmosphere will cause states of irritability and anxiety.

Negatively charged ions, on the other hand, are said to bring about an increased state of well being and help overcome irritability.

Despite the best efforts of scientists, occupants of air-conditioned rooms or other artificial environments often complain of stuffiness, drowsiness and other feelings of discomfort. The complaints, it is suspected, may stem from an excess of positive or negative ions in the environment. Studies give increasing evidence that the electrical characteristics of air have a subtle but definite effect on human comfort.—*From the Army-Navy-Air Force Journal (U.S.).*

National Survival

THE PROBLEM OF PANIC

This is a statement prepared at the request of the U.S. Federal Civil Defence Administration by a sub-committee on Disaster Studies, National Research Council, National Academy of Sciences, and unanimously adopted by the full committee. It is reproduced here by courtesy of that organization.—Editor.

Panic is undoubtedly a dramatic term, but it is an ambiguous one. It has been used to refer to so many different kinds of behaviour—ranging from a wild outburst of flight to paralysis of action—that its meaning has become vague. Often the word is employed merely as a vivid term to refer to any kind of behaviour that occurs when people feel afraid or worried. To give the word a specific meaning, it is desirable to apply it to highly emotional behaviour which is excited by the presence of an immediate severe threat, and which results in increasing the danger for oneself and for others rather than in reducing it. This concept of panic recognizes the negative connotation that the term usually carries. Thus, we avoid referring to all instances of excited behaviour as panic. In these terms for example, flight is not necessarily panic, for flight may result in reducing the danger.

The current hunches and guesses seem to go far beyond the known facts in emphasizing the likelihood of its occurrence in this country. Many of the forecasts and discussions concerning panic which have received wide publicity assume that it will not be too difficult for an enemy nation to strike terror into the hearts of Americans—especially through the use of atomic and thermonuclear bombs. To the enormous loss of life and property—so runs the theme—panic or mass hysteria will add devastating disorganization and paralysis, a weapon more horrible in its effects than any known to man.

Mass Panic Occurs Rarely

An assessment of the facts shows that the existing evidence falls far short of supporting such a vivid and dramatic prediction. The authenticated instances of mass panic known to have occurred in the last 50 years have been few in number and have been very restricted in their effect. Although there has been war somewhere in the world almost continuously during this time, it is a significant and somewhat astonishing fact that there have been few instances of mass panic directly connected with enemy attack on a civilian population. Moreover, studies of terrified people who have been stunned by an overwhelming disaster indicate that panic states are usually of short duration, and that excited and irrational behaviour can usually be prevented or quickly brought to a stop if effective leadership and realistic information is provided. A striking finding that emerges from observations in large-scale disasters, including the A-bomb attack against Japan and the massive bombing assaults against England and Germany, is that the people who are most frightened and

most upset very soon become extremely docile and can easily be induced to conform to the rules and regulations of the local authorities.

The logical conclusion from the evidence, then, is that mass panic is a rare event which arises only under highly specialized circumstances. We do know something about the conditions which give rise to panic behaviour—though not as much as we would like.

There are four main factors which are characteristic of the panic-producing situation:

1. *Partial entrapment.* There is only one, or, at best an extremely limited number of escape routes from a situation dominated by (2) below.

2. *A perceived threat.* The threat may be physical, or psychological, or a combination of both, and it is usually regarded as being so imminent that there is no time to do anything except to try to escape.

3. *Partial or complete breakdown of the escape route.* The escape route becomes blocked off, or jammed, or it is overlooked.

4. *Front or rear communication failure.* The false assumption that the exit is still open leads the people at the rear of the mass to exert strong physical or psychological pressure to advance toward it. It is this pressure from the rear that causes those at the front to be smothered, crushed, or trampled. In instances where people are trampled to death, as in the Coconut Grove fire, this is usually the single, most important factor.

When a mass panic occurs, it usually happens that people do not actually see the "escape hatch", whatever its nature may be, but infer its existence from the fact that other people are moving in a specific direction. This inference made by the individual is reinforced by statements of people in the immediate vicinity. None of these communications, however, is based on realistic information about the actual conditions at the "escape hatch". The people at the rear of the mass, especially, are too far away from the exit to be able to obtain accurate information about its actual state. Thus, when the exit becomes blocked or jammed, the people at the rear behave as if it were still open.

There is some evidence to support the conclusion that when people know that the escape route is actually blocked, and that no escape is possible, they are likely to remain fatalistically hopeful or else become apathetic and depressed — but the likelihood of panic behaviour is actually very slight.

Planning for Panic Prevention

The relatively simple panic-producing conditions outlined above are subject to administrative modification or control. Planning for defence against A-bomb or H-bomb disaster would include consideration of ways and means of preventing panic in two types of situations.

The first type is the situation after a major disaster has struck, where thousands of injured, confused, or stunned survivors are seeking to escape from fires and from other sources of danger in their immediate area. Here the major problem is posed by the likelihood that large numbers of trapped people will converge upon limited escape routes. Advance planning requires the establishment of a number of alternative escape routes from each target area. Of even greater importance

is continual reconnaissance of the flow of people and traffic. This should preferably take place through some method of inspection by air in order to obtain maximum scanning of the affected area, and of the condition of the various "escape hatches". Information thus obtained and the resulting instructions should then be relayed over the length and breadth of the traffic stream by available means of communication. If information to the survivors is kept constantly correct and is based upon reality, the possibility of post-disaster panic will be markedly reduced.

A second type of situation is one which seems to be given exaggerated prominence in publicity about panic, namely that of a community which believes it is threatened by a devastating blow. Here the central problem is to keep people working efficiently at necessary jobs and to prevent activity that may interfere with preparations to meet the disaster. To prepare for such situations, the major panic prevention devices consist essentially of putting the emergency plans for protecting the population into action and calling public attention to the plans. Above all, people need to know what is expected of them. This means that they need to be given clear-cut information as to what the dangers are and how to cope with them. Rather than giving rise to social disorganization, paralysis, or hysteria, accurate information is likely to promote behaviour which is directed realistically toward meeting the emergency.

Resourcefulness in Crisis

The impressive fact that emerges from the study of both wartime and peacetime disasters in this country and abroad is that a large proportion of the affected population spontaneously engages in behaviour which enables them to cope fairly effectively with the crisis situation. Observers of disaster situations are repeatedly impressed with the resourcefulness of both the individuals and the social organizations within the community. This does not mean that conflict, confusion, and despair do not occur. But, usually this takes place where incomplete information, ambiguity, conflicting messages, and jammed communications circuits exist.

In short, the problem is to enable the natural human resources of this country to function effectively in the event of a national emergency. What is needed is planning which is based on the realities of the expected emergency and which can guide and channel the spontaneous resources, resistance, and energies of the people. Those who predict that a large number of Americans will react to the threat of an enemy attack by becoming panic-stricken are not basing their opinion on the existing evidence. Moreover, to emphasize the likelihood of panic is to promote the suggestion to the American people that this sort of behaviour is expected of them. Finally, it distracts the attention of the administrator from more serious problems of a practical nature such as developing plans for emergency evacuation, providing shelters, and preparing for numerous welfare needs. There is every reason to believe that, rather than panic, the dominant reaction of the American people will continue to be an energetic, adaptive response to whatever threats and dangers they face.

Canadian Army Photograph

The new plastic bandolier keeps the 7.62-mm. rifle ammunition dry and clean until ready for use. Corporal L. A. Johnson, 2nd Battalion, The Canadian Guards, stationed at Camp Petawawa, Ont., removes a clip from the bandolier. The insert shows a close-up of two of the pouches.

Canadian Army's New Bandolier Saves $200,000

FROM A REPORT ISSUED BY THE DIRECTORATE OF PUBLIC RELATIONS (ARMY), ARMY HEADQUARTERS, OTTAWA

Use of plastic and a new type box by the Army will save Canadian taxpayers an estimated $200,000 over the next two years in the manufacture of small arms ammunition bandoliers.*

Now in production, the saving results from an unique method of enclosing ammunition in plastic bandoliers and packing the belts in water resistant fibreboard boxes. Other advantages are lighter weight, ease of carrying and handling and the confidence of clean dry ammunition to front-line troops regardless of conditions.

In addition, a new plastic ammunition clip that could save an added $150,000 per year is in the development stages.

Designed by the Army Development Establishment in Ottawa, the new concept in ammunition carrying has aroused great interest in

*See "The New Bandolier", Canadian Army Journal, *January 1958*.—Editor.

Australia as well as Germany, Holland, Norway and other NATO countries.

The old-style cloth bandoliers were packed in metal-lined wooden boxes which weighed a total of 80 pounds. Although hermetically sealed, it was awkward to carry. The new bandolier is a broad vinyl covered nylon band with six pockets of moulded plastic, each holding 10 rounds. Tapes extending from each end enable the user to tie it around any part of his body. It can be folded into the soldier's web pouches or cut into individual 10 round pockets with a bayonet. The ammunition is sealed against water and dirt, and made available instantly with a sharp tug of the pocket's tab.

This development has made it possible for a soldier to carry ammunition in one hand while still having his weapon ready for use. Unpackaged, the bandolier can be slung over the shoulder and opened with ease even when wearing heavy mitts.

(The January 1961 issue of *Canadian Plastics*, a trade magazine, uses the Army's new plastic bandolier and the container in which it is packed for shipment as the subject of its cover illustration. In addition, the magazine contains an article on the production of this item by the Canadian plastics industry.—*Editor).*

To All Loyal & Gallant Subjects

RECRUITS

Wanted for his Majesty's 1st American Regiment or Queen's Rangers, of which his Excellency Lieutenant Governor Simcoe, is Colonel Commandant.

FIFTY ACTIVE YOUNG MEN,

Gentlemen Volunteers, shall Receive TEN GUINEAS BOUNTY MONEY each on their approval at the Head Quarters of the Regiment, enter into Free Quarters, be Cloathed, Accoutred, Victualled and Paid Agreeably to His Majesty's Regulations. None need apply to Ensign Mayne, at Navy Hall, but such as are perfectly fit for the Most Active Service, at least Five feet Four and a Half inches high, healthy and Stout.

GOD SAVE the KING

(From the Upper Canada Gazette, 21 August 1794. Contributed by H. M. Hitsman, Historical Section, Army Headquarters, Ottawa).

New Colour Device

The [U.S.] Army Quartermaster Corps is testing a new automatic device that may make colour measuring a fool-proof process. Instead of making such measurements visually under standard lights by specialists called "colour shaders", the QM is using a device which correlates with visual judgement and provides data in exact figures which can be recorded and duplicated for subsequent study.—*Army-Navy-Air Force Journal (U.S.).*

The Red Chinese Oppose:	But Favour:
Impetuosity during the offensive; undue conservatism during the defensive; over-emphasis on retreat to the exclusion of the advance; and over-reliance on guerilla warfare.	Warfare of a guerilla nature when maintained in proper perspective.
Protracted individual campaigns during a war.	A strategy which envisions a protracted war.
The idea of a quick ultimate victory.	Seeking quick decisions in individual campaigns or battles.
Fixed operational fronts and positional warfare.	Fluid operational fronts and heavy reliance on mobile warfare.
Simply routing an enemy.	Annihilation of the enemy.
Large rear areas and absolute, centralized command.	A reduction in the size and number of rear areas with only relative centralization of command.
Banditry.	Strict political discipline.
Isolationism and the concept of war as a purely military operation.	Winning all possible international support and approval while using the Red Army as a means of propagandizing and organizing for revolution.

This is an extract from an article entitled "The Communist Long War" by Captain Carl M. Guelzo, U.S. Army Element, Headquarters, United Nations Command, Korea. It appeared in the December 1960 issue of the Military Review (U.S.) and is reproduced by courtesy of that publication.—Editor.

Flashback: No. 33

The Canadian Women's Army Corps Overseas

NARRATIVE SUPPLIED BY THE HISTORICAL SECTION,
ARMY HEADQUARTERS, OTTAWA

The date was 6 November 1942, a memorable one to the group of smiling young women shown on the opposite page. For the first detachment of the Canadian Women's Army Corps to proceed overseas, it was their first day in London. Public Relations' photographers swarmed around.

By any army standards their quarters were luxurious—the requisitioned town house of Lord Aberconway, situated in the heart of Mayfair. Even a marble staircase, however, could lose its glamour when the hot water failed or the stoves became reluctant, as they sometimes did.

The first breakfast was an introduction to NAAFI sausages; Army Service Corps cooks were on hand to instruct CWAC cooks in the mysteries of British rationing. One mystery the women never succeeded in rationalizing was the difference in the extra messing allowance: for men, "two pence, half penny" per day; for women, "one penny, three farthings". Aside from the apparent injustice, it made the accounting more difficult.

The one telephone was overworked as the girls tried to establish communications with husbands, brothers and friends. With evening came their first blackout, which caused some timidity, although it was not long before CWAC drivers coped with it like old hands.

By 10 November the last two items of baggage were safely delivered and the War Diary gave credit in these words, "Through the untiring efforts of Movement Control no baggage whatsoever was lost in transit". 11 November brought a shattering introduction to a London "pea soup" fog, the worst one to hit the city during the Second World War. The last day of the month brought fire drill under the direction of a male officer and a Regimental Sergeant Major from CMHQ, supported by representatives of the National Fire Service. Everyone had to descend from upper floors by Davey fire escapes, a most unpopular procedure, which was accomplished with only one casualty, a sprained arm. Before November ended two young women had been paraded to the Officer Commanding to request permission to marry.

When the formation of the CWAC was authorized, on 13 August 1941, there was no thought of sending these women overseas. Circumstances changed and the manpower situation became serious. By the end of October 1945 a total of 2981 CWAC, all ranks, had served abroad. Although the majority performed clerical duties, others were employed as cooks, dental assistants, switchboard operators, postal sorters, drivers and cipher operators. There were large numbers of general duty personnel, many of these on the strength of the

THE ARMY AND THE UNIVERSITIES

LIEUT.-COLONEL W. S. B. GUNN, MC, ROYAL ARTILLERY, IN THE BRITISH ARMY REVIEW (UNITED KINGDOM)*

(Lt-Col W. S. B. Gunn commanded the Oxford University Officers Training Corps from Apr 58 till June 60. He wishes to acknowledge the many helpful comments and suggestions, which he received from members of both the Army and the Universities as well as from the United States Military authorities.—Editor, The British Army Review.

The purpose of this article is to consider the relationship between the Universities and the new all regular army that will emerge in 1962.

To embark on an article in which the Universities are taken together in one all embracing phrase is a hazardous enterprise for no two are quite alike; some have histories and traditions reaching back over the centuries while others are as yet in embryo. Some are national and residential, others provincial and non-residential.[1] There are those that are a collection of twenty or thirty separate colleges each of which is largely autonomous and self-governing, and there are those universities which are more nearly compact and tidy communities.

The rules and statutes which regulate the lives of the Universities and their Colleges are but a reflection of the infinite variety of their differing shapes and characters.

To consider, therefore, in detail the relationship between the Army and the Universities as a whole is, in one sense, unreal for the practical relationship must vary in each individual case. The purpose of this article, however, is to consider the relationship in a wider and more general context and if in some cases the views expressed do not always faithfully reflect the position in one particular University it is because they are largely drawn from the experiences gained in another.

It is hoped, however, to show that there is a very real need for a closer

[1] *"Provincial" Universities, thanks to Government grants, are becoming increasingly "National" and few, if any, are not at least partly residential now.*

Canadian Women's Army Corps Overseas

(Continued from preceding page)

Static Base Laundry; and there were talented members with the Canadian Army Show.

In addition to service in the United Kingdom, the CWAC were posted to formations in rear areas in Italy and North-West Europe. After the German surrender, members of the CWAC were employed for the first time at Canadian Army Headquarters. On 31 August 1945, the Corps reached its peak strength overseas with 2283 all ranks serving in Britain and continental Europe.

relationship between these two great communities of our national life and to suggest in practical terms how this might proceed.

Soldiers and scholars have not always made good stable companions, and their ways of life are often deeply divided.

Generations have passed since Crusader knights and mediaeval barons considered literacy beneath their contempt and employed scribes to write their letters, but among scholars the idea persists that soldiers are yet unlearned "blimps".

Historical Background

In the British Army Review of July 1911, Major M. Earle, DSO, Grenadier Guards,[2] writing on the subject of the Army and the Universities said:—

". . . let us look back at the last decades of the nineteenth century and examine the general attitude of the Universities towards the study of military affairs at that time. It is not too much to say that questions dealing with war, either its conduct or its effect on a nation, were not studied. There was no place in the University course for the consideration of how this Empire was to prepare in peace time for a resort to arms in order to continue its policy when diplomacy has failed. Perhaps it is not just to fasten on the Universities the entire blame for this state of affairs. We soldiers may well ask ourselves, what steps did the Army take during the period under review to enlist the sympathies and help of our great Universities?

"Cardinal Newman once defined a University as a 'place of teaching universal knowledge', yet in the period under consideration practically nothing was done to spread among the rising generation knowledge of the two Services, which were then costing the country a sum between £30m and £50m a year. The science of war, possibly the most complex of all sciences, was practically tabooed. In short, we may say that the heads of the great professions, and those that are rising to the top in all walks of life in this country and had the benefits of a University course of study, went through their undergraduate days without touching even the fringe of the questions which may one day decide the fate of the British Empire". . . .

It is perhaps true to say that before the beginning of this century, the Army and the Universities lived entirely separate existences. At times of crisis some of the older Universities had raised Volunteers, for example Oxford in 1642, 1685 and 1798; Glasgow raised troops of Volunteers to meet the Jacobite threats in 1708, 1715 and 1745. Aberdeen and Cambridge raised units in the Napoleonic wars and doubtless there are others.

After the Crimean War and the Indian Mutiny the country awoke from its military complacency and the Volunteer movement gained fresh impetus and in a number of Universities Volunteer Corps were formed, some of which ultimately sent contingents to fight in the South African War.

[2] *Major (later Lt-Col) Earle had a long association with the Universities. He was for nine years (1913-1922) War Office Representative on the Oxford University Delegacy for Military Instruction. His long period in this office serves to emphasize the great importance of continuity in work with the Universities and which is so greatly needed at present.*

Nevertheless, it is fair to say that in the Universities as a whole little or no consideration was given to the study of problems that would face the country in time of war, or indeed to the conduct of war in any of its aspects.

The turn of the century, however, saw a change in this state of affairs and we find Military Education Committees being formed to superintend the study of military subjects, to nominate University candidates for commissions in the regular army for whom new terms were granted, and generally to provide a link between the Army and the University authorities.

In Oxford the Delegacy for Military Instruction first met in 1904 and before long we find it considering the founding of an Honour School in Military Studies (though this did not materialize) and formulating the rules for the study of such subjects as military history, strategy and military geography.

From then on there appears to have been steady progress; in 1905 Lord Haldane became Secretary of State for War and he, recognizing the great benefits that would follow from a closer association between the Army and the Universities, actively set out to enlist their sympathies and help.

In Oxford a professorship of military history was created and later a Diploma of Military Studies was instituted.

The year 1908 saw the formation of the University Contingents of the Officers Training Corps, a number of which sprang directly from the old University Volunteers and by the time the first World War started they were in a flourishing state and contributed many thousands of officers to lead the new armies that came into being in the course of the war.

By 1913 the Oxford Contingent numbered 22 officers and 1,143 cadets, nearly half of the total of undergraduates in the University, and it had become both a respected and accepted part of University life, indeed there were many dons who appreciated that its value extended beyond purely military considerations.

In the five years between 1909 and 1913 it commissioned no less than 300 cadets into the various branches of the regular and reserve armies, and during the war the London contingent commissioned no less than 4,400 cadets.

After the first World War the Central Organization of Military Education Committees was formed to coordinate the work of the committees in the different Universities and the War Office.

The minutes of the meetings of these committees testify to the vitality of the links that had grown up between the Army and the Universities, and which prospered in the years between the two World Wars. During this period something like 90 officers a year were commissioned into the regular army from the Universities and in the last 18 months of peace, before the outbreak of war in 1939, no less than 96 candidates were nominated from Oxford alone.

If the first four decades of the twentieth century show a general development in the relationship between the Army and the Universities it must be recorded that the last decade does not indicate such a happy state of affairs.

In an age of universal service the Army, amidst its many other preoccupations, has perhaps not had

time to worry too much about the sources of its manpower. The Universities for their part, lacking encouragement from the Army, may have been content to turn their minds to other matters.

Whatever the causes may be there is no doubt that a widening gulf was beginning to divide them. In the last year or two, however, there has been a growing recognition by the Army of the importance to it of the Universities and its approaches have been met with understanding and sympathy; indeed there are many in the Universities who have deplored the failure of the Army to take more advantage of what they have to offer.

But if the advantages of a closer association are once more becoming recognized this is not to say that the problems are thereby solved.

The pre-war flow of officers from the Universities has largely dried up so that in 1958, from all the Universities in the United Kingdom, there were only nine candidates; the problems involved in the re-establishment of this flow and in rebuilding the links should not be underestimated.

The Universities Today

There are in the United Kingdom today twenty-two degree-giving Universities, and their total number of full-time students is approximately 100,000, of whom about 25 per cent are women, against a total of about 50,000 in 1939. Each year sees an increase in the number of these students and new Universities are being added.

Not less than 75 per cent of these students are receiving some form of scholarship or state grant; the competition for places is intense, and as financial considerations are no longer a bar to entry it can be said that, more than ever before in our history, the undergraduate population of the Universities, drawn from all sections of the community, comprise the most able young brains in the country. It is logical to assume, therefore, that in due course of time they will find their way to the top in all walks of our national life.

The Undergraduate of today has grown up in a world very different from that before 1939, and the effects of the social and economic revolutions of the last two decades are more readily apparent in the Universities than they are in the Services. One of the main problems facing the Universities today is the assimilation of this large influx of new blood into their systems and turning out graduates as truly educated citizens, as opposed to specialists in particular spheres of knowledge.

It is pertinent to ask, therefore, what is being done in the Universities to acquaint the undergraduate of today with the true nature of the threat to our civilization, of the problems concerned with the defence of this country and the Commonwealth, the rôle and functions of the Armed Services and other aspects of the nature and conduct of war?

The answer is all too little.

There are sixteen Universities with contingents of the Officers Training Corps, and taken together their membership numbers little more than two per cent of the total of undergraduate students in all the Universities. Even allowing for the fact that there are still quite a number of undergraduates who have completed National Service, or who are otherwise members of the Territorial Army, it can only mean that the vast majority are "going through their undergraduate days

without touching even the fringe of the questions" that may one day decide the future of this country.

There are, of course, many reasons for the small numbers joining the OTC; a generation of compulsory service has done much to quench the spirit of voluntary service and the depreciation of the social position of the serving officer are among some of the more obvious causes, but these alone do not account for the apathy among so many or even the antagonism among others to the armed forces.

There is indeed great ignorance, not a little prejudice and many popular misconceptions concerning the Armed Services. Among some sections the moral aspects of war, the employment of armed force and and nuclear and biological weapons are all hotly debated and most sincere and passionate convictions are formed; this is all right and proper and just as it should be in a great University, a large part of whose educational value lies in the exercise and clash of conflicting views and opinions, but one cannot help feeling that too often conclusions are reached more through the emotions than as a result of any real knowledge concerning the true nature of all the various factors involved.

An island race, long sheltered from invading arms, does not always recognize the colder winds that blow in less gentle lands.

It is not for a moment suggested that vast numbers of undergraduates should be expected to join the OTC in normal times of peace and be drilled and instructed in all the details of military life, but rather a plea that in the general process of University life and education a small part of their time might be directed towards a better understanding of the nature and conduct of war and the problems that might ensue should this country once again have to take up arms in defence of its existence. One might hope thereby that they would be more able to take an intelligent and informed interest in problems relating to defence and acquire a more rational and sympathetic attitude towards the Armed Services and the problems they have to face.

Had the politicians of the first World War been better instructed in their undergraduate days in the arts of war, and the soldiers been better instructed in the arts of peace, there might have been a better understanding and sympathy between them.

In all the Universities there are not more than two or possibly three chairs or readerships devoted to military history. When one finds there are chairs devoted to such diverse subjects as Government and Public Administration on the one hand and Finance and Accounting on the other, it seems almost surprising that there should be no chair for a Professor of Modern War or a readership in Military Science.

Nothing in the foregoing remarks on undergraduates should be taken as suggesting that the younger generation of today is "not what it used to be"; nothing could be further from the truth and the vast majority of undergraduates would undoubtedly volunteer should the circumstances be clearly seen to require it; they would make just as good officers as did the many thousands of their predecessors both in war and subsequently during National Service.

The generation now growing up is finding a world which is easier in some (material) respects, and more difficult in others; they have a

vigorous individualism not always unmixed with cynicism and inquisitive minds that are eagerly searching for new philosophies of life. It may well be that, lacking a clear lead and a guiding sense of purpose, these very factors make them reluctant while still students to submit to disciplines and to engage themselves to commitments for which they are not yet ripe.

It should be noted, however, that the numbers who are now becoming interested in joining the Territorial Army has increased in the past year or two, and this process may be expected to gain momentum as the effects of National Service fade out.

The Nature of the Threat

War has been defined as the continuation of policy by force of arms when peaceful means have failed. From the failure to recognize this principle springs the conception that war and peace are two separate states and perhaps that soldiers and civilians are separate parts of the community.

The overwhelming challenge of our times is the threat of Communism. To the militant Communist there is, at all times, a ceaseless state of war between their regime and the "Imperialist Capitalist" powers, and this will continue until either they achieve their aim of world dominion or the Communist regime is exploded or mellows.

In their concept our form of society is philosophically wrong and will largely disintegrate from its own decay and in their threefold strategy of attack on the mind, on the economy and by force of arms, the military aspect is only a part, and perhaps a small part, of the whole.

In applying their tactics they readily switch the form of pressure according to changing circumstances; in defence, therefore, the part of the soldier is more intimately linked with that of the civilian than ever before.

Military "crystal gazing" is not always a profitable exercise, and the study of the shape of a future war is not the purpose of this article. New weapons and discoveries continually shift the balance of arguments and a dogmatic assertion today may well be disproved tomorrow, but it would be a rash prophet indeed who would assert with conviction that large reserves of man power and the officers to command them will not once again be required.

The Officers Training Corps

There is, generally speaking, all too little awareness in both the Regular and Territorial Armies of the rôle, status and functions of the University contingents of the OTC.

In 1948 they became units of the Territorial Army, and in 1958 undergraduate members were accorded the status and now wear the insignia of officer cadets; they are enlisted and take the oath as members of the Territorial Army.

The last year or two has been a period of transition from what was mainly a pre-National Service training organization to one dedicated to the training of volunteers for commissions in the Regular, Territorial and Reserve branches of the Army and the Cadet forces.

Within the organization there are sub-units of the various arms and services, and to these have been added in recent years platoons of the Women's Royal Army Corps.

The professional soldier, remembering his days in the school cadet force, may be tempted to dismiss the OTC as playing at soldiers, but a glance at the syllabus of the new Certificate "B" should dispel such

ideas, indeed he might be surprised at the high standards that can in fact be achieved.

The fact that the numbers in the OTC are at present small should not obscure the keenness and enthusiasm which is shown by so many of the members or the long hours of useful training that are really accomplished. Not the least refreshing aspect of work in the OTC is the quickness of mind and the general speed with which the undergraduate assimilates the military instruction that is offered to him.

The Officers Training Corps may be considered, therefore, as a most valuable training ground for future officers and a source of vital importance to the Army. If in the past few years it has been going through a difficult phase it can fairly be said that the corner is now being turned.

Not the least valuable aspect of its functions are the links that it provides between the Army and the Universities and the opportunity for contacts between undergraduates and serving regular officers; in this way it is a means of diffusing through the Universities as a whole a knowledge and understanding of the Army. The personal contribution that both individual officers and units as a whole can make, when their duties bring them into contact with the OTC, should be fully appreciated.

The contingents of the OTC exist solely by the good will and support of the University authorities. For their officers today they largely rely on ex-National Service undergraduates led by a few stalwart and faithful dons; now they must start looking once again to a younger generation of dons to provide the lead and fill the gaps that will grow as National Service comes to an end.

The history of the contingents of the OTC shows a rise and fall in their strengths according to the barometer of international relations. If in times of peace and tranquillity the numbers have sometimes fallen dangerously low this should not be regarded as a case for disbanding them; rather it should be considered the occasion for redoubling of efforts to replenish them for the lessons of history suggest that military apathy in a nation, allied with prosperity, serves only to whet the appetite of would be aggressors and leads not to peace but to war.

The Army's Problems

If there is one factor in an army that counts above all others, it is the quality of its officers and this has never been more true than it is in the British Army today. The increasingly complex and technical forms of weapons and equipment, the higher quality of soldier required to handle them and the increasingly "political" aspects in the use of armed force all require that the officer of today should have not only the traditional qualities and character of a fighting soldier but, in addition, an ever higher technical and intellectual ability, breadth of outlook and qualities of enlightened leadership not formerly always expected in a more graceful age.

The shattering power of modern weapons has brought with it a greater heart searching in the country as a whole over the moral aspects of the use of armed force and this together with the increased speed of communications, the press and television, has subjected the actions of the Army and its commanders to a more searching scrutiny than ever before, so that not only does it need a higher quality

in its officers, but must also spend more time in training and educating them.

In a changing age the whole concept of officer training is ripe for fresh enquiry. The vast majority of officers who have served the Army in the last 20 years, in war and peace, were not trained in the traditional schools for young regular officer cadets, yet who will deny that they served with distinction, ability and gallantry? What regiment is there that will not mourn the passing of the last National Service Officer?

Of those 10 per cent of regular officers who entered the Army from the Universities in the past, some 11 per cent attained the rank of general officer, and one at least is a Field Marshal.

"Officers with academic qualifications are an indispensable leavening for the Army, whether they are science graduates who have cut their teeth on nuclear physics, or arts men who know their Chaucer. One of their most useful functions is to ensure that the Army does not fall into a stereotyped or inbred approach to military affairs".[3]

But is a "leavening" any longer enough? Should not the Army now be looking, not for 10 per cent, but for 50 per cent of its officers to be trained and qualified in the Universities, for it needs today as many 'thinkers' and qualified technicians as it does men of action.

If, however, the Army is to draw into its ranks officers of really high quality and ability from the Universities, they must feel that they are joining an organization that is not thought too "odd" by the vast majority of their fellows.

The feeling that real ability has little scope in the confines of peace time regimental soldiering and the suspicions that military bureaucracy will cramp the initiatives of an imaginative mind are not without their deterrent affect, as also is the belief in some quarters that armies are outdated in a "press button" age.

The new conditions of service and rates of pay may be considered to have removed some of the major stumbling blocks, but redundancy has forfeited much confidence and there is not a little doubting that new shifts in defence policy, reorganization or disarmament, may yet result in fresh attacks on the security and contentment of an officer's career. Only time and patient administration will eliminate these fears and restore confidence.

There is however another problem, to quote once again from Major Earle:—". . . a kingdom that is not a nation in arms runs the risk of its voluntary enlisted army becoming a separate caste with which the bulk of the nation is out of touch". It is by strengthening now its links with the Universities, where the minds and characters of the country's future leaders are being shaped, that the Army can best avoid this dangerous separation.

A country that is spending in one year no less than £1,600,000,000 on defence has a right to expect good value for money and can justly demand high standards in the Services; the Army for its part, however, has a right to expect, when committed to action by the authority of a democratically elected government, that it has the moral support of an informed public opinion behind it.

How the Universities Can Help

War and National Service have

[3] *The Times;* 16 *June* 1959.

brought together, in the Services, all sections of the community and have given a wider understanding of war and Service problems than ever before.

With the ending of National Service there is a real danger of a widening gap growing up between a small professional army and the rest of the country. By recognizing that as "places of teaching universal knowledge" they have a responsibility in this respect the Universities can make a valuable contribution towards bridging the gap.

It is not without interest that in the Colleges and Universities of the United States of America a close association exists with the Army through the senior and junior branches of the Reserve Officer Training Corps (ROTC).

Following the outbreak of the Korean war the programme was quickly expanded so that by the academic year 1953-54 more than 147,000 students received Army ROTC training and 12,000 graduates were commissioned as reserve officers from 246 civilian Universities and colleges and nine military colleges. In 1956 the Army offered more regular commissions to ROTC graduates than to graduates from West Point and it is now the major source of regular officers for all Services. In a four-year course of study some 480 hours of instruction is given in ROTC training, in addition to attending a six weeks' camp.

At present there are Senior Division ROTC Units in 251 institutions of higher learning and their membership numbers more than 140,000 cadets.

From these schemes the already increasing interest in military history as an academic study received further impetus and in 1956 a thirty-hour course was incorporated in the ROTC programme. Faced with the problem of finding instructors to teach military history to 70,000 freshmen in 250 colleges and universities two courses for 215 instructors were held in 1956 and 1957 under the auspices of the Ohio State University.

The value of a chair in a University devoted to the study of military science should not be too lightly dismissed; not only would it provide within the Universities a forum for informed and responsible discussion on defence matters, but the detached thinking unbiased by Service loyalties and away from the daily responsibilities of office would surely contribute usefully to the consideration of some of these problems. The Services might feel that this would be an encroachment on what is rightly their province and the Official Secrets Act might well clash with the traditional freedoms of academic expression, but the advantages that could follow in greater knowledge and understanding make it worth more than a passing thought.

It might also serve to elevate to its rightful place in the world of letters the study and literature of the arts of war.

The value should also be appreciated of such lectures as those given by General Wavell at Cambridge in 1939 on "Generals and Generalship" and by Field Marshal Montgomery in Oxford in 1959 on the "Conflict between East and West"; talks on similar themes could usefully be given more widely and less infrequently.

In the technical and scientific field, where the University research departments are daily bringing to light new knowledge, the value to the Army of the closest possible as-

sociation needs no further elaboration. In this respect more can be done to develop the contacts between these departments and Army schools and colleges, and the help of those Universities equipped with electronic computers might well be enlisted in studies of logistic and other administrative problems.

In the larger field of general education the Universities can help, as some are already doing, by running courses for serving officers over a wide range of subjects.

In some Universities provision already exists in the Statutes for Service students to take degree courses and for the provision of facilities for cooperation with the Army over a wide field. What is now required is not so much the creation of new machinery, as the revival and development of that which has existed before and has languished in an age of universal service.

A start has been made in tackling some of these problems and in one University at least a working party of dons and soldiers has already embarked on a study of some of these fields of cooperation.

How the Army
Can Help the Universities

A happy marriage cannot be all give on one side and all take on the other; much has been said of the value to the Army of the Universities, but there is a reverse side to the coin.

The problems facing the Universities today in turning out balanced citizens has already been briefly mentioned, but this is a live and pressing problem and one, in the solution of which the Army, through the OTC, has much to offer.

There are those who would claim that useful membership of the OTC takes up too much of an undergraduate's time in an age of increasing competition and pressure; this is not a view, however, to which the writer can subscribe or which he believes is justified by experience.

In their annual report for 1959 the Oxford University Committee for Appointments had this to say on the subject of extra-curricular activities:—

..."Economic circumstances have changed the whole approach of undergraduates. From the point of view of future employment, they come up to equip themselves for one of two distinct types of career. On the one hand there is the specific job, needing a high degree of specialized knowledge, for which the main test in the employers' eyes is a good degree in a particular subject. On the other, there is the more general, and larger, demand for men who can be trained for management, whose personal qualities are very important. In the latter category, it is reasonable for an industrialist to assume that a man who gets a place at a University, and is capable of a reasonable honours degree, has already proved his intelligence. The rub is, can he apply it, and the answer to that depends on character. So employers look to something in addition to examination results.

"Industry needs not only thinkers but also men ready to take chances. Processes of change are more rapid in industry today and technological progress accelerates the rate of change. Early bodily activity, *eg* in travel, games or social activities, may be sublimated into the intellectual sphere at a later age. At the top in industry a man has great responsibilities. He must make prompt as well as wise decisions. Not least in importance, he must co-exist happily

with his colleagues and subordinates, because today he must impose policies and executive actions on others with nebulous sanctions. Employers, therefore, try to examine undergraduate candidates in the light of these needs, and clearly extra-curricular activities are important as criteria in picking the man who can accept responsibility, has organizing ability and mixes well with his contemporaries. National Service has been providing an additional useful yardstick for measuring these things, and some people responsible for recruitment regret that it may now be passing . . .

". . . The technical undergraduate should play a larger part, outside games, in extra-curricular activities, and there is great scope for tutors to encourage pupils to do so.

"Industrialists with long experience of recruitment for management normally look for three essential requirements in a management candidate. First, he must have a good brain. But this quality is judged on tutor's reports before schools, and a particular candidate may end up with a third precisely because he has spread his interests and activities widely. Second, he must lead a full life while up, and get a lot out of it. Third, and most important, he must have contributed something to the University. Can it be said that his college is a better place because of his presence for three years? If the answers to these three lines of enquiry are favourable, the odds are that he will contribute something to a business. It must be clear that extra-curricular activities are of great importance. An employer ought to be interested in what a candidate did in his first long vacation, *eg*, has he lived 'rough and tough' somewhere, or has he displayed originality?"

Where better can the qualities outlined above be better developed than in the OTC, whose very function it is to strive to develop these self-same virtues?

The value of service in the OTC was recognized 30 years ago by the Civil Service Commissioners who took it into consideration when examining candidates, for ". . . the Army Council (had) long been of opinion that service in the Officers Training Corps should give to those undergraduates who are desirous of obtaining Civil Service Appointments and other appointments of like character in India, in the Foreign Office, the Diplomatic Service and the Consular Service, some compensatory advantage. It is their opinion that the Officers Training Corps is an excellent school for those qualities of leadership and discipline which are necessary to the Government service, and also that in a general way it assists in the formation of a valuable character".[4]

Here then is a field, beyond military considerations, in which the OTC can offer a valuable service to the individual, to the Universities and to the country as a whole.

If this was true a generation ago, it is more than ever true today and recognition and public acceptance of this principle by University authorities, Civil Service Commissioners and leaders of industry would do much to stimulate recruiting in the OTC, and restore it to its rightful place in the life of the Universities and the Nation.

Conclusion

It is of vital importance to the country that there should be the

[4] *War Office letter of 10 April 1923.*

closest possible association between the Universities and the new all Regular Army, for as the strength of a tree lies in its roots so the strength and fibre of an army stems from those qualities in the nation from which it springs.

The initiative must come from the Army, which should set out actively to enlist the help and sympathies of the Universities.

The Army, for its part, must provide a clear lead and a stimulating sense of purpose; it must show that armies are not outdated and that the country cannot afford to relapse into comfortable complacency, secure in the belief that peace and security can be brought by the possession alone of expensive weapons.

It must show too that the country can only afford the luxury of a small professional army if that army is of the highest quality, led by officers of education and ability and backed by volunteer reserves of equal quality and potential.

It must also remind the country that in the care and preparation of an army in peace depends its ultimate performance in war.

In practical terms it must recognize that undergraduates will show interest in the Army strictly in accordance with the interest the Army shows in undergraduates, remembering always that example carries more weight than precept and invocation.

It must seek therefore, by all possible means, to strengthen and develop the OTC for the OTC will not produce high quality officers unless it in the first place attracts into its ranks young men of ability; this it will only do if the training is practical, varied and exciting and which, together with a lively social life, compares favourably with the activities of other University clubs and societies.

Individual regiments and corps, for their part, must demonstrate beyond all doubt that there is ample scope for young officers of ability and imagination to use these qualities to the full in peacetime regimental soldiering.

In the wider realms of education in relation to national defence there is much scope for enquiry; the country cannot afford to accept with complacency the ignorance, apathy or antipathy of large sections of its most able young men and women to problems concerning defence and the Armed Services.

In this respect the War Office, the Ministry of Defence and the University authorities could usefully concert together over the provision of lecturers, and of other means, for ensuring that these subjects are given a fair hearing in the "place of teaching universal knowledge".

A country that is spending so much on education could surely afford to endow a chair devoted to a study of its own survival.

In seeking to re-establish and develop its roots in the Universities the Army will not only be drawing to itself new strength but will also be giving back much in return, not only to the Universities but to the country as a whole. A start has been made; much remains to be done.

"The chief duties of the General Staff in peace are training and education. The Universities exist for the same purposes. When two friendly bodies are working together for a common object, who will be so bold as to say that success will not ensue?"[5]

[5] *Major Earle.*

Book Reviews

History of the Lake Superior Regt.

REVIEWED BY CAPTAIN R. H. ROY, CANADIAN OFFICERS' TRAINING CORPS, VICTORIA COLLEGE, VICTORIA, B.C.

The history of the establishment of the first militia companies in the Lakehead area goes back to the Riel Rebellion. After a rather tenuous existence, and despite the organization of the scattered militia companies into the 96th "District of Algoma" Battalion of Rifles, military life in this area came to a standstill when the unit was struck from the militia list in 1896. Nine years later the old 96th was reactivated, given the name "The Lake Superior Regiment", and was classified as a city unit located in Port Arthur and Fort William.

During the First World War, the regiment was represented by the 52nd (New Ontario) Battalion, C.E.F. In these war years its members won 380 awards and decorations and suffered 2959 casualties in such battles at Hill 70, Ypres, Amiens and elsewhere. It is perpetuated by the present day Lake Superior Scottish Regiment, or, as it was better known during the Second World War, The Lake Superior Regiment (Motor).

The regiment was fortunate in securing Dr. G. F. G. Stanley as its historian. His familiarity with all aspects of Canadian military history, together with his experience as a member of the Canadian Army's Historical Section during the Second World War, has resulted in the production of a first-class regimental history. Very few errors mar the pages of this well-written book, and the maps by Major C. C. J. Bond, together with a good selection of photographs, further supplement this accurate, balanced and frequently vivid description of the regiment in peace and war.*

It was not until mid-1940 that the "Lake Sups" were mobilized as a unit in the 4th Division, but it was to be over two years before the unit, then a motorized battalion in an armoured division, was to reach the shores of Great Britain.

When at Camp Debert in the Spring of 1941, part of the "Lake Sups", known as "Q" Force, was given special training for a task which was secret even to "Q" Force itself. It was to be used to seize the Vichy-controlled islands of St. Pierre and Miquelon off the coast of Newfoundland. The plans and preparations for this seizure are not mentioned in the army's official history, yet it makes interesting reading even though the islands eventually were taken over by de Gaulle's forces rather than the Canadians.

Approximately half of the text deals with the regiment's history from its origins to July 1944 when it sailed for France. The bulk of

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**In the Face of Danger* (The History of the Lake Superior Regiment), 1960. By Lieut-Colonel G. F. G. Stanley. Available through Box 213, Port Arthur, Ont., or from The Armoury, Port Arthur. Lakehead members may obtain copies at The Armoury. Copies available to regimental members at $1.00 each, which must accompany the order, together with former service number, name and address. Next-of-kin will be supplied with the book free of charge. A limited number will be available to other than regimental members at $4.50.

The History of a Triangle

REVIEWED BY PROFESSOR RICHARD A. PRESTON, DEPARTMENT OF HISTORY,
ROYAL MILITARY COLLEGE OF CANADA

Here is a new history of the Palestine War of 1948 out of which emerged the State of Israel with which surrounding Arab states have not yet made more than an uneasy truce.* Several other books have already appeared that deal with this War, notably, Glubb Pasha's *A Soldier with the Arabs*, Major R. D. Wilson's *Cordon and Search*, Harry Sacher's *Israel: The Establishment of a State*, Major Edgar O'Ballance's *The Arab-Israel War, 1948*, *The Memoirs of King Abdullah of Transjordan*, and Pearlman's *The Army of Israel*. This new volume is undoubtedly more useful than most of these since it is based on further research and also, as its title suggests, it endeavours to carry out one of the most important requirements of writing military history, the portrayal of what was planned and what was achieved by both camps.

In fact, as the title also suggests, it tries to do more. It attempts to deal simultaneously with a third side in this military and political triangle, namely with British motives and activities. Herein lies a serious weakness. For the resulting thread of narrative becomes at times difficult to follow, especially as much space is given to discussing not only British motives but also what each of the other sides of the triangle assumed about British motives.

The writers are journalists who say they learned from Liddell Hart that documents could not be trusted, because operation orders are too often written after the battle for the sake of posterity. They claim to have had access to leading men on every side of the triangle and to have built up an elaborate set of records of personal interviews in order to check official accounts and

**Both Sides of the Hill: Britain and the Palestine War.* By Jon and David Keinche. Published by Secker and Warburg, and available from British Book Service (Canada) Ltd., Kingswood House, 1068 Broadview Ave., Toronto 6, Ont. $5.75.

History of the Lake Superior Regt.

(Continued from preceding page)

the volume describes the battles and engagements in which the unit was involved from the area south of Caen to Germany.

One of the difficulties faced by the author was to try to treat as a unit a battalion which, in action, fought with its companies attached to the armoured regiments of the 4th Canadian Armoured Brigade. Unity and cohesion are hard to achieve in a regimental history even when describing a battalion fighting as a battalion, but when dealing with a motorized unit the difficulties are increased threefold. It is a measure of Dr. Stanley's skill that he is able to keep a tight rein on the various companies when describing their actions in battle. At the same time the reader gets a clearer picture of events from the brigade level than is usual in regimental histories.

documents. For obvious reasons, however, they are unable to supply footnote references to prove their statements. They were surprised at the many conflicting versions which they received and also at the difficulty they experienced in attempting to establish simple truths. They must have learned in the course of compilation that human memory is often more fallible than documentary evidence; but instead of using this discovery to explain their difficulties they state that the real source of trouble was that this war was a "clash of wills" even more than a clash of arms and that therefore they were led to attempt to uncover the motives of the various participants. It is, of course, in the attempt to uncover motives for action that the historian finds himself on the most treacherous of footings and the most uncertain ground. Here truth can rarely be fully established.

Complicated balancing of the evidence of fact and motive in a book that can, with some justice, claim to take an impartial approach, and severe criticism of the actions of individual Jews in certain cases, does not hide the fact that the sympathies of the writers are actually with Israel. This must be borne in mind by all who would read this book to advantage.

From the point of view of its use as a study of military history, it is excellent in its full portrayal of the necessary political background, although in this sphere it is unduly critical of Bevin, Attlee and the Labour Government on the grounds that they favoured the Arabs and at the same time, in some instances, secretly expected to be called back to Palestine by the Jews.

About half the book is devoted to a study of the guerilla activities which preceded the war and though these are dealt with in military terms, their lack of a clear line of operations and of a connected and coherent plan of action makes them rather difficult to understand. They are important, however, because they throw much light on this particular kind of warfare, one about which the professional soldier usually knows all too little. It is noticeable here that while British politicians are accused of duplicity in their conduct of affairs, British soldiers were just as heavily criticised for expecting Jews and Arabs, when fighting for their national survival, to carry out any of their most solemn promises and agreements.

As for the military campaigns which followed the British evacuation, new evidence is produced which shows that Jewish *matériel* and manpower was much less than has hitherto been claimed. Victory was only possible because of the bitterness of inter-Arab rivalries and mistrust. The truces imposed by the United Nations were used by both sides, but particularly by Israel, to rebuild armies despite the cease-fire terms.

It is, however, arguable that although the last truce line gave Israel considerably more territory than the United Nations partition, it was in a compact unit which had a greater chance of survival as a viable state. This result could not have been achieved by diplomacy; only by force of arms. At the same time, another result of leaving the decision to the adjudication of war was the creation of the miserable problem of the Palestinian refugees. Although one quotation in the book taken from King Abdullah lays the responsibility for failure to protect

More Memoirs

Reviewed by Lieut.-Colonel H. F. Wood, CD, Deputy Director of the Historical Section, Army Headquarters, Ottawa

Two books of military memoirs have recently been published that (to borrow a current literary cliché), simply cry out to be reviewed together. Throughout much of their length they describe the same events, but from very different angles. Lord Ismay writes of the higher direction of the Second World War*, while Sir Brian Horrocks tells of its battles.** There is one other similarity worth noting—neither man has any axe to grind.

This reviewer has now read a great many military memoirs of British leaders, and in the process has found it interesting to compare the early years of these men. It goes without saying that one cannot generalize about their appearance—no one could produce a recognizable composite from such individuals as Auchinleck, Montgomery, Slim, Ismay and Horrocks. But in this matter of their background, their education, their hobbies and their early careers it is possible to produce a typical British general in his formative stage, for there is an astonishing similarity in their early lives.

The British general of the early forties (at any rate the memoir-writing general) was born around the turn of the century, came of a "county" family of modest means, and went to a good public school. From there, he slipped through Sandhurst, emerged to join a Regular regiment and became devoted to games, horses, dogs and fast cars. He married comparatively late in life and sired one and one-half children. Somewhere along the way he picked up a nickname — Pug and Jorrocks, Monty and Jumbo, Bubbles and Boy, Straffer and Mary and The Auk—then spent years serving in

*The Memoirs of Lord Ismay. *Published by Heinemann and available from British Book Serviee (Canada) Ltd., Kingswood House, 1068 Broadview Ave., Toronto 6, Ont. $6.75.*

**A Full Life. *By Sir Brian Horroeks. Published by Collins, 10 Dyas Rd., Don Mills, Ont. $5.00.*

The History of a Triangle

(Continued from preceding page)

the interests of these poor unfortunates upon the other Arab rulers, another gives, incidentally, a version which the usual Israel story now denies. It says of the capture of Lydda, "Its Arab population of 30,000 either fled *or were herded* on to the road to Ramallah". The Palestinian refugees did not then, as is often alleged by Israeli spokesmen, all leave voluntarily in the expectation that they would soon be restored by force of superior Arab arms. They were the unfortunate victims of a clash of forces completely beyond their understanding or control. Their misery is still an unsolved, international problem and one which should lie more heavily than it does upon Jew and Arab alike.

Both Sides of the Hill is plentifully illustrated by useful sketch maps to illustrate lines of operation. It lacks, however, a clear description or cartographical illustration of the physical features over which the actions took place. It should be read with a good physical map handy.

areas as far apart as India and Aldershot, until some stirring of ambition finally persuaded all of them to study for the Staff College.

This act accelerated their careers. They became in their own eyes and in the eyes of the Army Council, professionals. After that, their paths diverged. On the outbreak of war, some, like Alanbrooke and Ismay, found their level in the breathless, rarified atmosphere where politicians and soldiers meet to decide the higher direction of the nations' war effort. Others, like Montgomery and Horrocks, took up gratefully the task of fighting the enemy on the battlefield.

It is interesting to observe that their common background is precisely the same one from which the generals of the First World War emerged. What was it, then, that made the difference between the lacklustre performance of the 1914-18 contest, and the brilliant achievements of 1939-45?

One reason could have been that the generals of the Second World War, as junior officers in the earlier struggle, had their noses rubbed into the mud of Flanders and Mesopotamia so thoroughly that they learned from the experience. But this explanation does not cover all cases. Horrocks spent most of the First World War trying to escape from German PW camps, while Ismay was chasing about Somaliland, after a dervish rebel who enjoyed the unlikely title of the Mad Mullah. There seems to be no simple explanation for the improved performance.

Nowadays it is considered bad form to ask for desirable military assignments; "career planning" is supposed to take care of all that. But in Ismay's day, if you didn't use your friends, you didn't get your jobs. Silence meant that you were happy where you were. Ismay used his influence to get a job in England, where he could see his new family occasionally, and found himself an Assistant Secretary to the Committee on Imperial Defence. The world he entered was dominated by that grey eminence of the First World War, Lord Hankey, also a soldier, who had made himself indispensable to the Cabinets and War Councils of British Ministries for nearly fifteen years.

The great General Strike of 1926 brought Ismay into his first contact with Winston Churchill, who was then Chancellor of the Exchequer. It was not to be his last, for when, at the moment of crisis in 1940, that great man became Prime Minister, he formed a military staff to assist him and placed Ismay in charge of it.

Most of the leaders who sat around the Council tables of Whitehall have written their memoirs and had their day in court; now we can read the reaction of the quiet man who sat in their midst organizing the papers, guiding the argument and drafting the reports. Inevitably, in a book by such a man, there is complete discretion. The anecdotes are harmless and denigrate no one, the criticism is sparing, and his loyalty to the cause is overriding. A man whose value rests in his ability to extract wise decisions from the disparate elements of a committee, does not think in terms of who was right and who was wrong; he thinks of things accomplished. Thus Ismay's book could well be entitled "How We Won through in Spite of Ourselves". It serves as an antidote to Alanbrooke's somewhat dyspeptic reaction to events. In his effort to

show that things were better than they seemed, however, Ismay makes some rather sweeping generalizations that an historian must protest, such as his statement that Churchill so charmed the Commonwealth Prime Ministers that they gladly left the conduct of the war to him and placed their forces without question under British operational control.

Ismay records his awareness that, although he would not have changed his job for a king's ransom, many of his friends would not have had it at any price. One of these would almost certainly be Brian Horrocks. In 1940, while Ismay was arranging meetings and preparing staff papers, Horrocks was supervising the training of a Brigade and later a division, of the reorganized BEF. In 1942, he arrived in the Western desert in time to lead a corps under Montgomery through El Alamein to the final North African victories. He missed the Sicilian invasion when a bullet from a German fighter plane struck him down, but recovered in time to command once again throughout the North-West Europe campaign.

Horrock's book is the work of a man who thoroughly enjoyed commanding troops in battle. He was one of the Second World War's great commanders, and will endear himself to Canadians as the first British general who has made, in his memoirs, more than passing reference to the Canadian forces.

The end of a war brings obscurity to many military leaders, but not to men like Ismay and Horrocks. The former went on to be Secretary-General of NATO, the latter to an unbelievably successful career as a television personality. This reviewer warmly recommends their books and suggests that they be read at the same time, perhaps on alternate evenings.

30 Corps Farm Moves Up

The following is an extract from Lieut.-General Sir Brian Horrocks' memoirs, *A Full Life* (Collins, Don Mills, Ont., 1960, $5.00).

"I discovered one day, to my surprise, that I was the owner of a 30 Corps farm, run by Webb [Brigadier George Webb] to supply our medical establishments with fresh milk and eggs. After each battle all the stray cattle were rounded up and looked after by men with farming experience until their rightful owners could be found.

"One day a senior officer standing by the roadside was astonished to see lorry after lorry passing by, each full of cattle. 'What on earth is this?' he asked an officer by his side. '30 Corps farm, sir, moving up,' was the reply. It was probably the only complete mobile farm which has ever existed.—*Contributed by S/Sgt. R. C. Wellstood, Historical Section, Army Headquarters, Ottawa.*

Don't "Play by Ear"

Careful planning is an essential ingredient in any operation, but particularly in one as fluid and unpredictable as a nuclear battle. Any effort to "play by ear" such a complex and volatile situation is dangerous and ill-advised. — General Bruce C. Clarke (U.S.).

Stalemate in the Wilderness

REVIEWED BY LIEUT.-COLONEL T. M. HUNTER, CD, HISTORICAL SECTION, ARMY HEADQUARTERS, OTTAWA

There is high drama in the first clash of great soldiers—whether of Harold and William at Hastings, Wellington and Napoleon at Waterloo or Wolfe and Montcalm at Quebec. In all of these instances the first contest was also the last. But when the principals are Lee and Grant — and their encounter is but the first of a series of famous battles — the action acquires added significance.

A new volume by Edward Steere, in the "Civil War Campaigns Series" published by The Stackpole Company, focuses attention on the fateful meeting of the two great American leaders in the Wilderness Campaign of 5-6 May 1864.* Earlier works in this series have dealt with Gettysburg, the Fredericksburg Campaign, Chancellorsville and other aspects of the Civil War.

We are told that the author of the present volume devoted twenty years of research to the subject. Canadian gunners will be interested to learn that he served with the R.C.H.A. in the First World War. Thereafter he studied history and journalism at the University of Texas, becoming an historian with, successively, the (U.S.) National Park Service, the Department of the Interior and the Office of the Quartermaster General. We may at once concede that he is meticulous in research, careful in presentation and devoid of partisan feeling. In fact we have here a most carefully compiled, possibly a laboriously constructed, account of a vital phase in the great American conflict.

Steere covers much familiar ground without loss of interest. He emphasizes that, before the battle, neither Lee nor Grant planned to fight in the Wilderness. The Northerner "preferred to fight on open ground beyond the Wilderness, where he might use to better advantage his superiority in cavalry and artillery"; the Confederate "would have postponed engagement until completion of the deployment of all elements of his army on a line favourable to counter-offensive action". However, once battle was joined, both commanders had a common aim — the utter destruction of the opposing force by offensive action. Lee underestimated the Northern strength; Grant made singularly poor use of Sheridan's cavalry.

The author severely criticizes the dual system of control in the Northern forces. Grant, as supreme commander, was constantly interfering with the orders of General Meade, whose Army of the Potomac was the main threat to the Confederacy. As a result, subordinates received conflicting orders and confusion was multiplied. Incidentally, Steere offers an interesting definition of the mutual responsibilities of commander and subordinates. After citing one example of inept handling of the Federal cavalry, he observes:

"Any evaluation of Sheridan's share of the blame encounters the military maxim that a commander cannot hide behind the lapse of a

*_The Wilderness Campaign_. By Edward Steere. Published by The Stackpole Company, Harrisburg, Pennsylvania, 1960. $7.50.

subordinate. There are, however, limitations and obvious exceptions to this maxim. Certainly, whenever the commander confers discretionary powers on the subordinate . . . then the decision of the subordinate, right or wrong, is the decision of the commander. Again, whenever an order is vague or contradictory, requiring a latitude of interpretation on the part of the subordinate, together with an adaptation of means unforeseen at the time of issuance of the order, the degree of responsibility thus conferred becomes tantamount to a grant of discretionary powers. Failure of the subordinate in such circumstances is the failure of the commander. When, however, the order is clear, precise, and beyond any possibility of alternative construction, and the means of strict compliance on the part of the subordinate are well within the margin of his capabilities, then, certainly, the commander is not required to share responsibility for the lapse of his subordinate."

The foregoing suggests that, if the author had not turned towards military history, he might have made his mark in the office of the Judge Advocate General.

In contrast to their opponents, the Confederates enjoyed the benefits of a relatively efficient chain of command. Lee has been frequently criticized for his habit of giving corps commanders liberty of action within the general requirements of his strategy. Yet in the Wilderness this flexible policy paid handsome dividends; Lee was well served by his lieutenants, in particular by Ewell and Longstreet. The latter's controversial conduct at Gettysburg should not obscure his brilliant tactics on 6 May. "The Wilderness situation was one made to order, as it were, for his peculiar genius." It is clear that his timely arrival on the scene "rescued the Army of Northern Virginia from certain defeat" and prepared the way for a decisive counter-stroke which "Lee, for reasons that history will not disclose, failed to deal."

The Wilderness Campaign contains a wealth of information on tactics and equipment. An observant chaplain from Massachusetts grasped the main lesson: "Wherever the Federal troops moved forward, the Rebels appeared to have the advantage. Whenever they advanced, the advantage was transferred to us." The supremacy of the defence was a natural consequence of the close country in which the battle raged. The book comments on the importance of "a flexible column with a narrow front and a reserve in hand to meet the unforeseen contingencies of forest fighting." As an old gunner, the author has not overlooked the relative merits of rifled Parrotts and 3-inch (Hotchkiss) pieces.

We have mentioned that the book represents a thorough investigation of sources. It is based on unpublished official and private documents, public papers and numerous accounts of participants. There is a total of 27 maps of the high quality we have come to expect from The Stackpole Company.

It is perhaps fair to question a few of the author's assumptions. He implies that "the discovery of steam power and other notable advancements in scientific knowledge" distinguished "the first protracted clash of arms" in the Civil War—although many of these developments preceded the war in the Crimea. It is also somewhat confusing to read a description of a plateau as " a field

Prometheus Bound

Reviewed by Lieut.-Col. J. A. Stairs, MBE, CD,
Army Development Establishment, Army Headquarters, Ottawa

The atomic bomb symbolizes the technical achievement of making practical use of the energy in the atomic nucleus: it might also symbolize the large-scale application of science and technology to national defence. The bomb and Sputnik and radar are spectacular results of this application, but it is through the large quantities of less prominent military equipments and techniques that the full extent of the change is beginning to appear.

The present work* serves as an introduction on a wide scale to all aspects of science and technology in the military field and deals with both the well-known and the little-known developments of recent years. It covers a very wide area but does not do so to any depth. Much of the information appears to have been gathered from foreign newspapers and periodicals, and not from Soviet work. The result is probably of more interest to Soviet readers than it is to the news conscious people of the free world.

The book is made up of one long document published in 1956 and two short ones published a year later. It starts with a brief historical review in Soviet Marxist terms and states that it is intended for the military man in the hope that it will promote creative military thought.

Chapter One, on fields of knowledge, gives a rambling dissertation built around the idea that dialectical materialism arms scientists with the correct philosophical view of the world. Eventually we learn that the Soviet state by its very nature can conduct only "just" wars while the Capitalist countries are imperialist aggressors. It is the hero-villain theme and it only serves to illustrate the absurdity of seeking a solution, east or west, at the Hollywood level.

**Science and Technology in Contemporary War.* By Maj-Gen. G. I. Pokrovsky, and translated by R. L. Garthoff. Published by Frederick A. Praeger, New York, and available from Burns and MacEachern Ltd., 266 King St. W., Toronto 2B, Ont. $4.75.

Stalemate in the Wilderness

(Continued from preceding page)

half a mile in width about a house". Steere states that Ewell's preparations for an attack on 6 May "put the Federals on the alert for the assault"; but a few pages later he writes that the attack was "launched without warning." Again, he comments: "In the light of his subsequent experience with Grant, it is difficult to understand Lee's equanimity after he became aware of Hill's critical condition on the Plank Road. . ." It is even more difficult to see how Lee can be charged with failure because of "subsequent experience".

These criticisms should not detract from the value of *The Wilderness Campaign.* Steere has produced a most useful study of the first trial of strength between Lee and Grant, ending in a stalemate. There were many long, hard, cruel and bloody rounds before the final decision at Appomattox.

The chapter ends with notes on mathematics, physics, dynamics, chemistry, and biology, accompanied by a great many examples which, though brief, will certainly be of interest to anyone unfamiliar with the subject.

Chapter Two, on military technology, begins with a bow to Marx and Lenin and follows this with the approved Soviet historical doctrine of how production has influenced war. It then goes to another long series of brief examples which include nuclear weapons, radar, air transport, tactical and stategic weapon systems, the offensive and defensive long-range rockets, submarines, vertical take off, infra-red, electronic countermeasures, etc. Some of these refer to important Soviet works such as the atomic ice-breaker and the high-powered rocket engine used for Sputnik, but one still gets the impression that the author has gathered the bulk of his material from U.S. publications. The chapter includes a humorous note about Capitalist profits "paid for at the expense of taxes squeezed from the people", and it finally ends with a bow to "the labouring masses, the true creators of history".

Chapter Three, on understanding military technology, begins with the relationship between collectives and individuals and lays down rules for proper collective cooperation. Apparently these are only necessary for the collectives that have not attained the proper scientific level, for as the author explains, all well educated scientists should automatically arrive at the same opinion! The chapter is largely a plea for technical understanding at all levels within the armed services and appears to be aimed at readers whose technical background is quite primitive. It ends with another selection of examples, many being similar to those already given in the preceding chapter.

Part II of the book appears to be no more than a condensation of Part I and adds little to it, although it does contain some line diagrams giving elementary explanations of how nuclear bombs, nuclear submarines and nuclear aircraft work, as well as long-range rockets and infra-red viewers.

Part III replays the old tape of the struggle between the warmongers and the peacelovers and then goes on to give the ABC's of single and multiple stage rockets and of satellites and nuclear bombs.

The best part of this book is the large number of technical examples used by the author and the broad field from which they have been selected. His dissertations on the socialist way of life and the reference to Marxist and Soviet dogmas may interest or annoy the reader, according to his background.

The defects are that the technical examples do not appear to be arranged in any logical sequence; their treatment is usually superficial and is often verbose. Frequently a good point is smothered in meaningless words or the argument drifts off into vague generalities. The translation may be partly to blame, but one feels that General Pokrovsky's real headache was bureaucratic super-security. The General often quotes his source of information or implies that the facts are well known.

Anyone who has ever had the frustrating experience of writing an unclassified story about a classified subject will sympathize with General Pokrovsky; but it must be especially trying when one is that close to Siberia.

Whither, Soldier?

Reviewed by Major B. W. E. Lee, CD, Directorate of Survival Operations and Plans, Army Headquarters, Ottawa

How has the advent of nuclear warfare affected the profession of soldiering and what lies ahead for the professional soldier? A social and political portrait of the American soldier written by Professor Morris Janowitz attempts to answer this question. Whether these questions are really answered the reader will have to decide for himself after he wades through four hundred and fifty pages of always erudite but sometimes obscure prose.*

The book is not easy to read for it was obviously intended for a textbook. The analyses are searching and present a comprehensive sociological study of the current organizational setting of the services and their leadership, as they have evolved during the last half-century. The author describes the fundamental changes that he recommends be adopted for the new role which he envisages for the soldier. Professor Janowitz uses the word "soldier" mainly to describe a senior officer of any of the three services. He advocates a policy of graduated deterrence with the U.S. armed forces becoming a world-wide constabulary force, committed to the minimum use of force and seeking viable international relations, rather than victory. While no one will seriously disagree with such an aim it is not clear just how he sees the United States of America becoming the power responsible for policing the rest of the world. Perhaps others will have something to say about this!

The fundamental changes proposed are described several times as being "radical" and perhaps they are to the military minds of the moment. The author sees the gradual displacement of the citizen military service concept by a completely professional army. This might not seem so radical to Canadian readers who have been exposed to such a military system for most of their lives. He proposes to make this system attractive by a method long used in the Canadian and British Armies with varying degrees of success. This method is best described in his own words, "It is impossible—even dangerous—to use monetary incentives alone as the basis for developing a professional military establishment. A sense of honor and *esprit de corps* are essential for any effective military organization."

The third fundamental change is the division of the armed force into two separate groups, the fighters and the technicians. Each group would be headed by its own chief, one a "heroic leader" and the other a "military technologist". Both these leaders would be subordinate to and act as advisers to a "military manager". These individuals would have broad experience and training which will equip them to coordinate several functions. If the reader thinks that this sounds somewhat like a thesis written by a student during a Business Administration Course at some U.S. University, the writer will agree with him. On the whole, this book, while containing

**The Professional Soldier.* By Professor Morris Janowitz. Published by The Free Press of Glencoe, Chicago, Illinois. 1960. $6.75.

The Red Philosopher

Reviewed by Major D. J. Goodspeed, Historical Section, Army Headquarters, Ottawa

Few impartial scholars would seriously maintain that Karl Marx was really a philosopher at all or that his system of thought, so confidently erected with materials borrowed from Hegel, Feuerbach, Saint-Simon, Locke, Sismondi, and Blanqui, really deserves to be dignified by the title of philosophy. No one, however,—not even the impartial scholars who look down disdainfully from the groves of their Academy on the crude inconsistencies of Marxism—would care to deny that Karl Marx's teachings have been one of the most terrible influences in the twentieth century. This large clumsy man, who did so much of his work in the quiet seclusion of the public reading room of the British Museum, has become the greatest single revolutionary force of our times. His turgid prose has sounded across the desolate spaces of the world like a trumpet call; his dry historical analyses have been so many incantations, calling up wars and political assassinations, battles and barricades in the streets, the shouting mob and the marching of disciplined armies; his laborious dialectic has had as its improbable result the conquest of nearly half a world, the death of dynasties, massacres, and the tragic end of princes.

To understand this amazing phenomenon it is necessary to understand not only Marxist theory but also the nature and life of Marx himself. No thinking person in the free world can afford not to make this effort at understanding, for the old war-time slogan of "Know Your Enemy" surely applies with even greater force when your enemy works primarily upon the spirit and intellect of man. In the context of the Cold War, we should listen as closely to the arguments of the Marxist as we would listen to his plans.

The Oxford University Press has recently republished in paperback form a book which will be of considerable value to those who wish to improve their knowledge of Marx and Marxism.*

In spite of its modest title, this book is not merely a shallow, popular biography of a great revolutionary figure. Some third of the text is devoted to an explanation of the growth of Marxist theory, and

**Karl Marx: His Life and Environment.* By Isaiah Berlin. Oxford University Press, New York. $1.50.

Whither, Soldier?

(Continued from preceding page)

some interesting proposals and searching studies of what makes American soldiers tick, has some faulty conclusions and some naive observations.

The author is a Professor of Sociology at the University of Michigan. He received his Ph.D. from the University of Chicago and served with the U.S. Department of Justice and the Psychological Warfare Branch of the Allied Forces in the European theatre during the last war.

on the whole, considering the audience at which the book is presumably directed, this exposition is done well. The philosopher or the logician may complain that the analysis of Marxism is insufficiently critical, that Marx's postulates are not looked at with sufficiently searching an eye, and that some of Marx's conclusions are not examined with sufficient closeness to test their validity. But to do this would have been to write a different book. What the author has done is to present a well-rounded picture of Marx himself, of his intellectual development, and of the influences which shaped his life—and through his life, the lives of all of us.

Marx was a German Jew who rejected both halves of his inheritance. While still a young man he shook the dust of Germany from his feet to live in exile in Paris and London; he displayed for most of his life an uncompromising hostility to every manifestation of his Hebrew background. He had a powerful, but not particularly sensitive, mind. Except with his own immediate family and with his disciple, Frederick Engels, he was habitually arrogant, contemptuous, and overbearing in his dealings with people. Rejecting out of hand any metaphysical basis for his system of thought, he nevertheless fell into the common trap of the anti-metaphysicians and introduced into his theories as postulates concepts which he had scorned to discuss as premises. He was a poor speaker who commonly antagonized his audiences, and he wrote—well, he wrote like a German philosopher.

How, then, did so unpromising an indivdual, with so unpleasing a personality, make so great an impact on the world about him? There is certainly no easy or simple answer to this question. Nor does Mr. Berlin pretend to give one that is completely satisfying. The sins and injustices of the secular, capitalist society in which Marx lived, the virtual death of philosophy and that indifference to the abstract which characterized the political and social forces of the time—these probably played a major part in effecting the miracle. Marxism, to a greater extent than is commonly admitted either by its adherents or its foes, fell into a spiritual and intellectual vacuum, and it fell on its feet.

Yet all this,true as it is, is an insufficient explanation of the Marxist success. Marx himself was the prophet ideally suited to his time. His anger, his irony, his inability to compromise, his passionate conviction of his own rightness—these, far more than his intellect, made Marx the towering and terrible figure he has become.

Yet already perhaps that figure is more wraith than reality. Already many of his predictions have been denied by events. Already his disciples are annotating the text of the sacred books, branching out into those individual heresies which retain the name and form of the ancient mysteries but which have rejected the central core of dogma. Lenin, Stalin, Khruschev, Tito, and Mao—all claiming to hold the original Marxist faith in its pristine and primitive purity—have all played fast and loose with Marxism itself. The process is likely to continue.

Nevertheless, it is impossible to cope even with a heresy unless one knows something of the original doctrine. Mr. Berlin's book is as good a starting place as any for such a quest.

Oh I Say! Well Done!

Reviewed by Lieut.-Colonel H. F. Wood, CD, Deputy Director, Historical Section, Army Headquarters, Ottawa

As I began to read, it seemed a very long time since I had come across a book of memoirs as maddeningly inappropriate to the times as Brigadier-General Beauman's recent effort.* In fact, for the first few chapters I thought I was back in the days when books like this were the rule rather than the exception. You may remember the sort of thing— "*Through the Alimentary Canal with Gun and Camera* by Colonel Hector Bibson-Bibble, OBE, (ret'd) late, the Poona Horse".

My first reaction as I read was a kind of blank disbelief that anyone, in the mid-twentieth century, should ever have found a publisher for such a book. (In justice to the author of these memoirs, I must admit that my jaundice was dissipated somewhat as I travelled along with him.)

There is violent and sudden death in every chapter of course, but the victims are more often than not, foxes, partridge, snipe, salmon, and assorted big game. Anyone with an urge to mock at Army officers can find material on every page of this remarkable odyssey. Now hear the author:

"I remember one stretcher case just outside the door of my room. The poor fellow had had his leg amputated well above the knee, and was naturally rather restless . . ."

"We eventually discovered a method of dealing with the partridges without using firearms. In very open country if you can see where the covey lands and can gallop to the spot so as to put the birds up again before they have time to rest, you can eventually make them so tired that they cannot fly at all. You can then dismount and knock them over the head with a riding crop."

This is the same man who says later, of natives trying to make a living in India:

". . . they used . . . one particularly cruel practice. They used to catch ducks in nets, break their legs so that they could not struggle much, and then send them alive . . . to the nearest city."

And yet,—as one wades through the endless stream of idiotic anecdote, the shooting parties, the point-to-points, the splendid chaps, the good shows,—the annoyance begins to subside. There is something about this gallant old scribbler that is oddly appealing. After all, what could a professional soldier, with nothing but a public school education, do with himself between those two wars? Training the men in his day was not an intellectually rewarding task.

His career covered frontier fighting in India, Arab fighting in Palestine, and both World Wars. In the four years of the First World War he rose from platoon to brigade command, but, reverting to substantive rank in 1919, he took the next twenty years to rise to brigade command a second time. During those twenty years he had under his command some of the greatest soldiers of 1939-45. He retired, at

Then A Soldier. By Brigadier-General A. B. Beauman, CBE, DSO. P. R. Macmillan Ltd., 145 Fleet St., London E.C.4, England. 12/6.

Canada's Soldiers: Second Edition

Reviewed by Captain R. H. Roy, Department of History, Victoria College, Victoria, B.C.

In January 1955, when Dr. Stanley's book *Canada's Soldiers, 1604-1954* was first reviewed in the pages of this Journal, the reviewer then said that the author "has produced a sound, scholarly volume, which promises to remain for a long time a standard work of reference", and later added that a second edition was certain to be required.

The second edition has now appeared in a smart new jacket. Three new maps have been added together with an excellent selection of sixteen illustrations covering the period from Champlain's skirmish with the Iroquois in 1609 to a photograph of Canadian Troops in Korea.

Basically the text remains the same, although a small number of errors which appeared in the first edition have been corrected, and certain sentences have been rephrased and sharpened. Further improvements include an expanded bibliography which lists the more important of the recent books and articles on Canadian military history, and an appendix dealing with the rifles used by Canada's soldiers down through the years.

The greatest difference between the first and second edition will be found in the latter part of the book, more particularly with the chapters dealing with the First and Second World War and the Korean campaign. Dr. Stanley has made good use of the new material relating to these wars since the first edition appeared, with the result that ap-

**Canada's Soldiers: The Military History of an Unmilitary People.* By George F. G. Stanley. Published by MacMillan Company of Canada Limited, Toronto, 1960. Revised edition. $7.50.

Oh I Say! Well Done!

(Continued from preceding page)

49, a Brigadier again, just before the Second World War.

But the Beauman saga was not over. He was recalled from retirement to a job on the Lines of Communication of the BEF in France, where, in the most unlikely sequence of events anyone could think of, Brigadier Beauman had his great hour. Given command of the tag-ends of the base areas, formed into a division, he was given the biggest, toughest job of his military career, covering the evacuation through Cherbourg. He seems to have performed very well.

Riffling through the pages after reading the book, and thinking about the sort of man who wrote it, one is forced to acknowledge that here was a reliable, fundamentally decent, and very useful soldier. One has, to put it gently, got to be a little charitable about his schoolboy approach to peace-time existence, and his complete absorption with dogs and horses and foxhunting; and this is easier when one thinks of what lousy soldiers Longfellow, G. B. Shaw or Einstein would have been. Armies, even modern armies, can always use a leavening of Brigadiers like A. B. Beauman, CBE, DSO (ret'd), late the South Staffordshire Regiment.

With Benefit of Clergy

Reviewed by Captain J. A. Thomson, CD, AHQ Sections,
National Survival and Attack Warning Systems,
Army Headquarters, Ottawa

This absorbing documentary* tells of a little known undertaking in Italy during the Second World War which resulted in the formation of the British Organization in Rome for Assisting Allied Escaped Prisoners of War. This unique organization functioned for two years in Rome and you wonder how the author, a Territorial Officer in the Royal Artillery, knowing the dread consequences of the slightest error, could go on so implacably and yet simply and quietly with the business of organizing and administering the nearly 4000 escaped prisoners of war behind the German lines and under the very noses of the Gestapo.

Major Sam Derry, after jumping from a prison train which was taking him from Italy to Germany, made his way to Rome and a meeting with a most remarkable Irish priest, Monsignor Hugh O'Flaherty.

The latter, who had no reason to be fond of the British, had after analysing the propaganda of both sides and personally witnessing the Nazi sadists and their reign of terror against the Jews in Rome, knew from then on which side he had to believe.

With the collapse of the Fascist Government, Italians guarding prisoners of war simply deserted their posts and left Allied prisoners to walk out of the camps and into German-occupied country. As the number of escaped prisoners making their way to Rome to seek help steadily increased, Monsignor O'Flaherty saw the need for the establishment of an organization to assist, and so, with the aid of two associates, the pilot group known as the Council of Three came into being. It consisted of the monsignor, with contacts through innumerable priests, who brought the escapers in, and found places for them to stay; Count Sarsfield Salazar of the Swiss Legation, who knew of pleas for help made by escapers to the neutral Swiss, and the caretaker of the closed British Embassy; and the butler to the British Minister to the Holy See.

The need for further organization was indicated when it became apparent that a complete military underground establishment was required as the delicacy of the diplomatic situation was daily becoming more acute and hazardous to the Council of Three, as disclosure of their activities could cause grave embarrassment to their respective governments.

The first senior British officer to

**The Rome Escape Line.* By Sam Derry. Available from Clarke, Irwin & Co. Ltd., 791 St. Clair Ave. West, Toronto 10, Ont. $2.75.

Canada's Soldiers

(Continued from preceding page)

proximately fifty additional pages of text will be found in the latest volume.

Canada's Soldiers will continue to attract a wide reading public both in the forces and among those interested in military history. Perhaps one day this book may have two companion volumes: *Canada's Sailors* and *Canada's Airmen.*

contact the British Minister at this time was Major Derry, who agreed to command the unit.

He subsequently found his administrative staff in three Allied officers who were interned within the Vatican—Major John Sym, of the Seaforth Highlanders; Sub-Lieutenant Roy Elliott, a young Royal Navy submarine officer; and Captain Henry Judson Byrnes, a Royal Canadian Army Service Corps officer. This threesome had escaped from a POW party being marched through Rome and had made their way, with assistance from an Italian doctor, to the Vatican where they were lodged as internees. Fortunately for the future of the underground organization, this occurred shortly before the Vatican invoked its unequivocal "no admittance" rule to escapers and evaders.

Captain Byrnes is given high praise by the author for his meticulous attention to documenting personnel and maintaining pay records. This detail ensured that pleas for assistance received from rural areas were expeditiously channelled to the group in the area and funds dispatched for food and lodging. The particulars of such personnel were communicated through devious routes to next-of-kin. The efficiency of this administrative officer is all the more remarkable considering that his work was performed within the walls of the Vatican and that nightly he buried his day-to-day work in tin cans in the gardens of the Holy See.

Assistance from many of the Italian community sympathetic to the cause of the Allies in general, and the escape organization in particular, was given freely without thought of personal reward and usually at great personal hazard.

The Rome organization had, by the time of the liberation of that city, the names of 3925 escapers and evaders on the records maintained by Captain Byrnes. Of this number, 1695 were British, 896 South African, 429 Russian, 425 Greek, 185 American and the remainder from no fewer than twenty different countries.

This huge army which had been fed, clothed and housed in and around the Eternal City under the very noses of the Gestapo, was handed over intact to the Allies on liberation. The personnel of the organization were, however, not totally immune from danger. Some of its members were able to survive torture, but others less fortunate suffered execution at the hands of their captors.

That so many were able to return safely to home and family can only be attributed to the zeal and earnestness with which Sam Derry capably approached his many problems of command of one of the most extraordinary units of the last World War. He has told his thrilling story with simplicity, and without heroics.

* * *

Other Books Received

25 Battalion Second New Zealand Expeditionary Force by Lieut.-General Sir Edward Puttick, KCB, DSO and bar, MC. The history of the 25th Battalion, Second New Zealand Expeditionary Force is the story of Greece, the Western Desert and the Italian campaign as seen at battalion level. In New Zealand, official historians write battalion

Meritorious Military Matters

Reviewed by Major B. W. E. Lee, CD, Directorate of Survival Operations and Plans, Army Headquarters, Ottawa

"The totality of forces that determine man's ability to secure himself in the hostile world of his own and nature's making precludes all possibility of itemizing them for detailed consideration". This is how Joseph Maxwell Cameron defined the task facing him if he sought to analyze all subject matter primarily of military import. Consequently, he contented himself with delving into all "things which must be included in the whole of what is meritorious in military concepts".

The result of his study is a volume entitled *The Anatomy of Military Merit**, which is in fact a series of eleven essays followed by a conclusion. There is also a long preface of thirty pages which is calculated to bore all but the most avid readers. The meat of the entire book is contained in Chapter Twelve which by itself is a good military paper. The preceding eleven chapters are studies augmented by statements and conclusions which are sometimes worthwhile reading and sometimes not. The reader, of course, may not always agree with the author's ideas on what is good and what is bad militarily speaking. However, one cannot disagree too strongly with his conclusion particularly if one has studied the performances of the Allied troops in the last war and in Korea.

The author is a surgeon serving in the United States Army since the Second World War. He is now with the United States Army Chemical Corps School where he is employed as Chief Instructor in the Medical Aspects of Chemical, Biological and Radiological Warfare.

**The Anatomy of Military Merit.* By Colonel Joseph Maxwell Cameron, United States Army. Dorrance & Company, Inc. Philadelphia, Pa. $5.00.

Other Books Received

(Continued from preceding page)

and regimental accounts and one result is the inclusion of such items as extracts from German Documents not usually available to the average regimental historian working on a limited budget.

This is a good battalion history full of interest, drama and humour. It is available from the War History Branch, Department of Internal Affairs, Wellington, New Zealand. 1960. Whitcombe & Tombs Ltd., Christchurch, C.I, New Zealand.

—*H. F. W.*

* * *

Seven Men at Daybreak, by Alan Burgess. The factual story of a suicide mission by two British-trained Czechs who flew from England in 1942 and were parachuted into Czechoslovakia. Their purpose was the assassination of SS General Heydrich, Reich-protector of Bohemia and Moravia—a mission which was successfully accomplished but which resulted in their own deaths. Published by Evans Brothers Ltd., London, England, and available from the British Book Service (Canada) Ltd., Kingswood House, 1068 Broadview Ave., Toronto 6, Ont. $4.25.

Letters to the Editor

Borrowed Words

Editor, Army Journal.

I notice that in the Summer issue of the *Journal*, under the heading "Okay!", a correspondent of fifty years ago indignantly denies that the phrase "OK" originated in the ignorant spelling of "All Correct" as "Oll Korrekt" by the U.S. General Zachary Taylor. I understand that the origin of this phrase has never been satisfactorily explained and I should like to suggest that it was brought back, like many another word used by the Army, by British troops who had served in India.

"Puttee" (a bandage), "khaki" (dust-coloured) and "char" (tea) are all more or less corrupt versions of Indian words, and there are plenty of other less polite ones! Punjabi troops, who formed a large part of the Indian Army, use the phrase "thik hogaya" (literally, "it has become correct") exactly as we use "OK", and, furthermore, the second word, "hogaya", sounds very like "Okay" pronounced with a strong Irish accent.

I should imagine that this explanation must have occurred to many others besides myself, but I have never seen it put forward.—*Captain Ambrose J. Shea, Ranger Liaison Officer, Eastern Command.*

* * *

Instructions to Correspondents

This column is open to all officers of the Regular, Militia and Supplementary Reserve forces, as well as Officer Cadets.

Through this medium, we hope to encourage officers to express constructive views on articles appearin the *Journal*, as well as their opinions on any matter pertaining to current tactical training, organization, equipment, etc., of the Canadian Army.

While the modern trend in many fields of endeavour seems to be towards conformity, the *Journal* believes that it would be to the advantage of the Armed Services if officers were given the opportunity to exercise their powers of original thought and imagination by putting forward their differing views in a service journal.

Only three limitations are imposed as far as correspondence of this nature is concerned:

1. Opinions may be controversial, but they must be constructive; it is not intended to air views which are destructive and which are not in the best interests of the Armed Services.

2. Letters will be published subject to the limitation of space. For this reason, the *Journal* reserves the right to condense letters which are too long.

3. Correspondents must sign their names and repeat their signatures in block letters; rank, corps and address must also be given.

Correspondents are reminded that the *Journal* is an unclassified publication, and material (including letters to the Editor) submitted for publication must not contain classified information. In cases where it is uncertain whether statements are classified or not, the material is referred to the appropriate authority for a ruling.

A Maxim

The most trifling circumstances sometime produce very important results.—*Napoleon.*

CANADIAN ARMY ORDERS

Listed below is a resumé of Canadian Army Orders for the information of military personnel. Details of these Orders are available in all Army Units.
—Editor

CAO 5-1

Allotment and Rules of Occupancy of Married Quarters and Allotment of Garages
(Issued: 23 Jan 61)

This amendment provides that where identical point scores exist, the position on the waiting list will be determined in order of precedence by the date taken on strength, date of enrolment and date of marriage.

CAO 35-1

Military Commands and Areas in Canada
(Issued: 23 Jan 61)

This revision reflects recent changes in the boundaries of Western, Quebec and Eastern Commands and Newfoundland Area which placed within Quebec Command, Baffin Island and certain islands in James Bay, Hudson Bay, Foxe Basin, Hudson Strait and Ungava Bay which were part of Eastern Command and Western Command.

CAO 55-1

Command of the Army in Canada
(Issued: 31 Oct 60)

This amendment includes recently formed units and disbanded units, and shows changes in category resulting from relocation of certain other units.

CAO 57-19

Small Arms Competitions
(Issued: 14 Nov 60)

This new order authorizes small arms competitions and designates the directorate responsible for the conduct and the conditions of each competition.

CAO 62-8

Courts Martial Held in Canada— Appointment of Judge Advocate
(Issued: 12 Dec 60)

This new order outlines the action that should be taken by a convening authority, when convening a court martial in Canada, with respect to the appointment of a judge advocate.

CAO 84-26

Badges — Good Conduct
(Issued: 26 Dec. 60)

This amendment provides that when determining a man's eligibility for a good conduct badge the exemption clause concerning fines has been raised from $20.00 to $25.00.

CAO 85-5

Status and Control of JAG Staff
(Issued: 14 Nov 60)

This revision provides that judge advocates will not perform both judicial and non-judicial functions in respect of the same court-martial before the conclusion of the trial.

CAO 108-1

Possession of Fire-Arms
(Issued: 9 Jan 61)

This new order prescribes the

circumstances and conditions under which members of the Army may be in possession of service and privately owned fire-arms.

CAO 123-1

Supply and Maintenance of Guided Missiles and Rockets—Division of Responsibility
(Issued: 23 Jan 61)

This new order details the division of responsibility within the Army for the supply and maintenance of guided missiles and rockets.

CAO 143-8

Military Museums
(Issued: 23 Jan 61)

CAO 297-2 on military museums has been revised and renumbered 143-8. The order now provides that a station or unit may establish a museum subject to the approval of the GOC or area commander, and that museums will operate as a component of a unit's regimental fund.

CAO 162-1

Leave and Pass
(Issued: 31 Oct 60)

This amendment permits applications for accumulation of annual leave to be submitted up to 31 Mar; ensures that Reserves employed under CAO 94-1 and CAO 94-2 receive their full leave entitlement and emphasizes the fact that the total special, annual and accumulated annual leave on release must not exceed sixty days.

CAO 163-2

Legal Aid
(Issued: 12 Dec 60)

This revision deletes all reference to provision of legal aid to servicemen by civilian provincial legal aid committees, and incorporates a recent reciprocal arrangement on legal aid with the JAGs of the US Forces.

CAO 201-17

Holdings of Spare Parts and Control of Stock Levels—Division of Responsibility RCOC-RCEME
(Issued: 14 Nov 60)

This amendment provides for a new policy governing the stocking of spare parts in a Spare Parts Stores Section.

CAO 212-4

Conditions of Pay—Local Training
(Issued: 12 Dec 60)

This revision gives effect to the direction of the Chief of the General Staff that, with certain exceptions, the number of days Local Training required to be performed by members of the Militia or Supplementary Reserve to establish entitlement to pay under QR (Army) 204.04 has been reduced from 15 to 7 days, effective 1 Jan 60.

CAO 212-22

Marriage Allowance and Supporting Assignments

(Issued: 6 Feb 61)

This amendment brings the order into line with QR(Army) 205.20(2)(b)(i) which was amended on 17 Nov 60, effective 1 Aug 58, to provide that entitlement to marriage allowance on behalf of a dependent child, who is not mentally or physically infirm, shall cease when the child reaches the age of twenty-one years rather than eighteen years as heretofore.

CAO 212-31

Physical Fitness Equipment—Provision and Maintenance
(Issued: 28 Nov 60)

This amendment clarifies the method of claiming reimbursement for expenditures incurred for the maintenance of physical fitness equipment and extends the categories of members of the Regular Forces on behalf of whom reimbursement may be claimed.

CAO 212-46

Emergency Married Quarters—Charges
(Issued: 23 Jan 61)

This amendment includes the rates of charges for EMQs, which formerly were contained in CAO 5-6, prior to its cancellation and amalgamation with CAO 5-1.

CAO 212-51

Charges for Rations and Quarters—Service Personnel of Other Countries and Civilians
(Issued: 23 Jan 61)

This amendment includes the uniform scale of charges, already in effect, for rations and quarters supplied to non-government civilian employees at isolated localities, broadens the definition of "civilian employee", and brings up to date the references in the order to the Civilian Administrative and Accounting Manual.

CAO 225-52

Manuals Authorized for the Adjutant-General Branch
(Issued: 23 Jan 61)

This amendment deletes two manuals from and adds one manual to the list of manuals authorized for the Adjutant-General Branch. It also transfers the responsibility for Medical Service Manuals to the Surgeon General.

CAO 238-2

Rations and Ration Allowances—Militia and Cadet Exercises
(Issued: 9 Jan 61)

This amendment provides that rations or ration allowances may now be authorized for special exercises of one or more days' duration.

CAO 251-16

Disposal of Stray Ammunition and Sundry Explosive Objects
(Issued: 31 Oct 60)

This revision notifies the new address of No. 12 Technical Service Unit, RCAF, changes of co-ordinators for the susceptible areas of the former Prairie Command and changes in location of nearest specialist for Port Arthur, Ont., Fort William, Ont., Regina, Sask., and Saskatoon, Sask.

CAO 256-3

Terms of Service—Officers of the Canadian Army (Regular)
(Issued: 14 Nov 60)

This revision makes various amendments to the policy governing terms of service of officers of the Regular Army.

CAO 256-5

Terms of Service—Officers of the Canadian Army (Militia)
(Issued: 14 Nov 60)

This revision incorporates changes in policy and procedure which have been implemented in the past.

Canadian Army Develops Navigation Aid

An automatic navigation aid, developed by the Canadian Army for use in tanks and other military vehicles, will soon ensure soldiers against getting lost while manoeuvring in strange country.

The device, which instantly provides the commanders of fighting vehicles with positional and navigational information, is called the Canadian Navigation Set, Land, Vehicular, C1—or "Navaid", for short.

The set will be of great assistance to troops travelling in vehicles across featureless or poorly-mapped country. It will also enable fighting vehicles to operate in darkness or fog without going off course.

During the Second World War and the Korean conflict, many casualties resulted because commanders of fighting vehicles sometimes could not get a quick "fix" in unfamiliar terrain. Use of the new automatic navigation equipment will solve this old problem.

"Navaid", operating on the principle of dead reckoning and requiring no radio assistance, indicates to the vehicle commander the vehicle's position as a numerical map reference and shows the heading as a bearing in degrees. A map board also displays the position and heading of the vehicle as a spot of light on a standard Army map for easy reference.

The self-contained vehicle navigation set is now being procured for the 4th Canadian Infantry Brigade Group in Germany.—*A report issued by the Directorate of Public Relations (Army), Army Headquarters, Ottawa.*

When Banishment is Not Punishment

50 Years Ago: A novel sentence has been passed upon a private by a [U.S.] Marine Corps court-martial at Guam. The private has been sentenced to six months banishment from the island, and to pay a fine. Some of the officers who have been stationed at Guam fail to see any punishment in the verdict of the court. A number of them in the Navy insist that they would pay a very liberal fine for the privilege of leaving the island for a term of six months.—*From the Army-Navy-Air Force Journal (U.S.)*

Canadian Army Orders

(Continued from preceding page)

CAO 218-3

Overseas Mail, Addresses and Rates of Postage
(Issued: 20 Feb 61)

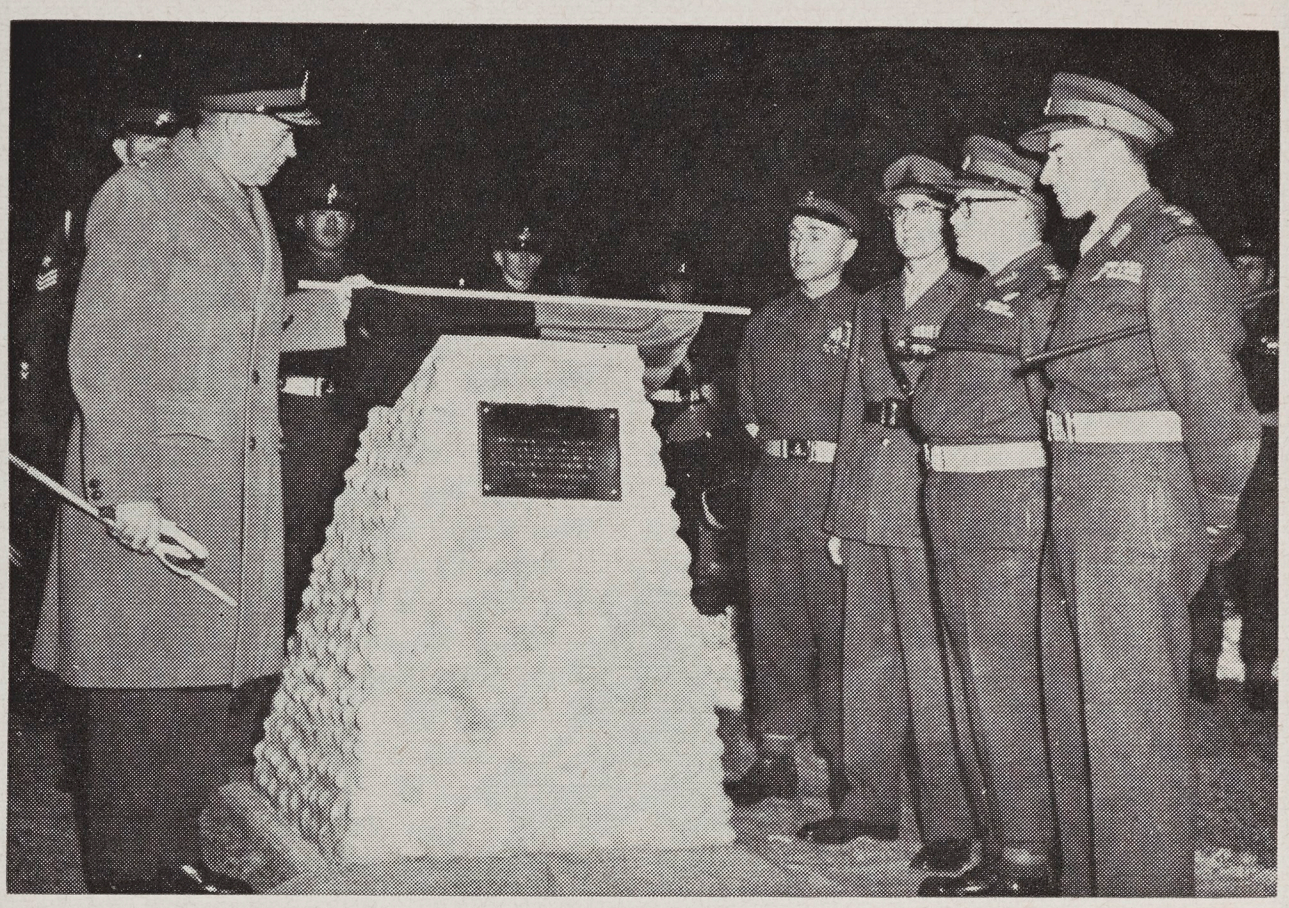
These amendments include changes and additions to overseas postal addresses, additional information on the use of forces air letter forms, and deletion of the restriction on use of cellulose tape to seal registered articles.

CAO 256-8

Soldier Apprentice Plan
(Issued: 12 Dec 60)

This new order contains all orders pertaining to the Soldier Apprentice Plan of the Regular Army formerly issued in GSIs 54/14, 57/3, 58/8 and AGI 58/4 which are cancelled.

THE ROYAL REGIMENT OF CANADIAN ARTILLERY



Major-General H. A. Sparling, CBE, DSO, CD, General Officer Commanding Central Command, and who is the senior serving "Gunner" in the Canadian Army, unveils the memorial cairn erected to commemorate the amalgamation of the Headquarters Sergeants' Mess, Royal Regiment of Canadian Artillery, at Camp Shilo. *Left to right:* Major-General Sparling; Master Gunner (WO 2) J. J. Baker, President of the Mess Committee; Regimental Sergeant-Major R. N. Blades, CD; Colonel J. W. D. Symons, Commandant of the Royal Canadian School of Artillery; Colonel E. G. Brooks, DSO, OBE, CD, Director of Artillery, Army Headquarters, Ottawa.

UNVEILING OF MEMORIAL CAIRN

FROM A REPORT RECEIVED FROM WESTERN COMMAND

The RCA Sergeants' Mess unveiled a memorial cairn on the grounds of the Mess at Camp Shilo, Manitoba, during an impressive ceremony last November. Major-General H. A. Sparling, CBE, DSO, CD, Officer Commanding Central Command and the senior serving "Gunner" of the Royal Regiment of Canadian Artillery unveiled the cairn.

The memorial commemorates the establishment of the RCA Sergeants' Mess, Shilo, as the Headquarters' Mess of the Royal Regiment of Canadian Artillery.

Distinguished guests present included the Area Commander, Brigadier J. E. C. Pangman, DSO, ED, CD; Colonel G. P. Marriott, ED, CD, Commander, Camp Shilo; Colonel E. G. Brooks, DSO, CBE, CD, Director of Artillery, Army Headquarters, Ottawa; and Colonel J. W. D. Symons, CD, Commandant of the Royal Canadian School of Artillery; Lieut.-Colonel J. L. Drewry, DSO,

CD, Chief Instructor in Gunnery at the School; and regimental commanders of The Royal Canadian Horse Artillery Regiments.

The ceremony commenced with the band of the Apprentice Training Battery sounding the "Quarter Hour Mess." On the "Fall In" the mess members with ranking officers attending Exercise Bluebird VI and distinguished guests formed up in front of the cairn to the Regimental March, "The British Grenadiers".

On the arrival of Major-General H. A. Sparling, the RSM, WO1 R.N. Blades, CD, commenced the ceremony with his opening remarks and introduced the General to the assemblage. He then invited the General to officially unveil the cairn, which was draped with the Regimental Flag of the Royal Regiment of Canadian Artillery.

The band sounded a fanfare of trumpets and drum rolls, and then the miniature saluting cannon was fired by Master Gunner (WO1) J. K. Stinson, CD, and the memorial was unveiled. Major-General Sparling gave a short address on the *esprit de corps* of the Regiment and on the amalgamation of the Mess with emphasis on the Shilo Mess as the official Headquarters Sergeants' Mess of the Royal Regiment of Canadian Artillery.

The Padre (Protestant) of St. Barbara's Church, Camp Shilo, Captain E. J. Dossett, dedicated the cairn with a prayer of dedication.

The ceremony ended with the band playing The Royal Artillery Slow March.

The bronze plaque on the memorial reads:

"UBIQUE"
COMMEMORATING THE ESTABLISHMENT OF
"THE RCA SERGEANTS' MESS," SHILO,
AS THE HEADQUARTERS SERGEANTS' MESS OF
THE ROYAL REGIMENT OF CANADIAN ARTILLERY
"QUO FAS ET GLORIA DUCUNT"
15 November 1960

New Equipment Gives Quick Transmission

The (U.S.) Air Force has ordered 10 service models for a newly-developed digital data modem which transmits up to 5400 bits-per-second over telephone or telegraph lines, more than double the rate possible with current equipment.

The new data modem (modulator-demodulator), designated the AN/GSC-4, is capable of full-duplex operation, or transmitting and receiving simultaneously. At maximum data rates, this means the new equipment can transmit and receive 5400 bits-per-second simultaneously in either direction.

The AN/GSC-4 operates over voice quality lines and includes such features as variable date transmission rates, ability to transmit parallel or serial synchronous data and to transmit several types of data simultaneously (e.g. magnetic tape, punched cards, teletype, etc.). Controls permit selection of data transmission rates of 600, 1200, 3600, 4800 or 5400 bits per second.—*From the Army-Navy-Air Force Journal (U.S.).*

DEFENCE RESEARCH FELLOWSHIPS TO BE AWARDED

Canadian Defence Research Fellowships, planned to improve defence science effectiveness within the North Atlantic Treaty Organization, will be initiated at Defence Research Board Establishments beginning next September. They will be offered to defence scientists in all NATO nations.

A total of five fellowships, each valued at $4000 annually, will be awarded in any one year. They will provide opportunities for defence scientists of the Alliance to gain valuable experience from working from one to two years in DRB research laboratories.

Candidates will be nominated by the various countries interested and notified of their successful candidature by the beginning of May each year. Applications for extensions of a year's duration will be considered. *—A statement issued by the Hon. Douglas Harkness, Minister of National Defence.*

Tongue in Cheek?

Field Marshal Lord Montgomery, whose memoirs were reviewed in the *Canadian Army Journal* by Colonel C. P. Stacey, discloses that he had three quotations framed and displayed in his caravan.

One was:

He either fears his fate too much
Or his deserts are small,
That dares not put it to the touch
To gain or lose it all.

One wonders if Lord Montgomery had his tongue in his cheek or if he was in ignorance of the preceding stanza:

Like Alexander I will reign,
And I will reign alone;
My thoughts did ever more disdain
A rival to my throne.

(Contributed by Captain J. A. Swettenham, Historical Section, Army Headquarters, Ottawa.)

Weather Control

One may ask if it will be possible eventually to control weather? In the opinion of several of our leading scientists the answer is Yes. In the words of the late Dr. John von Neumann, "Probably intervention in atmospheric and climatic matters will come in a few decades, and will unfold on a scale difficult to imagine at present."

The potential scale and proportion of this futuristic weapon have lead another authority, Dr. Henry Houghton, to equate the matter in these terms: "International control of weather modification will be essential to the safety of the world as control of nuclear energy is now . . ." *—Colonel Robert B. Rigg in an article "Deluge or Drouth" in the magazine "Army" (U.S.).*

THE ROYAL CANADIAN ARMY SERVICE CORPS

TOP ARMY DRIVER COMMENDED

A REPORT PREPARED BY THE ARMY PUBLIC RELATIONS OFFICER, WINNIPEG, MANITOBA

Corporal Richard M. Brotherston of St. James, Man., an Army driver who this year won the Manitoba Area and Army Safe and Skilled Driving titles, in January added two more trophies to his collection when he received a commendation and certificate acknowledging his driving feats for 1960.

The awards were forwarded by Major-General J. D. B. Smith, the Adjutant General, and Colonel George F. Stevenson, Director of Supplies and Transport, Army Headquarters, Ottawa. They were presented by Royal Canadian Army Service Corps officers, Major R. W. Lockwood and Captain A. L. McNiven.

Cpl. Brotherston is stationed with No. 4 Transport Company, a Royal Canadian Army Service Corps field unit based at Winnipeg.

While the Army driving champion is proud of the titles and awards won this year, he is even prouder of an accident-free driving record of 250,000 miles.

He started the string in 1951 while serving at the Canadian Joint Air Training Centre at Rivers, Man., and has kept the record intact through nine years of driving all types of heavy Army vehicles on roads in Ontario, Manitoba, British Columbia and the trails which served as highways in Korea.

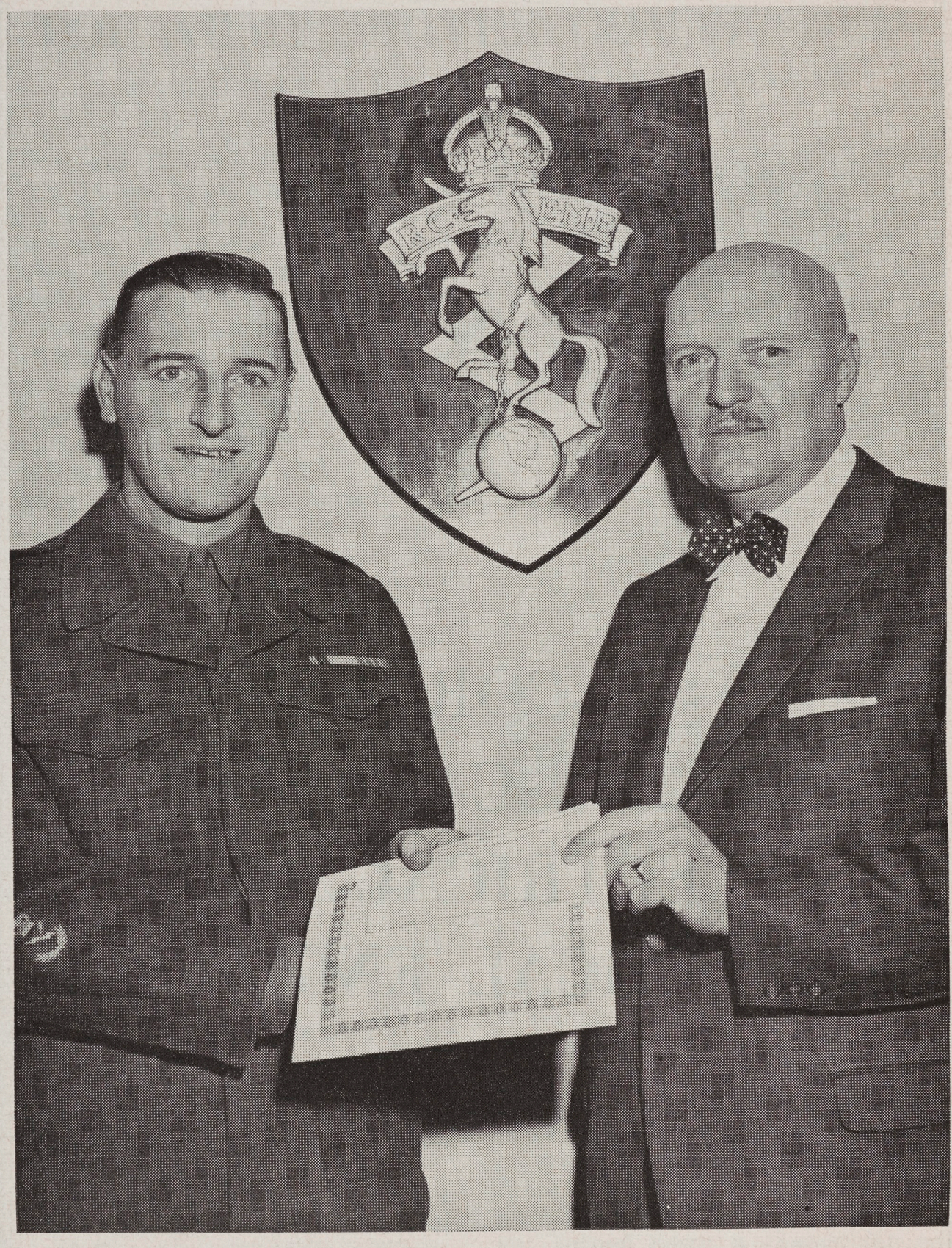
Over half the mileage was compiled while has was stationed with No. 19 Company, RCASC, at Whitehorse, Y.T. Driving a refrigerated supply truck known as a "reefer", he travelled the North-West Highway System (more than 1200 miles long and considered one of the toughest, most demanding strips of road on the continent) from 1956 to June 1960 when he was transferred to Winnipeg.

Corporal R. M. Brotherston

In 1957, his first year of competition, he tied for first place in the Western Command tournament in Vancouver, but was eliminated in the Inter-Command finals in Toronto. The following year he again placed first in Western Command, but turned down a chance for national honours to take a Helicopter Maintenance course at Fort Rucker, Alabama. He won his unit competi-

(Continued on page 115)

THE CORPS OF ROYAL CANADIAN ELECTRICAL AND MECHANICAL ENGINEERS



Canadian Army Photograph

Winner of $295.00 from the Suggestion Award Board, S/Sgt. J. M. Ronan, RCEME, receives the cheque from Colonel R. A. Campbell, OBE, CD, Director of Mechanical Engineering at Army Headquarters, Ottawa.

Award for Decontamination Box

A development to provide a safe method of repairing equipment containing radio-active material has resulted in a cash award for S/Sgt. James M. Ronan, of Toronto and Phelpston, Ont.

A senior NCO of the Royal Canadian Electrical and Mechanical Engineers, S/Sgt. Ronan received a cheque in the amount of $295.00 from the Suggestion Award Board of the Public Service of Canada.

The money was presented by Col. R. A. Campbell, Director of Electrical and Mechanical Engineering at Army Headquarters. S/Sgt. Ronan is employed with that Directorate.

The award-winning suggestion was developed jointly by S/Sgt. Ronan and Captain D. M. Mahar, No. 3 Company, RCEME in Kingston, Ont. The device is a decontamination box for inspecting and repairing small equipment such as watches and compasses that contain radio-active material (radium-based luminous paint). Through operating techniques and the use of ultraviolet light, the box protects the repairman.

The Chief of the General Staff, Lieut-General S. F. Clark, was high in his praise for S/Sgt. Ronan's show of initiative and ingenuity. In a letter of congratulation, Lieut-General Clark stated, in part: "Modern equipment and procedures are so complex that there is a great need for ideas such as yours which help to improve the efficiency of the Army. I hope the Army will continue to benefit from your constructive ideas".

Anti-Tank Grenades

A new, highly efficient hand grenade for use against armoured vehicles is now in the hands of troops in the Soviet and satellite armies. Designated the *RKG3*, the grenade weighs approximately 2.5 pounds, carries a 20-ounce shaped charge explosive, and is reported capable of penetrating up to five inches of armour plate. It is so designed that it strikes its target headfirst, thus making it possible to effectively employ the shaped charge principle.—*A news report in the Military Review (U.S.).*

Top Army Driver Commended

(Continued from page 112)

tion in 1959, but failed to place in the Western Canada finals.

He won the Manitoba Area trials at Winnipeg in October 1960 and finally the big one—the Inter-Command championship staged in Ottawa in November where he topped the best soldier-drivers from across the country to gain the title.

Early in January Cpl. Brotherston was temporarily posted to the Army's northern base at Fort Churchill, Man., where he used the wide open frozen tundra as a highway, driving over-snow vehicles during a five-week Arctic indoctrination course.

OFFICER RECEIVES $2500 AWARD

A REPORT ISSUED BY THE DIRECTORATE OF PUBLIC RELATIONS (ARMY), ARMY HEADQUARTERS, OTTAWA

What had already been the largest single Suggestion Award ever granted by the Public Service of Canada received another substantial increase last December when Captain A. M. Gilbert, CD, Royal Canadian Electrical and Mechanical Engineers, Ottawa, received an additional $750.00, making a grand total of $2500.00

In September 1958, Captain Gilbert, an officer employed in the Directorate of Electrical and Mechanical Engineering at Army Headquarters and an expert on radiac instruments, was granted $1750.00 for devising a safer and more economical method of calibrating radiation detection equipment which was adopted by the Army.

The Royal Canadian Navy and the Royal Canadian Air Force have now adopted the Gilbert Radiac Point Calibrators which will result in further savings to the taxpayers.

As a result, the suggestion Award Board granted another $750.00 to Captain Gilbert. Presentation of the cheque was made by Major-General R. W. Moncel, DSO, OBE, CD, Quartermaster General.

Major-General R. W. Moncel, DSO, OBE, CD, Quartermaster General (left), presents a Suggestion Award cheque to Captain A. M. Gilbert, CD, Royal Canadian Electrical and Mechanical Engineers, at Army Headquarters, Ottawa.

The Age of Unmanned Flight

In these days of push-button warfare it may not be long before the electronically - controlled machine may surpass the human machine in all fields.

No longer will it be necessary for the human brain to control the machine. Even today the most complicated mechanisms can be made to operate alone, with only remote control being exercised by humans.

One of these developments is in the field of remote-controlled aircraft. It is claimed that the machines will soon be perfected and thus be safer than human-guided aircraft, as it has been reported that most aircraft accidents are due to human error. First tests of these aircraft give rise to the following story:

It was the first remote-controlled flight of a passenger aircraft and the passengers boarded in the usual manner, except that no stewardess appeared to welcome them aboard. After they had taken their seats a low hum was heard and the door closed. The usual signs instructed passengers to fasten seat belts and the engines were heard to start. At this moment a recorded voice spoke over the PA system.

"Ladies and gentlemen, you are living at a historic moment. This is the first passenger flight in an unmanned aircraft. There is no human crew aboard, all controls will operate automatically and you will arrive at your destination without further human assistance."

The aircraft then moved out to the runway and prepared to take off. The engines increased their speed and the aircraft began to accelerate along the runway for the take off. At this moment the recorded voice spoke again:

"In case any passengers feel nervous they may rest assured that everything has been done to ensure their safety. With the elimination of all possibility of error you can be sure that absolutely nothing can go wrong . . . go wrong . . . go wrong . . . go wrong . . ."—*Contributed by Major B. W. E. Lee, CD, Army Headquarters, Ottawa.*

Emergency Warning Device

A small black box in each house or office throughout the Nation may provide the first warning of enemy attack in the event of a future war. The device, about the size of a man's fist, is plugged into any standard electrical outlet and is activated by a special signal generator connected with commercial power lines. This generator sets off an audible warning buzz in each alarm box. Warning of an imminent attack would be signalled from the North American Air Defence Headquarters at Colorado Springs, Colorado.

Known as the "National Emergency Alarm Repeater", the system could also be used to warn of a natural disaster. Efficiency of the system was recently demonstrated in a successful test at Charlotte, Michigan. Approximately 99 per cent of the homes in the United States have electric power; therefore, the coverage of such an alarm system could be virtually complete throughout the nation.—*A news report in the Military Review (U.S.).*

INDEX . . . 1960

This index has been prepared for the convenience of readers who want a ready reference for all subjects dealt with in Volume XIV of the Journal. *The majority of the subjects have been cross-indexed:* e.g., *the title "The Canadian Army Rifle Team: Bisley 1960" is listed also as "Army . . .", "Bisley . . ." and "Rifle . . ." In practically all cases, the subject matter of an article is indicated in the title. In the case of book reviews, the title of the book is enclosed in brackets under the title of the review article.*—Editor.

R22eR is UN Standby Battalion

Canada's United Nations Standby Battalion beginning next April will be the 1st Battalion, The Royal 22e Régiment, Army Headquarters, Ottawa, has announced.

This regiment, stationed at Camp Valcartier, Que., will take over the responsibility from the 2nd Battalion, The Royal Canadian Regiment, of London, Ont., which has been kept in constant readiness to meet any international commitment during the past two years.

To carry out this role, the battalion is always maintained at full strength with completely trained personnel ready for quick dispatch abroad.

In recent years, the 1st Battalion, R22eR, has twice served overseas. It was in Korea from April 1952 to the following spring and in Germany from October 1955 to the fall of 1957.

Lieut.-Colonel P. E. Chasse, MBE, CD, of Quebec, Que., was appointed to command the battalion last summer.

Battle Zone Telephone

A newly-developed front-line telephone system without wire lines or cables now is under procurement with the award of a $10,935,410 contract by the U.S. Army Signal Supply Agency, Fort Monmouth, New Jersey.

The system is designed to provide switched radio service to battle areas very much like conventional telephone service. The radio central will be mounted in a weapons carrier on a three-quarter-ton truck and "subscriber" stations, transmitters and receivers will be installed in one-quarter-ton or armoured personnel carriers.

A single sideband provides added channels of information and more communications system in a given zone.—*From the Army Information Digest (U.S.).*

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