Canadian ARMY Journal

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CANADIAN ARMY JOURNAL

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 not necessarily those of the Department of National Defence.

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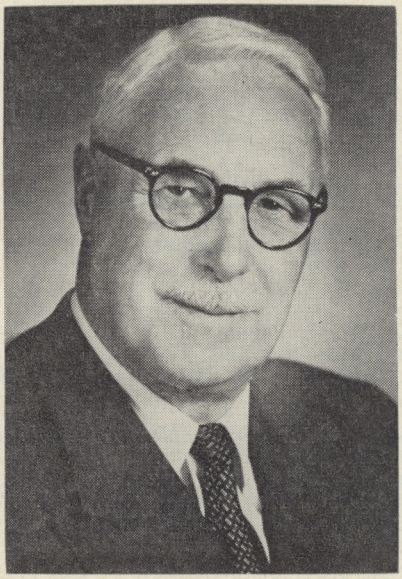
THE COVER

The main gateway to the Canadian Army Staff College, Fort Frontenac, Kingston, Ontario.



New Year's Message from the Minister of National Defence

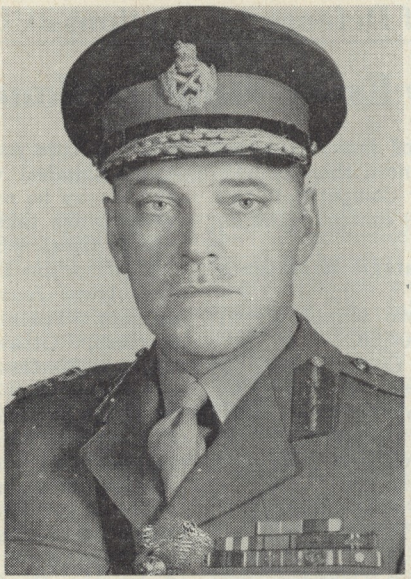
Once again it is my pleasure to extend Season's Greetings to members of the Canadian Army and their families.

I hope and pray that your unceasing efforts on behalf of peace will continue to meet with success in the New Year and all the years to come.

To all soldiers and their dependents I extend my best wishes and may you find a great measure of happiness in 1960.

George R. Pearkes

Minister of National Defence



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

Once again it gives me great pleasure to send you and your families my very best wishes for the New Year.

We, in the Canadian Army, can be justly proud of the way in which our soldiers around the world have performed their duties in aid of peace and goodwill. I know that each one of you will continue to carry out your tasks in the fine tradition of the Canadian Army.

S. F. Clark

Lieutenant-General
Chief of the General Staff

Conference of Defence Associations

Prize Essay Competition—1959

The Conference of Defence Association have announced their fourth annual Prize Essay Competition, the subject for the 1959 contest being as follows:

"Discuss the strategic importance of Canada's North."

There will be two prizes: first, $200.00; second, $100.00.

RULES OF THE COMPETITION

1. The competition is known as "The Conference of Defence Association Prize Essay Competition."

2. The right to compete is limited to

(a) The officers of the Canadian Army, Regular and Militia.

(b) Officers of the Canadian Army Supplementary Reserve.

(c) Regular Officer Training Plan Cadets at Tri-Service Colleges and Universities, and University Contingents of the Canadian Officers' Training Corps.

(d) Cadets of the Officer Candidate Programme.

3. The entries submitted must not exceed 5000 words in length. They must be typewritten double-space and submitted in quadruplicate.

4. The authorship of entries will be strictly anonymous. Each competitor must adopt a motto or *nom de plume*, which will be quoted at the top of the entry. With the entry there will be enclosed a sealed envelope with the appropriate motto or *nom de plume* typewritten on the outside, and the service number, rank, name and address of the competitor inside.

5. The title page of any published or unpublished work to which reference may be made, or from which extracts are taken, must be quoted.

6. Entries, which are to be addressed to the Editor of the *Canadian Army Journal*. Directorate of Military Training, Army Headquarters, Ottawa, Ontario, and marked "Conference of Defence Associations Prize Essay Competition" on the envelope, must reach the office of the *Canadian Army Journal* not later than 15 March 1960.

7. The Director of Military Training will arrange for a Board of Officers to make the initial selections. A Committee will be appointed by the Conference of Defence Associations to choose the first and second best essays from those selected by this Board. The decision of the Committee will be final.

8. The results will be made known in the July 1960 issue of the *Canadian Army Journal*, and the winning essay (and in certain cases the runner-up) may be published in that or a following issue.

9. The Conference of Defence Associations, the Director of Military Training and the Editor of the *Canadian Army Journal* are not to be held responsible for the loss or return of any essay submitted; nor do they incur any liability whatsoever in connection with the receipt of the essays, and dealings therewith, the judging thereof, or the reports thereon.

10. The copyright in any essay which is published in the *Canadian Army Journal* will belong to the Conference of Defence Associations.

Highlights of 1959

Canadian Army Review

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

Ending a busy and progressive year, the Canadian Army looks back on a 12-month period that saw its troops:

Assume new and serious responsibilities in the nation's stepped up national survival programme;

Continue to maintain important NATO and United Nations commitments overseas and hold themselves in readiness for future emergencies;

Carry out, at home and abroad, a series of training exercises designed to keep them in fighting trim, especially in the field of nuclear warfare.

The task of providing and operating a national survival warning system that would give the Canadian public notice of the likelihood or imminence of a nuclear attack was given to the Army September 1. At the same time the Army assumed responsibility for a number of specific tasks relating to national survival previously held by other government agencies.

These included warning the public of the dangers of fallout; the reentry into damaged areas and the rescue of trapped or injured survivors; direction of police and fire services in contaminated areas; direction of municipal and other services for the maintenance and repair of essential facilities in stricken areas; provision of emergency support to provincial and municipal authorities in the maintenance of law and order and the upkeep and operation of emergency communication facilities.

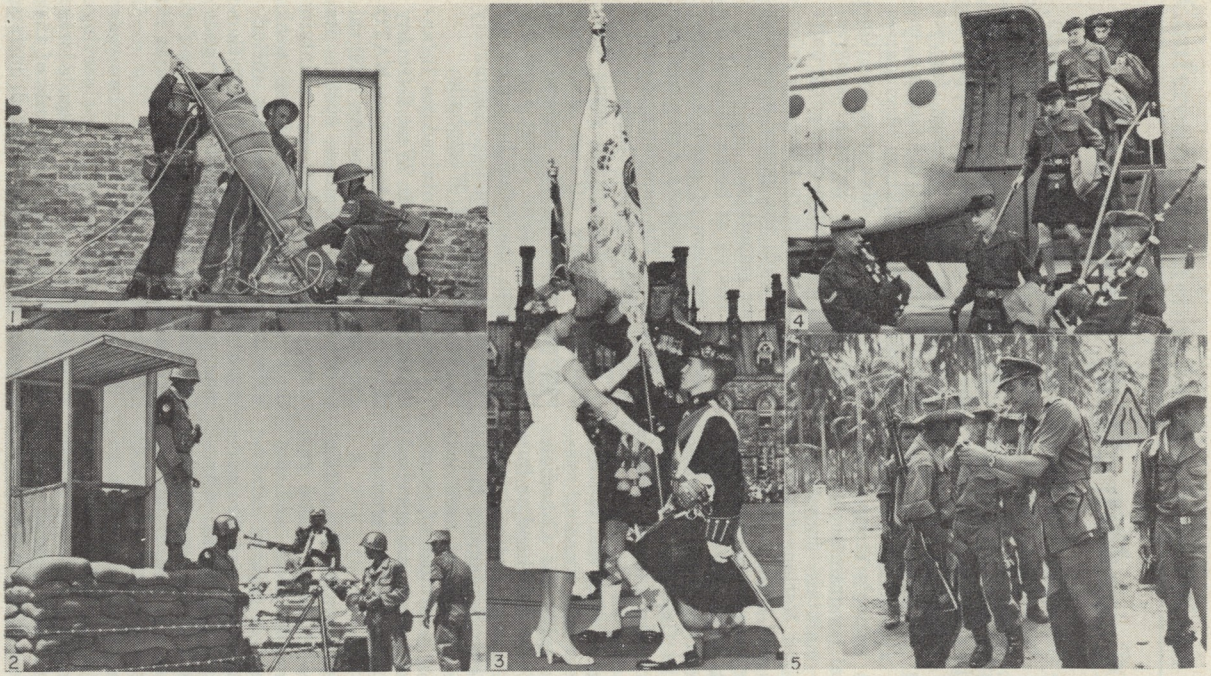
Faced with a monumental task, the Army immediately stepped up national survival training for its Regular troops and Militiamen; reorganized the military boundaries between Alberta, Manitoba and Ontario to simplify national survival planning, and began exercising units and Corps schools in their new roles. At year's end, the programme was proceeding smoothly.

While troops at home tackled the complex problem of national survival, Canada's overseas Army continued to bolster the ramparts of world peace on half a dozen fronts.

The New Year finds some 6800 Canadian Army officers and men serving overseas. The majority of them are based in West Germany where, with their families, they occupy a sizable Canadian community in the province of Westphalia.

Canada has maintained an infantry brigade group in West Germany since 1951 as part of the NATO ground forces in Europe. An integral part of NATO's defence system, its units have continued to maintain their efficiency and training peak with a series of manoeuvres, including atomic, on the great North German plain. As a result the brigade is considered ready at all times for any task that may be assigned to it by SHAPE.

A three-year rather than two-year cycle of rotation for troops serving with Canada's NATO brigade was introduced in 1959, two-thirds of the brigade group being rotated during



Canadian Army Photographs

1. Soldiers prepare to lower a "casualty" during a National Survival exercise. 2. Soldiers of the Canadian Reconnaissance Squadron serving with the UNEF in the Middle East check at a Brazilian infantry outpost during a routine patrol. 3. Her Majesty the Queen presents colours to the Argyle and Sutherland Highlanders of Canada (Princess Louise's) at Ottawa during the Dominion Day ceremonies. 4. Members of the 1st Battalion, Black Watch (RHR) of Canada arriving in Germany during the rotation of troops to the NATO brigade. 5. Capt. J. P. Dufour of Quebec lights a cigarette for a South Viet Nam soldier during a patrol of an International Supervisory and Control Commission team in Indochina.

the fall months and the change-over being completed by early December. The move by ship and aircraft took some 4000 troops and 3500 dependents to new homes in Germany while more than 5000 troops and dependents returned to Canada after two years in Europe.

The rotation of troops serving in the Middle East with the United Nations Emergency Force also was carried out during the fall months. At the end of the year there were more than 800 Canadian soldiers still serving in Egypt. In all, some 3000 Canadian Army officers and men have guarded sections of the International Frontier between Gaza and the Gulf of Aqaba.

Canadian Army officers and men also are serving with United Nations truce supervisory commissions in various parts of the world. There are 68 in Indochina, 29 in Pakistan and Palestine and one lone officer in Korea working with the United Nations Command Military Armistice Commission in Panmunjom.

Other troops are serving with the Canadian Army Liaison Staff, London, the Canadian Army Staff, Washington, and as military attaches in more than a dozen world capitals.

Backing them up at home are three well trained Infantry Brigade Groups. A battalion in one group has been specially designated for emergency service whenever and wherever it may be required. Held in a state of readiness, this battalion is prepared to move anywhere on very short notice.

Since 1958 the "stand-by" battalion has been the 2nd Battalion, The Royal Canadian Regiment, based at London, Ont. Highly trained to meet any international commitment that might arise, the battalion includes a special "company group" of some 250 paratroops skilled in a wide variety of trades, including communications and medical as well as fighting skills.

In Germany, Canadian troops continued to practise for conventional or nuclear warfare on up-to-date training areas. During the year field training included a three-week brigade concentration at the All Arms Training Centre at Sennelager and firing on the ranges at Putlos, on the Baltic.

With more than 1600 Canadian families living in Permanent Married Quarters in nine camps and another 1100 living in German rented accommodation in and around Soest, Canadian troops and their dependents are an important factor in the economic stability of the predominantly agricultural region.

The troops spent an estimated $3,000,000 during the year, travelled some 15,000,000 miles in Germany and other European countries and provided scores of jobs for German workers in the Army camps. Many married German brides and some 98 were brought home to Canada when two-thirds of the brigade group were rotated during the fall. Still others donated blood regularly to the German Red Cross, contributed to the upkeep of orphans and went to the aid of German Forest Rangers when fires threatened tinder-dry forests of the Sauerland last October.

Their various contributions were summed up by George Duelberg, burgomaster of Soest, who said, "Your Canadians have become part of the economic lifeblood of our community."

Regular Army and Militia soldiers were much in the public eye during the year with a number of colourful parades and ceremonials. Many of

them were held in connection with the visit of Her Majesty Queen Elizabeth to Canada last summer.

As Colonel-in-Chief (or Captain General) of 11 Canadian Army units, the Queen personally reviewed many of her troops at special parades across the country. Biggest military gatherings were held on the Plains of Abraham, at Quebec, where Her Majesty presented new colours to all three battalions of the Royal 22e Régiment, and in Ottawa where new colours were presented to three Militia regiments during a stirring ceremony on Parliament Hill. Regiments honoured by Her Majesty in Ottawa were the Canadian Grenadier Guards of Montreal, 48th Highlanders of Toronto and the Argyll and Sutherland Highlanders (Princess Louise's) of Hamilton.

A Changing of the Guard ceremony carried out daily on Parliament Hill several weeks during the summer by members of the 1st Battalion, Canadian Guards, proved very popular with visitors. An estimated quarter-million spectators lined the green lawns as the scarlet-coated Guardsmen took part in the historic ceremony. As part of their ceremony the battalion also mounted a Household Guard at Government House.

During the year selected Canadian soldiers trained on the French SS-10 anti-tank missile at the Royal Canadian Armoured Corps School, Camp Borden, Ont., while others received training on various types of missiles at schools in the United States. Canadian soldiers also participated in live tests with Nike-Hercules guided missiles last winter at Fort Churchill, Man.

Control of the Army's Northwest Territories and Yukon Radio System was handed over during the year to the Department of Transport. A wireless network begun in 1923 by the Royal Canadian Corps of Signals to provide weather reports and air-ground communication, the System played an important part in the early development of a vast northern wilderness.

Although it turned over its far-flung northern communications network, the Army continued to maintain and operate the 1221 miles of the Canadian section of the Alaska Highway. At the year's end there were approximately 420 military personnel and twice that many civilians employed in this work which was taken over by the Canadian Army in 1946.

A new general service combat boot was tested for a three-month period by members of the 1st Battalion, Royal 22e Régiment. Of Canadian design, the new boot will eliminate use of puttees if adopted.

The well-known Bren light machine-gun was discarded during the year. A veteran of 22 years of service, it was replaced by the C-2 FN heavy-barrel rifle, a fast, automatic sister to the FN rifle that is now standard equipment with Canadian troops.

As both the new machine-gun and rifle fire the same 7.62 mm ammunition, the familiar .303 ammunition will disappear from stores of the Canadian Army as the switch over to the new weapons is completed. Only last summer, Canada's 7.62 mm ammunition earned NATO's two trademarks of standardization (Canada was the first country of the Alliance to receive this), and now can be fired by any NATO country in its own 7.62 mm weapons without fear of misfire or jamming.

Throughout the year Army surveyors, together with other Govern-

A Review of the 1959 Programme

Defence Research Board Projects

FROM A REPORT ISSUED BY THE PUBLIC RELATIONS OFFICER, DEFENCE RESEARCH BOARD, OTTAWA

The year 1959 was a busy and productive period for Canada's defence scientists. While fundamental research activities continue as the Defence Research Board's major programme, some applied research and the addition of new facilities played important roles in the Board's operations.

The results of recent hydrofoil craft investigations in the United States are being applied to the fundamental research programme currently being conducted at the Naval Research Establishment (NRE), in Dartmouth, N.S.

U.S. scientists have discovered that super-cavitation — the development of a steady air "bubble" along the top surface of the lowest foil— will stabilize hydrofoil - equipped craft at speeds where difficulties previously were experienced with conventional hydrofoils. The "bubble" can be developed automatically by means of appropriate foil design.

NRE's project—a long-term, moderate cost programme—is designed to obtain basic data about hydrofoil-equipped boats rather than to develop a specific operational craft.

To investigate super-cavitating foils, NRE has designed an inexpensive barge-like platform powered by a marine engine which permits the speedy adjustment and fitting of a variety of foils. The platform, called the "R-X", is probably one of the most versatile research facilities of its kind and was first employed early last year.

A 20-foot welded steel acoustic barge, 60 feet wide and believed to be the first craft in North America designed exclusively for acoustic measurements, has been berthed at Birch Cove near Halifax as a re-

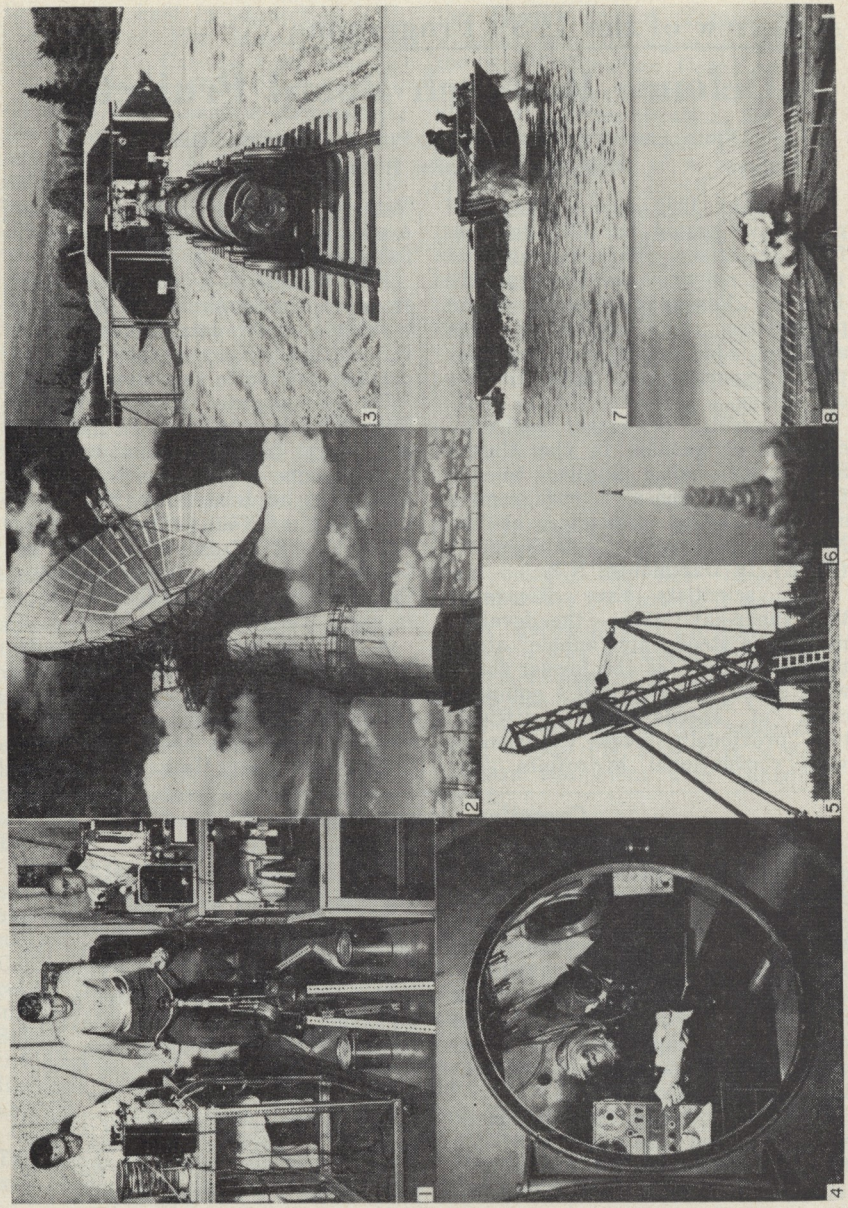
Canadian Army Review

(Continued from preceding page)

ment mapping agencies, worked to complete the continuing job of mapping Canada's shrinking wilderness. Military survey parties from the Army Survey Establishment, Ottawa, completed a summer-long survey of Banks and Victoria Islands in the Arctic Archipelago and made two other surveys along unmapped sections of the Arctic Circle.

The Army Survey Establishment also completed and distributed the first detailed military maps of a large section of the St. Lawrence Seaway and the new Canadian towns and communities along its route.

As the year drew to a close a Canadian soldier employed with the United Nations Emergency Force in Egypt was killed in a border patrol ambush. His death, the Army's twelfth since Canadian troops were first sent to the Middle East in November 1956, pointed up the grim fact that the Canadian Army is still on Active Service, and has been since it was returned to a wartime footing for the Korean conflict.



search aid for NRE's defence scientists. The barge has been designed for measurements relative to underwater sound sources and sound receivers.

A new type solid propellent, developed by scientists at the Canadian Armament Research and Development Establishment (CARDE), Valcartier, Que., successfully lifted two test vehicles into the upper atmosphere above Fort Churchill, Man., during launchings on 5 September. Two more similar engines were tested successfully the following week.

While the project aims primarily at contributing to the improvement of solid propellants, future test vehicles employed to prove the latter's effectiveness may be instrumented to investigate the upper atmosphere and, particularly, the ionosphere.

The cylindrical-shaped vehicles were 24 feet long, 17 inches in diameter and fitted with three fixed-position fins. They were named "Black Brant" after a small migratory goose that breeds in the Canadian Arctic.

The 2000-pound engines provided thrusts of more than 20,000 pounds for periods of about 20 seconds. The vehicles, fired at elevations of 70 degrees, attained velocities of Mach 5, or 3000 miles an hour. They reached altitudes exceeding 60 miles and fell into Hudson Bay about 135 miles east of the launching site.

The "Black Brant" ballistic flights were followed by tracking radar and performance data as telemetered to a ground station, at Fort Churchill. No attempt was made to recover the burned-out vehicles.

First static testing of the engines,

CAPTIONS FOR PHOTOGRAPHS ON FACING PAGE

1. A sweat-measuring device, developed at DRCL and now in the later design stages, will prove valuable in the establishment's protective clothing development programme and promises to serve as a useful facility in a variety of civilian research areas. 2. This giant 84-foot-diameter radar antenna at the Prince Albert Radar Laboratory is employed to investigate the aurora borealis as a DRB contribution to the development of a ballistic missile defence. 3. The largest of CARDE's hypervelocity launchers is under test at the Valcartier establishment prior to its long-term employment from a permanent site as a missile model launcher. 4. DRML scientists, in one of the station's decompression chambers where high altitudes can be simulated, carry out speech intelligibility assessments. 5. CARDE scientists successfully tested an improved solid propellant in test vehicles called "Black Brant" fired at Fort Churchill in September. Shown here is a "Black Brant" on the launcher and (6) shortly after firing. 7. The development and construction of a small platform-like craft called "R-X", fitted with foils that can be adjusted readily after each sea run, played an important role this year in NRE's hydrofoil research programme. 8. Detonations of TNT charges of varying sizes provide fundamental research data on shock and blast waves at SES. Analysis of the information obtained from explosions like the detonation of this 10,000-pound charge, will permit the scientists to suggest design features leading to improved military and civilian shelters.

(National Defence Photographs)

containing almost a ton of solid propellant, was carried out at CARDE in February 1959 with further similar test firings at approximately one-month intervals. During the initial tests, the engines remained in fixed positions on a specially constructed test bed and their thrust, rate of burning and other characteristics were measured carefully.

A joint DRB-US Army attack upon ballistic missile defence problems employs hypervelocity range techniques developed at CARDE. Collaborating with the Valcartier scientists are specialists from the U.S. Army Rocket and Guided Missile Agency (ARGMA), Redstone Arsenal, Alabama.

Hypervelocity launchers, which provide scientific data relative to ballistic missile defence, have been employed at CARDE for more than two years. In size and scope of activities, the establishment's effort is unequalled.

The technique involves the firing of models from specially designed launchers. The latter are capable of imparting velocities up to 20,000 feet per second. During the past several years, a number of launchers designed to cover a varied range of interests have been developed.

Small ½- and 1½-inch models have been fired in the 15,000 to 17,000 feet per second range, and others varying in size up to 4 inches in diameter have been propelled well in excess of 10,000 feet per second.

The need for obtaining realistic scale effects has accentuated the development of larger launchers. In August, a 14-inch facility, temporarily sited, was employed for the first time. Supplied by the United States Army to conform with CARDE design specifications, it was partially built in Canada and the U.S. and assembled and tested by CARDE personnel at Valcartier. Its combination of size and maximum velocity makes its development a milestone in the technical history of launchers.

Railway mounted, the 14-inch facility recoils up an inclined railway track on firing. When fully developed and permanently sited, it will propel a 100-pound nose cone at nearly 12,000 feet per second or a 50-pound cone in excess of 15,000 feet per second. To date, it has fired models at close to 7000 feet per second and the development programme of test firings will steadily continue when the launcher is permanently sited.

An improved method of constructing "magnetic core memories", components of high-speed electronic computers, has been developed at the Electronics Laboratory (EL) of the Defence Research Telecommunications Establishment, Ottawa. Two of the components have been tested successfully and are used to process data obtained at the Prince Albert Radar Laboratory opened in Saskatchewan in June. A third memory system, now under construction, will be used in a transistorized computer now being constructed at EL.

Scientists from the same laboratory developed a light-weight, self-contained, transistorized navigation aid for use in aircraft. A Doppler radar, it provides ground speed and wind drift, both essential in calculating the position of an aircraft. Developed in just under two years, the device is a miniaturized refinement of a heavier Doppler radar which employs vacuum tubes and which was developed previously by the Ottawa laboratory. The radars promise to be particularly useful for military and civilian aircraft operating over areas lacking ground navi-

gation aids.

Dr. A. Hartley Zimmerman, DRB's Chairman, and Dr. T. Keith Glennan, Administrator of the U.S. National Aeronautics and Space Administration (NASA), announced acceptance by NASA of a proposal by DRTE for a joint satellite experiment. A U.S. satellite, which will be instrumented by scientists from the Ottawa establishment, is currently scheduled for launching during 1961 at Vanderberg Air Force Base in California .The experiment will permit probing by radio pulses of the ionosphere's top or upper-side. The specific date of launching will be dependent upon numerous technical and other considerations.

The Prime Minister, the Rt. Hon. John G. Diefenbaker, on June 6 opened officially the Prince Albert Radar Laboratory (PARL), a DRB radar research station. Most prominent feature at the 700-acre site is an 84-foot diameter radar "dish".

Sponsored jointly by DRB and the USAF, the radar investigates the factors that influence the radar detection and tracking of aircraft and missiles entering the auroral zone and extends past research collaboration between the Board and the USAF relative to continental ballistic missile defence.

Scientists from DRTE and the Lincoln Laboratory of the Massachusetts Institute of Technology, which represents USAF interests, are collaborating on a carefully coordinated research programme aimed at providing a contribution to the development of a defence against the ICBM.

The collection of scientific data which help to improve intelligibility in noisy environments is an activity of increasing importance at the Defence Research Medical Laboratories (DRML) at Downsview, Ont. The scientists are seeking methods of eliminating or reducing the background noises that sometimes impair speech during wireless transmissions aboard ships, in Army vehicles and in aircraft. Wireless operators are taught to speak clearly and distinctly and to avoid the use of certain sibilants. In addition, the physiological effects of high altitudes on hearing are also under study.

A University of Manitoba project, sponsored by the Board, is probing the effects on man's intellectual processes of adverse environmental conditions in unusually restricted quarters. Volunteer subjects experience periods of isolation in a translucent plexiglass dome.

Dr. John P. Zubek, head of the Department of Psychology, is directing the project under a DRB grant. The investigations aim at determining the types of individuals most likely psychologically to perform efficiently under conditions of stress in restricted quarters.

Board scientists at Suffield Experimental Station (SES), near Medicine Hat., Alta., are conducting a fundamental research programme to investigate shock and blast waves and their effects on model structural configurations. Explosive charges of TNT, ranging from eight to 200,000 pounds, will be detonated on the station's prairie ranges.

The data obtained will lead to a better understanding of the response to blast forces of field defences and shelters and other types of construction. The programme should permit the scientists to suggest design features leading to blast-resistant characteristics and methods of minimizing damage effects within shelters. Because TNT produces no radiation or thermal effects, the programme

A Biography

Associate Defence Minister Has Distinguished Army Record

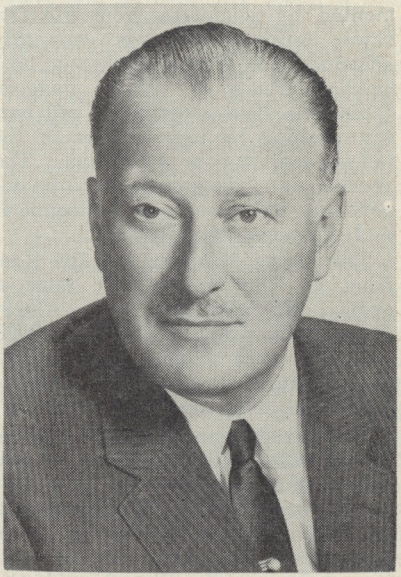
FROM REPORTS ISSUED BY THE DIRECTORATE OF PUBLIC RELATIONS, NATIONAL DEFENCE, OTTAWA

A veteran from the ranks with a distinguished record during the Second World War, Lieutenant-Colonel the Honourable Pierre Sevigny, PC, MP, Associate Minister of National Defence, has been associated with the Army since he was 16 years of age.

Most of his service has been with the Royal Canadian Artillery and the Royal Canadian Infantry Corps, but he now has a close tie with the Royal Canadian Armoured Corps. Last December he was named Honorary Colonel of Le Régiment de Hull, RCAC (Militia).

Lieutenant-Colonel Sevigny's biography follows:

Mr. Sevigny is Progressive Conservative Member of Parliament for Longueuil, Quebec. He was first elected to the House of Commons in 1958. He was appointed Deputy Speaker on 12 May 1958, and on 20 August 1959 he was appointed Associate Minister of National Defence.



The Hon. Mr. Sevigny

Mr. Sevigny was born in Quebec City on 12 September 1917, and was educated at Loyola College, Montreal; Seminaire de Québec, Quebec City; and Laval University in Quebec City.

He joined the militia at the age of 16 and was a sergeant when the Second World War broke out. Commissioned in the Regular Army in 1940, he went overseas as a captain

Defence Research Board Projects

(Continued from preceding page)

created no danger to persons or animals in the SES area.

The first of a long series of medium explosions was successfully carried out in July when a hemispherical 500-pound charge of small TNT blocks was detonated. Associated air pressures and other related data are obtained from ground and air bursts which are being detonated periodically.

two years later.

When he landed with the 4th Medium Regiment, Royal Canadian Artillery, in Normandy on 6 July 1944, he was a troop commander and forward observation officer.

During the Battle of the Rhine, Pierre Sevigny lost his left leg above the knee. He was decorated by the Polish Government with the Virtuti Militari, Poland's highest decoration for military achievement, and received the French and Belgian Croix de Guerre.

After being wounded, Mr. Sevigny returned to Quebec as a major and learned to walk with an artificial leg. During this period he found time to write "Face a l'ennemi" (Confronting the Enemy), a soldier's story of battle. In 1947 the book won the Prix Ferrieres of the Academie française for war biographies, but it has not been translated into English.

At the age of 29 he became a Lieutenant Colonel and Staff Officer with Quebec Command. Leaving the Regular Army in 1946 he was for two years commanding officer of Le Régiment de Québec before retiring.

Mr. Sevigny was elected to the Federal Parliament in 1958.

Mr. Sevigny's father, the Honourable Albert Sevigny, is Chief Justice of Quebec, having been Speaker of the House of Commons when chosen as Minister of Inland Revenue in the Borden cabinet in 1917.

Mr. Sevigny was active in construction and real estate. He was a President of the Canadian Club of Montreal in 1956-57. Director of Ste-Jeanne d'Arc Hospital, Director of the Dieppe Home for Epileptics and Governor of the Montreal General Hospital, Mr. Sevigny is also active in various other charitable organizations.

In 1946 Mr. Sevigny married Corinne Alice Rosemary Kernan, grandaughter of Sir Charles Fitzpatrick, who was a member of Sir Wilfrid Laurier's cabinet. They have one daughter and two sons.

New Weapons Tested by U.S.

Among the various small arms weapons system under test by the Army are a .22-calibre, high-velocity round; single duplex, and triplex rounds in various calibre; and flechettes. The experimental .22-calibre round, which has a velocity of 4500 feet per second, has been tested against a block of gelatin having the consistency of flesh and has disintegrated the target on impact.

The duplex and triplex cartridges fire two or three jacketed balls instead of one conventional one. With this limited application of shotgun technique it is said that less accuracy of fire is required and a greater chance of getting a hit is expected. Flechettes also are under serious study. These are tiny darts so small that about 32 can be packed into a 12-gauge shotgun shell and fired with practically any desired velocity. They depend on their length and fins to give them ballistic stability. Exact design of the flechette is classified, but they are not made of conventional material.—*Military Review (U.S.)*.

Survival Operations

Re-Entry After Nuclear Attack

By

MAJ.-GEN. A. E. WRINCH, CBE, CD, MAJOR GENERAL SURVIVAL,
ARMY HEADQUARTERS, OTTAWA*

This evening I propose to try to expand on the re-entry part of our responsibilities and try to depict to you the situation that would exist following an attack on one of our cities and the method that we have under consideration at the moment for coping with it. I will assume that Ottawa has been attacked at this time of year with the prevailing wind blowing, namely, 15 miles per hour out of the south-west. A 5-megaton bomb has been exploded at a height of 2500 feet over Kettle Island. Kettle Island is in the Ottawa River near the Village of Rockcliffe and the Rockcliffe Airport.

The fireball would be approximately two miles across, flattened at the bottom, and hence would not quite touch the ground. There would be three immediate effects from the explosion—blast, heat and radiation.

About blast. The damage, of course, would vary from complete and utter devastation at ground zero to minor damage at a radius of 12-15 miles. We divide the target into four rings. Everything in the A, or inner ring, about three miles radius, would be completely destroyed. There is no question of salvage in this area. The B ring, about six miles radius, would have a good many buildings left standing but everything would be damaged beyond repair. The C ring extends to about nine miles radius and would have severe damage but the damage should be repairable. Finally, in the D ring, extending to 12 miles or more from ground zero, buildings would be damaged but repairable and habitable.

The second effect, heat. Many fires would be started in the A and B rings, that is, out to a radius of about six miles from ground zero, and secondary fires are likely to be started in all the rings because of damage to gas mains, gas station pumps, domestic heating appliances, electrical short circuits and so on. These fires would certainly hinder rescue operations and might well develop into a conflagration if not brought under control.

The third effect, radiation. Initial radiation is created by the explosion but this will result in lethal doses only to a distance of some two miles from ground zero and everybody will have been killed at a greater distance in any event from blast and heat. So we have little to worry about in respect of initial radiation. The radiation hazard that causes so very much concern results from fall-out. This is caused mainly by debris being caught up by rising gases and helping to form the mushroom cloud with which we are all familiar.

**This is the text of an address delivered by Maj.-Gen. Wrinch at the Royal Canadian Armoured Corps Association's annual dinner in Ottawa last October. It is contained in an Information Bulletin issued by the Directorate of Public Relations (Army).* —Editor.

These particles will be radioactive and will drift back to the surface of the earth over a period of time. They will travel with the wind and will fall in a cigar-shaped pattern 200 miles or more in length and something between 20 and 50 miles in width. It is quite possible and indeed likely that radiation in lethal doses would result from this fallout. However, fallout travels with the wind and therefore we might have a little time—as much as a few hours—to take cover.

Now about casualties. Those who were caught in the A ring would probably all be killed unless they were in extremely substantial shelters. Shelters of this type do not exist and are unlikely to be built; therefore we can assume that all of those in the A ring would be killed by either blast, heat, or radiation. In the B ring those who were caught in the open would undoubtedly be killed but those who had been able to take shelter in basements of well-constructed buildings might well be uninjured though they would likely be trapped. They would face the danger of being killed by fire. The domestic-type shelter would be largely ineffective in both the A and B rings. In the C and D rings the proportion of killed would be much smaller but there would be a very large number of people injured by flying debris and people would be trapped by falling buildings and would need to be rescued. People in the open would likely survive, provided they were not killed by flying debris, but would suffer burns on the exposed portions of their bodies. In these rings the domestic type fallout shelters would give good protection not only from fallout but also from flying debris and flying glass at the moment of explosion. There would still be danger from secondary fires.

That is the situation that would exist in Ottawa shortly after the detonation of the bomb. Now what do we do about it?

The Army has been given the responsibility for re-entry operations and we shall have to re-enter the city. However, we stress on every possible occasion that the Army can not do this alone. We must have the backing of a civilian Civil Defence organization and the use of civilian rescue groups.

It is important that Civil Defence plans should have been in existence in municipalities, and that there should have been a programme of education and information conducted for the public. The construction of simple fallout shelters both on individual and collective bases would do much to save life. Also, communal shelters would ease our problem because we would know where to look to rescue many people. Also, if wardens have been appointed and trained, they would know many of the details and would be able to help us and so avoid long and laborious reconnaissance. It may have been possible in Ottawa, with some three hours' warning, to get at least some of the fire fighting equipment out to the outskirts; some of the police might also be out there. Naturally, if they are, again we can save time.

In the same way, the existence of a provincial Civil Defence authority and a provincial Civil Defence Plan which could be put into immediate operation would also save us time. If people in the rural areas have been organized in advance to provide at least treatment centres, welfare centres, emergency accommodation, emergency feeding, civilian rescue columns, decontamination centres,

again we will be able to save time. All of these things and many others will be needed. Much can be done to provide them and anything that is done will pay tremendous dividends in the saving of human life.

Now the military plan. I am assuming that the Brigade Group in Petawawa is available. This will provide us with a Brigade Headquarters to control the whole operation and three major units to act as rescue units. In addition, I am assuming troops being made available from various parts of Eastern Ontario by the General Officer Commanding Central Command. They will come from such places as Kingston, Belleville, Brockville, Smiths Falls and so on. We expect limited air support for reconnaissance from 424 Squadron in Hamilton and from 1 Air Observation Post Flight in Petawawa.

Shortly after the bomb exploded, Brigadier Murdoch, Commander, 2 Canadian Infantry Brigade Group, received word of the attack from GOC Central Command. Communications exist to allow this. This word had come from our monitoring organization and initially it gave the location as in the vicinity of Ottawa. Several stations of the monitoring organization reported almost immediately and Central Command became able to pin down the location reasonably accurately. Air reconnaissance was dispatched both from Hamilton and Petawawa which confirmed the location of ground zero as being over Ottawa.

The Brigade Commander started his operations. Knowing that he would be responsible for re-entry in Ottawa, he had planned to take account of the different wind situations and he had carried out exercises with his troops, while Area Headquarters in Kingston had carried out exercises with troops from Kingston so that in most cases rehearsals had been held. The Brigade Commander dispatched reconnaissance elements first to determine the exact situation in respect of radio-activity. Rescue columns were on the road shortly thereafter.

His outline plan is to enter Ottawa from south-west and south, the up-wind side. He knows that he is unable to enter from down-wind but he also knows that the survivors are in their shelters and can probably last for a reasonable period.

On arrival in Ottawa, the reconnaissance elements will establish two lines. First, the Green Line at a radiation intensity of one radiation unit per hour or 1 roentgen per hour, and, second, the Red Line at a radiation intensity level of 10 roentgens per hour. No one will be alowed to cross the Green Line unless directly concerned with life-saving operations and no one will be allowed back across the Green Line without being monitored and, if necessary, decontaminated. No one will be allowed to cross the Red Line except in special circumstances and on the order of the Commander concerned.

By the time the troops arrive at the scene of operations, the Green Line will be about seven miles up-wind from ground zero while the Red Line will be about three miles up-wind from ground zero. (Had the bomb been a ground burst, these lines would be about three times farther out, i.e., 20 for the Green Line and eight or nine for the Red Line). It is between these two lines that the troops will normally work and an examination of the map would show a good deal of Ottawa lying between these two lines. When

the rescue columns arrive at the Green Line, they will deploy. Medical elements, decontamination elements and those other elements of the units that are not needed immediately for rescue purposes will remain in a support area outside the Green Line. The rescue companies together with engineer support will proceed inside the Green Line to the areas where they are to start rescue operations. Provost elements, assisted by the provincial and municipal police, will establish a traffic control organization with road blocks and traffic control posts at the Green Line to ensure control of traffic across it.

By this time the Brigade Commander will have established a Tactical Headquarters near the city but outside the Green Line from which he may control the various rescue columns that are operating in the city.

Aerial reconnaissance will have continued to report more accurate damage assessments, condition of roads, bridges, etc., so that the Commander may make the best possible use of his engineer and other resources.

Fire equipment will have been drawn in from neighbouring municipalities and will operate under the direction of the Brigade Commander because it is he who knows where the emphasis must be placed.

We now have the re-entry operation going on and must consider reliefs. Rescue work is strenuous and the troops are operating in a radioactive area so that the length of time that they may be employed in that area must be strictly controlled. They arrived there about H plus 6 hours and can probably work until H plus 14 hours or thereabouts. Then they must be relieved and brought out for a spell. By this time I would see Militia columns being available to take over. They in turn would be relieved by civilian groups which should start to become available, one would hope, by the end of the first 24 hours. They would come under the command and control of the Brigade Commander.

On being located and released, casualties would be given very limited first aid treatment and then evacuated at once. They would be evacuated first to unit support areas for decontamination, sorting, and limited medical attention and then taken to Civil Defence welfare areas, emergency hospitals and so on. They would have been brought out in the first instance by army transport but would have to be evacuated further by civilian resources.

While all of those activities were going on the Army would have been plotting the path of all nuclear clouds in the country and passing on warning to all those who might be affected by them. Such a cloud, for instance, might be on the way to Ottawa from Toronto, and Ottawa might be threatened with another issue of fallout. In this event the Brigade Commander would have to make his plan for the new situation. It is conceivable that he might be forced to withdraw his rescue forces or order them into cover for the time being. Cover for this purpose would certainly have been reconnoitered and possibly prepared when the troops first went in.

When the rescue operation was completed, there would have been many other tasks for the army to undertake or at least direct. Provision would have to be made for collection and burial of the dead, provision of drinking water, the marking off of hazardous radiation

RESERVE STRENGTH—A LESSON

Reserve strength has been the key to this Nation's victories from the era of the American Revolution to the Korean War. With the establishment of colonial governments, the separate Militia units were organized in each colony and several of today's National Guard units trace their lineage directly to those first colonial outfits. Although the Colonial Militia proved its mettle on many occasions, it also demonstrated that there was no substitute, then as now, for military knowledge and experience. General Washington was forced to plead for "trained bands" of Militia.

In every war since then Americans have had to relearn that without prior preparation and organized training the price of victory is unnecessarily high. From Bunker Hill to Pork Chop Hill, the casualties suffered by American forces number 963,096 dead and 1,276,520 wounded. The names of the many battles between these two historic hills are the names of victories, but the names of the dead are the names of fathers, sons, husbands and brothers. There is no question of the necessity for fighting these battles; there is a very real question whether the cost in lives needed to be so high.

In none of the Nation's eight wars of the past have we begun with enough fighting men adequately prepared. Active Army personnel assigned to duty with the reserve components are responsible for seeing that, in any future conflict, these men *are* prepared. No more challenging and critical responsibility faces an Army officer throughout his career.—*Army Information Digest (U.S.)*.

Re-Entry After Nuclear Attack

areas, creation of sanitation arrangements, salvage of food, clothing, POL and other critical items, clearing of rubble, provision of shelter, and assistance in the maintenance of law and order. These and other duties might last for months before our forces could be completely released. However, the Army may be needed elsewhere for purely military tasks at this time. It is important, therefore, that planning proceed so that, if necessary, these duties could be taken over by civilians at the earliest time practicable.

An attack such as I have described is a dreadful thing to contemplate in Canada but it could happen. There are those who say that if it does happen it will be the end and that there is no point in Civil Defence or Survival Operations. I have no time for an attitude such as this. If our major cities were attacked there would be millions of fatal casualties but there would be more who would not be fatal casualties and who could be rescued. In any event, the Army, Regular and Militia, has been given the task of planning and training for these operations, and, if the worst comes, of carrying them out. It will take enthusiasm, hard work, co-operation at all levels, and devotion to duty. We intend to get on with it.

THE NUCLEAR WEAPON AND THE SOLDIER

By

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This is an essay entered by the author in The Bertrand Stewart Prize Essay, 1959, competition sponsored by The Army Quarterly and Defence Journal (United Kingdom). It is published by permission of the Editor of that publication.

Subject of the essay was:

"As a nation we have to be prepared for cold war, limited war and global war. In each case the individual soldier is the same, and in one if not two of the cases we will be involved in an exchange of nuclear weapons. Though we have always had training problems in preparing men for warfare in environments different from their own, the preparation of the soldier for the unknown quality of nuclear war will be an infinitely greater problem than equipping the townsman for the jungle. It is likely to need psychology as well as military instruction.

"Moreover, recently it has been said that some of our methods are out of date (e.g. drill to instil discipline) as a different kind of soldier will be needed on the nuclear battlefield.

"Discuss these problems from the Regimental officer's point of view and give your views as to how they can best be met."—Editor.

Introduction

"It is of immense importance that the soldier, high or low, whatever be his rank, should not see for the first time in war those phenomena of war which when seen for the first time, astonish and perplex him."[1]

Some fourteen years ago when nuclear fission first became a weapon of war its tremendous explosive power began at once to influence our military thinking. Defence concepts were quickly revised to include the impact of this new and revolutionary weapon and, when it was realized that thousands of tons of ordinary high explosive were required to match the destruction caused by the single bombs at Hiroshima and Nagasaki, the nuclear weapon suddenly became the dominant factor in every assessment of future war.

The development of the weapon has, of course, been phenomenal: warhead yields, in terms of high explosives, now range from one to over one hundred kilotons, and delivery systems now include jet-powered aircraft, nuclear cannon, and rockets and guided missiles. In fact, the technical achievements of modern science in preparation for nuclear warfare have been so dazzling that the personal requirements of the lowly soldier have been somewhat overlooked.

The soldier of today knows a good

[1] *On War* by General Karl Von Clausewitz. Translated by O. J. Matthijs Jolles. Copyright 1943, Random House Incorporated, p. 56.

This is the author's fourth major work on modern war since 1955, all of which have been published in the *Journal*. The previous articles are:

Guns and Guided Missiles (April 1955 issue), in which the writer maintained that even in the "push-button" era guns were still required and that guns and guided missiles were complementary—a fact which, he declares, still obtains.

The Age of Nuclear Gunners (July 1957 issue), which emphasized the importance of artillery taking hold of the nuclear weapon and treating it just like any other gunner weapon.

The Nuclear Battle Group (April 1959 issue), which stressed the importance of maintaining the delivery system and its warhead secure in modern battle, whether the nuclear weapon is used or not.—*Editor.*

deal about conventional warfare, either from his own experiences or from the teachings of war-tested veterans, and he is quite capable of looking after himself on the conventional battlefield; however, he knows little or nothing about nuclear warfare. This is due, not only to the obvious complete absence of nuclear battle experience but also to the somewhat unrealistic approach which has been taken to the problem of nuclear training.

This paper discusses the indoctrination and training of soldiers for nuclear warfare, and seeks to find a way, within the bounds of safety and economy, by which soldiers can be better prepared both physically and mentally for the conditions that await them on the nuclear battlefield.

Pattern of Future Warfare

A prerequisite, before any programme of indoctrination can be commenced, is to establish the probable pattern of future war. This has been very difficult to fix definitely because ideas about the conduct of war have changed, during the past decade, almost as often as an improvement to the nuclear weapon has been announced or as the stockpile of nuclear warheads has been increased.

In the immediate post-war period, for instance, the popular theory was that the Hiroshima-type bomb was entirely too devastating ever to be used tactically on the battlefield, whereas, because of its success against industrial targets in Japan, it could be employed as a strategical weapon. The tactical battlefield was visualized as being very similar to that of the Second World War wherein conventional forces of Second World War design and quantity would still be required.

This theory of limited employment of the nuclear weapon soon gave way to one which advocated its mass use tactically on the battlefield. This complete *volte-face* occurred, partly because it became known that the United States, in stockpiling the weapon, had reached a state of so-called "nuclear plenty" and partly because, in the planning for the defence of Western Europe, it was realized that the forces of the Western Powers were entirely inadequate to stem the Soviet tide. To com-

pensate for the lack of conventional forces, therefore, it was publicly announced that nuclear weapons would be used in quantity, both tactically and strategically.

The theory of the mass use of nuclear weapons could be postulated with equanimity by the Western Powers as long as the United States maintained an advantage in the possession of these weapons, because the fear of nuclear retaliation was negligible. However, when it became known that the Soviet Bloc was just as advanced in the development, testing and production of nuclear weapons as were the Western Powers, a new pattern of future war had to be conceived.

In an attempt to establish a new pattern of future war, several alternative concepts seemed to suggest themselves. Of these, one which is gaining increasing popularity at the moment is that a nuclear stalemate is now in being in that both sides apparently have decided not to risk nuclear obliteration by being the first to employ the weapon, regardless of the urgency of national desires. If nuclear stalemate is, in fact, a reality, the pattern of war will not have changed from that of the past; the absence of nuclear weapons will enforce the continued employment of large conventional forces.

The same conditions would obtain in the limited wars which occur on the peripheries of the Great Powers, since these are apparently considered as being neither sufficiently large nor important to warrant the use of nuclear weapons and so risk a catastrophic all-out nuclear war. Limited wars, therefore, will probably continue to be fought by conventional forces without the benefit of nuclear weapons.

A further concept, which has been receiving widespread attention of late, is a condition known as tactical nuclear warfare. This theory sees each side, to avoid nuclear annhilation, coincidentally deciding to confine the nuclear weapon solely to the battlefield and to avoid employing it on strategical targets in the homelands. The concept visualizes mobile nuclear battle groups, consisting of conventional forces of all arms, nuclear delivery systems, and an allotment of low-yield warheads, attempting to manoeuvre the enemy into nuclear targets while at the same time avoiding the making of a target for his weapons. This seems to be a reasonable appreciation of the conduct of future war provided that the nuclear weapon can really be confined to the battlefield. With the low-yield tactical nuclear warheads which are now being developed this may be possible, but the difficulty in maintaining a clear division between tactical targets and strategical targets may prove this concept's undoing.

Finally, of course, there is the full-scale nuclear war, triggered intentionally or unintentionally, regardless of any previous resolutions. This is pictured as commencing with long-range ballistic missile duels in which quantities of high-yield nuclear warheads are directed against the war-making potential of the homelands. The initial phase would continue as long as the stocks of high-yield nuclear warheads endure and, if the will to fight still persists, would be followed by land battles for possession of terrain. In the latter, conventional forces equipped with low-yield tactical nuclear weapons form nuclear battle groups and operate in a manner similar to that already described.

Notwithstanding the above and despite the fervent desires of all concerned, an absolute ban on the employment of nuclear weapons can probably never be guaranteed. This will be particularly true when additional allied and satellite countries come into possession of the weapon because, by a mere miscalculation or in a desperate attempt to survive, one country could with one act envelop the world in nuclear war. It appears, therefore, that we have no recourse but to plan for the worst case — a war in which nuclear weapons are employed — and to organize, equip and train our military forces to this end. At the same time, of course, we must retain the art and resources necessary to wage conventional war, in the event that the non-use of nuclear weapons can be sustained. If these two requirements are met, our military forces should be able to cope with any emergency.

Nuclear Battlefield

Before realistic training for nuclear war can be undertaken, it is necessary to forecast the conditions which our forces are likely to encounter on the nuclear battlefield. This cannot be done with any degree of certainty because of the absence of nuclear battle experience. Much that is real can be established, however, if alert and imaginative minds peer into the future and superimposing the known effects of the weapon upon a typical conventional battlefield, emerge with a reasonable picture of the nuclear conditions that might be expected.

The effects of the nuclear weapon are, by this time, quite well known, data from the Japanese blasts and from subsequent tests and laboratory experiments having been tabulated and recorded in some excellent publications and films. However, if the worth of these instructional aids is to be realized fully, they must be interpreted with a vivid and practical imagination. Only then will soldiers be able to appreciate the enormity of a nuclear explosion without being overawed by the weapon itself.

Some far-seeing military men have attempted to interpret the effects of the weapon and to forecast the conditions on the battlefields of the future and of these, Lieutenant-Colonel Robert B. Rigg of the United States Army is one of the most imaginative. A paraphrase of one of his vivid descriptions follows:

"The rending impact sheared off the turrets of twenty-six tanks, shredded the bodies of the commanders and loaders, and tore off the heads of gunners. The drivers survived in a sense, but with their eyes glued to their periscopes they were permanently blinded.

"Before you could bring order out of confusion and chaos you were desperately sick and vomiting so your half-reorganized command passed to a Sergeant. He lived to be thrice decorated—only to be buried on the fifth day, half bald.

"Further back, infantrymen were buffeted by the blast like puppets picked up by a drunken master. Some soldiers had suddenly become sightless.

"The blinded infantrymen in panic, shock and hatred of the enemy began to fire their weapons with hopeless abandon and, lacking all sense of direction, began to wound and kill their seeing comrades.

"On the outermost fringes of the blast officers saw their dazed men lie motionless and frightened—paralyzed from mental panic. It took

an hour of urging, cursing and coercing to bring the men to their senses."[2]

Rigg's description of the nuclear battlefield is indeed frightening, but it may be close to the truth, considering the known effects of the weapon. In all probability the casualty rate will always be high in the immediate vicinity of ground zero, because it does not seem likely that adequate protection can be provided there. Protective measures to escape the full force of the weapon can be adopted, however, by those who are further from the point of burst. It is important to realize that soldiers who are exposed to the weapon's effects have an excellent chance of recovery if prompt and efficient treatment is administered; in any event, if they are well disciplined and have been properly prepared for nuclear warfare, they will not be subject to the shock and panic of Rigg's infantrymen.

To summarize, therefore, it is evident that, in preparing for nuclear warfare, the importance of the ordinary soldier and his conventional weapons must not be overlooked. If the soldier is to remain effective in the chaotic aftermath of the nuclear weapon, he must be thoroughly conditioned beforehand for the sights and sounds which he is expected to face.

Effects of Nuclear Weapons

A good deal has been said during the last few years about the phenomena of nuclear explosions and their effects upon humans, but not much has been done to provide the material means of combatting these effects. True, unit and formation tactics have emphasized greater dispersion and mobility to avoid creating nuclear targets; field equipment has been developed for the detection of nuclear radiation; and soldiers have witnessed test explosions in the Nevada Desert and the Pacific Atolls. Despite these achievements, however, little progress has been made in the development of those protective measures which are necessary for the survival of the soldier himself.

In recent large-scale summer exercises, for instance, when both sides have been given a nuclear potential, soldiers have been allowed to remove their shirts, oblivious of the fact that every barebacked soldier within 2500 metres of a twenty-kiloton low airburst nuclear weapon would have been a fatal casualty.

As proof of the disastrous effects on exposed flesh of the direct heat rays of a nuclear explosion, the following is paraphrased from eyewitness accounts at Hiroshima of the first nuclear weapon:

"The first thing I knew, there was a blinding flash of light, and a wave of intense heat struck my cheek; in the next instant there was a tremendous blast. The force of it knocked me clean over. The sight of the soldiers was dreadful. I came onto I don't know how many, burned from the hips up; and where the skin had peeled their flesh was wet and mushy. They must have been wearing their military caps because the black hair on the top of their heads had not been burned. I wonder if they didn't have their coats off when the bomb exploded.

"And they had no faces! Their eyes, noses and mouths had been burned away, and it looked like their ears had melted off. It was hard to tell front from back. One soldier,

[2] *Broken-back Battle* by Lieutenant Colonel Robert B. Rigg, February 1958 issue of *Army*, the magazine of the Association of the United States Army.

whose features had been destroyed [and] was left with his white teeth sticking out, asked me for some water . . . ." [3]

This unpleasant picture emphasizes vividly the severity of casualties when men are unprepared, unwarned and unprotected. Tests have proven, however, that such casualties can be reduced immeasurably by the introduction of realistic nuclear indoctrination and training programmes and by the adoption of some simple protective measures. To support this contention, the effects of a nuclear weapon in chronological sequence from the instant of the explosion, and some of the measures to combat these effects are discussed below.

Flash—The first effect to occur is an intense flash of light which blinds temporarily all those within a certain radius who happen to be looking towards it. The degree of blindness will vary with the proximity of the explosion and will be more serious at night or on a dull day, when the retina of the eye is enlarged. Blindness may even be permanent if the explosion happens to be seen through an optical instrument.

Flash blindness, because it is only temporary in the majority of cases, is not serious in itself; it is the resulting fear and depression which can be disastrous. Soldiers must be thoroughly briefed beforehand as to what to expect and, if they are, in addition, well disciplined, they will be constrained to remain calm and under control until their vision returns to normalcy. Chaos will result if control of them is lost.

An efficient shield to protect the eyes against flash blindness is required, but the problem is to find an opaque substance which will deflect the nuclear flash and, at the same time, allow sufficient normal vision. A possible solution might be a type of non-flammable face mask, with pinpoint holes for eyes, such as is used in the North to protect the eyes and face against the wind. The minute eye-holes would reduce the area of eye exposure to an absolute minimum, but allow a degree of normal vision.

Any opaque substance will, of course, deflect light and provided sufficient warning is given, the eyes can be shielded by the arms or by the ground. Until an eye-shield has been perfected, therefore, the best protection will be a timely warning so that a protective attitude can be adopted. A high standard of discipline and leadership and a thorough briefing as to what to expect will enable the control of those who are temporarily blinded to be maintained.

Heat — Immediately after the flash, heat or thermal radiation occurs, the terrible results of which on exposed flesh the Hiroshima doctor described so vividly. The burns which he described were caused by the direct heat rays but casualties with burns may also occur indirectly from burning clothing and equipment and from the grass and bush fires which are ignited by the heat rays. Particularly vulnerable to the latter would be any headquarters, reserves or supplies located therein and, for this reason, such areas of concealment should be avoided.

Protection against thermal radiation can be achieved by enclosing the entire body, including the hands and face, with a heat-resistant and fireproof covering. This covering

[3] *Hiroshima Diary* by Michihiko Hachuja, MD, translated and edited by Warner Wells, MD. Copyright 1955, University of North Carolina Press (pp. 13, 15).

should be multi-layered, and as light as possible in weight and colour, so that the maximum amount of heat is reflected and the essential movements of the body, particularly the functions of breathing, vision and weapon manipulation, are unrestricted.

It is impossible, at present, to provide suitable protection against heat because most of a soldier's accoutrements are neither heat-resistant nor fireproof; in fact, some items such as parkas, ponchos and sleeping bags, all of which have a nylon cellulose base, are highly inflammable. Research and development in this field is clearly required if soldiers are to survive the heat effects of the weapon.

In the field, the best and most available means of protection against both flash and heat is ordinary earth; and the deeper that field defences can be constructed the better the protection that is afforded. However, since digging does take time and effort, some means of mechanical or chemical assistance would be invaluable.

Having arranged to protect himself from heat and flash by burrowing into the ground, the soldier must decide how best to conduct his defence — a somewhat difficult feat against a mobile surface-operating attacker. In fact, the attacker could achieve his aim without using the nuclear weapon if insufficient defenders were on the surface to deter him. Obviously, the defenders will have to man some surface fire and observation posts, the personnel occupying them gaining a modicum of protection from their nuclear clothing (when perfected) and from shallow weapon pits.

In the attack, when units must remain mobile and on the surface, deep field defences would not be feasible; protection must, therefore, be afforded by the overhead and side cover of light armoured personnel carriers and light tanks. Armour has proven, in tests, to be an excellent shield against flash and heat.

The construction of deep nuclear field defences should be practised on exercises until a suitable design has been perfected and its efficiency against nuclear weapons should be tested against an actual nuclear weapon. At the same time, troops should be taught that casualties and damage from heat can be reduced by avoiding the direct rays by taking cover in ditches or behind banks of earth. The positioning of headquarters, supplies and reserves in dry woods or buildings should be avoided.

Blast — The next effect, flowing out from the explosion immediately after the flash and heat, is blast. As noted by Rigg in his description of a nuclear battlefield, blast is capable of lifting turrets fom tanks. It can also overturn guns and armoured personnel carriers, flatten makeshift shelters, and strip soldiers of shoes, clothing and limbs.

Solid earth, in the form of well-revetted field defences, is again the best protection available, and, again, the deeper and stronger the defences the better the protection afforded; flimsy shelters and buildings should be avoided.

Blast also has two indirect effects: the instant transformation of all loose objects into high-speed flying missiles, and the paralytic shock effects of blast pressures upon the brain.

A high proportion of the casualties at Hiroshima and Nagasaki were caused by the innumerable flying missiles, particularly particles

of window glass, which the blast wave propelled at high speeds in all directions. Although glass itself will not be a problem on the battlefield, loose objects such as rifles, helmets, wireless aerials, stones and trees have the capability, when transformed into missiles, of lacerating and decapitating personnel and of damaging equipment.

Casualties from this source can be reduced materially by keeping the battlefield clear of loose debris, and by securing or shielding movable objects. Again, since shattered fragments of trees and timber can become highly dangerous missiles, woods and buildings should be avoided.

Shock, or battle fatigue as it is now called, is usually considered to be a mental, rather than a physical condition. It is caused, not only by blast, but by a combination of such battlefield conditions as noise, hurt, death, devastation and frustration. The characteristics differ according to the receptivenesses of the individual: some men in shock tend to panic and become uncontrollable, others lie dazed and incoherent, and none are able to react to orders. The permanence of shock also varies with the proximity of the individual to the shock-producing conditions and to his previous physical and mental state.

Because shock is mainly a mental condition, the key to its control lies in leadership and discipline. Only by leadership qualities which gain the trust and respect of men and by insistence upon absolute discipline, can leaders raise men from the depths of shock depression and urge them into activity. Even then shock is sometimes so severe that normal counter-measures fail and it becomes necessary to penetrate unreceptive minds and frightened souls by harsher means, such as loud and coarse "battlefield language". Occasionally, unfortunately, more drastic and even violent action is required.

The degree of stability in individuals, hence the incidence of shock, depends to a great extent upon their prior training and indoctrination and upon the standard of discipline which has been established. It is accepted that rigid discipline is required in order to maintain control but it must be enforced with understanding, sympathy and common sense if leaders are to get the best out of their men. The aim of leaders should be to intergrate men of stability into tightly knit fighting teams so that the team, as a whole, is able to withstand the strain of the battlefield.

Nuclear Radiation—The final effect, in chronological sequence from the instant of the explosion, is nuclear radiation itself. This effect, which pentrates the body with its radio-active rays and which is entirely absent from conventional explosions, may occur within one minute in the immediate vicinity of the explosion, or subsequently in "fall-out", at some distance from ground zero.

Nuclear radiation is a stealthy weapon. With no outward or visible sign, a man with a large dose of nuclear radiation may live for days, only to die without ever realizing his exposure. Conversely, he may display all the symptoms, such as vomiting, diarrohea, blisters, and loss of hair, of a large dose of radiation, yet eventually recover. The seriousness of the casualty depends upon the nuclear radiation which is absorbed; for example, a dose of over 700 Roentgens would make sur-

vival improbable, whereas a dose of under 100 Roentgens might incapacitate a man for only a short period of time.

The penetration of nuclear radiation into the body can be arrested by shielding the body with an opaque substance. Lead, for instance, is an excellent shield but is, of course, not usually available in the field. Natural earth, on the other hand, is readily available and makes a good radiation shield, as long as deep, well-revetted dugouts and slit trenches are constructed. If these are made with at least two feet of earth overhead cover and are located on reverse terrain slopes, the shield should be almost impenetrable. Underground burrowing for protection against nuclear radiation does, of course, raise the same problems of the conduct of defence as have been discussed previously and similar solutions will be necessary.

Since the mysteries of nuclear radiation still contain a good many real or imagined "unknowns", its known peculiarities must be made very clear to the soldier. It is important to emphasize, for instance, that man's reproductive organs are not affected by nuclear radiation, and that only a small minority of radiation casualties actually are fatal. In any event, most radiation fatalities would have been close enough to ground zero to have been killed by some other effect anyway. The important point is that, with prompt and adequate medical treatment, nuclear radiation casualties do survive without any lasting effects whatsoever. This was adequately proven recently by the complete recovery of some Marshalese who suffered from severe radiation sickness after exposure to nuclear fallout from a Pacific test.

Summary of Effects

The several effects of the nuclear weapons are, therefore: flash, heat, blast and nuclear radiation. Each effect is capable of causing severe casualties by itself or in combination with other effects, but the adoption of protective measures will reduce the extent of these casualties considerably. In the field protective measures can be provided: by adopting dispersed positions, but not so dispersed as to create a vacuum in which the enemy can operate without employing his nuclear weapon; by developing heat-resistant, fireproof and radiation-proof clothing and personal equipment, designed to allow unrestricted movement, vision and weapon manipulation; by constructing deep and strong field defences, built with the aid of portable digging aids; and by transporting personnel in light, mobile personnel carriers and tanks which are equipped with overhead cover.

These are collective protective measures; individual measures must include nuclear indoctrination courses which will brief the soldier as to the effects of weapon and the best means of combatting them. Field training exercises must be as realistic, with real and/or simulated nuclear conditions, as it is possible to make them.

In the final outcome, however, the maintenance of order, hence survival, on the nuclear battlefield will be possible only if troops are superbly led and absolutely disciplined. At the moment of the greatest chaos, the soldier must defy all else and calmly and efficiently continue to obey orders and perform his duties.

There is no doubt that nuclear warfare does present a very grim picture but, while the threat of the weapon is with us, it is encumbent

upon us to examine its horrors and to make plans to combat them. Nothing less than complete frankness is acceptable in the training and indoctrination of our soldiers.

It may be, in order to cope with nuclear warfare, that we require a soldier with different characteristics and temperament; perhaps our disciplinary and training methods should be changed to meet the challenge of modern war. These are questions which we should examine very carefully.

New Type of Soldier?

The one guarantee of success in nuclear war is that the survivors of the chaos, confusion and utter desolation of the nuclear battlefield, are resolved to stand firm and steadfast. Unfortunately, the characteristic of stability under adverse conditions is not always present in the youth of today. Men who possess it may be difficult to find in quantity.

Stability is required of both leaders and followers: leaders must be able to retain control, regardless of conditions, and to exert their wills upon those whom they command; followers, on the other hand, must have the ability to maintain control of themselves and to remain amenable to discipline and obedient to orders whatever the circumstances.

The question is: is it possible to find men who will submit willingly to an increasingly rigid form of discipline, considering the general lack of it in the homes and schools of today? And, can leaders be found who are sufficiently strong to enforce this discipline?

Men who enlist in the Army will continue to be recruited from all walks of life: they will come from factories and farms, from cities and towns, and from every sort of domestic environment. Their different backgrounds and charasteristics will be carefully assessed so that each can be fitted into the military position most suitable for him. Actually, individual assessment and job selection are nothing new to the Services, but they may be more difficult to accomplish in the future when, at the same time, we are attempting to mould various backgrounds and characteristics to a higher standard of training and discipline.

Perhaps, in reviewing our current selection and assessment methods, entirely new standards should be evolved. It may be possible, for instance, to segregate individuals into those who have a tendency towards shock or panic and those who do not, and into those with or without the ability to lead. Fighting units could then be built up with the best specimens of manhood while those of lesser stability could be funnelled into less-sensitive, non-warlike positions. Perhaps the selection machinery could go even further and segregate the fighting men into teams specifically earmarked either for the defence or the attack: for example, stubborn, cautious types could be directed to the defence team, and active, thrusting types to the attack team. Teams could then be interchanged, depending on the operation, in a manner similar to that of interchanging teams in ice hockey and American football.

Since the assessment and selection procedures can probably never guarantee a clear segregation of individual characteristics, the discipline and training of the Army will have to continue to be designed for all varieties of man. It will still be necessary to raise to a common standard, a country-wide cross-section of

young men.

It would seem, therefore, that there is no "new type" of soldier; it is his indoctrination, discipline and training which have to be adjusted to a new environment.

Discipline

Most people think that discipline is enforced solely by the authority of rank and by the fear of punishment, but the relationship between leaders and their men is not nearly as simple. The actions of soldiers in battle have always been regulated by the issuing of commands in accordance with an overall plan. Commands are obeyed because of discipline, and discipline is established by practising drills until they become habits. Punishment is warranted only when rules are continuously or flagrantly broken.

The one word "Attention" is a basic example of the necessity of drill to establish discipline. At the command "Attention", the soldier drops whatever he is doing, puts his hands at his sides and stands still, looking straight ahead. Only then is he in a position to hear and act upon further commands. If he were not in this attentive attitude, the issuer of the commands would have no way of making his command heard and acted upon. This simple drill, therefore, is a vital link in the chain of discipline.

Since drill is a means to an end and not an end in itself, each drill must have an application to a real action on the battlefield, otherwise it would have no purpose. As this example relates, soldiers had the same thoughts some sixty years ago:

"It is unfortunately a common fault of drill instructors, when teaching and handling of arms, to attach greater importance to (drill) and to the resounding slap on the butt (to which every sergeant would like to join an "Eyes Left"), than to the skilful use of the rifle . . . "[4]

Discipline is simply absolute obedience to commands. It is achieved, in the first instance, by the constant practice of drills until they become automatic. Perfection in drill is a basic requirement in training because well drilled soldiers are well disciplined, hence are easier to train. However, since no "parade ground" soldier is useful on the battlefield unless he is trained in battlefield techniques, all drill must be related to battlefield activities.

In summary, therefore, it appears that the discipline of soldiers for nuclear warfare must be even more rigid than it has been in the past. It will be attained by insisting upon absolute obedience through the repetition of practical military drills.

Leadership

Since leadership is the key to the problem of maintaining control in war, the early selection and training of leaders is probably the most important military peace-time activity.

Leaders are made, not born, although they must possess certain inherent leadership characteristics. It is these characteristics which must be recognized and nurtured.

On the nuclear battlefield, as we have seen, greater individuality and initiative will be required. The surviving leaders must be able at once to establish control and to raise their men from shocked inactivity to fighting efficiency. The competence of these leaders will be the factor

[4] *Letters on Infantry* by Prince Kraft Zu Hohenloke Mgelfingen, London: Edward Stanford 12, 13, 14 Long Acre, W.C., 1905. (Translated by Lt-Col. N. L. Walford, R.A.) p. 74.

that tips the balance on the nuclear battlefield.

The characteristics required of leaders for nuclear warfare are no different from those required for other wars. Leaders must set personal examples for their followers; they must practise absolute self-discipline and insist upon absolute discipline; and they must have knowledge which is superior to that of their subordinates. These are the inherent characteristics of potential leaders whose beginnings must be recognized early if those who possess them are to be prepared for their responsibilities.

Training

The training of units for nuclear war includes—in addition to training in the use of nuclear weapons—training in the defence against these weapons. Defence may be active, such as the finding, fixing, and destruction of enemy nuclear delivery devices, or it may be passive. Passive defence against the nuclear weapon includes the dispersion of units on the battlefield (but this can be two-edged if units are so dispersed that the enemy can achieve his aim without using his weapon), concealment, camouflage and deception, and the use of natural and artificial protective field defences.

Training for nuclear warfare must be as nuclear realistic as it is possible to make it. The battle school of the past, with its conventional overhead field firing, is not sufficient; a way must be found, within the bounds of safety and economy, to expose soldiers to the effects of the nuclear weapon itself.

Realism can be provided in exercises by simulating nuclear explosions. At present, nuclear simulators are merely "fireworks" which produce a big bang and a mushroom cloud of smoke. If simulators could be made to burst in the air with sufficient potency to cause mild shock and inflict temporary nausea and blindness on unprotected troops, the dangers of being unprotected would be realized and protective measures would be adopted. For instance, a spray of coloured water from a simulated nuclear air burst might be one method of designating those who had received a dose of nuclear radiation. A mild form of gas sufficient to make men vomit but cause no serious illness might be emitted from the simulator, and the flash at the instant of the explosion might be sufficiently bright to induce temporary blindness. These, and other ideas, should be the subject of detailed study if realistic training aids are to be produced.

The attendance of soldiers at nuclear tests in the Nevada Desert and Pacific Attols has been, of course, an important means of demonstrating the effects of nuclear weapons, but the procedures used have not been as realistic as they might have been. The tests have been so carefully staged with such elaborate safety precautions that the reaction of the troops, as they emerge from their well-protected dugouts after all danger has passed, has often been one of disdain for the potency of the weapon. This has a tendency to leave a false impression on soldiers' minds as to the weapon's capabilities.

Training for war must be conducted with maximum realism. We are inclined to underemphasize realism in training in peace-time in the interests of safety and, heretofore, we have been fortunate in having sufficient time, after the emergency occurs, to complete a realistic training programme. Since there will not

be time to do this in the future, training must be completed before hostilities commence. Otherwise the chances of success will be remote.

In our training programmes the soldier is taught weapon handling and tactics in order to defeat the enemy by skill at arms; he must also be prepared mentally and physically for conditions he must face on the battlefield. It is this aspect of training which has been neglected in so far as nuclear warfare is concerned and it is this aspect upon which we must concentrate our efforts.

Conclusion

Clausewitz knew nothing of nuclear warfare, and when he spoke of soldiers having to encounter things for the first time in war, he was referring to things much more simple than nuclear weapons. His principle is, however, as applicable today as it was when he uttered it.

Although the nuclear weapon has been with us for more than a decade and has now become a familiar household word, it is probably safe to say that the average soldier knows less about its actual effects than is contained in this brief study. The result is that, not appreciating what the weapon can do, he is entirely unable to take steps to counter it.

Those responsible for training should take heed of Clausewitz's principle and, while the threat of the nuclear weapon is with us, should insist that protection against it is included in their programmes. With typical Army inconsistency we subject soldiers to Padres' Hours for their spiritual welfare; Medical Officers' Hours for their physical welfare, and current affairs discussions for their general welfare, but we fail to teach them the plain stark facts of human experience on the battlefield. This is left for them to find out for themselves after the battle has been joined.

Soldiers will continue to be recruited from a cross-section of the youth of the country, and this is the clay from which the fighting men must be moulded. He will not be a "new type", nor is one required for nuclear war; the problem is simply to ensure that the average man is fully aware of the probable conditions on the nuclear battlefield and is prepared to protect himself against the effects of the weapon.

If any changes are required for nuclear war it is that the professional standards demanded of the soldier must be higher than ever before and that discipline must be more rigid. If these requirements are met, and if a practical programme of preparation and training is initiated, the results should be rewarding.

That nuclear warfare will be more brutal than anything we have known there is no doubt, but stouthearted soldiers, who are prepared to face the horror, will in the end find success.

Untrained Personnel

In no other profession are the penalties for employing untrained personnel so appalling and so irrevocable as in the military.—*General of the U.S. Army, Douglas MacArthur.*

THE REAL GOAL OF ARMY AVIATION

By

BRIGADIER GENERAL CLIFTON F. VON KANN, DIRECTOR OF ARMY AVIATION, UNITED STATES DEPARTMENT OF THE ARMY

This is the text of an address delivered to the Aviation Writers' Association at the National Press Club in Washington, D.C., in October last year. Brigadier General Von Kann is a member of the Office of the Deputy Chief of Staff for Military Operations, Department of the Army.—Editor.

One of the ghosts that haunts every discussion of Army aviation is "another Air Force". To add to this scare factor there are a lot of little minor ghosts who always accompany the first:

"The Army wants to take over TAC."

"The real goal of Army aviation is its own branch."

"Army aviation is merely another example of divergence rather than unity within the services."

There seems to have been a great deal of reluctance to mention these ghosts except in dark corners of smoke-filled rooms. My purpose today is to bring them out in the light in the hope that this form of exorcism may lay some of these fears to rest.

The Army has no reason to be ashamed of its aviation programme. We are convinced that it is a very essential portion of the over-all Army. Its only purpose in being is to enhance the capability of the Army to perform its vital missions. There are no hidden goals or dark mysterious intentions contained in these objectives. We are not in competition

Vertol Aircraft Corporation Photograph

The launching crew unloads a Little John rocket and launcher from the Vertol Aircraft Corporation's Model 107 prototype twin-turbine helicopter. The helicopter can carry both crew and equipment. This demonstration took place at the Aberdeen Proving Ground, Maryland.

with anyone except a potential enemy.

Then just where is Army aviation heading? To answer that one must examine where the *Army* is heading —for the questions are inseparable.

The thermo-nuclear weapon has swung the pendulum of military thinking once more toward dominance of firepower. But firepower is only one of the elements of combat power. Unless it is complemented by mobility and the means of command and control, firepower does not mean combat power.

History has given us many examples where an imbalance of the elements of combat power influenced the very nature of the battle. The most striking example of recent times is shown in the comparison of World War I and World War II. In the latter half of the nineteenth century repeating rifles, machine-guns, and rapid-fire artillery were added to the armament of the ground soldier, while the soldier, of course, continued to walk a mile and a half an hour across country the way he had always been walking. The result of this growth in firepower, without any comparative growth in movement, was that the soldier found that in order to stay on the battlefield at all he had to dig elaborate trench systems. Nobody liked trenches, but some were occupied continuously for four years, from 1914 to 1918.

In the years between World War I and World War II the pendulum swung toward the predominance of mobility. The German Army was the first to recognize this change, and they reaped the gains that come with innovation in the successes of the early "blitzkrieg" attacks. The basic armament of the soldier was rifles, machine-guns, and artillery. But tanks, trucks, fighter bombers, and airborne divisions had been integrated into the system to give new mobility means of applying combat power. Consequently, World War II

Vertol Aircraft Corporation Photograph

An over-all view of the firing range, showing the relative position of the Little John equipment as it is unloaded from the Vertol Aircraft Corporation's Model 107.

was not a trench war.

Then at the end of World War II the explosion of the atomic bomb gave notice that firepower had a new dimension. I think it is very clear from history that if there is no addition to our movement capability, the only way our land Army will survive is to disperse, dig very deep holes, and stay in them.

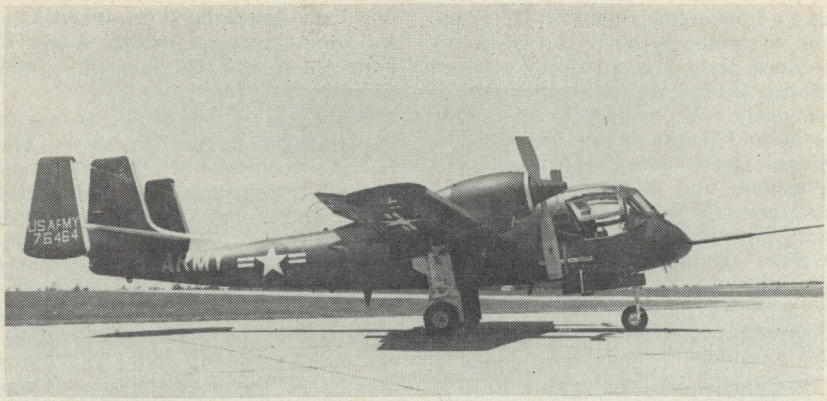
Survival, in itself, is not the mission of the Army. The dominant principal in our military doctrine has been, as it always must be, to emphasize that wars can only be won by offensive operations; and mobility is an essential element of offensive operations.

We could build, I assume, a 200-mile-an-hour tank, but this does us little good if the only place we could use it would be the Salt Flats in Utah. Only marginal gains can be made if we restrict ourself to the ground. But is the land battle restricted to the ground? By definition land-warfare includes the air and sea contiguous to the battle, just as the air battle includes the airfields, and the sea warfare concept includes the ports and harbours.

If we don't restrict our thinking to the ground we have a new dimension to tactical mobility. The Army's Chief of Staff, General Lemnitzer, said last August, "With respect to tactical mobility, I want to make particular mention of the various types of aircraft, both in being and experimental, which make up Army aviation. What these and other developments in mobility mean is that we are on the verge of a situation that is drastically new. Throughout history a major limitation on the freedom of action of land forces—and consequently, on their effectiveness — has been the barrier of terrain. We can now foresee a time when mountains and rivers and other terrain features will cease to be obstacles or limita-

Vertol Aircraft Corporation Photograph

Getting a U.S. Army recoilless rifle into action. The crew and weapon have been transported by the helicopter shown in the background.



U.S. Army Photograph
The Grumman "Mohawk" (YAO-1), a two-engine, two-place observation aircraft capable of speeds up to 275 knots. It can throttle down to about 40 knots and can take off and land in very short distances and can operate from unimproved runways. It has a range of about 1400 nautical miles.

tions. They will be meaningful chiefly as advantages to be exploited as the situation indicates."

This statement is a strong indication of where the Army is heading and clearly points up the tremendous responsibility of Army aviation. Tomorrow's battlefield will be a mass of obstacles, for in addition to the natural rivers, mountains, and jungles. we must add the possible man-made obstacles fom nuclear, chemical and biological weapons. The area of combat will be a crazy quilt of friendly and enemy forces with gaps that no one controls completely. The unit that can concentrate and disperse the quickest, while maintaining its integrity, is the unit which will survive. It is fundamental to this concept that the aviator and the aircraft are an integral part of the tactical unit.

The Army is not interested in the airplane *per se.* Its interest lies in how aviation can help the Army accomplish its mission. If we lose sight of this objective, and become fascinated by flying from a purely pilot's view-point, we are in danger of failing our basic purpose. We must constantly picture the aircraft and pilot in the environment of the soldier, for the mission of Army aviation is based on the mission of the Army.

With this mission it seems ridiculous to limit ourselves to some one branch of the Army—to an Army Air Corps. We would be selling ourselves and the Army short. We would be forgetting the lesson of the twenties and thirties when no infantryman, no artilleryman, no cavalryman could fly an airplane. You had to belong to the Air Corps. I am sure that you gentlemen have heard scattered individuals in Army aviation who insist that the Army must have an Aviation Branch. There certainly may be a requirement for personnel who devote their entire careers to aviation matters.

In the longer view, however, just

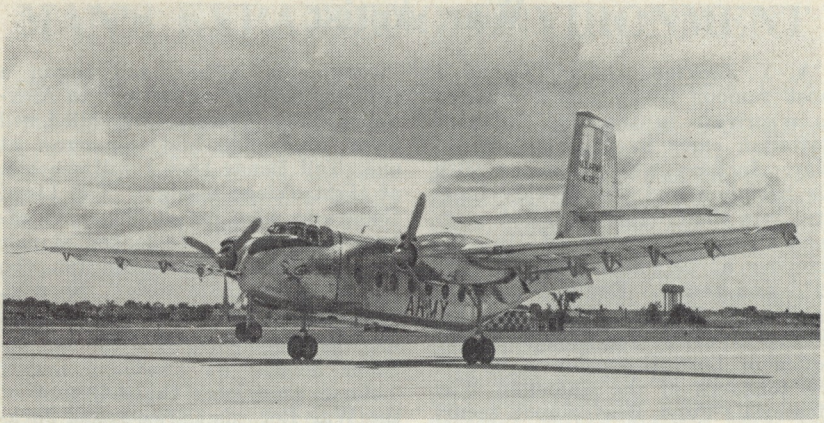
as we now argue that the Air Force has no monopoly on flying machines because they fly, similarly no one branch in the Army should have a monopoly. We don't pool all of our jeeps and trucks in one branch. The Signal Corps doesn't operate every telephone and radio, nor does the Engineer Corps run all our generators. The peculiar characteristics of a piece of equipment do not dictate the mission. Rather the equipment is given to the people who need these characteristics to accomplish the mission.

We dare not be compartmentalized now. The big advantage we have as Army aviators is that as a group we belong to no one special branch, have no parochial little axes to grind and have one common goal—an air-minded Army. We do not want to be considered a little privileged and specialized organization—we want everyone in the Army to understand and be part of a new mobility programme.

Our real problem, then, is one of the state of mind. Unless we can convince everyone of the importance of this programme, the necessary effort and money to do this job will not be forthcoming. It is an ambitious programme and it obviously comprises a big enough goal without the added implication that "the Army wants to take over the Tactical Air Command." Now the Army holds that the TAC mission is one of the most important in the military establishment; we are perfectly happy to have the Air Force do it, but we insist it must be done. We realize that any Army aviation effort directed toward such a mission might detract from its capability to

U.S. Army Photograph

The H-40 "Iroquois", the first Army helicopter specifically designed to be powered by a turbo-shaft engine. Manufactured by the Bell Aircraft Corporation, it is a utility class helicopter.



De Havilland Photograph
The "Caribou", manufactured by De Havilland Aircraft of Canada Limited and designed primarily as a troop carrier.

perform its own assigned tasks, and could divert our attention from the bigger objective of an air-minded Army.

Today, we're a motor-minded Army. The basic ingredient of that motor-mindedness is the fact that you and I, all of us, drive automobiles. We understand automobiles; we feel perfectly competent to make decisions about automobiles. There is no doubt in our minds that we can command motorized units.

By analogy, the basic ingredient of the air-minded Army is going to be familiarity with aircraft. Not necessarily everyone being a pilot, but every unit having organic aircraft integrated into its routine missions. We won't have an air-minded Army by an approach of exclusiveness. The commander is not going to have any confidence in a remote pool of aircraft that he may *possibly* use on a *part-time* basis if he goes through ten headquarters with a high enough *priority*. We can only have an air-minded Army if we convince the commander that we are a part of *his unit* and that we can do a job for him not possible by any other means.

I started my Army career in the Artillery. Now the Artillery has many proud traditions, but the first thing one is taught in the artillery is that his prime purpose is combat support. The more he understands and participates in the operations of the supported units, the more effective is the partnership.

All the Arms have learned that it is not enough to be an infantryman or artilleryman or tanker. They must think combined arms—they are taught combined arms. Army aviation does not want to be "that bunch out at the airfield". They want to be recognized as a part of the combined arms team. We are proud of the aviator badge—but we want everyone to know it's an Army badge.

War Artist

A. Y. Jackson, perhaps Canada's most famous living artist, enlisted as a private in the 60th Infantry Battalion early in the First World War. Jackson went overseas with his battalion and was quickly initiated into the horrors of trench warfare. He was wounded in the shoulder at "Maple Copse" in June 1916 and sent to England for convalescence. While there, his reputation as an artist was brought to the notice of Lord Beaverbrook, one of the founders of the Canadian War Memorials Fund. Beaverbrook secured an honorary commission for Jackson and had him transferred to the Canadian War Records Office as a War Artist.

In his recent autobiography, *A Painter's Country*, Jackson recalls waiting in Beaverbrook's office with Sgt. Alexander, Beaverbrook's "little secretary":

"His Lordship blew in like a cyclone. Beaverbrook read rapidly through his letters, and began a running fire of instructions to Alexander. 'Tell Winston Churchill I will have lunch with him to-morrow at one. Tell Bonar Law I will see him at eight o'clock to-night. Tell Lloyd George to meet me on Thursday afternoon at four.' He looked at me; for a moment he had forgotten who I was. Then, 'Alexander', he said, 'make this man a lieutenant.' And he was gone as swiftly as he had come."

Some time later the Adjutant of the War Records Office asked Jackson how he was able to produce so much work and yet cost the office less than any other artist on the staff. Jackson, somewhat wryly, replied:

"If the others had been in the ranks for two years they would know when they had a cushy job."—*Contributed by Lieut. A. M. J. Hyatt, Historical Section, Army Headquarters, Ottawa.*

The Real Goal of Army Aviation

(*Continued from preceding page*)

Now I'm not naive enough to assume that my words here have permanently banished the ghosts I mentioned originally. Every time that Army aviation is mentioned without relation to the Army as a whole, these spectres will reappear. Our biggest job lies in our own shop. Every Army aviator must understand his mission and show its value to his immediate commander. The ghost of "another Air Force" will never be completely put to rest until we in Army Aviation convince the Army itself of our goals, and demonstrate we are neither step-child nor favourite son, but rather an essential catalyst to the formation of a modern mobile Army.

Major General Hamilton Howze summed it up very neatly when he said, ". . . it's hard to be audacious sitting at the bottom of a hole. In the air just above the treetops lies one of the greatest hopes for victory on the ground."

MAN'S EXPANDING ENVIRONMENT

By
DR. CHARLES W. BRAY, SMITHSONIAN INSTITUTION, WASHINGTON, D.C.*

This is a breath-taking phrase—man's expanding environment. It is exhilarating, exciting. It suggests new sights, new sounds, new smells—new objects. It suggests the frontier—loneliness, and danger. To some, probably few of us here, it suggests new civilizations, new kinds of men, or at least new kinds of life to be discovered in the distant reaches. To others, more prosaic, perhaps, it suggests changes in ourselves—changes forced upon us as we react to the expansion of knowledge.

Your Programme Committee asked me to look backward in time at the military man, to pull together the human and social changes which have occurred in him in recent centuries, to correlate these with the technological changes now in progress, and to suggest the implications of the whole for the future of military psychology. To do so is a stimulating task.

I propose, then, to look at the expanding human and social environments as well as the expanding technical and geographical environments. I will do so through the eyes of the military historians, Alfred Vagts and Walter Millis, of the students of government and military education, John Masland and Lawrence Radway, and our sociologist colleague, Morris Janowitz, as well as of the other speakers on this programme who deal with the expansion of the geographical and physical environment.

In many respects the modern military man (and our image of him) descends rather directly from the professional or mercenary soldier of the small armies of the 17th and 18th centuries. In the times of Gustavus Adolphus and Frederick the Great, military units were, in effect, contract units. The regimental commander, The Colonel, was given a "war chest"—often a literal war chest. From it he took the King's shilling to lure the troops into service. They served "for the duration" and if the war chest held out, the duration was often for life. The Colonel fed, clothed, and equipped the men. He had an investment in them and he looked after his men. He drilled and drilled them until they became models of military discipline: extremes of discipline were required under the conditions of recruitment and living of the soldiers and under the peculiar tactics of warfare enforced by the muzzle-loading, smooth-bore gun of the day.

The officers of the regiment were drawn from the aristocracy, men who could buy their commissions, and who were "born to the habit of command". In this period, however, and for the first time, the officers began to receive formal education

**This is the text of a lecture delivered by Dr. Bray at a meeting of the American Psychological Association of Cincinnati, Ohio, in September 1959. A psychologist, Dr. Bray is Special Research Director for the Research Group in Psychology and the Social Sciences at the Smithsonian Institution. This Group is engaged in planning studies for the Office of Science, Director of Defence Research and Engineering in the U.S. Department of Defence, which has reviewed this lecture. Such review, however, does not constitute verification of factual accuracy or the opinion of the Department. The lecture is reproduced by permission and should not be reprinted from the* Journal *without authority.*—Editor.

in the art of war. Thus the officers and the men came to be *professional* soldiers: men for whom fighting was a career, a way of making a living, a calling; they were indeed men with special skill in the art of war. Alexander Hamilton well expressed one aspect of the image of the professional soldier of this period when he said: "Let the officers be men of sense; but the nearer soldiers approach to machines, perhaps the better." From these times come many elements of our image of the military man, as, for example:

The combat rifle unit and its leader as the basic military unit.
The interchangeability of one military man for another.
Iron discipline.
The ascriptive nature of military authority.
The honour of an officer and a gentleman.
The life-time professional career.
The apolitical character of the mercenary troops.

Now we all know, perhaps no one better than our modern military men, themselves, that times have changed since the 17th Century and that this simple image of the military men is blurred today. Nevertheless it is useful to pull together the changes that have occurred in the hope that we can clarify and correct the image to accord with the military man today. The expansion of the military environment due to political and social change, as well as to scientific advances, requires some adjustment of the image.

Walter Millis points to six changes since the 18th century, each of which has had its effect on the military men. They are:

1. The American and French political revolutions which democratized and nationalized war.

2. The industrial revolution which permitted the development of enough guns and ammunition, the transportation, the communication, and the support equipment needed to use the democratic and national mass.

3. The managerial revolution which led to the general staffs, the officers necessary for effective planning for use of the mass.

4. The scientific revolution. With respect to the military it has produced the devices and activities which the other papers on this programme have discussed, as well as many others with which we are all more or less familiar. Someone has described this revolution as "the invention of science as a method of invention" and the phrase seems just, particularly with respect to the military use of modern science.

5. The political revolutions of this century—the rise of the national welfare states and the polarization of such states into two camps.

6. The propaganda revolution. I must say that I am more than a little uncertain as to whether this revolution has really been consummated, but surely we would agree that if not, it is not for lack of trying. In a fumbling kind of way, we are certainly trying to substitute propaganda and psychological warfare for physical and physiological warfare. A major element in psychological warfare is military posture.

Now we are not historians here and we need not try to trace out the details of chronological development of these changes in the world. We would all agree that here are major world changes with significant effects on the military man. The

effects, like the changes themselves, are familiar; again it is worthwhile to summarize them. The effects include:

1. The civilization of the military.
2. The specialization of function in the military.
3. The organizational complication of the military.
4. The wide range of scientific and technical knowledge required of the military.
5. The political, the cultural, and the anthropological knowledge required of the military.

Each of these changes deserves brief discussion:

First, civilization. It is obvious that the small professional Army is now greatly diluted with soldiers who are civilians in uniform, with conscripts and near-conscripts, serving a single term of enlistment or a single obligated tour as an officer. To put this in another way, a very considerable fraction of our whole population, 20,000,000 or more people, has been affected more or less profoundly by service in uniform. To state the matter in a third way, the major wars are now conducted at least as much against civilian as against military targets: a deployed military force is a poor target for the larger bombs. The Services are necessarily exerting themselves to provide an even poorer target in the military force by increasing their mobility and dispersal. Thereby, they embed themselves in foreign cultures throughout the world and in small detachments here, there and everywhere at home.

We all know that only a few troops relatively to past times are of a combat type and the rest follow essentially civilian occupations: they are the overhead. According to Janowitz, over 90% of Civil War troops were of a military type, less than 35% of Korean War troops. The remainder were administrative and clerical, mechanical, technical and scientific, and so on—all full-time, essentially civilian-type, occupations. An ever-increasing number of men in uniform are devoted to relations with contractors, with local communities, with educational institutions, and with political figures, and these not merely in our own country but all over the world. Only one-third of the Army's general officers in 1953 were assigned to tactical units and commands.

Second, specialization. The concept of the interchangeability of military men no longer has a simple, univocal validity. Specialization is the rule of the day. With this audience I probably don't need to support this statement at length, but it may be worthwhile to remind you that the Army, in World War II, exclusive of the Army Air Corps, listed over 1300 different Military Occupational Specialties (perhaps I should say that this figure is probadly highly inflated — it includes rank differences, for instance — but it could be wrong by a factor of 10 without changing my conclusion.) It may also be worthwhile to remind you that the traditional pyramidal rank structure seems to be giving way to a double diamond—one for the officers and one for the enlisted men and, as Janowitz points out, this is not merely an inflation of rank but a necessary result of specialization of function.

Specialization means that the Department of Defence today must establish and manage, or contract for, a wider range of educational

and training activities than any single *type* of civilian educational institution, not excluding the University, and in depth often equalling the University and the advanced institute of study. If there is a military profession today, then it has a wider range of special skills and knowledges than any other; it has come to include nearly every other profession. Military service activities resemble as much the range of Civil Service activities as they do a single profession.

It is also true that specialization and civilianization taken together mean that the vast majority of military activities cannot be managed by the simple technique of domination alone, but require the use of adjustive, manipulative, and bargaining techniques as well. They require the skills of the specialist adviser and the manager, at least as much as the skills of the commander, as he was originally conceived 200 years ago, and as he often remains in our image today.

Third, complexity of organization. Specialization breeds complexity of organization. In World War II, the Army alone, again excluding the Army Air Corps, had over 700 *types* of Table of Organization Units. At the end of 1952, the Department of Defence alone, excluding the Department of the Army, Navy and Air Force, listed in its Directory over 900 Committees, Boards, Councils, Sub-committees and Panels. At the other extreme at about the same time, the basic Army unit, the rifle squad, was reorganized to permit increased dispersion on the battlefield; it came to consist of two teams of five men each, four somewhat specialized men and a leader in each team, with the squad leader over all. And, apparently, this is only the beginning: change in organization is rapid. A few weeks ago the magazine *Newsweek* published an account of the basic guerilla warfare unit of our Army. This is said to be a seven-man team, paratroopers all of course, including a demolition man, a heavy-weapons man, a light-weapons man, a radioman, a medical specialist (who, incidentally, must be a mid-wife), a platoon sergeant and an officer in command. At least one member of the unit will speak the language of the country to which (if all goes well in the computerized assignment process) this particular unit will be sent. Ugly Americans these, I'm afraid, and, *Newsweek* says, the Russians have already so called them. I wonder how many of you might wish to volunteer to improve the organizational structure and the channels of communication for these men, or to test their organizational effectiveness, or to design their individual training aids as they prepare to lead a war to be *fought* by civilians who are not even in uniform.

Fourth, the requirement for scientific and technical knowledge. This, of course, is only one form of specialization but it merits particular attention because it is chiefly the expansion of the technical environment that forces consideration of the whole change in the military situation. When we talk of man's expanding environment in the Arctic, the desert, under the sea, and out in space, we must talk as much about the abstraction of this environment as about new sights, new sounds, or even new kinesthetic, tactual and thermal stimulation, although all of these will occur and merit our attention. But our engineering friends, after a little trial

and error, will take care of these, just as they built armour and helmets, walled castles, armour-plated ships and pressurized cabins in the past. Our modern adventurer, particularly after the first few experimental trips, will have little concern for new stimuli. He will be engrossed in dial readings, in gathering information from television screens and transmitting it by telephone, in calculations interpreting the meaning of exact scientific and technical observations. He will be making hard decisions in terms which are ever more abstract. And his opposite number on the other end of the telephone will be dealing with the scientific and technical community.

Fifth, the requirement for political, anthropological and cultural knowledge. Our modern military man is also an integral part of his nation's community. He no longer retires to his reservations, like the Indian, between wars. Congress won't even give him on-base housing. Collectively, he has at least as great an impact on his community as any other group. Collectively, our military men interact far more closely with allies and with the civilians of other nations than their predecessors. One does not prepare a successful guerilla fighter unless one knows a good deal about the habits and customs, the history and politics, the language, and even the literature, of the territory to be "guerillaized". The collection and evaluation of military intelligence, the preparation for establishment of military government, the problems of integration with allies, all call for the same type of knowledge.

Until this time, at least, we have perhaps too successfully insulated our military men from the expanding environment of the political and the propaganda revolutions. If the man in the space ship resembles an engineer in his office, lonely, in great danger, and chained to his desk, perhaps, but still with an in-basket (dials) here, an out-basket (knobs) there and a telephone at his hand, then the American air base in an allied country, in the desert, or in the arctic, is remarkably like an American air base in Kansas, Texas, or Maine. These must be a change in this respect, even if it involves some renunciation of our cherished apolitical character of the military man.

Thus, the revolutionary changes of the past two centuries have created revolutionary changes in the environment of the military man. His new horizons include the whole of civilization. Nevertheless, he still exists to fight, or at least as a threat of fighting capacity, and this hard core of our image of him must persist. But many other elements must change. For example:

1. The basic rifle-squad unit is no longer a simple unit and it is only one of many equally basic, complex units.

2. Military men are not so readily interchanged with one another.

3. Discipline continues but at all levels of rank it must be made compatible with intelligent, autonomous, co-ordinated action.

4. Authority comes from knowledge as well as from rank and is exercised by manipulation and bargaining as well as by domination.

5. There are many military careers—some short, some long—and many military professions—most of them not very different in their requirements for knowledge from civilian professions.

6. The successful military man cannot remain apolitical. We may hope that he will stay out of party politics but he cannot stay out of the other forms of political life.

Now, all of these are changes of degree. Let us have no misunderstandings here. Man's social environment has expanded but it has *not* introduced totally new elements. Most of the wars of history have been fought by civilians in uniform as well as by military professionals. Herodotus talks about specialized troops in the ancient Greek armies and about their civilian support. We have always had commanders who knew how to manipulate and to bargain, and whose authority was based as much on know-how as on rank. And the military attache has been with us for many generations. Above all, we still have, and we still need, professional soldiers—men with a calling, men with combat knowledges, men who know how to give and obey orders, men who exist in order to fight.

Nevertheless, the environment *has* expanded. What has changed is the relative importance and difficulty of managing men who are no longer a simple, unitary group. Each of our social changes has increased the importance of ability to manage other specialized men and to manage evermore complex organizations. Each day sees the level of decision making raised, and this not only for the supreme commanders but also for the men at lower level enlisted ranks. The psycho-motor skills and the relatively simple social skills of battlefield leadership remain but the higher order skills become more difficult and must be exercised by lower and lower ranks of men. And the impact of technological change is to require not only managers of men in general but managers of scientific men as well. Managers of scientists are men capable of dealing with the most abstract concepts. Finally, our military men must be "at home" with the whole range of our own and other cultures.

What then is the implication of these changes for us, as military psychologists? It is easy to say, and it is obvious that our importance to the military is steadily increasing, as is that of the military social scientist generally. We do have such scientific knowledge of man and society as exists. But the range of knowledge and skills of the modern military man is so vast that no science or group or sciences can possibly contribute to all of it. We need to pin down a number of special areas in which we are experts — acknowledged experts and experts who know the limitations of our knowledge and usefulness in these areas.

At present, military psychology includes only a few cases in which we have *bounded* an area, developed, as John Kennedy likes to put it, a technology or strategy of approach to it, and produced special knowledges and techniques and devices that are helpful to the manager in dealing with it. The aptitude area is one in which we are true experts. So is the human engineering area with respect to sensory devices and controls. And we are coming, with the concept of qualitative personnel requirements, to be experts on man-machine systems. We have special competence, also, in attitude measurement and opinion polling.

But the expanding military environment demands an expanding level of expertness in other special psychological fields. There is the

ever-increasing load on complex perceptual, information-gathering-and-collating tasks. There is the ever-increasing need to understand and be experts on decision processes. Somehow we must be able to define, accurately and abstractly, the ever-increasing variety of tasks to be performed by military men so that we can see the relationships between tasks and help to guide the training, the higher education, and the careers of professional military men. We need to become true experts on team work and our sociologist friends need to do the same in the field of complex organization. Finally there is the need for a well-bounded, definitive science of persuasion.

In each case these fields are ripe for research break-throughs. The basic methodology is available. We need to concentrate our research effort on these fields and not diffuse it over the whole range of civilized life within which the military man of today operates.

A second implication, however, may seem at first sight to contradict the first. We also have a responsibility as psychologists and as citizens to do what we can about the whole range of military problems and to use such knowledge as we have relevant to them. Now it is almost a truism to say that no single, *concrete* military problem will ever be solved by science. Problem solving in the concrete world is an art, and, in spite of computers, it will remain an art. Computers can enormously assist in decision making. In widening the range of his memory and permitting new orders of calculation, however, computers free their user, and thereby force him in a competitive or combative world, to consider new ranges of information and to make new kinds of judgments which are not yet built into computer programmes.

Problem solving is an art which requires the bringing together of an enormous range of concrete facts from a wide variety of specialist fields. This is merely to repeat again that problem solving in the concrete military world is a part of the art of management. The manager is one who holds the balance between the team of specialists. But the more important the problem, the more true it is that the so-called specialists must be generalists as well, often managers themselves.

The aptitude tester, if he is to participate helpfully in decision making, must know the weapon system, and the personnel system, and the manpower situation as well as his specialty of aptitude testing. He need not necessarily be as expert on the weapon system, or the personnel system, or the manpower situation as he is on aptitude testing but he certainly needs at least to be able to talk intelligently with the personnel man and the manpower man. And the same holds true for each of our specialists —the human engineer needs to know about aptitudes and training and engineering, as well as about psysiological psychology, and so on.

We can carry this analysis a bit further if we consider a concrete example of the application of psychology. Consider the institutional wisdom available to the Army, and how we can be helpful to the Army, in the case of training. Compare the training doctrine of the U.S. Army as promulgated about the time of the War of 1812 with the advice of our good friend Meredith Crawford in a lecture given at West Point a few months ago.

Army, 1812	Crawford
1. Avoid the inclusion of non-essentials.	Eliminate unnecessary context by careful job analysis.
2. Constantly emphasize the purpose as well as the precise nature of the acts to be learned.	Let the learner encounter practical problems first and then work back to general principles.
3. Positive recognition, rather than punishment is the primary motivation for learning.	The learner must be motivated. A correct response must be appropriately reinforced. Active repetition and practice are required
4. Understand the previous background of the trainees and their difficulties in changing their habits.	There are large differences between trainees in their ability to learn. Use aptitude, proficiency, and achievement tests.
5. The leaders (instructors) must have demonstrated abilities in order to maintain the confidence of their men.	Forecasts the development of teaching machines to reduce dependence on instructors.

I don't know whether to be more impressed by the similarities or by the differences in these lists. The lists are strikingly similar. Their differences lie in the *qualifications* Crawford introduced to the crude generalities of the common sense managers of 150 years ago, (and the additional qualifications he could have introduced if he had given two lectures, rather than one.) They lie also in a few techniques, job analysis, for example, and a few devices, the tests and the teaching machines, to assist the manager of training. Yet even the devices cannot stand alone as "solutions" to the manager's problems. They have to be used, as must the qualifications of the generalities, with great good sense, with wisdom, with a view to all the circumstances. But these are the functions of the manager and the managerial adviser, not of the research psychologist or the research social scientist. Thus, to me a second basic implication of the expanding military environment is that we must begin to train managerial advisers — true applied psychologists and social scientists—as well as research psychologists and social scientists.

Now this is to say that the successful managerial adviser will not, by and large, be the successful research man. Our research psychologists have to learn the art of management in the hard way, by experience overcoming, not supplementing, training. The successful research man is inevitably and properly trained to take the narrow point of view. Only the single, but eternal verity, counts for him. Our military psychologists should not be trained, as are our Ph.D.'s, to distrust every positive statement. They should not be greatly exercised about *the* ultimate criterion or even about the null hypothesis, but should consider the multiple and proximal criteria, and the errors of coming to no conclusion whatever.

They should be able to bring together the best information from any field of knowledge—to give a rational answer to a concrete ques-

Round Hats and Pantaloons

Whether war would break out with the United States during 1812 and whether uniforms for the militia would be provided from England were questions which no one in Upper Canada could answer. But Major-General Isaac Brock, president administering the government during the absence in England of Lieutenant-Governor Gore, had to be prepared for all the possibilities, without expense to the public. Hence the following directive, published in *The York Gazette* of 8 May 1812:

Adjutant General's Office,
York, 29th April, 1812.

As it is not ascertained whether Government will provide clothing for the Militia, for which application has been made, His Honor the President recommends, in the event of any portion of them being, in the meantime, called into the Field, that for their own convenience, as well as the benefit of the Service, each Man, as far as his circumstances and situation allows, will provide himself with a Short Coat of some dark colored cloth made to button well round the Body, and Pantaloons suited to the season, with the addition of a Round Hat. It is very desirable that as much uniformity as possible be observed in providing this equipment, which will benefit the Public Service, and be equally fit for Private use. It is also recommended to the Officers on every occasion when in the Field, to dress in conformity to the Men, in order to avoid the bad consequence of a conspicuous dress.

AENEAS SHAW,

Adjutant General Militia, U.C.
(Contributed by J. Mackay Hitsman, Historical Section, Army Headquarters, Ottawa.)

Churchill on War

There is only one thing certain about War, that is that it is full of disappointments and also full of mistakes—*Winston Churchill.*

Man's Expanding Environment

(*Continued from preceding page*)

tion. A second implication of the expanding military environment, then, is that we need a new kind of training for the military psychologist.

In summary, then, the military environment has expanded immensely. Our image of military men must expand accordingly. Officers must be men of uncommon sense and enlisted men cannot be machines. We still need the old military virtues—our military men still exist to fight—but we need a great many other virtues in our military men, particularly the abilities to deal with a wide range of increasingly abstract items of information and the abilities to manage specialized men in complex organizations. For military psychology the effect of the expanding military environment is to require an increasingly specialized research activity. It is also to require an increasingly general, inter-disciplinary, applied psychology, in order to provide an effective advisory service to military managers.

1959 Bisley Shoot

Headquarters Marksmen Represent Canadian Army

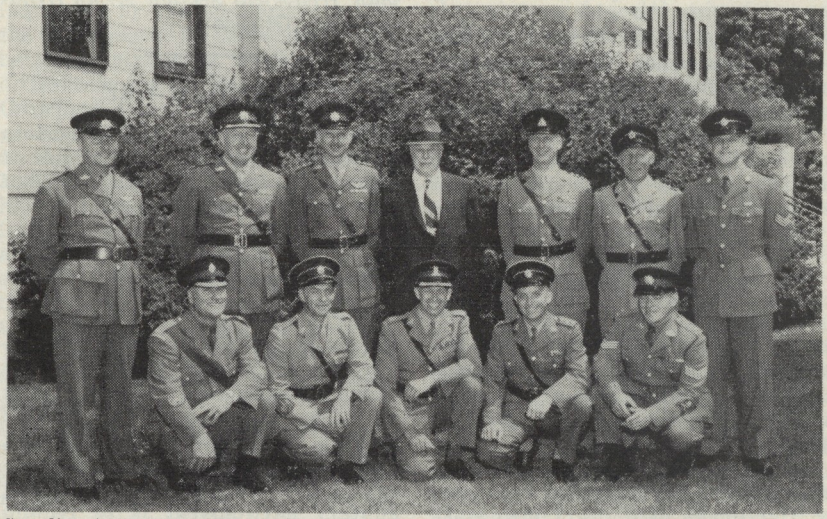
By

MAJOR A. H. SMEDMOR, CD, OFFICER COMMANDING THE CANADIAN ARMED FORCES IDENTIFICATION BUREAU, OTTAWA*

In 1958 the Army Headquarters Rifle Team, Ottawa, won the Letson Trophy and the privilege of representing the Canadian Army at Bisley in 1959. This is the second time that the Army Headquarters team have won this trophy in the first four years of competition.

The Canadian Army team which proceeded to Bisley in June 1959 was composed of eight members from Army Headquarters team and the three high individual scorers from the other teams which competed in the Letson Trophy match. Major

*Major Smedmor has been a member of the National Defence Headquarters Rifle Association and the Army Headquarters Rifle Team for several years. In 1959 he qualified for both the Canadian Army Team and the Dominion of Canada Rifle Association Team for the Bisley Competition.—Editor.

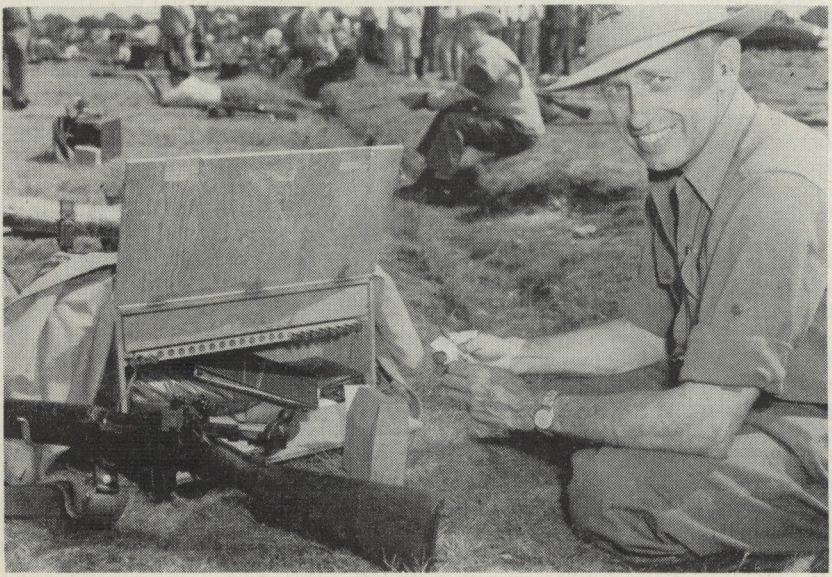


Canadian Army Photograph

The Honourable G. R. Pearkes, VC, Minister of National Defence, poses with the Army Headquarters Rifle Team prior to their departure for Bisley. *Left to right, front row*: WO 2 C. F. Rowell, WO 1 H. E. McDonald, Major A. H. Smedmor, Captain C. M. Brown, Sgt. R. J. Purdy. *Left to right, back row*: Captain J. J. Barrett, Major R. W. Hampton, Captain H. R. Gardner, the Minister, Captain W. V. Hall, Captain J. F. Samson, Sgt. G. R. Handley.

Canadian Army Photographs

Above: Team members inspect the Alexandra Cup won by Captain Brown.
Left to right: Captain Hall, Captain Barrett, Captain Brown, Sgt. Purdy.
Below: Major Smedmor preparing his kit prior to the Kolapore Match.



Smedmor, Canadian Provost Corps, was appointed Team Captain in addition to being a shooting member of the team. Other members were Captain J. J. Barrett, The Royal Canadian Regiment, Captain C. M. Brown, CD, Royal Canadian Army Service Corps; Captain H. R. Gardner, MC, The Royal Canadian Regiment; Captain W. V. Hall, CD, Royal Canadian Corps of Signals; Captain J. F. Samson, BEM, CD, Royal Canadian Army Service Corps; WO 1 H. E. McDonald, CD, Royal Canadian Army Service Corps; and Sgt. G. R. Handley, Royal Canadian Army Service Corps.

The three high individual scorers who made up the balance of the team were Major R. W. Hampton, CD, The Royal Canadian Regiment; WO 2 C. F. Rowell, Regiment of Canadian Guards; and Sgt. R. J. Purdy, The Royal Canadian Regiment. Three members of the Army team, Major Smedmor, Major Hampton and WO 1 McDonald were also shooting members of the Canadian Bisley team sponsored by the Dominion of Canada Rifle Association.

The team assembled in Ottawa on 12 June and were inspected by the Honourable G. R. Pearkes, VC, Minister of National Defence. The trip to England was by RCAF North Star aircraft, the team arriving at Langar, England, on the afternoon of 16 June and proceeding to Bisley by train the next day. The remainder of that week was spent settling in and the following two weeks were taken up in an intensive training period. Fortunately, a number of the team members were Bisley veterans and their previous experience was of great value to those who were seeing Bisley for the first time. During the practice period two friendly matches were held, one against the Royal Navy team at Portsmouth and the second against the Royal Marine team at Bisley. These were valuable in giving the team members practice under conditions similar to those used during the Central Prize Meeting.

The SR(A)* matches commenced on 6 July and lasted five days. The SR(B) matches started on 10 July and culminated with the historic competition for Her Majesty the Queen's prize on 18 July. The Canadian Army team competed in all team matches for which it was eligible, and although it did not win any match it made a creditable showing. The method of selection of the British teams makes the competition very stiff.

Members of the Canadian Army team competed in both the SR(A) and SR(B) individual matches, winning a total of 106 prizes—37 in SR(A) and 69 in SR(B) matches. Captain Brown won two matches, the Alexandra Cup and the Stickledown match. Sgt. Purdy tied for first place in the Kinnaird match and placed second in the shoot-off. WO 1 McDonald tied for first place in The Times match and placed tenth in the shoot-off. Major Hampton was the only member of the team who qualified to shoot in the third and final stage of the Queen's Prize.

The Canadian High Commissioner, the Honourable George Drew, officiated at the presentation of the prizes on the final day and after the presentations he was entertained at the Canadian Pavilion.

The weather was unusual for England. Throughout both practice sessions and the matches warm bright

**In the Service Rifle (A) matches, the issue sights are used, but no sling. Adjustable vernier sights and the sling are used in the Service Rifle (B) matches.*—Editor.

Canadian Army Photograph

One of the Canadian traditions at Bisley is that the winner of the Queen's Prize (won in 1959 by Lieut L. W. Mallabar of the City Rifle Club, London, England) is presented with a white stetson hat and a cigarette, both shown here with the buffalo head in the lounge of the Canadian Pavilion at Bisley. *Left to right*: Captain G. Hurst, adjutant of the Canadian Bisley Team (Dominion of Canada Rifle Association); Lieut.-Colonel N. Dow, commandant of this team; the Honourable George A. Drew, PC, QC, Canadian High Commissioner; Major A. H. Smedmor, captain and shooting member of the Army Headquarters Rifle Team.

weather prevailed except for a couple of isolated showers. During the stay at Bisley, the Canadian Army team was entertained by the National Rifle Association Council and several of the United Kingdom Rifle Clubs and the Canadian Army team held a reception at the Canadian Pavilion to reciprocate this hospitality. Some members of the Army team attended a reception held by the Canadian High Commissioner on Dominion Day and Major Smedmor, as Team Captain, was presented to Her Majesty the Queen Mother on that occasion.

The team returned to Canada on 25 July, having had a very profitable and pleasant trip. The fine co-operation of Lieut.-Colonel N. Dow, Commandant of the Canadian Bisley team (Dominion of Canada Rifle Association) did much to make the stay at Bisley a pleasant one, and a close friendship developed between the members of the Canadian Army team and the Canadian Bisley team.

Tribute should be paid to the staff at the Canadian Army Liaison Establishment (London) who took a keen interest in the team's activities and were most helpful at all times. The RCAF Transport Command did everything possible to make the team comfortable during the outgoing and return flights.

NAPOLEON — QUEEN OR PAWN?

By

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The numbered references in this article are listed on page 58 and 59. —Editor.

Historical events may be caused by individuals or by such diverse factors as environment or popular movements. Napoleon Bonaparte, the individual, dominated an era. "He had all the gifts in the highest degree—except political sense."[1] Did he then create events, or was he created by them?

On the one hand are those who have written: "Napoleon's genius . . . was more creative than that of any other strategist or organizer in the world's history . . ."[2]; or, "It was not the Revolutionary Army of France which shattered the proud empires and the kingdoms of Continental Europe and made England gasp for breath, it was Napoleon."[3] On the other hand an eminent historian wrote: "It was not so much the military genius of Napoleon as the revolutionary fury of the new French armies that cut through the old-fashioned eighteenth-century defence of the unrevolutionized Continental Powers like a knife through butter and carried French arms all over Europe."[4] Which view is correct?

Napoleon, at the Revolution in 1789, was 20 years of age. He was an ambitious Army officer whose siege of Toulon rapidly led to promotion to brigadier. He was temporarily out of favour when he was outstanding military ability at the asked to defend the Government against the violence of the armed mobs of Paris. He did this so well that at 27 he was made commander of the army in Italy.

The Government in Paris, in order to finance its extensive military campaigns, needed enormous sums of money. Since it did not have the money, its armies had to live off the land. This had two results. In the first place the generals, free from financial dependency on Paris, had unlimited power.[5] Napoleon acted in Italy as though he were a sovereign. Secondly, this situation left the Government without the means of protecting itself against its own generals. Nevertheless, Napoleon took no steps to create a dictatorship. He was distinguishable from his fellow generals only by his extraordinary success in battle.

That someone would form a dictatorship in France seemed inevitable. The Constituent Assembly (1789-1791), by its omissions and rashness, rendered unavoidable the two dictatorships that followed: the Reign of Terror and Bonapart.[6] With the execution of Louis XVI in 1793, the Convention (1792-1795) had to go forward or perish: it could not turn back to the Bourbons. Following the suppression of the Terror in 1795 all that remained of the Revolution was the fear of the people that the Terror would return. The Directory of five (1795-1799), which

**Major Clever is the author of the two-part article entitled* A Brief History of the British-Canadian Military Medical Services *published in the July and October 1954 issues of the* Canadian Army Journal *to mark the fiftieth anniversary of the Corps that year.* —Editor.

succeeded the Convention, could only stay in office by the use of power, for in 1795 the people in the provinces were stirring.

Napoleon himself thought military dictatorship inevitable, either by himself or another, because the armed Communes of Paris, which had dominated all the assemblies, could only be controlled by force.[7] However, when given command, he took his army off to Egypt and there lost it to Admiral Nelson.

On his return from Italy in 1799 he found violence, defeat, disorder and financial ruin. Siyès, the most capable of the directory, wanted to call on General Joubert to restore order; but Joubert was killed. Bonaparte was on hand. He was made one of three consuls almost immediately but with so little help from himself that at the critical moment of seizure of power he fainted. Luckily his brother Lucien restrained the Assembly long enough for troops to be called in to expel the Assembly. This was Napoleon's "Rubicon." He said later that he seized the immediate opportunities that offered without preconceived plan. It would seem that in this case the opportunities were created for him by others and that ". . . he did not arrive to power through his own efforts . . ."[8] A recent French historian remarked, "It must be remembered, however, that the initiative did not come from him . . . He reached power because Thermidorian rottenness had collapsed at last."[9]

As First Consul, Napoleon ensured his own tenure. He was not religious and without qualm made church and papacy subservient to his whim. His civil code guaranteed property and organized the family as an anti-feudal but otherwise quite conservative group. His educational programme was designed to perpetuate complete subjection to the State. He translated the spirit and methods of military command into the execution of civil power, achieving eventually the maximum of efficiency and the minimum of liberty. Administrative centralization became absolute.[10]

But the machinery for accomplishing all this, and the lines along which these activities developed, were not his ideas. The National Assembly of 1789-1791 put forward the project to simplify and unify the laws, although this work came to fruition under Napoleon.[11] The Jacobins, the extreme radicals who ruled the Convention from 1793-1794, "sketched out the lines of reconstruction which Napoleon was later to make effective."[12] They made Bonaparte possible. Their Great Committee of the National Convention, in law, education, agri-

culture, commerce, and communications, anticipated and prepared for Napoleon.[13] Thus, although these civilian policies were fostered by Napoleon, they were not his creation.

As for military policy, expansion had been the theme of French foreign affairs since, at the close of the 100 years war for survival against England, an impoverished France had sought to restore its treasury in Italy.[14] There had been repeated Italian campaigns against the power of Austria and Spain. Richelieu, taking advantage of the turmoil of the 30 Years' War, tried to expand France's borders to what he considered were its natural frontiers—the Rhine, the Alps and the Pyrenees. Louis XIV made a frank bid for military glory. France, over the years, had thought more of war than of commerce. "From the moment that France . . . became the predominant state in Europe, she found herself borne on towards the role of Empire. . ."[15]

Expansion continued during the Revolution. During the period of the Limited Monarchy of Louis XVI (1791-1792) the Girondists, or moderate radicals, forced Louis XVI to declare war on Prussia and Austria despite the views of Marat and Robespierre who foresaw that it would lead to military dictatorship. The National Convention (1792-1795) fostered a series of great military victories. For the Directory (1795-1799) war was the one source of prestige and profit. It sought to expand even beyond Richelieu's so-called "natural frontiers", and to create satellite states. "It was not Napoleon who initiated megalomania. For fifteen years he tried to prop up the crazy fabric built by the Directory."[16] There was also the current feeling for revolution. The National Convention (1792-1795) proposed to propagate liberty and reform throughout Europe and in 1792 issued a decree to that effect.[17] The European monarchs reacted by preparing for armed intervention. Napoleon inherited this situation.

If war was not initiated by Napoleon, was it he who continued it for the 16 years to Waterloo? France considered the Rhine one of her natural frontiers, but the rest of Europe would only accept this by force. Therefore, when the Directory in 1795 decided to keep the left bank of the Rhine, the course of the next twenty years was established. ". . . it was not Napoleon who made war inevitable and permanent. He was the product, the symbol and the victim, of a situation created when he was still an obsure brigadier general."[18] This view is supported by others. The policy of aggression was powerfully carried out by Napoleon, but was the bequest of the Revolutionary Government. It was not his invention. "Even if Napoleon had been drowned at sea, France would probably have been able to preserve the Rhine frontier."[19] Nor were capable military leaders lacking. Moreau won a crushing victory over the Austrians at Hohenlinden in 1801, and Davout an equally impressive victory against a superior Prussian army at Auerstadt in 1806.

The French annexation of Belgium angered England. As a result Pitt drew together a vast coalition which encompassed at one time or another all the states which Napoleon marched against.[20] On his assumption of power Napoleon sent an offer of peace to George III. His subsequent actions indicate that his

intentions were anything but peaceful. "Nevertheless a small portion of posterity has discovered in these admirable epistles the soul of a peace lover; and in every generation Bonapartist writers have been found to argue that the most pacific of rulers was drawn into a long course of war and conquest by malignant antagonists and inexorable fate."[21] In reality the choice for peace or war was not his. He had been pushed to the summit; to stay there he had to fight; but to prevent the summit from being knocked out from under him he had to defeat England.

One historian has written, "The force of a single will set all Europe in movement . . . in a collision which involved the fortunes and enlisted the passions of the ten leading peoples of the Old World."[22] But his astonishing series of continental victories left England holding the initiative, and Napoleon reacting accordingly. Napoleon realized that he could not conquer England without naval superiority, at least in the channel. He was unable to attain such mastery. His subsequent actions were therefore those of a man who did not have the initiative.

To enforce his blockade against England he annexed still more territory. "The Tsar replied by a commercial edict, sharp and decisive, and war was determined. 'It is all a scene in the Opera,' wrote Napoleon, 'and the English are the scene shifters.' "[23]

Meanwhile the invasion of Portugal, again a movement in response to British sea power, drew him into the fatal web of Spain. ". . . Spain refused to give up her independence. She rose up . . . a disaster shook French prestige."[24] Napoleon wanted "a breather" but could not get it because the initiative was not his. Unintentionally he had created throughout Europe the nationalism which was to destroy him. Even at home he faced trouble, with a rebellion in Paris in 1812. In 1814 he was forced to abdicate. He was back in 1815. "But there was Europe. In vain Napoleon proclaimed that he wanted peace."[25] He lacked the power to create events.

> "Yet even if the Waterloo campaign had been won by Napoleon, he could not have averted the inevitable catastrophe. The total man power of the allied armies . . . was some 800,000 men, and behind them were the illimitable reserves of an indignant continent . . . The battle of Waterloo, then, is not one of the decisive battles of the world in the sense that had the issue been other than it was, history would have been greatly changed. Before a shot had been fired, Napoleon was a beaten man."[26]

The wars of the Napoleonic era would, then, seem to have been caused by factors additional to the personality of Napoleon. The historical expansionism of France created the military conquest up to her natural frontiers. Napoleon took the rest; but although he created tactical success on the field of battle, he did so in response to British strategical planning. " 'The Rhine, the Alps, the Pyrenees, these', said Tallyrand to the Tsar, 'are the conquests of the French nation. The rest is the conquest of Napoleon'."[27]

Nor was the club which Napoleon used on Europe his creation. The French army had been building up since the Comte de Saint-Germain, the Minister of War under Louis XVI, restored discipline, doubled the

number of effectives and gave France the best of artillery equipment. "These reforms made possible the victories of the Revolution and the Empire."[28] By the time Napoleon appeared the army, forged by the administrative genius of Carnot (who during the days of the Convention introduced the lévée en masse, the first attempt at conscription in a large state) and tempered by years of campaigning, was of incomparable quality. "The French army does not owe to Napoleon any military patents but victory."[29]

Napoleon's tactical victory was created by skillful use of his ready-made weapon; but it was a victory at a fearful cost—some 500,000 lives of French males of military age. To Napoleon life was cheap. To him an army was not royal capital to be horded but national income to be spent. Europe was not used to such liberality. The old monarchies, who had been thrifty in their use of mercenary troops, found themselves confronted by a power which was prepared to spend ten thousand lives a week.[30] There is the anecdote of Marshal Lannes, dying at Aspern, who cursed the cruel ambition which strewed Napoleon's brilliant route with the corpses of his friends; there is the story of the soldier collapsed on the battlefield who begged help from Napoleon only to be told, "How can I help you, you are part of the wreckage of war." Napoleon's victories may in part be attributed to this disregard for life. He could possibly have achieved it at less cost had he developed his armies; but ". . . he did practically nothing during twenty years of command to develop them further, and was astonishingly neglectful of fresh possibilities that might have doubled the effectiveness of his forces".[31]

Napoleon became a despot, but the choice was scarcely his. He was committed to war by factors beyond his control. His generals would not co-operate except under his personal command on the battlefield; at home only the peasants whose land he guaranteed truly supported him. Consequently he had to effect total subservience in France or lose his hold while away at war.[32] Moreover, a system of local government can hardly work without either an aristocracy or mutual confidence. As neither was present, Napoleon had no other course than to centralize.[33] Likewise, to hold the border marches he had to create a military aristocracy by giving fiefs to his generals.

In summary, his policy was expediency; and although he turned to advantage whatever events he could, the events were in the main beyond his control. Many policies he merely continued, such as naval weakness, continental expansion, and social reform. His magnificent army was a bequest from his predecessor. He created, unintentionally, the nationalism which destroyed him; but in the momentous events which took place in Europe from 1799-1815, Napoleon was more the pawn than the queen.

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Bold Imagination

The underlying principle that illuminates the principles of war should be bold imagination. No idea should be too fantastic or too unorthodox to be rejected without a fair hearing.—*Military Review (U.S.).*

Futilitarianism

A Plea for More Ideas and Less Conformity

"Anonymous" in the Australian Army Journal

One might have hoped that the spate of "isms" with which this century has been plagued, pre-natally and into its middle age, might by now have been abating. How disappointing it is, then, to find that timid administrations have launched the new cult of "Futilitarianism" as a philosophic justification for their theory and practice of "Inverse Darwinism", or the ascent of apes by unnatural selection.

Futilitarianism, of course, is a natural corollary of utilitarianism, so long advocated by the high priests of industry—what is not useful is not good. Believing that good can never become bad, the futilitarian goes on doing something which was once useful without questioning whether it is still good. In fact, since everything material changes, utility can become futility unless a questioning mind is constantly alert to detect the need for change.

Along with futilitarianism go the theories of the superiority of mediocrity, unsinkability of the unrocked boat, and the safety of the middle of the road.

The cry is for the team of mediocre men who work well together, rather than for one of brilliant men who don't. The theory overlooks that the role of the leader is to draw out the best from those capable of the best. Equally it overlooks the fact that teams are rarely evenly composed and that the ideas of the brilliant must inevitably be disturbing to the set ways of the mediocre. Successful leadership of mixed teams calls for great ability in harmonizing the effort of dissonant groups. Mediocre men quite willingly serve a master, but brilliant men demand a leader. Brilliant men, subjected to poor leadership, or subjected to a master, will rebel, quit, or take over the leadership themselves.

Avoidance of rocking the boat begets stagnation. It demands passivity or dilletante harmony on the part of the crew. The cox steers only for the quiet waters, and quails before rough adventurous seas. Eventually, as in the "Ancient Mariner", the team becomes "As idle as a painted ship upon a painted ocean."

Finally, sticking to the middle of the road can lead to entanglement with both streams of traffic, so that the only safe course then is to halt and hope for the best.

Futilitarianism connotes constant preoccupation with the present. It takes no note of the past nor heed of the future. It ignores the fact that men cannot live for the present, since the present is instantaneous—the future and the past alone have dimension.

A futiltarian is neither a good conservative nor a good radical. The former strives to preserve what is best from the past, and to plan realistically for the future. The radical is more at pains to clear away the bad of the past and to plan idealistically for the future.

THE TECHNIQUE

FROM AN ARTICLE ENTITLED *Conceptmanship* BY ROBERT B. KIMBLE IN *Army*, MAGAZINE OF THE ASSOCIATION OF THE UNITED STATES ARMY

What is the trade secret of these British renowns who revolutionized modern warfare even before the advent of the atomic bomb? What gimmick, lying deep in the dark recesses of their concept mill, enabled them to produce such startlingly pertinent ideas as the indirect approach, the compressed command chain, the pentagonal structure, the corps-less army, and so on?

Fuller looked at the tank and listed its attributes. It had armour. It had firepower. It had range. It was a personnel carrier. What else had these same attributes? The warship, of course! What could the art of naval warfare teach the ground commander about the employment of tanks? The airplane also possesses the same basic attributes as the tank. Were naval tactics useful for this weapon too? By the substitution of new weapons in the tactical context of the old, Fuller uncorked a new device for unshackling his mind from convention.

Now listen to Liddell Hart as he alludes to The Technique: "Since Guderian described himself as my 'disciple' in the field of tank warfare it may be of some historical interest to mention that the concept of this deep strategic penetration by armoured forces developed in my mind initially from study of the long-sustained drives carried out by Genghis Khan's all-mobile forces in the Mongol campaigns of the 13th century, while its application against modern mass armies dependent upon railways for supply was made clear in an analysis of Sherman's 'marches' and Forest's dislocating 'raids' in the 1864-5 campaigns of the American Civil War. The conclusions were strengthened in a study of the effects that

(Continued on page 88)

Futilitarianism

(Continued from preceding page)

A poor conservative saves too much and essays too little. A bad radical clears away everything, leaving nothing on which to build. A futilitarian, however, neither clears away nor builds, but forever works methodically around on a refuse dump of paper, producing endless plans, none of which is ever practical or even idealistic, none of which he believes can be put successfully into effect.

Futilitarians are afraid of thought. To them all thoughts are awful. Futilitarians abhor ideas, failing to understand that progress comes through the friction of ideas. Futilitarians are devoted to the present, which to them is always the best: "We have never been so well prepared in peace time as we are now", is a remark typical of a Futilitarian, who fails to ask himself the further question "How well are we prepared in relation to the likely threat?"

Thus the Futilitarian team, safe in its uniform mediocrity, rows in perfect unison its unrocking boat, embedded in the middle of a concrete road and encouraged with an illusion of movement from the passing traffic.

Flashback: No. 29

The North Shore Trip, April 1885

NARRATIVE SUPPLIED BY THE HISTORICAL SECTION,
ARMY HEADQUARTERS, OTTAWA

The illustration on the opposite page shows troops of The Governor General's Body Guard (now The Governor General's Horse Guards) crossing a bay of Lake Superior on the ice, during The North-West Campaign. Although the actual date was 11 April 1885, the weather was far from spring-like. Following a severe winter, the region was still covered with several feet of snow and the temperature was steadily below zero.

The construction of the Canadian Pacific Railway had been proceeding apace, but there were four gaps in the line from a point near the present station of Chapleau to Red Rock. Moving any troops through almost unbroken wilderness was extremely difficult, but cavalry presented a special problem. In order to unload horses a ramp had to be built of railway ties; blankets had to be spread over the improvised gangway because the wooden ties were slippery. Hind shoes had been removed to prevent injury by kicking in railway cars.

At the second gap in the railway line, commencing near Port Munroe, it was necessary to cross an inlet of Lake Superior to reach McKellar's Bay, from where a short piece of track led to Jackfish Bay. To avoid the tedious business of loading and unloading horses, the mounted men travelled the whole distance—some thirty miles—on the ice. Up to the point where the sleighs with the baggage and stores had left the column, the track was well marked, but from then on it was an uncharted sea of snow and ice. During spring rains a few inches of water had frozen over the solid ice forming a treacherous crust. Where this was windswept the horses could not keep their footing on the glare ice; where it was protected by snow they went crashing through.

This march was one of the most difficult experiences of the campaign and would have tried seasoned troops. Untrained citizen soldiers and officers, fresh from farms and desks, withstood terrible cold and discomfort with remarkable fortitude. The Commanding Officer, Lieut.-Colonel G. T. Denison, who is shown at the head of his troops in the accompanying illustration, probably did not exaggerate when he used the words, "A great deal has been said about the passage of the Alps in 1800 and there is no doubt it was a brilliant, strategical operation, but as far as hardships and difficulties and exposure to the men were concerned, I am satisfied that our trip was the worst."

Having reached their destination, these troops were subsequently employed on patrol duty and guarding supplies. They were not engaged in any action and the only casualties were due to sickness. The hardships endured on the trip to the scene of hostilities, however, proved beyond doubt that had they been required to fight they would have acquitted themselves with distinction.

Book Reviews

Third Volume of War History Now Available to Public

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

The third volume of the Official History of the Canadian Army in the Second World War has now been published.

The book, which follows the course of the Canadian Army's campaign in North-West Europe and the Army's post-surrender activities is entitled *The Victory Campaign*. The author, Colonel C. P. Stacey, OBE, CD, is the former Director of the Historical Section of the General Staff. It is issued under the authority of the Minister of National Defence and is published by the Queen's Printer.

Referring to the forthcoming volume, Colonel G. W. L. Nicholson, now Director of the Historical Section, said that it is to some extent a pioneer work. Neither the United Kingdom nor the United States has as yet published a detailed account of the complete operations of their armies in North-West Europe.

The book is directed primarily to the general reader, and particularly to the Canadian reader who wishes to know what the Canadian Army accomplished and why its operations took the course they did.

This publication is the third of three volumes on the Canadian Army in the Second World War. The first, written by Colonel Stacey is entitled *Six Years of War*. It covers the Army's organization, training and operations in Canada, Britain and the Pacific during the whole period of the war. The second, written by Colonel Nicholson, is entitled *The Canadians in Italy 1943-1945*. It covers the Army's operations during the whole period of the Italian Campaign. A fourth volume will deal with Canadian military policy.

This book is the product of exhaustive investigation in Canadian, Allied and enemy records. It describes in detail the Canadian Army's part in the campaign in North-West Europe from the landing in Normandy on 6 June 1944 to the German surrender on 8 May 1945. It rounds out the story of the campaign with an account of the Canadian Army Occupation Force and the repatriation of the Canadian Army.

The Victory Campaign is a cloth-bound volume containing pages with 65 maps of which 16 are in colour. It is illustrated with a frontispiece in full colour and 44 photographs in black and white. It is obtainable from the Queen's Printer, Ottawa, at $4.00 per copy postpaid.

The Queen's Printer has also announced that the complete set of three volumes may be purchased at a reduced price of $10.00 per set.

Purchase of Commissions

The right to purchase commissions and subsequent promotions in the British Army was rescinded by a Royal Warrant signed by Queen Victoria 19 July 1871 and effective 1 November 1871.

The Siege and the Battle

Reviewed by Major-General J. V. Allard, CBE, DSO, ED, CD,
Vice Chief of the General Staff, Army Headquarters, Ottawa

Regardless of their good intentions, if all historians had been impartial and had avoided presenting facts to justify or condemn the actions of others, for patriotic or other reasons, many prejudices and unnecessary controversies might have been avoided. This is certainly true of the histories of many lands and Canada's is no exception for not all accounts of our historical events have been written impartially.

On the Second Centenary of the historic battle that decided the fate of New France, no greater contribution could be made to a better understanding by all Canadians of the events that took place in the summer of 1759 than a proper military assessment of them.

In his recent book "Quebec 1759"*, Colonel C. P. Stacey, who last summer retired as the Canadian Army's historian, provides this assessment and few could give a more objective and accurate description of the siege and of the decisive battle of September 13th. Thanks to the author, the documents, diaries, eyewitness accounts and maps have at long last been examined in their proper perspective; no other appreciation of these events has been written in a more descriptive and lively fashion.

If a criticism may be made of the book, it is in the apparent overemphasis on poor generalship. Perhaps, by comparison with the military leaders of that period and those who have since left their names to posterity, the assessment of the two generals has some foundation. However, although Wolfe was weak and sickly, Montcalm impulsive and arrogant, history has made them great and so they will remain, regardless of the mistakes we think they made. Their actions and mistakes decided the future of a continent.

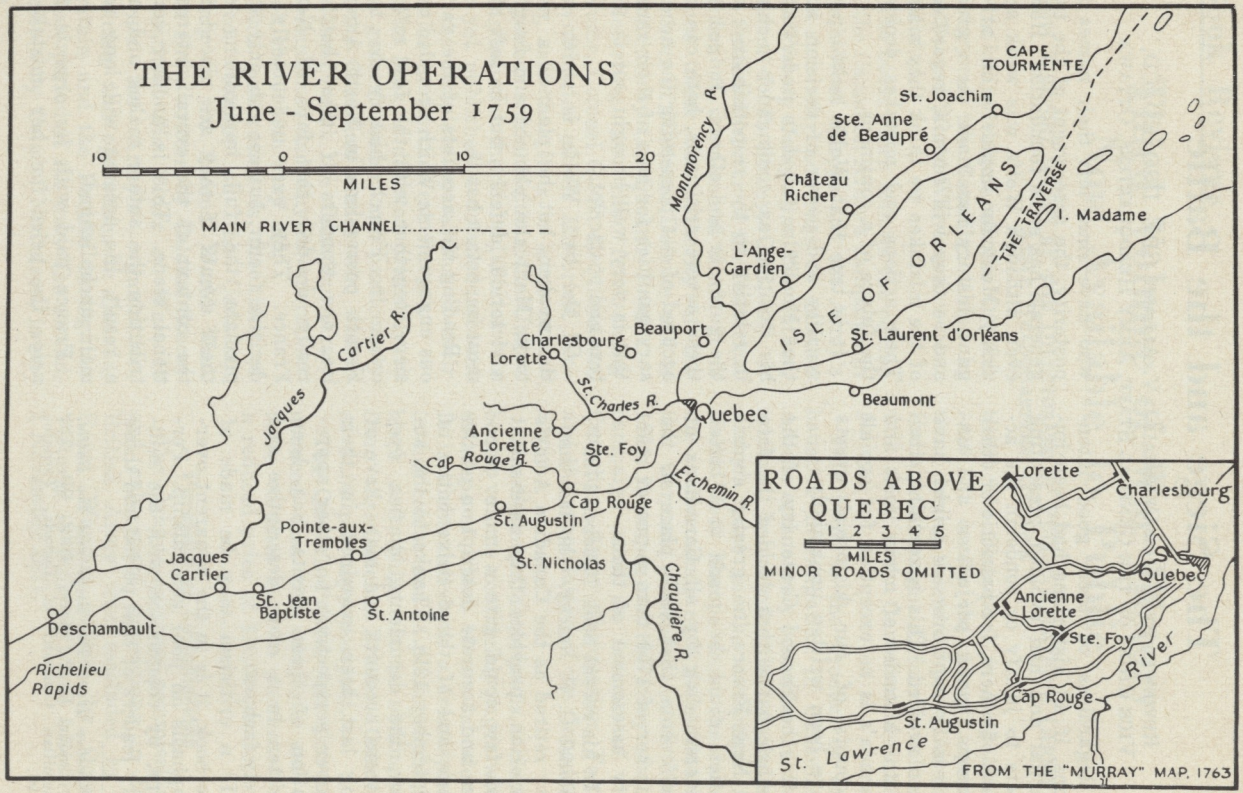
It is true that Wolfe lacked personality and power of decision and that Montcalm failed to understand his position as commander-in-chief in relation to the responsibilities of the governor and others. Judged by these severe criticisms, both can be accused of not possessing the necessary qualities for men of their rank; this is very well brought out in the text and postscript.

Of the two, Wolfe is shown as the weaker, but he planned a victory. Montcalm planned and fought a victorious defence, but he lost the most important battle.

Reading the accounts of the various engagements which preceded the siege, together with the few references in French history to the French possessions in North America, one wonders if these battles really decided the fate of New France. They were undoubtedly a decisive factor, but one can only appreciate the full implications of these events if they are placed in the context of the overall international scene. This is another contribution the author makes and, as a result, his account will long remain unchallenged.

France paid with *les arpents de neige* the price for her mistakes.

*Quebec 1759: The Siege and the Battle. By Colonel C. P. Stacey, OBE, CD. The Macmillan Company of Canada, Toronto. $5.00.


THE RIVER OPERATIONS
June - September 1759
10 0 10 20
MILES
MAIN RIVER CHANNEL
Montmorency R.
CAPE TOURMENTE
St. Joachim
Ste. Anne de Beaupré
Château Richer
THE TRAVERSE
I. Madame
ISLE OF ORLEANS
L'Ange-Gardien
St. Laurent d'Orléans
Beaumont
Beauport
Charlesbourg
Lorette
St. Charles R.
Quebec
Cartier R.
Jacques
Ancienne Lorette
Ste. Foy
Cap Rouge R.
Etchemin R.
Cap Rouge
St. Augustin
Pointe-aux-Trembles
Jacques Cartier
St. Nicholas
St. Jean Baptiste
St. Antoine
Deschambault
Richelieu Rapids
Chaudière R.
ROADS ABOVE QUEBEC
1 2 3 4 5
MILES
MINOR ROADS OMITTED
Lorette
Charlesbourg
Quebec
Ancienne Lorette
Ste. Foy
River
Cap Rouge
St. Augustin
St. Lawrence
FROM THE "MURRAY" MAP, 1763

England won the foundations of a greater empire through the mastery of the seas. Canada was lost by France more by her lack of interest in a colony she hardly knew, combined with poor logistic support and the disgraceful conduct of the civilian administration, than by the lack of devotion of her soldiers.

When visiting Quebec today, very few realize that its walls, citadel and the artillery pieces they contain, together with the Lévis forts, were not available to the defenders of 1759. Both Montcalm and Bougainville reported on the poor state of the fortifications, which were not a tribute to either Chaussegros de Léry, the engineer, or the civilian administration. They were poorly designed and of doubtful value.

In justice to Montcalm, it may be said that "the chain of command was peculiar. The civil governor was also commander-in-chief and not in name only". Why Vaudreuil refused Montcalm permission to go to Quebec "to inspect the defences" when word had been received that the British would be invading New France through the St. Lawrence is difficult to understand. Was it because he, Vaudreuil, considered himself a Canadian and had no particular use for French regulars or was it because of his personal dislike for Montcalm? Whatever the reason, he made no serious effort to bring his subordinate into his confidence when so much was at stake. It is therefore not surprising to find Montcalm, a devoted servant of France, frustrated and somewhat discouraged.

The author states (page 111) that Montcalm "had no *flair* for penetrating his enemy's intentions". In Montcalm's defence, it should be noted that Wolfe's own brigadiers had trouble determining his intentions. Further, we must not forget that, because of his limited resources, Montcalm was confronted with a very difficult problem. He had to choose between concentrating on the north shore from Montmorency Falls to Cap Rouge or splitting his force at the risk of losing his power to manoeuvre. He could have defended Quebec some distance away by holding the east end of the Island of Orléans, the Cap Tourmente sector on the north shore and the south shore to a point east of Beaumont. This course would have effectively blocked the only access to Quebec from the sea. Alternatively, he could have selected the Beauport shore (as he did), the Pointe de Lévis and the Citadel. Either of these courses might have been better from the point of view of protecting the city of Quebec from naval bombardment, but this would have left him weak everywhere. Here we must remember that he was also threatened by Amherst in the Montreal area where he had to leave General Lévis and a large number of regular troops. In the light of what happened, it is easy to say that Bougainville's forces would have been better employed on the Island of Orléans or on the south shore where they could have blocked British naval excursions up-river, but how long would they have lasted, off by themselves, under a land attack by the full weight of the British force?

Montcalm's ability to manoeuvre seems to have been his main concern. The various moves of Le Régiment de la Guyenne from l'Anse-au-Foulon to the St. Charles River, supposedly to place it in an advantageous reserve position, are a clear indication of his thoughts.

The main point of the critical reference to Montcalm's note to the British commander begging his "kindness for our sick and wounded" (page 156) has been missed. As opposed to the author, I read in that note the concern of a dying general who loved his profession and his men; in his state of mind and knowing that General Lévis was a long distance away, he fully appreciated the implications of the defeat and of his death which would leave his army leaderless. How can he, then, be accused of not making a clear military appreciation? However, it must be admitted that Montcalm had become less aggressive, frustrated by Vaudreuil, Bigot and company, and somewhat unstable.

While one can defend Montcalm as a general, Wolfe's case is totally different. He was a good and respected regimental officer, absolutely true to British military tradition, but an untried general (whose appointment was a bit of a gamble). This is well brought out. "Characteristically marching with them (his troops) across the Montmorency River after the fateful attack on the Beauport Heights" is perhaps as good an assessment of the man as can be made. Courageous and brave to the last moment of his life. But, did he really understand his duties as commander-in-chief? Would not his time have been better spent at directing his competent brigadiers? Yet, through moral torture, he made the perfect plan. What led him to the selection of l'Anse-au-Foulon as a landing place, no one knows! Why l'Anse-au-Foulon as opposed to the choice of his brigadiers, several miles upriver? Had he considered "surprise?" He obviously had when he planned a feint on the Beauport position while the main body of his troops was landing at l'Anse-au-Foulon. Had he also considered the time and space factor of landing at St. Augustin or further up, a course which would have given Montcalm time to move to the west from Beauport, join with Bougainville and select a position on ground of his own choice? Some of these questions will remain forever unanswered but the battle which Wolfe won will also remain as a classic in military history.

Certainly, Wolfe's operations on the Beauport shore and the Montmorency area were not the work of a military genius and it was here that he showed his greatest weakness—lack of leadership and failure to appreciate the information received from his brigadiers. Had he lost, he might have become a legendary example of failure but, since he won, the author's judgment of him seems unduly severe.

This book is an interesting story, the story of valiant men, and of a classic battle. We may read accounts of battles popularized by the personalities of the great captains like Napoleon, Frederick, Marlborough or Wellington, and draw inspiring lessons from them, but this lively account will provide officers and students of military history with a source of challenging thoughts which will assist them in their profession. This battle is full of surprises and a good example of how the fortunes of war can turn victories into defeats. This account, rich in lessons, should teach us that victories or defeats are often caused by unforeseen and unpredictable incidents. As reported in the text (page 120), why should the French logisticians have decided to send provision boats to Quebec that

The South African Campaign

Chamberlain's War

REVIEWED BY LIEUT.-COLONEL H. F. WOOD, CD, DEPUTY DIRECTOR OF THE HISTORICAL SECTION, ARMY HEADQUARTERS, OTTAWA

How much do you remember, from your reading and your lessons, of the South African War? If one may hazard a guess it would amount to this: that the Boers refused the vote to British citizens in their territories, that the Britain of the nineteenth century rose in wrath and sent out an Army to protect her rights, that the Boers fought bravely but were defeated by Lord Roberts, that the Royal Canadian Regiment won the battle of Paardeburg, that someone relieved Ladysmith and that the victors magnanimously gave South Africa independence, for which the Boers were grateful and chose General Smuts to be their Prime Minister.

This was about the sum of my knowledge before I read *Good-bye Dolly Gray**. Having read it, I can only state that I have been going about sadly misinformed about the affair. It was, in fact, a remarkable war. For one thing, it was the first major war fought by Britain alone, without allies, since Agincourt. To win it, she dispatched to South Africa the largest army ever to leave her shores. This army was almost as modern, insofar as equipment went, as the armies of the First World War. It was equipped with rifled cannon, shrapnel shells, machine-guns, barbed wire and mines. The telegraph and telephone were available for communication, the troops wore khaki, carried Lee Metford or Lee Enfield rifles and were all volunteers. The story of this army, its many failures and its few successes, is dramatic and illuminating. But *Good-bye Dolly Gray* is more than an account of the fighting. It encompasses the whole late Victorian period, with its screaming popular press, its jingoists, its high-flown oratory, its sugary sentimentality, and its awakening social conscience.

Britain drifted almost by accident into war with the two tiny Boer republics of the Orange Free State and the Transvaal. The immediate causes were the discovery of gold in the latter state, which prompted an influx of European adventurers, and

**Good-bye Dolly Gray: The Story of the Boer War.* By Rayne Kruger. British Book Service (Canada) Ltd., Kingswood House, 1068 Broadview Ave., Toronto 6, Ont. $7.00.

The Siege and the Battle

(Continued from preceding page)

night? Why that night of all nights?

All that remains to be said now is that the Battle of Quebec, one of the most momentous ever fought, ended in a treaty which began the no less momentous history of the French-Canadians. Looking back at the two hundred years that have passed between Murray and Vanier, all Canadians can take pride in the achievements of these great men and bless all those who through vision and courage have made Canada what it is today.

the abortive Jameson raid, which aroused deep Boer resentment. As John Brown's attack on Harper's Ferry had an effect out of all proportion to its size, so the ride of 500 hotheads under Doctor Leander Starr Jameson, who hoped to precipitate, in Johannesburg, a rebellion against the Boers, was an act which instead precipitated the war.

The Colonial Secretary of the time was Joseph Chamberlain, and whenever events in South Africa took a turn for the worse, which was frequently, the affair was called by the public "Chamberlain's war". Chamberlain's popularity rose and fell with every battle lost or won, for he was a key figure in the Government of the period. The key figure in "Boer" Africa, was dour, unbending old Paul Kruger, the head of the Transvaal republic.

In the beginning, the tactics of the Boer commandos worked so well that these burghers of the veld won a whole series of battles and humiliated the British forces sent against them. This precipitated in England one of those strange popular reactions that sweep over nations when pride is threatened. That the armies of "The greatest Empire the world has ever seen" could be defeated by a handful of farmers, seemed quite incredible. Britain's international reputation was in peril, and the whole country sprang to arms. The aristocracy rushed to raise regiments. We hear for the first time of Lord Lovat's Scouts, as well as Lord Lathom's Roughriders and Earl Dunravin's Sharpshooters. Even Canadians got into the act when Lord Strathcona, at his own expense, raised a regiment of horse. The author dryly observes, "The quaintness of a lot of barons setting out with their own little armies in service of the sovereign went unnoticed in all the emotion."

The emotion swept the whole Empire. In the colonies and dominions, whatever their religious beliefs, men gathered to pray for the success of British arms. In another wry aside the author notes that "The volume of supplication addressed heavenward by either side in the course of the war was only matched by its variety of denominational inspiration."

Canada contributed nearly one million pounds in money, and some 7000 men. The first contingent consisted, in the main, of the 2nd (special service) Battalion, Royal Canadian Regiment. The author does not deal with the Canadian infantry participation in any detail, beyond noting that "the Canadians" were in the van when the Boers surrendered at Paardeburg. The second and third Canadian contingents (not described by units in the book) included horse artillery, The Royal Canadian Dragoons, the Canadian Mounted Rifles and Lord Strathcona's Horse. Australia and New Zealand also sent large contingents. In all, the British Armies in South Africa at their peak numbered over 250,000 men. The Boers at no time had more than 60,000.

The South Africa War made and unmade many reputations. Many officers who were to go on to high rank in the First World War, here made their first appearance in history. Douglas Haig, John French, Ian Hamilton, Smith-Dorrien and Edmund Allenby fought in South Africa, as did Baden-Powell, and of course, Kitchener and Roberts. The general whose battle plans survive to this day as classic examples of how not to win, was fat, fumbling, kindly old Redvers Buller, who

wasted his men trying to spare them and broke every principle of war at heavy cost. The author provides one solution to the mystery of the difficulties British generals faced in South Africa. Half way through his description of the battle of Paardeburg he says of Kitchener, "He had never fought white men before." The British Generals' experience was limited to the Crimean war forty years before and the endless small campaigns against native tribesmen in Britain's African and Asian possessions. The war drew many observers from abroad whose names are still familiar. Dr. Conan Doyle was there, tending the sick and wounded in the military hospitals. Edgar Wallace wrote dispatches for the Harmsworth press, and young Winston Churchill, who could not afford a commission, was dashing off dramatic copy for the London papers. Ghandi, as yet no Mahatma, was present and even Rudyard Kipling appeared, to gather first-hand material for his patriotic verse.

Looking back at those times through the author's eyes, the last years of the nineteenth century seem full of oddities. We are told that on one occasion the members of both houses of Parliament collected beneath the windows of Buckingham Palace and serenaded the old Queen by singing the National Anthem. Lord Kitchener's father is disclosed as a man with a deep distrust of blankets, which he considered unhealthy and preferred "newspapers stitched together to give the exact degree of warmth required."

The South African War was the scene of one of the last great cavalry charges, as French, at the head of 8000 men, broke out of the bridgehead over the Modder River to start his drive for the relief of Kimberley. It was also the excuse for some of the worst painting, poetry and prose ever executed by Englishmen.

The sudden upsurge of patriotism, which the author sees fit to put in quotation marks when describing it, had intriguing manifestations. There was the case of the 14-year-old bugler who was wounded during the action which led to Buller's defeat at Colenso. He lost his bugle in the fighting but on his return to England the Queen formally presented him with a new one amid the gratification of the whole country. Nevertheless there were some who wondered what a child was doing on a battlefield.

In 1900, after much blood had been shed, the British public became bored with the war and, taking Lord Roberts' word for it, decided that it was over. After all, the Boer capitals had been taken, the railroads and towns were in British hands, and Paul Kruger had fled into exile.

Lord Roberts had scarcely returned home, however, to receive an earldom and £100,000, when the war broke out again. The British armies had not defeated the Boers, they had simply brushed them aside. When the burghers emerged again from the vastness of the veld, Kitchener was left to deal with them. He was still a long way from success when the old Queen died at last on 22 January 1901. The war had turned into a guerilla campaign in which hard riding elusive commandos dodged about the countryside, attacking isolated outposts and derailing trains, pursued by columns of British cavalry commanded by noble lords, and encumbered by miles of baggage wagons. *Good-bye Dolly Gray* is packed with incident

Fighting the Desert Fox

Reviewed by Lieut.-Colonel T. M. Hunter, CD,
Historical Section, Army Headquarters, Ottawa

The scene is the Western Desert—more specifically, the vicinity of Tobruk. The time is November 1941. The action (and there is plenty) is provided by the Eighth Army, under Lieut.-Generals Sir Alan Cunningham and N. M. Ritchie, successively, and the Italian-German forces under the nominal command of General Ettore Bastico—but actually directed by General of Panzertroops Erwin Rommel. The Battle of El Alamein is still a year ahead; but the atmosphere is already electric.

This is the setting chosen by the official historians of the Union of South Africa for the latest instalment of their detailed study of the war in the North African Desert.* In 1952 the same authors anticipated a later stage of the struggle with their *Crisis in the Desert, May-July 1942*. These contributions to the official records are valuable commentaries on one of the dynamic phases of the Second World War.

During the first three Libyan campaigns the pendulum swung back and forth along the Mediterranean coast. In the first two phases General Wavell destroyed Marshal Graziani's numerically superior army (although the Italian commander complained bitterly that he was forced to wage the war "of the flea against the elephant"); in the third campaign, while overtaxed Wavell dealt with the emergency in Greece, Rommel arrived in Africa with German reinforcements to drive back the British and invest Tobruk. For Wavell and his successors (General Sir Claude Auchinleck took over the Middle East Command in July 1941) this was the beginning of a long and arduous contest with the Desert Fox.

Yet, on 18 November 1941, the Eighth Army was confidently poised for another operation ("Crusader") which, Churchill hoped, would be as decisive as Blenheim or Waterloo. While Rommel sought to capture Tobruk, Cunningham planned to en-

**The Sidi Rezeg Battles 1941*. By J. A. I. Agar-Hamilton and L. C. F. Turner [Union of South Africa War Histories of South Africa]. Published in Cape Town 1957 and available from Oxford University Press, 480 University Ave., Toronto 2, Ont. $8.00.

Chamberlain's War

(Continued from preceding page)

and action surrounding this phase of the operation. The fantastic "drives" that Kitchener finally developed to trap the elusive Boer leaders, are described vividly. These drives, and the policy of unconditional surrender, left lasting scars on the Boer memory.

I have been told that the Defence Research Board recommended, some years ago, that officers in the nuclear age could do worse than study the Boer War. Apart from the problem of radio-active fallout, the situations are strikingly similar. Canadian Army officers can, to their advantage, ponder long on the military lessons of the Boer War. They will not find, in one book, a better text to guide them in such studies than this well written, well researched history.

velop the besieging force, using the 13th Corps to hold the enemy's attention in the east while the 30th Corps (including Major-General G. E. Brink's 1st South African Division) attacked from the south. The South African historians detect certain flaws in the preparations: they draw a parallel with the Dieppe Raid, pointing out that too many authorities were concerned in the planning, and conclude that "the chief weakness of the plan appears to be its failure to use the whole of the available British strength against the enemy". In their polite view "General Cunningham's dictum that, 'if the enemy split his forces we could split ours', is surprisingly unorthodox in its disregard of the principle of concentration".

On the credit side, the South African history maintains that "Crusader" took Rommel "completely by surprise". This conclusion appears to rest mainly on evidence in the Italian official history, *Seconda Offensiva*, supported by information in Desmond Young's biography of Rommel. It is, therefore, surprising that no weight is apparently given to the very different interpretation in Major-General F. W. von Mellenthin's *Panzer Battles 1939-1945*. Von Mellenthin was, at the time of the Sidi Rezeg Battles, Rommel's Chief Intelligence Officer and he claims that they were "very perturbed about the possibility of a British offensive, and Rommel took comprehensive measures to meet it". Von Mellenthin explains that, on his commander's instructions, he "deliberately minimized the possibilities of a British offensive" in conversations with the Italians in order to prevent the latter interfering with Rommel's plans for the capture of Tobruk.

We are in murky waters when we consider the deception practised on one ally by another. Also, we cannot discount the pertinent fact that von Mellenthin had an obvious reason for safeguarding his own, as well as Rommel's, professional reputation. Nevertheless, even if the German version is rationalization after the event, we may perhaps wonder why it is virtually ignored in a detailed study of the campaign. As events soon showed, the *Afrikakorps* was well disposed to counter-attack effectively, dislocate the "Crusader" plan and, indeed, place the Eighth Army in some jeopardy.

It is not easy to summarize the many phases of the rapidly-changing struggle at Sidi Rezeg. Topography offered few landmarks (the Battles take their name from an old tomb located on a rise some 20 miles south-east of Tobruk), communications were difficult, weather was uncertain and problems of supply were enormously complicated. Indeed, a good case could be made for the proposition that maintenance and supply held the key to all operations. At times the opposing commanders completely misinterpreted the situations on their fronts — yet, as often happens in war, mistakes frequently cancelled one another. In the confusion of successive *mêlées* commanders, including Rommel, sometimes found themselves, unrecognized, in their opponents' areas. Stories of these and other hairbreadth escapes soon formed part of the legend of desert warfare.

The Sidi Rezeg Battles offered an almost unique opportunity for the testing of rival theories about the employment of armour. The British enjoyed a great superiority in numbers — nearly 800 gun-armed tanks

by comparison with Rommel's 395, and the latter included 146 Italian M13s, which the Germans designated "self-propelled coffins". Other factors tended to restore the balance. The British tanks, Crusaders, Stuarts, Matildas and Valentines, were very vulnerable to German anti-tank weapons. (B. H. Liddell Hart, in *The Tanks*, also emphasizes the superiority of the new long-barrelled 50-mm. *Pak 38* used by the *Afrikakorps*.) Apart from equipment, the South African historians are very critical of what they term the "corpus of confused tactical doctrine" which governed the employment of British armour.

"...The catchword was 'mobility', which was confused only too often with mere speed, regardless of the intelligence with which the speed was directed. There were some who believed that a headlong 'charge' in the old Balaclava tradition was the effective manoeuvre for the mechanized successors of the cavalry, but apparently they had never heard of, still less reflected on, the role of the horse artillery in support of the massed cavalry thrusts of Frederick II and Napoleon."

At other times "mechanized chargers became ships manoeuvring in the old line of battle at sea, and tactics were devised to suit the analogy". These interesting conceptions did not work well against an enemy whose highly-trained formations invariably contained a judicious mixture of armour and artillery, including the formidable 88-mm.

Problems of command and leadership acquired special significance, on both sides, during the struggle at Sidi Rezeg. Apart from its strong British component, the Eighth Army included numerous troops from New Zealand, India, Australia and Poland as well as the South Africans. The present history gives many instances of the delicate adjustments required to meet administrative and tactical problems arising out of these relationships. On the other hand, the lack of harmony which characterized Italian-German co-operation is well known. One of the stock jokes of the *Afrikakorps* was: "Where is Gambara [commander of the 20th Italian Corps]?"

It is, however, the influence of leadership on operations which makes the Sidi Rezeg Battles so interesting and instructive. Even if he was initially surprised, Rommel reacted so swiftly to developments that he soon gained the initiative. By the evening of 23 November he had destroyed the 5th South African Brigade, scattered the 7th Armoured Division and was on the point of making a spectacular eastern drive to the rear of the Eighth Army. Although his appreciations were not always accurate, he drove himself and those under him with such energy and determination that he made up for other deficiencies with speed and violence. He also possessed what the Germans call *Fingerspitzengefühl*, a sixth sense or intuition, a particularly useful asset in the desert. Constantly regrouping and concentrating his forces, he appeared out of nowhere to bewilder his opponents.

On the other hand, after a shaky start, British leadership proved equal to Rommel's challenge. Disconcerted by the unexpected turn of events, General Cunningham proposed a suspension of the "Crusader" offensive. At this critical point, Auchinleck came forward from Cairo to intervene personally and decisively in favour of continu-

Wavell: "Adversity's General"

A REVIEW-ARTICLE BY MAJOR W. H. POPE, MC, CD (ROYAL 22e RÉGIMENT), CANADIAN ARMY SUPPLEMENTARY RESERVE, OTTAWA

This book's* obvious object is to praise Wavell. Yet a first reading leaves one with the impression that Churchill was right twice to relieve Wavell of command on the battlefield—indeed a strange impression to form when one recalls that Rommel regarded Wavell as a military genius and declared that Wavell's campaigns against the Italians would always be studied as a supreme example of bold planning and daring execution with small resources.

It is difficult to establish a man's place in history as a great general when every operation in his last two years and more of campaigning ends disastrously. Woollcombe does not succeed.

There can be no gainsaying Wavell's remarkable succession of victories against the Italians. Wavell was undoubtedly far superior to Graziani as a Commander-in-Chief. But Woollcombe goes much too far when he writes: "In comparison to Wavell, Rommel was not mentally significant." After all, in both battles against Rommel, the first defensive and the second offensive, Wavell was beaten.

Certainly the disastrous Greek campaign had left Wavell's desert flank weakened. But major responsibility for going to the aid of Greece must rest with Wavell. It is worthwhile recalling a short passage on the Greek campaign from de Guingand's "Operation Victory": "The

**The Campaigns of Wavell, 1939-1943.* By Robert Woollcombe. Published by Cassell, London, 1959. 21/-. (Available through the British Book Service (Canada) Ltd., 1068 Broadview Avenue, Toronto. $5.00.)

Fighting the Desert Fox

(Continued from preceding page)

ing the offensive. He then appointed his Deputy Chief of Staff, Major-General Neil Ritchie, to succeed Cunningham as commander of the Eighth Army. This was the turning point of the campaign. Under stiffened leadership the British forces fought back steadily and eventually compelled Rommel to abandon the siege of Tobruk and retreat to El Agheila. The Fox had been run to ground — yet, within a matter of weeks, he was to emerge in another foray, advancing over 350 miles in 17 days and driving the Eighth Army back to El Gazala!

The South African historians are to be congratulated on the high quality of their latest volume. Perhaps the outstanding feature of this work is the skilful manner in which they have not only woven the subordinate South African role into the main pattern of events, but have contrived to keep the reader informed at all times of developments on both sides of the Battles. Careful research has been supplemented by discerning perspective. Also it is not unpleasant to find a touch of humour and humanity in an official history — as, for example, the reference to the "bowler hat" tradition for discarded commanders as a "refined Anglo-Saxon substitute for the Gallic guillotine"!

D.M.I., Brigadier Shearer, did produce a paper drawing attention to the great dangers of this campaign in view of the German resources and methods. I remember this paper coming back from the C.-in-C., General Wavell. There was a short note written in his own hand across the top—it said: "'War is an option of difficulties.'—Wolfe. A.P.W."

"We admired the spirit but questioned—in so far as junior officers are allowed to question—the judgment!"

Moreover, Wavell himself wrote (and Woollcombe cites the passage with approving emphasis): "'The principle of engaging the enemy as closely and as far forward as possible must be maintained at all costs and will in the end bring victory!'" This is assuredly usually the best tactical rule; it is just as surely usually a disastrous strategic rule. Indeed, stated boldly, it seems to reveal a lack of any strategic sense. The rule implies that we always hurry to whatever battlefield the enemy chooses. The strategic initiative is then left to the enemy while we dance to his tune.

This the British did in the Western Desert until finally Montgomery arrived and insisted upon the absolute necessity of ensuring victory *before* attacking.

In the Far East Wavell was no more successful against the Japanese than he had been against Rommel. Wavell accepted battle in every forward and hopeless position until Alexander arrived to march the last British troops out of Rangoon. The Japanese advance continued until their navy literally ran out of steam.

In June 1941, Wavell launched his attack on Rommel. After describing all the British deficiencies in training and equipment, Woollcombe writes of Wavell: "He really launched 'Battleaxe' by sheer will-power." C'est magnifique, mais ce n'est pas la guerre. Woollcombe continues a little later with evident bitterness: "His removal from the Middle East was an act that only Churchill could accomplish, all in a day's work with apparently no opposition."

But was Wavell's transfer to India unjust? The only justification for generals is that they should win battles. After tremendous successes against the Italians, Wavell had lost four in a row against the Germans. And neither in the Middle East nor later in the Far East had he ever apparently sacked one of his own subordinate generals for inefficiency. It therefore became Churchill's duty to replace Wavell, regardless of his virtues, if only to encourage the others.

Even Woollcombe admits that after the failure of his attack on Rommel, Wavell was very tired. But Woollcombe continues: "He was very certainly not so exhausted that a reasonable leave could not have put him right . . ." This begs the question: Was it Churchill's object to win the war or to give Wavell a chance to vindicate himself? To quote de Guingand again: "Fresh minds were required, and in war both men and machines require periods of rest." Here de Guingand is writing about Auchinleck who had replaced Wavell and was now about to be replaced by Alexander. The point is that both Wavell and Auchinleck could well both have been great generals even though Churchill was entirely right to remove both in turn from command in the Middle East.

What then can be said of Wavell? He was, without doubt, highly audacious. He took calculated risks, although one may not be as inclined

as Woollcombe to credit Wavell with precise and accurate calculation. Woollcombe states "it was his sustained capacity for offensive action from a position of disadvantage which places him in the forefront of our military history." Is this really so? Bluntly, is it a mark of genius to keep bashing one's head against a stone wall?

Woollcombe states that Wavell's most dramatic asset was his "habit of alighting by aircraft wherever the day went hardest." Possibly, but when fighting either Germans or Japanese Wavell's appearances were never sufficiently dramatic to avert disaster.

Yet, Rommel wrote of Wavell's unsuccessful attack on him: "Wavell's strategic planning of this offensive had been excellent. What distinguished him from other British army commanders was his great and well-balanced strategic courage, which permitted him to concentrate his forces regardless of his opponent's possible moves."

Churchill himself, after Graziani's defeat, refers to Wavell's farseeing, wise and daring decision. Alanbrooke noted Wavell's sterling qualities and his strategic ability.

So, we end with the paradox that Woollcombe's book which consciously sets out to vindicate Wavell not only fails in its task but forces one to turn for reassurance to authors who had no such aim at all. In Woollcombe's book there is just too much melodrama: Wavell at the ramparts, and all that. Maybe that is the main trouble. Superlatives of praise become suspect in a chronicle of defeat.

The author fails to make a sufficiently detailed study of the resources available and the alternatives open to Wavell during his last two and a half years of campaigning when he truly earned, at least, the title of "Adversity's General". It is not enough to say that information was lacking, administration was faulty, training was inadequate, co-operation was bad, and defences were poorly prepared. The researcher must establish to what extent, if any, Wavell was responsible for these conditions during over two years of defeat. It must then be shown what, if anything, Wavell could have done about these conditions in the time available. Finally, it must be revealed what, in the light of these conditions, were the alternative courses open to Wavell and whether he always chose the best.

The definitive work on the campaigns of Field-Marshal Earl Wavell has yet to be written.

The Dominant Weapon

The submarine, no longer regarded as the weapon of the weaker powers, must be considered the dominant weapon in all strategy. Not only has it increased its negative potential as a sinker of merchantmen but it has also acquired the positive potential of direct participation in the land battle. Land-based missiles can have their sites preranged on, and these sites must, because of their disastrous lack of mobility, be suitable objects for nuclear retaliation. Hidden in the fastnesses of the ocean, perhaps even under the polar ice-cap, the submarines of tomorrow are individually capable of delivering more destruction than all the naval and air fleets of World War II combined.—*The late Capt. D. G. Dingle in "After Leyte—What?", The Irish Defence Journal.*

The Courtier Governor

Reviewed by J. Mackay Hitsman, Historical Section
Army Headquarters, Ottawa

Despite a polite disclaimer in his introduction, Professor Eccles has produced both a readable biography of Count Frontenac and quite a good history of New France during the final 30 years of the 17th Century.* Such a volume was badly needed, for the two reasons he gives: very little original research into this period during the 20th Century and continued acceptance at face value of the works of Francis Parkman.

Undoubtedly that gentleman-amateur from Boston produced the most readable history of New France that is ever likely to be written, and this reviewer treasures the battered set of volumes he managed to pick up for next to nothing in an old bookshop. But it will soon be 100 years since they were written and they have long been out of print. Parkman was a hero-worshipper and Frontenac was only one of several colourful figures to whom he may have given undeserved stature. Professor Eccles is a product of a more inquisitive age, however, and wartime service in the R.C.A.F. probably sharpened his critical faculties against men in uniform.

Very little evidence is available concerning the first 50 years of Frontenac's life, so the author has had to pass quickly over the years which saw Louis de Buade, Comte de Frontenac et de Palluau, develop into an accomplished courtier. Professor Eccles does deduce, however, that Frontenac must have early become a "smooth operator" to fend off his creditors for so many years and yet continue to live in grand style. A very facile pen also seems to have been a great advantage and no one seems to have been able to get the better of him on paper. The author's theme is that Frontenac's cleverly written dispatches misled Louis and his ministers just as they did historians like Parkman. Looking elsewhere for his evidence, Eccles manages to prove beyond the shadow of a doubt that the "Great Onontio" had feet of clay. With considerably less substantiation, however, he suggests that a good deal more of Frontenac consisted of clay and that there was little justification for the late C. W. Colby to title a volume *The Fighting Governor.*

Naturally this is not the final word on Frontenac, and Professor Eccles would be the last to suggest that it was. Some day another scholar will look at the evidence and produce something different. While accepting the Eccles' thesis as being far more credible than that of Parkman, this reviewer has had occasional qualms. Particularly when dealing with Frontenac's first administration (1672-1682), the author seems occasionally to be striving to besmirch a reputation by suppositions.

Canadians should, however, be prepared to accept the following: Frontenac's Indian policy was a failure; he was far more interested in personal profits from the fur trade than in protecting the colony

**Frontenac: The Courtier Governor.* By W. J. Eccles. McClelland and Stewart Limited, 25 Hollinger Road, Toronto 16, Ontario. 1959. $6.50.

and ensuring the well-being of its inhabitants; his dispatches were cleverley intended to turn his own shortcomings against any who opposed him (that is, practically everyone except his own minions); his policy was based on sheer expediency with no long-term ends in mind.

On the other hand, of altruistic males, there seems to have been precious few in New France. More than one of the Intendants with whom Frontenac disagreed was just as interested in making easy profits from the fur trade—only their ventures were not nearly so successful as those of the Governor. A number of merchants in Montreal, such as the well known Charles Le Moyne, were (primarily) commercial enemies because they resented La Salle and Tonty of the Iron Hand being allotted private fur trade preserves at Fort Frontenac and in the Illinois country. The members of the Sovereign Council must have been a browbeaten lot, accepting the Governor's tirades of abuse in order to keep their posts; and only after Frontenac had plainly overplayed his hand did they attempt to take a firm stand and refer issues to what they must have considered would be a sympathetic hearing in France.

Government based on an authoritarian structure did, of course, have advantages. The military organization headed by an able Governor, with a clever Intendant to solve "A and Q" problems, enjoyed an immense advantage over the more populous but disorganized American Colonies to the south. Possibly too much emphasis has been given to this fact. Unfortunately the other ranks of the *Troupes de la Marine* (colonial regulars sent out from France) proved to be a poor lot—lacking training, discipline and the physical stamina required for campaigning in the forest. Due to a shortage of both skilled and unskilled labour, many of them seem to have been more or less permanently engaged and paid by civilian employers, in return for which the *officers* pocketed their (smaller) army pay. This reached an absurdity when militiamen were drafted for service on expeditions while many of the troops remained at their civilian tasks. On the other hand, the officers of the *Troupes de la Marine*, including a number of sons of Canadian seigneurs, performed valiant service under the most exacting conditions and suffered heavy casualties. These were the men who led *la petite guerre* of raids and skirmishes against the frontiers of New England and New York.

Campaigns waged on the European model against the Iroquois could not succeed. Until a later date when the quality and training of the colonial regulars had improved tremendously, anything like the operation which resulted in the defeat of Braddock's expedition could not have succeeded. The *habitant* militiamen could show up the regulars physically, but their lack of military skill was to relegate them chiefly to duty as boatmen and pioneers.

Although there must be regret that Professor Eccles has demolished the myth of "Frontenac the Fighting Governor", and perhaps established that the load was borne by capable subordinates, his volume makes interesting reading. It is to be hoped that someone will soon turn the spotlight on others of the colourful figures of New France.

The Story of an Old Soldier

Reviewed by Major D. J. Goodspeed,
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By the sumer of 1792 the French Revolution had already been in progress for three years. Europe watched apprehensively, waiting for the initial excesses to diminish, and was alarmed as they grew wilder every month. That autumn the "red fool-fury of the Seine" was to result in the September Massacres and in the Terror. Later, as judicial murders increased, the king and queen were sent to the guillotine, a common Parisian prostitute was crowned "Goddess of Reason" in Notre Dame, and France found herself at war with all the rest of Europe.

But in June 1792 England was still at peace. British subjects still lived unmolested in Paris and frequented the fashionable resorts of the Riviera, now somewhat crowded with aristocratic refugees from the North. That summer too, Thomas Graham, the laird of Balgowan in Perthshire, was cruising off Nice in a rented yacht, hoping against hope that the mild Mediterranean weather would help his beautiful consumptive wife. Unfortunately, the disease was too far advanced and in spite of all that could be done for her Mrs. Graham grew daily weaker until on the evening of 26 June she died. Sadly her husband put in at the little port of Hyères, arranged for a coffin to be built, and made arrangements for taking the body back to England. As Graham's little party travelled on the canal from Montpellier to Bordeaux by barge, they were stopped at Toulouse by a group of drunken National Guardsmen and Volunteers who insisted on conducting a violent search of their possessions. In spite of Graham's horrified protests, the soldiers roughly broke into the coffin, smashing the woodwork and tearing open the lead lining.

This outrage proved to be a costly one for France. At the time of his wife's death Thomas Graham was already 44 and he had never soldiered before, but from the moment of vandalism in Toulouse he became the implacable foe of the Revolution. A new biography by Antony Brett-James,* which traces Graham's career in great detail, will be of interest to every student of the British Army during the period of the Napoleonic Wars. Not unnaturally, Mr. Brett-James' book is largely taken up with the events between 1792 and 1815, and although it does not add anything to our knowledge of the strategy or tactics of the time, it presents a fascinating picture of an epoch which already sometimes seems as remote and unreal as the heroic age in Greece or the courts of Arthur or Charlemagne.

Indeed it would be difficult to find a better antidote to the romanticists of the Napoleonic period than a book like this on such a subject. Graham —one says it almost regretfully— was as plain as porridge and as sensible as any man alive. Like Chesterton's ideal hero, he is the ordinary man who walks sanely through the wildest adventures. Chesterton, you will remember, claimed that this was the essence of

**General Graham 1748-1844.* By Antony Brett-James. Macmillan & Co. Ltd. of Canada, 1959. 368 pp. $7.00.

romance—that it was this very matter-of-factness in the central character which gave plausibility to the strangest tale, that a story in which Jack-and-the-Beanstalk was as big as the Giant would be merely pretentious drivel.

Alas, it has not turned out quite like that with this biography. Mr. Brett-James, by a studious preoccupation with the social background, the correspondence, and the trivia of his hero's life, has told a story where the most incredible exploits—the terrible winter retreat with Sir John Moore from Sahagun across the mountains to Corunna, or the desperate charge at Barrosa—appear not much more out of the ordinary than an afternoon's fox-hunting or an evening at Almanacs. Graham emerges as a kindly, sensible, considerate, thorough man doing his adequate best in the midst of rather strange goings-on. Yet this was the man who, together with General Hill, was uniquely in Wellington's confidence throughout the Peninsular War.

After his return to England in 1792, Thomas Graham raised a regiment of foot at his own expense—the 90th—and for the next 23 years fought continually against the French. Graham was with Lord Mulgrave at Toulon and distinguished himself in that unfortunate affair, although not as much, perhaps, as young Major Bonaparte who set up his batteries so that they could rake Lord Hood's British men-o'-war anchored in the roadstead. Graham commanded the Allied troops in Sicily, and in the summer of 1808 went with Sir John Moore on his ill-fated expedition to Sweden. That December found both men in Spain where Graham, as Moore's aide-de-camp, shared the retreat to Corunna. He was present when the British commander died, and the next summer he was in the wet and fever-ridden swamps of Walcheren. In 1810 Graham was entrusted with the defence of Cadiz, and in March 1811, after 17 years of fighting, he saw his first victory at Barrosa. But then, this was also the first time he had held an independent command in battle. After Barrosa, Graham fought under Lord Wellington in the Peninsula, and was present at Ciudad Rodrigo, Vitoria, the Pyrenees battles, and the siege of San Sebastian. Invalided home with eye trouble, he nevertheless fought once more — unsuccessfully, as it happened — at Bergen-op-Zoom.

After the downfall of Napoleon, Graham was created Lord Lynedoch, retired from the Army, and—in the face of much opposition — founded the United Service Club. He outlived practically all his contemporaries and many of his juniors to die in 1844 at the age of 95.

Mr. Brett-James has told the story of Graham's life fully, and no one can quarrel with the thoroughness of his research. The excerpts from letters and diaries which the author gives us do undoubtedly bring out the flavour of the time as nothing else could. Yet that flavour, unmistakably authentic as it is, is nevertheless the flavour of life in upper-class civilian England rather than that of life in the improvised tents of the Army encamped above the passes of the Pyrenees or waiting out a winter in flea-ridden Portuguese billets. And because this is so, we are left with the feeling that something important to an understanding of Graham's life has been overlooked. So martial a man surely requires a more military biography.

Strategic Strait Jacket

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

For those who remember how close the West came to being shoved into the sea in Korea because nuclear weapons were not used and sufficient conventional weapons were not at first available, Colonel Miksche's latest book* will seem to be a statement of the obvious. But what is obvious to the professional is seldom obvious to the layman and if Colonel Miksche's arguments can help prevent future Koreas, or Munichs, then this book is a welcome addition to the "what-is-wrong-with-us" series.

The book starts with an analysis of coming events and emphasizes the role that will be played by the awakening peoples of Asia and Africa. Europe can be outflanked. Atomic weapons offer no protection against ideas. Chapter Two deals with recent past history: NATO, Lisbon, overseas wars, Suez. Miksche compares East and West defence systems and concludes that the West has been psychologically disarmed and has already lost the arms race. The third chapter discusses the inflexibility of a system that is too one-sidedly atomic, and the danger of being placed on the horns of a total-war-or-appeasement dilemma by an enemy whose nuclear and conventional arms can be used to produce any degree of political pressure. The atomically one-sided ally is considered dangerous and unreliable. Chapter Four deals with the impossibility of defence against high-speed air attack and questions the wisdom of using a weapon against which one is oneself defenceless. Chapter Five stresses the need for a balance between quantity and quality: it is no use having helicopter units if the ammunition dumps are empty. The final chapter discusses Army reorganization. Miksche considers that the division is uneconomic, cumbersome and vulnerable in nuclear war and believes that the army itself should be the basic operational unit within which there should be small, economic and flexible units that can be combined in various ways to meet any given situation. The last pages of the book are a summing up, ending with the words "Rien n'est si dangereux qu'un ignorant ami; mieux vaudrait un sage ennemi."

Although the main theme of this book appears sound and is reasonably well put forward in the subsidiary themes developed in the chapters, yet the arguments advanced at the sentence level are often disappointing. A number of repetitions, contradictions and vague statements and opinions often mar an otherwise convincing book.

A second fault is symbolized by the closing words quoted above. There is a marked tendency to treat the enemy as wise, powerful and all-seeing, while our strongest ally is often portrayed as a child playing with toys in a way that may destroy the world. This seems to reflect the author's personal feelings more than it does the facts.

A final criticism is one that applies to nearly all the "what-is-

*_The Failure of Atomic Strategy_. By F. O. Miksche. British Book Service (Canada) Ltd., Kingswood House, 1068 Broadview Ave., Toronto 6, Ont. $5.75.

War For Survival?

REVIEWED BY CAPTAIN W. S. WILSON, CD, QUEEN'S OWN RIFLES OF CANADA*

A third World War will be fought not for victory but for survival. According to Professor Kieffer,† we in the Democracies must recognize the inevitability of this conflict, take stock of our position, and decide upon what course of action we will take. For this war represents the "last great fight" in which one way of life, Communism or Democracy, must die. Professor Kieffer is convinced, and attempts to convince the reader, that the Democracies by inaction and lack of cohesion are allowing the only chance of winning this war of survival to slip through their fingers.

An eminent geopolitician and political scientist, he cites fundamental Communist dogma, the speeches of leading Communists and the post-Second World War actions of the USSR to prove that there is no other course but war and that only the side which has the best strategy will survive. He defines strategy as being based on five factors: moral, physical, mathematical, geographical and statistical. He sums up the relative positions of the USSR and the free world and describes the probable strategy of the Communists in the five major areas of conflict: the United States, Europe, the Middle East, South-East Asia and the Far East. He then proceeds to sketch a suggested strategy for survival to be followed by the free world under American leadership in each of these sectors. He emphasizes the importance of the post-war period because of the history of failures and lack of planning by the Democracies for the periods after the First and Second World Wars. He concludes by describing the nuclear weapons as only a newer, more destructive part of the world's arsenals and states that the "ultimate weapon" is not the A-bomb but men's minds.

This is a rather frightening book which is written in serious-minded and hard-hitting prose. The author makes no attempt to hide his alarm

*The reviewer is a student at the Canadian Army Staff College, Kingston, Ont.—Editor.

†*Strategy for Survival.* By John E. Kieffer. David McKay Company, Inc., New York, N.Y. 1953. 298 pp. $4.00.

Strategic Strait Jacket

(Continued from preceding page)

wrong-with-us" series of books and it is that they really solve nothing for very long. If the West is indeed out of control on the downward road, then Colonel Miksche's book only provides one more formula for applying the brake at the expense of the brake lining, but suggests no real way for stopping the car. Throwing away energy at the wrong level of understanding is like taking dope, it gives temporary relief but the health of the addict continues to deteriorate.

But Colonel Miksche is a well-read author and he has presented many useful facts and put forward many provocative ideas. Whether right or wrong, he makes the reader think, and in an age when it is the fashion to reduce everything to intellectual pablum, Miksche's mixture is refreshing and this not least because Miksche himself is undoubtedly sincere.

at the precarious position of the free world and the imminence of the danger with which it is faced. This book is not designed for light reading and may therefore alienate readers who are inclined to be content with the *status quo* and to avoid the realities of world politics. However, the author's clarity of style and avoidance of unnecessary technical language make the book easy to read and understand.

Professor Kieffer freely admits that his book may be "grim, controversial, terrifying, brutal and callous"; it is all of these but, as he maintains, the business of survival is a subject which cannot be "brushed aside, laughed at, or eliminated by the substitution of fairy tales, fine oratory, or wishful thinking". Published more than six years ago when international tensions were perhaps greater, his arguments and the evidence he presents are no less valid to-day. In fact, many of the actions which he predicted in 1953 have been borne out by history in the past few years. Fortunately, his direst prediction of the "shooting war" for survival has not yet been fulfilled.

Designed to frighten the people of the free world into concerted action, his language is inclined at times to be melodramatic and sensational in a manner more typical of a newspaper article than a considered thesis. Thus, phrases such as "we thirst for peace as plants in an arid soil thirst for moisture" is perhaps too lyrical and incongruous in this setting. Also, "Communism . . . is a religion of evil dedicated to a materialistic God, spread by violence, deceit and treachery through the evangelistic doctrine of 'Believe or perish'" smacks more of the rostrum. In some parts of the book, notably the chapters on the position of Russia and the position of the Democracies, he tends to digress and editorialize, allowing an "I-told-you-so" attitude to creep in, but generally speaking, he keeps well to his theme.

Professor Kieffer does not try to introduce new material other than a definition of strategy which differs somewhat from the classic definition. The reader who is a student of military history and current affairs will recognize many theories and plans which have been expounded by other writers. However, this does not detract from the value and interest of the book. The main value for the military student lies in the clarity of the exposition and the careful and detailed analysis of the world situation. Professor Kieffer's suggested strategy is straightforward, simple and workable, deriving from an appraisal which reads much like a military appreciation. The tragedy of this book is that it has failed in its purpose since the Democracies are not one whit nearer a clear-cut strategy for survival than in 1953.

Shades of the American Civil War

95 Years Ago: We are pleased to learn that Col. Guy V. Henry, who recently very honourably declined a brevet brigadier-generalcy because by some error it was conferred on him for gallant conduct in an action at which he was not present, has since received a new appointment to the same brevet rank for gallant and meritorious services during the present campaign before Richmond.

—*From the files of the Army-Navy-Air Force Journal (U.S.).*

A Treatise On Shooting Science

Reviewed by Mr. Peter Savic, National Research Council, Ottawa

As the author states in the preface, this treatise* on "shooting science" does not pretend to be either an introduction to or didactic text on ballistics. It addresses itself rather obviously to the military man who, not satisfied with the terse matter-of-fact statements contained in Army phamphlets, wishes to probe deeper into the technology of firearms. The weapons in question are strictly conventional; one is seized with nostalgia for the happy days of pre-atomic innocence. Nevertheless, the author devotes a considerable number of pages to the ballistics of rockets. The treatment does not presume to be rigorous: calculus and differential equations are deliberately avoided. All mathematical deductions are carried out with the simple equipment of high-school algebra.

In its 500-odd pages the book manages to pack a surprising wealth of information. Such diverse topics as the chemistry of explosives, internal and external ballistics, perturbation of trajectories, structural and biological damage of projectiles, fire patterns, anti-aircraft methods, etc., are included and many of them discussed in great detail. For those wishing to pursue their studies into greater detail, a generous list of references is included.

The book is written in lucid style and a wealth of excellent diagrams aids the reader's understanding of the subject. Inevitably in a book of such scope there are a number of omissions. In this day of orbits and missiles, one would rightly demand some reference to Coriolis forces, even though they play a minor part in conventional weapons. However, this does not detract from the usefulness of this work.

**Schiesslehre.* By Walter Stutz (written in German.) Published by Birkhauser Verlag, Stuttgart (Germany) and Basel (Switzerland.) 1959. 28.50 francs.

Nuclear-Powered Airship

A nuclear-powered, missile-launching, non-rigid airship, about three times larger than the largest airships now in use, has been proposed. The big "blimp" would have an envelope with a capacity of 4.5 million cubic feet of gas and be 540 feet long. The 86-foot control cabin of the big airship would provide accommodation for 24 officers and men.

The nuclear power-plant of the aircraft would drive turbo-prop engines giving it a speed of approximately 80 knots, and the engines also would be capable of operating on chemical fuels during landing and take-off to reduce the danger of contamination.

The length of the airship would permit the nuclear reactor to be placed so far behind the control car that radiation danger to the crew would be minimized. No official announcement on the acceptability of the proposal has been made.—*News item in the August 1959 issue of the Military Review (U.S.).*

Ranging Salvoes

Reviewed by Lieut-Colonel T. M. Hunter, CD,
Historical Section, Army Headquarters, Ottawa

On 25 August 1939—sixteen days before Canada declared war — N.P.A.M. units of the Royal Canadian Artillery were called out on a voluntary basis to man defences on both the Atlantic and Pacific coasts. The fact that those defences, far from complete, were even partially organized to meet the approaching peril of a global war was largely due to a British officer, Major B.D.C. Treatt, R.A., whose expert opinion had been enlisted, three years before, by the Canadian authorities.

Behind Major Treatt and the tactical doctrine of the famous Coast Artillery School at Shoeburyness was a long tradition of four centuries' accumulated experience. It is, therefore, interesting to note that a commendable history of the Coast Artillery in the British Army has recently appeared, written by Colonel K. W. Maurice-Jones.*

The author tells us that he was asked "to produce a book of not more than 300 pages, taking no longer than six months over the writing of it." Those with first-hand experience in the labyrinth of historical research will have a keen appreciation of the degree of success he has attained. While open to criticism on matters of detail, this slender volume is nevertheless clearly based on careful study (including close scrutiny of papers in the Public Record Office, London) and is both informative and easy to read. In these days of inflated prices the book is also very good value for the money.

The origins of British Coast Artillery are found in the tempestuous reign of Henry VIII, whose sharp eye sometimes deserted the opposite sex to the great advantage of national defence. As an example of his persistent influence, we note that as late as the Second World War a maintenance battery was still stationed in Southsea Castle, Portsmouth, where the Tudor erected a coast-fort in the middle of the 16th century. In 26 short chapters, the present history brings us forward from the days of the old smooth-bore muzzle-loaders and the "Gunner's quadrant" to the huge 15-inch batteries at Singapore and Dover and the radar equipment of the Second World War. The narrative concludes with the British Government's decision to discontinue the Coast Artillery, at the end of 1956, because of the rapid development of other weapons.

Throughout this long period British coast defences were alternately scenes of utter neglect and feverish activity — depending upon the gravity of international developments. For many, many years at numerous batteries the gunners' duties consisted of unwavering watch for an enemy who never came; but the historian leaves little doubt in our mind that the mere existence of such fortifications was a sufficient deterrent to potential aggressors. Moreover, and this was the real significance of coast defence, the batteries protected the

*_The History of Coast Artillery in the British Army._ By Colonel K. W. Maurice-Jones. Published by Royal Artillery Institution, London, 1959. $3.75.

docks and other installations of the Royal Navy during its period of supremacy. Lacking such protection, the Navy could never have operated safely from widely-dispersed bases in the Seven Seas. Considering the issues at stake, we must conclude that, on the whole, the Coast Artillery provided a relatively cheap and reliable form of insurance against attack.

The last century of the Coast Artillery's existence was the most significant phase of its history. The coming of steam-driven and armoured warships, rifled guns and improved ammunition brought great problems.

> To deal with these fast potent opponents, fresh methods had to be brought into use, novel instruments designed, new and more powerful guns mounted, and much stronger fortifications constructed, with the result that Coast Artillery became the leaders in accurate and effective shooting and the pioneers in scientific gunnery.

This fascinating development reached its apex, between the two World Wars, in the tremendous effort at Singapore. In 1939 the armament of this huge fortress included five 15-inch, six 9.2-inch and eighteen 6-inch guns. (By comparison, Halifax was defended by three 9.2-inch and four 6-inch guns.) Ironically, as is well known, the planners left the back door ajar—and Singapore fell to a landward assault.

Maurice-Jones does not overlook the early history of British fortifications in North America, including brief treatment of defences in Newfoundland and Nova Scotia, at Quebec and on the Great Lakes. However, Canadian gunners' interest in the volume will probably be focussed on two episodes, both occurring in the Second World War, when Canadian troops co-operated closely with the Coast Artillery.

At the siege of Hong Kong (1941) a Canadian force, including The Royal Rifles of Canada and The Winnipeg Grenadiers, formed part of the garrison. The Coast Artillery, manned by the 8th and 12th Coast Regiments, R.A., included eight 9.2-inch and fourteen (another source states fifteen) 6-inch guns. The account of the siege given by Maurice-Jones adds little to the published record of these melancholy events (see Chapter XIV of the Canadian Official History, *Six Years of War*); but his remarks do emhasize the disadvantages under which here, as at Singapore, the gunners laboured. Thus, only 25 rounds per gun of land service ammunition was held in the magazines and much of this was useless because of age. Very early in the struggle the 9.2-inch batteries "were reduced to firing armour-piercing shell with non-delay fuzes." Nevertheless, the garrison fought on until further resistance became hopeless.

A happier illustration of co-operation occurred some three years later in another theatre. As First Canadian Army swept up the Channel Coast, following the Allied victory in Normandy, the Coast Artillery at Dover assisted the 2nd Canadian Corps in dealing with German cross-Channel batteries in the Calais-Cape Gris Nez area. During our operations against Boulogne, two 15-inch and two 14-inch guns (the latter manned by Royal Marines) at Dover brought down effective fire on their German opponents—in at least one instance at a range in excess of 23 miles. A Canadian Air Observation Post observed the fall of shot for the

British gunners.

The Royal Artillery Institution and its historian are to be congratulated on this timely addition to the records of the Royal Regiment of Artillery. The book contains seventeen maps although, as the author concedes in his preface, last-minute changes have resulted in the omission of some place-names from appropriate maps. Probably the speed with which the history was compiled is also responsible for the unusually large number of typographical errors in the text. Also, curiously enough, the printed errata, at the end of the volume, *deletes* The Winnipeg Grenadiers from the Hong Kong order of battle given in the text.

In spite of these blemishes the history should arouse the interest of both service and civilian readers. It will, however, be most keenly appreciated by those who made their own contribution, however small, to the long story of coast defence. As they read these pages they may recall long, monotonous hours of duty in every kind of weather, practice alarms in the middle of the night, the business of checking tide levers and ammunition, the ritual of the meteor correction and the "false datum" and the painstaking examination of gun layers and range-takers. This steady routine and unwavering vigilance created its own fine discipline, its own *camaraderie* and *esprit de corps*. Historically, the fact that the coast artilleryman was seldom called upon to fire in anger was possibly the best tribute to the efficiency of his arms.

The Technique

(Continued from page 61)

could have been produced by such forces in 1914 if they had then existed. As for the method, this was simply a strategic adaptation for armoured forces of the tactical 'expanding torrent' attack which I had worked out earlier, at the end of the 1914-18 war".

Elsewhere Liddell Hart has written that he has "become convinced in my own experience of the value of the historical approach to current problems. In trying to solve such problems, or make forecasts, it has repeatedly proved helpful to get a projection from the past through the present to the future."

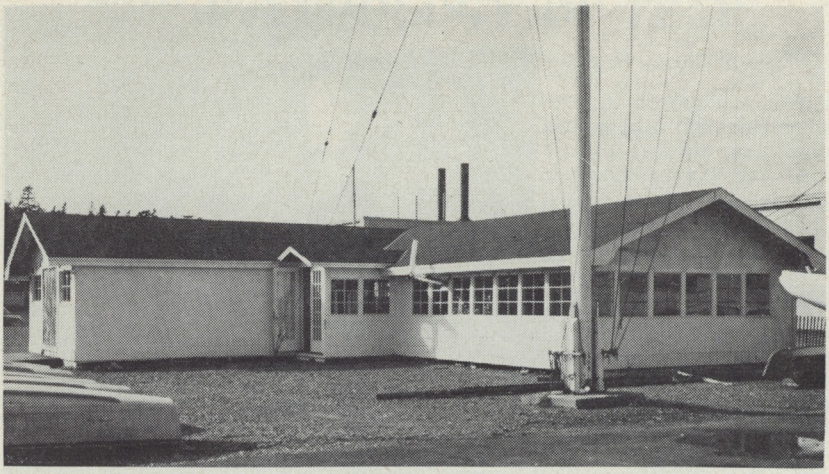
As a practical exercise, find a discussion of World War I tactics. Every time you come across the terms "artillery" and "aircraft" substitute the word "missile." Range over the written accounts of other periods and do the same thing. Bring into play the weapons and equipment still being developed or still in the dream stage—ducted-fan aerial platforms, earth-curving radar, atomic-powered helicopters and convertiplane troop carriers, cheap signal-homing missiles—and Thucydides will take on an entirely new significance for you.

That is the stuff of which concepts are made.

The Right Answer

In our forward thinking we must put the emphasis on organization, on tactical conceptions, and on the weapons and equipment that are necessary to enable us to fight in the way we want. All our future depends on getting the right answer to the problems we now have to face.

—*Field Marshall Montgomery.*



The club-house of the Halifax Garrison Sailing Club.

Army Sailing Association

By

CAPTAIN P. R. WILSON (ROYAL CANADIAN DRAGOONS), EX-COMMODORE OF THE HALIFAX GARRISON SAILING CLUB

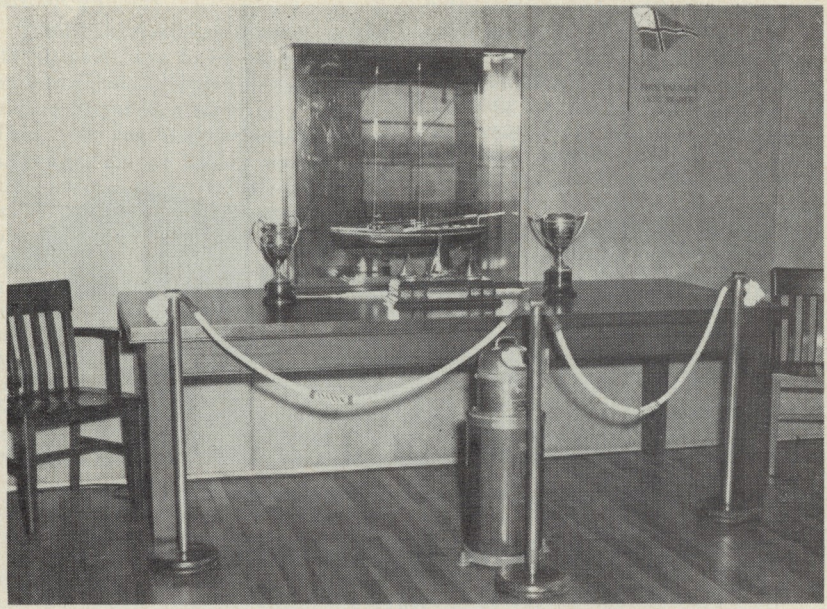
When you read the title of this article, your first reaction likely will be that you have never heard of this organization. You haven't: the object of this paper is to put forward some suggestions as to how an Army Sailing Association could be formed.

The Royal Canadian Navy have a Sailing Association which is nation-wide and consists of a central committee with squadrons in Halifax, Ottawa, Hamilton, Esquimalt and a number of other places. This ensures that officers and men have sailing facilities wherever they are posted.

At the moment, the Army sails in a small way at a number of locations but sadly lacks suitable boats and competition. This state of affairs has been overcome in Halifax by the formation of the Halifax Garrison Sailing Club. This club has combined with the Halifax Squadron of the Royal Canadian Naval Sailing Association, and is enjoying the sport in all types of craft from a 14-foot dinghy to a 60-foot yawl.

During the winter of 1958-59, members of both clubs combined their resources and built a club-house.

In addition to individual competition between the clubs, members participated in team racing against civilian clubs in Halifax during the 1959 season. The major event of the year was the Marblehead-Halifax Ocean Race, six Army members being part of the crews in the three Royal Canadian Naval Sailing As-



The quarter-deck in the Halifax Garrison Sailing Club's quarters.

sociation entries. The Army sailors gained the experience of a life-time as far as sailing is concerned.

It is felt that the Halifax Garrison Sailing Club could well be the start of an Army Sailing Association which would have squadrons near any Army camp in Canada where there is sufficient water on which to sail. For example, there could be an Ottawa squadron attached, perhaps, to the Britannia Yacht Club, a Kingston squadron attached to the Kingston Yacht Club, and so on. By having a central committee to co-ordinate the activities of the various squadrons, much advantage could be gained in the purchase of suitable boats, arranging good competition and eventually, perhaps, entering a team for the Olympic Trials.

The idea of an Army Sailing Association has been discussed at great length in the Halifax Garrison Sailing Club, and we would appreciate the views of Army sailors in other parts of Canada. Those with opinions and suggestions are invited to write to the Commodore, Halifax Garrison Sailing Club, c/o Headquarters Eastern Command, Halifax, N.S.

Unconventional Warfare

Unconventional Warfare is no longer limited to spontaneous and poorly supported guerilla efforts which succeed only if favoured by the genius of local leadership and plain luck.—*Maj.-Gen. Orlando C. Troxel, Jr. (U.S. Army).*

THE PSYCHOLOGY OF FEAR

LIEUT.-COLONEL K. E. LINDEMAN IN *Ny Militar Tidskrift* (SWEDEN)*

The concept of fear is by no means a theoretical matter, but a real factor among the phenomena of war and one which deserves great attention. The professional military have a definite interest in diagnosis and analysis of the occurrence and character of fear, for it is obvious that if the nature and cause of fear can be discovered, the chances are better that its subsequent occurrence can be prevented.

We know so little about mental anguish on the battlefield because national pride and military prestige tend to forbid a matter-of-fact discussion and study of the phenomenon.

The Fear Concept

The capacity to fear, or to be afraid, lies deep within the mind of every soldier. The soldier who says that he has never known fear is lying, or else he does not possess the normal instincts of self-preservation. As Maredock Nay said: "A triple liar is the person who boasts that he has never known fear".

All know fear, but all do not show it — these are the so-called brave. Even the most courageous can become afraid. One can only learn how to combat fear, not how to overcome it wholly, for bravery consists in the ability to repress the overly excited instinct of self-preservation. One of the strongest impressions one receives when he faces the enemy for the first time is that he is afraid. The only difference between a courageous and a cowardly man is that the courageous one is able to control his fear, while the cowardly one cannot.

The instinct of self-preservation is very dominant. Its manifestations differ with different persons and alter with every individual.

Fear of death is the soldier's most dangerous enemy. It never lets go of him entirely but always continues to exist, more or less controlled by his will. The anxiety, nervousness, or agony of mind by which fear under certain circumstances is accompanied, develops at times into terror and panic; even a highly developed human being perceives the world about him from a lower mental plane. The instinct of self-preservation is, indeed, very strong, and there is no need to pretend that such is not the case.

Psychological Angles

Courage is not an absolute concept — one day bold, another day cautious, is not unusual. Boldness in one case does not exclude excessive cautiousness in another for courage is not something that one permanently acquires. The question of fear and courage is by no means as easy to answer as many are inclined to imagine, and is certainly more complicated in the modern war of machines. Here, more than ever, a spiritual power of resistance is required.

Primitive instinct counsels the soldier to conceal himself or flee. Highly tensed nerves strained to the breaking point often give way. A dense artillery concentration or a bombing attack can be a sufficient

Translated by Mr. LaVergne Dale, Leavenworth, Kansas, this article was published in the October 1958 issue of the Military Review *(U.S.), from which publication it is reprinted.*—Editor.

cause. The belief that one is surrounded, or knowledge of the fact that the enemy's tanks are breaking through, has a similar terrifying effect.

Lack of success, loss of sleep, hunger, thirst, heavy losses, bad weather, or enemy fire produce depression. Long waiting also is depressing. Action itself does not make such heavy spiritual demands, and agitation of mind is greatest during the preparational phase before the action itself begins.

Everything that is wearing to the physical body also fatigues the mind. "Tired men become more frightened," it is said. Therefore, good health, training, and rest play a major role in the defeat of fear. Confidence in command, confidence in weapons, and, above all, successes achieved, are of great significance. Initial success is of great value. Likewise, the feeling that the cause one is fighting for merits not only his effort but also sacrifice is important in the creation of courage and self-confidence.

Battle Experience

Probably most persons have asked themselves how it feels to go into battle and to be face to face with death. Quite naturally, no general reply to this question can be found. It is difficult to judge whether a soldier will have normal "combat reaction", that is, how his fear is constituted. There are some who succeed in keeping their reactions in hand in critical situations, but how a person will react in battle is not known until during or after the opening of the enemy's fire on him.

In the absence of battle experience, every group of forces experiences the psychosis of fear at its first encounter with the enemy. Even the best of training and discipline can be inadequate for suppressing this phenomenon. Behaviour varies greatly from soldier to soldier. Possibly in no case will it be entirely heroic. Gradually, however, the man learns to act logically and simply — in the way that is best calculated to save his life.

The modern soldier's encounter with war is brutal and usually possesses the ingredients which render life an inferno. But it can be observed how the will and the ability to overcome lack of courage and fear of death increase with every failure. The combatant becomes firmer and more dogged in his efforts, and a young man's eyes are opened in the face of the bloody reality of killing. They first become accustomed, curious, then eager, and, finally, hardened — surer and more brutal in their fearlessness. Even those who begin the war as youths are changed into defiant men.

It is also true that experiences, especially severe ones, may reduce lust for battle. Units with high casualty figures are less disposed to fight than those which have been through a similar hazardous experience with low casualty figures.

The Unknown

The unknown is always hazardous. Excessive noise, unclear situations, anything which has no clearly evident cause and is frightening and mysterious is productive of fear. The frightened person sees everything but he sees reality in another light. Bushes and shadows become enemy soldiers and sounds are heard which do not exist. The surrounding world on the front is seen in darker colours and more filled with danger than it actually is.

Often preconceived ideas concern-

ing something that is scheduled to occur gives rise to fear as great — if not greater — than the occurence itself. A clear understanding of coming dangers diminishes their effect, while suspense relative to an undefined, dangerous situation intensifies the feeling of fear.

Absolute stillness alternating with the mighty noise of battle can irritate. In the case of a unit suddenly confronting a situation that is the very opposite of what has been reported, the resulting surprise often is sufficiently great for fear emotions to present themselves. A unit which is to fight with confidence must be given unfavourable as well as favourable information. The less surprise a combat situation presents, the more quickly is the soldier able to adapt himself to it.

Keep the unit informed of the situation is an old and good rule. This is a factor which contributes toward keeping the soldier in check and which helps him to contemplate danger more calmly. Actual knowledge and orientation concerning danger and situation are useful. In order to be able to "stand the strain" in trying situations, he must know what he is fighting for; the worst thing in the face of danger is the unexpected. Knowledge concerning situations means that fear already is half overcome and mastered.

Solitude

There are moments when it is difficult for a man to stand alone. Nothing terrifies a soldier more than to be alone with his fear. The worst thing is his thought of the emptiness of the space about him (his field of battle) and his helplessness in just that place. This gives rise to overwhelming anxiety with regard to his safety. In such a situation being alone appears unendurable; for this reason he seeks to find the company of others, cost what it may. Comradeship contributes toward suppression of fear, and one is never so afraid as when he knows he must face danger alone. There is nothing to be found that makes for calmness in battle more than nearness to someone else who is not possessed of fear and panic.

The soldier will feel that someone else is sharing his burdens. If he is with others in a unit with a leader of established powers and recognized authority he is more calm. It is well to mix experienced and courageous men with beginners and men with less self-control.

Panic

An extreme form of fear and terror is panic. During our last war we experienced the problem and saw that cool and confident — almost phlegmatic—soldiers were not exempt from manifestations of panic. Panic occurs in all armies, good as well as bad. In certain situations troop units of especially good morale and in spite of good command may fall victim to panic.

Panic in its true sense is the condition when the mass of the forces, in the face of danger, suddenly is seized with the feeling, "Every man for himself". Each and every one is engaged only in seeking to save himself. It is an extreme manifesttion which is a common phenomenon with all living beings. No one can escape the effects of flight psychosis if he chances to be within its circle of influence.

Fear acts in a hindering and crippling manner on thought activity, power of action, and initiative. Under certain conditions, fear ob-

literates every trace of rationality and does away with all rules of discipline, honour, and propriety. Often losses occur for those who, for example, in the case of a tank attack, in panic abandon the foxholes which have given them protection. Flight, in many cases, can be hazardous both for the individual or unit. Continuing to fight may mean to continue to live, while flight may mean that one will be killed.

The commander must try to eliminate hysteria and panic which can lead to the complete break-down of psychically disturbed individuals. Some of those who have panicked can be returned to the front after treatment. Very simple measures often are sufficient for first aid. As a rule, food, sleep, and a calming influence constitute adequate treatment.

In the more intimate circles and in modern *belles-lettres* which deal with war it is not considered shameful to admit that one sometimes has been afraid. It was quite natural—those who go to pieces are classified as medical cases.

Discipline

Discipline overcomes fear. A poorly disciplined unit displays the same weakness and fear that are habitually manifested in a heterogeneous crowd, for it is only discipline that transforms a crowd of individuals into a unit. A well-disciplined unit does not allow itself to be terrified by a suddenly appearing danger, but a poorly disciplined unit reacts as a simple mass of human individuals and scatters in unreasoning flight. In view of this fact it seems unbelievable that there are persons who undervalue the importance of discipline and training.

An acquired and firmly fixed habit of sure handling of weapons and of properly conducting oneself under different and changing circumstances is productive of self-confidence. This counteracts the influence which settles upon and fixes itself on the combatant — especially the beginner.

Discipline should, therefore, become partly a habit. Discipline, in conjunction with habit and perhaps to some degree by reason of risk of punishment, exercises a restraining effect on the individual's fear instincts in certain difficult situations.

Mastering Fear

Every success crosses two thresholds: first fear is conquered, then the enemy. The task is to overcome fear and seek to attain a condition in which fear is not present, which we call courage. Fear is inseparable from war, but it can be combated. It is hard to be courageous, but fear can be mastered more or less successfully by an effort of will. There are many different types of fear to be controlled.

The cause of mental auguish can never be completely removed. On the other hand, there are certain possibilities of preventing it from finding expression in the form of dangerous tendencies. One means is discipline, which we have already mentioned. Discipline is an effectual factor when fear is to be combated. However, there are many cases when it has to be fortified with other means.

The atmosphere of the field of battle gives birth to mental tension. Tension seeks an outlet. If the unit is obliged to wait during a bombing attack or artillery bombardment before it is able, for example, to make a counter-attack, it may be wise to distract the men's thoughts from the

dangers of the moment by compelling them to engage in some form of activity. The command must, in that case, see to it that each and every one has something useful at hand to do. Action tends to prevent a breakdown of courage. Momentary waiting and inaction must be replaced by active, purposeful activity. Otherwise, tension mounts and may assume a detrimental form.

The soldier's fear is cancelled out by the work he must do. Lying idle in the enemy's artillery preparation can be the most terrifying thing a man can experience. By conversing with his comrades he escapes his own thoughts and prevents an all too gloomy state of mind from developing. An amusing remark made by some witty individual often is able to transform severe tension into a good laugh. Work and some good task to perform are the best remedies for nervous tension and trying situations.

Combat efficiency in a unit depends partly on the methods employed in seeking to keep fear under control. This means that by schooling the higher personal values are developed—schooling of the soldier's will to keep himself in hand. Training plays its distinct role. Ways and modes of action must be sought that provide counteraction against fear.

We must start with the premise that fear is a natural reaction which can be mastered to some degree. Realistic training exercises, stressing terrorizing situations together with sound effects, increase self-confidence and also are mentally hardening. It is not alone the battlefield's explosions, its smell, anguished cries, fallen comrades, and many other impressions against which the soldier must be hardened, but his self-confidence must be built up by means of a continual instructional process. He can be partially "vaccinated" against fear by his training if all means are employed.

An exalting and compelling idea which imparts the requisite will and readiness for sacrifice must be cultivated and developed. A strong love for native land or some other comparable sustaining feeling gives strength in difficult situations. Troop and corps spirit must not be forgotten in this connection. If the soldier feels that he belongs to an invincible unit, there will be no limit to his efforts and self-commitment. A sense of duty which knows no compromise cannot be valued highly enough when courage is being tried. A feeling of pride with regard to prior engagements with the unit and a desire for special recognition makes the soldier more fearless in the face of danger. The soldier's schooling must instil in him strict views with regard to honour and duty.

Moral Courage

One of a commander's principal characteristics is that he should possess the courage to accept responsibility. Moral responsibility can be a heavy burden for a person in a position of leadership. He is obliged at times to request the extreme, and moral courage is required constantly.

The moral strength of staff personnel very often is tried in the conduct of their activities. There are staff members who do only those things that are pleasing to their chief. There can be a struggle between loyalty to the commander and belief in their cause.

Courage thus can be required outside the sphere of enemy action. It

is worthy of note that many have greater courage in the face of the enemy than under peaceful circumstances. This latter often has been designated as "civil courage".

National Courage

One hears it asserted at times, with great positiveness, that there are peoples and nations more courageous and cool-headed than others. It is insisted that courage is especially characteristic of certain races.

The Chinese have long been represented as almost useless as soldier material. During the last war, on the other hand, the Chinese armies displayed supreme bravery.

The Russian soldier has been estimated very differently in different periods.

The French soldier was respected as a tough opponent by his German adversaries. We need only to call to mind the French and the German soldiers of the battles of World War I. There appear to be many factors which effect this: training, war objective, political factors, and leadership. In any event, the concept of courage is not a constant national characteristic.

Leadership

The leader captures attention by his own inspiring conduct. Troops are always inclined to follow a leader who is able to draw them after him and exercise his command over them in the proper manner. There are commanders who instil a desire for action in their men. It must be apparent to the men that the one who is leading them is less afraid than they are. A courageous chief seldom has cowards among his men, for the example of the superior makes for bravery in those under him. Troops always expect composure and impassivity in the face of crises, and the commander must maintain composure in all situations.

The chief must possess an independent and firm mind. He has no one on which to lean. In dangerous situations his men look instinctively in his direction and if he shows the least sign of being afraid, their combat ability will be diminished instantly, even if it does not disappear entirely.

A clear mind is an invaluable possession of both commander and men. He who does not possess inborn optimism should make it his rule to force himself to have a hopeful outlook on the situation that may be confronting him. Courage is dependent on the art of thinking optimistically.

Complete Orders

Too many officers and NCOs expect their subordinates to be mind readers. Too many expect their subordinates to do things without being told. Too often we hear "Oh, but they'll do that automatically!" But they will not, and the order will have a weakness, and one small error, one weakness, may spell failure and defeat. We must always work on the assumption that nobody will do anything unless he is ordered to —orders must be complete in every detail.—*From an article by Lt.-Col. Ballard, OBE, in The Irish Defence Journal.*

WHY PROCRASTINATE?

MR. J. W. HERON IN THE ROYAL BANK OF CANADA LETTER

Everyone in these days suffers under the feeling of being pressed for time. We do not seem to catch up with things as we used to do. We are afraid to sit down with only our thoughts for company, because those thoughts inevitably turn on something we should be doing.

Much of this feeling is due to procrastination, the habit of needlessly putting off things to which we should attend. The putting off is in turn caused by inertia and lack of planning.

This is a serious problem, because procrastination does more than almost any other habit to deprive us of satisfaction, success and happiness. It does not solve any problem when we toss it into the tray marked "pending".

More than two centuries ago Edward Young, disappointed in law, politics and in his thirty-five-year rectorship of a small church, wrote the often-quoted line "Procrastination is the thief of time." In fact, procrastination is much more. It is the thief of our self-respect. It nags at us and spoils our fun. It deprives us of the fullest realization of our ambitions and hopes.

Even our leisure is eaten into by procrastination. So many people complain that they have no time for leisure. They are constantly driven. Life for them is a steady grind or a mad dream. These are people who do not organize their time and energy. They are of the sort that find themselves nervously unfit to deal with immediate things, to stand the pressure of an urgent job.

It is amusingly true that few of us really enjoy the sensation of putting things off. Our consciences prevent us from taking pleasure out of postponing our chores.

Young people particularly need to beware of putting off. Dante described the vice in this way: "Hesitating I remain at war 'twixt will and will not in my thoughts." Eventually, perhaps sooner than we think, it is too late. In maturity, the procrastination man finds himself one of the many ordinary, dispensable, workers, while his boyhood chum who busied himself sits at the mahogany desk.

When things are deferred till the last minute, and nothing prepared beforehand, every step finds an impediment. It becomes harder to do things. We are pushed into blundering through on hasty judgments.

Herein is a parodox. By trying to take things easy we do not make things easy. It is possible to spend more energy in figuring out ways to escape a task than is necessary to accomplish it. Our available energy is lowered by inward conflict between "do it now" and "put it off". We lose our poise, because we are always catching up, always in a hurry to do today what we should have done yesterday, always off balance.

Not only is procrastination a deadly blight on a man's life, but it is a nuisance to all his companions . . . Everyone else has to work harder to take up the slack he leaves.

Habit Comes Slyly

The habit of putting off has a way of creeping upon us insidiously. What does it matter, we think, if we don't write that letter today or telephone that prospect for business, or make that dental appointment? Tomorrow is always another day, we say blithely but childishly.

Darwin put off publication of his theories from day to day and finally from year to year, despite the urging of his friends, until he was scooped by a fellow-scientist half a world away. And people today, even in the most enlightened countries, are killing themselves by putting off such simple, though vital, things as seeing their doctors.

It is a salutary exercise to consider the successes we almost enjoyed but which escaped us because we put off decision or action. By doing things as they come along we entertain our great opportunities. But if we say to opportunity: "I am young; there is plenty of time", then opportunity passes us by and we find that, as Francis Bacon remarked in one of his essays, "opportunity has a bald noodle behind, there is nothing to grasp."

None of us needs to look beyond himself for examples. We postponed writing that report on Wednesday, found ourselves loaded with pressing jobs on Thursday and Friday, and now we have to work over the weekend without secretarial help and with no one to provide answers to unexpected questions. We put off visiting our ailing friend on our way East, saying that we could take time for the visit on our return journey, but by then it was too late. We put off our household or garden chores, perhaps trifling away our time in idle chat, and find ourselves overwhelmed by visitors or urgent duties.

The penalties of procrastination are heavy. Many a man has discovered after his house burned down that he had let his insurance lapse the previous month.

What Causes Procrastination?

It is all very well to admit that procrastination is a bad thing, but if we are to do anything effective toward its cure we must know something of what causes it.

Procrastination may, in some instances, be attributed to ill health. Energy to tackle jobs and get them out of the way is the product of physical health and a purpose.

A child who cannot find his clothes in the morning may be unknowingly rebelling against school, and postponing his having to go there. A man who explodes in the midst of a business conference may be motivated by an inward irritation that follows a sense of putting off something that should have been given immediate attention.

If you are a chronic procrastinator it may be that your parents did more for you than they should have done. Perhaps they "picked up" after you, and did the things you left undone. You learned that by putting off duties nothing serious happened: someone else did the work.

But today you find that your habits leads to unending ills. You are actually putting off living to some fictional future date. You are making yourself unhappy because in deferring your life to the future you are missing the present and its golden opportunities for rich living. You are putting off until tomorrow not only duties and jobs but happiness and achievement.

Samuel Johnson called tomorrow "that fatal mistress of the young, the lazy, the coward and the fool."

Unpleasant Things

The truth is that we are most inclined to postpone doing things that seem at the time to be unpleasant, distasteful or difficult. When we have something like that to do, we putter around with little things, trying to keep busy so that we have an

excuse that will ease our consciences. Dreading and postponing a task may be more tiring than doing it, and apprehension over delayed unpleasantnesses may so preoccupy us that other things cannot be done effectively.

None of us escapes his quota of difficult or disagreeable tasks, and it would be well to learn from the experience of others rather than from our own that they do not fade away by being ignored. Eventually, we have to roll up our sleeves and wade into them. In the meantime, we suffer.

Dr. Ernest Jones, F.R.C.P., gives as Hamlet as an example in his book *Hamlet and Oedipus* (Doubleday Anchor, 1954.) The reasons that Hamlet gives for his hesitancy will not stand serious consideration. Says Dr. Jones: "One moment he pretends he is too cowardly to perform the deed, at another he questions the truthfulness of the ghost, at another — when the opportunity presents itself in its naked form — he thinks the time is unsuited, it would be better to wait till the King was at some evil act and then to kill him, and so on. They have each of them, it is true, a certain plausibility".

It is very different with the man who, honest with himself, has mastered the habit of putting off. He has no unpleasant jobs hanging fire. He has realized the menace of procrastination and makes sure that it never touches him.

Waiting for Inspiration

An excuse sometimes made by writers, composers, business executives and other people engaged in creative work is that they are waiting for inspiration. But inspiration is a guest who does not visit the lazy or the procrastinator as often as he does the busy and diligent. Most writers find that the best way to win inspiration is to insert a blank sheet of paper in their typewriters.

Sir Arthur Sullivan, composer of the Gilbert and Sullivan operas, oratorios and a score of other sorts of music, said this: "One day work is hard and another day it is easy, but if I had waited for inspiration I should have done nothing."

Many offices have people in them who sharpen pencils instead of getting down to solving the puzzles in a job. Other people shroud their actions in a maze of red tape, giving as the excuse for delay that they must consider the problem carefully from every angle and think of all the possibilities.

On the whole, it is wiser to make decisions promptly and crisply than to linger over them waiting for a flash of inspiration. In a competitive society it may be staying much too late to wait till precisely the proper time.

To put off a decision while gathering or awaiting pertinent information is not procrastination, but be sure that what is awaited is pertinent and necessary. All great leaders have deliberated with caution but acted with decision and promptness.

By debating every problem, awaiting the divine spark that will shine upon the right decision, we show ourselves to be timid and distrustful of our own judgments. The Hamlets among us must learn that it is better to make a wrong decision than none at all. At least an error teaches a lesson that need never be repeated. To stand indecisively midway between our duty and our task is calamitous.

Duty is not merely to do the thing we ought to do, but to do it when we

should, whether we feel like it or not. When we make ourselves responsible for doing a job, making a plan, or directing others, we are duty and honour bound to do it at the time promised or expected.

This brings up the matter of punctuality. Immature people excuse themselves for lateness by saying that they have no sense of time, without stopping to think that if this were so they would be ahead of time as often as they are behind time.

There may be some who regard the catching of a train as a form of sport, and like to give the train a chance to get away, but people who take life at all seriously will consider it more sensible to start early than to hurry on the way. They will realize, too, that when meeting people instead of catching trains they are ill-bred who come late.

A word should be said to the person who is the victim of another's procrastination. Dr. Helen Brandon, a psychological counsellor, made constructive use of her time. In one year, she says, she spent some 120 hours a month waiting on something or somebody. "During this time I thought of 1000 article-ideas, worked on the case histories of more than 100 people, and spent at least one-third of the time relaxing in one way or another."

Time and Efficiency

Time enters into efficiency in every activity. The essence of efficiency is economy of energy, space and time. It was wittily said by Lord Chesterfield of the old Duke of Newcastle: "His Grace loses an hour in the morning, and is looking for it all the rest of the day."

The well-organized life leaves time for everything, for planning, doing, and following through. Time does not boss this sort of life like a task-master with a whip. Time is not used up in regretting, or in trying to live life retroactively, or in explaining why something needed has not been done.

Some persons are more afflicted by procrastination than others, but everyone has at least a tinge of it. There is no use in shrugging our shoulders and saying: "That's the way I am", or in trying to forget our weakness. The biographies of successful people are crammed with the stories of overcoming weaknesses.

Perhaps the most valuable result of education, whether junior or adult, is to make us do the things we have to do when they ought to be done. Yet to cure the evil of procrastination it is not necessary to learn anything new in the way of information. Just relate what you already know to your daily problem.

Begin in small ways. Make it a rule to be orderly and systematic in dealing with your mail: lay aside only such letters as really need further thought, and then take them up immediately after the routine mail has been disposed of. Make out a complete and honest statement of what you wish to do this day, this week, this year, and determine what obstacles are standing in your way. Odds are a hundred to one that you will find your time-and-energy schedule full of holes through which time is leaking: now that you have uncovered them, you have a chance to plug them.

Your effort may mean the making of a new pattern of life, as you acquire skill in distinguishing between the better and the worse way of doing things. Why be a slave to conventional ways? Why must the mail be disposed of before you tackle the important business of the day?

Try scheduling your time. Jot

down the various jobs you must do or would like to do. Estimate the time needed for each. Number them in order of their importance to you. Then wade into them.

In *The Vision of Mirza,* time was a tide stretching from mist to mist, without limits. But our everyday time is not like that at all; it is the space between getting up in the morning and going to bed at night. Into this space we must fit our various projects and the episodes of routine living. Weak men will drift through the hours; strong men will steer from this point to that.

Whether you have a luxurious amount of free time, or are pinched for white space on your daily time chart, you will be happiest when you make sure of getting the best value for every minute. The way to avoid the feeling of marking time, of beating with futility at an unseen barrier, is to schedule your time.

This involves concentration on the job at hand so as to get it done, but it also necessitates looking ahead. Baden Powell had a game for his Boy Scouts called "Near and Far". A party of Scouts walking along a road would be halted at intervals and turned around. The boys were asked what they had noted at their feet and on the horizon. Seeing near and far is an essential part of planning our use of time.

Some people find it comforting and inspiring to look back, at the end of a day, at what they have accomplished, both in big things and little. A day which seems to have gone awry, with our plans broken up by unforeseen events, may appear to casual thinking a lost day, but when we count the items we find solace.

Overcoming Inertia

Human beings, like things in nature, suffer from inertia. It takes more effort to start than to keep going, and it is easier to stop than to continue. Even worse, we find it possible to delude ourselves: we frame plans and make decisions and then allow ourselves to think of them as being completed.

Decision is of little account unless it is followed by action, and there is no recipe for getting things done so good as the one to start doing them. Doing nothing is negative action, but it has positive consequences: discouragement, irritation, disappointment, and even ill health and mental upset.

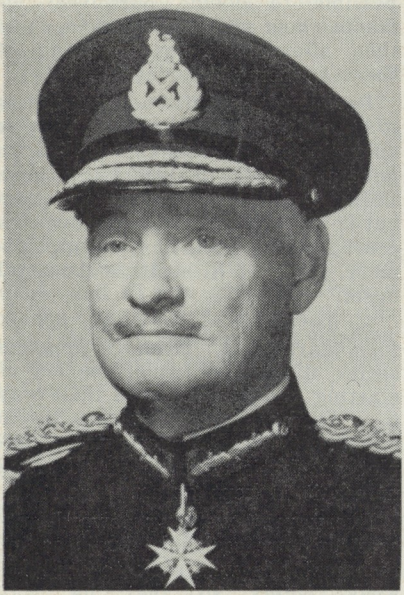
So don't look too long at a job before starting it. Even if progress seems slight and futile, the act of starting and proceeding a little way is a mighty force inspiring us to continue toward successful completion. Initiative is a pallid thing unless it is kept going.

Every man working toward success in professional, business or technical life will seek to find his weak points so that he may strengthen them. If his weak point is procrastination, he may have to work at it with some determination, because it has taken him a long time to achieve the proficiency in it he has now and he cannot expect to get over the habit in a week.

Don't let us defend our procrastination or find excuses for it. Churchill said with regard to the failure of planners in another area: "If you simply take up the attitude of defending it there will be no hope of improvement."

By constructive thought and action, energetically applied to the elimination of procrastination from our lives, we may make the coming year much longer than the past year in terms of things done, happiness realized and vividness of life enjoyed.

NEW SURGEON GENERAL OF ARMED FORCES APPOINTED



Maj.-Gen. Hunter

Surgeon R/Adm. McLean

Major-General Kenneth Adams Hunter of London, Ont., and Ottawa, former Surgeon General of the Armed Forces, proceeded on retirement leave on 30 December. He was succeeded by Surgeon Commodore T. Blair McLean, Royal Canadian Navy, of Edmonton, Victoria and now of Ottawa, who was promoted to Surgeon Rear-Admiral when he received his new appointment 1 January. Maj.-Gen. Hunter became Surgeon General and was promoted to Major General in October 1958. Surgeon Commodore McLean was named Medical Director General of the Royal Canadian Navy in September 1958, and held this appointment until his recent promotion.

Front-Line Radar

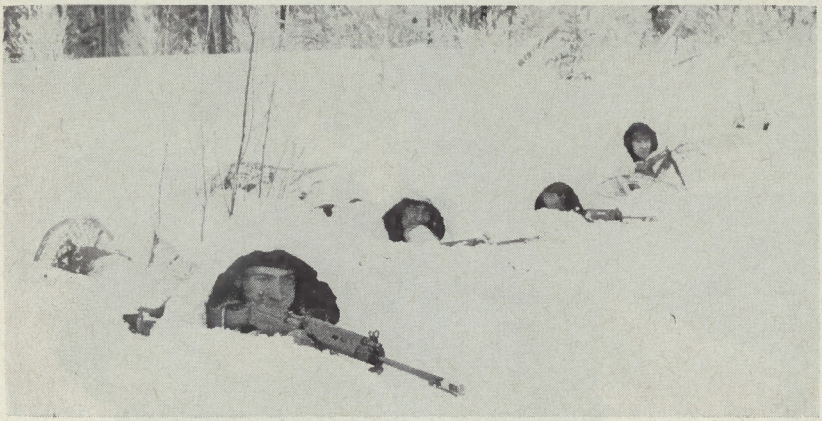
A new ultrasensitive front-line radar that can look deep into hostile territory has been developed under direction of the U.S. Army Combat Surveillance Agency. The device will detect a moving tank, truck or jeep at ten miles or a soldier crawling on the ground two miles away. In one test a soldier walking fifteen miles away was detected.

The set scans a 30-degree sector of a battlefield. When the operator hears a suspicious sound he can narrow the radar beam to zero in on the target. The information can be used for rapid placement of fire or various other tactical measures.—*"Ordnance" (U.S.).*

A Picture Story

WINTER TRAINING IN THE NORTH

PHOTOGRAPHS SUPPLIED BY THE DIRECTORATE OF PUBLIC RELATIONS (ARMY)



Above: A fighting patrol from the 2nd Battalion, The Royal Canadian Regiment, coming under fire, burrows into the deep snow to engage the "enemy" during a training exercise held during the winter at Butler Lake, Ont., north-west of Kirkland Lake. *Below*: A machine-gun is mounted in readiness for an expected attack.

The crew of a light fixed-wing aircraft from the 1st Air Observation Post Flight, Royal Canadian Artillery, of Camp Petawawa, Ont., are the "eyes" of the battalion. The AOP flew many sorties, spotting "enemy" positions, taking aerial photographs and checking the terrain for the best routes for the infantry through bush and snow. Captain F. S. Card (left) is the pilot, and with him is his observer, Gunner S. Creedon.

Above: Troops were airlifted from one position to another by a ski-equipped aircraft during the exercise. They carried all their weapons and equipment with them. *Below*: Rations from a cache in the snow are loaded onto a toboggan to be taken to forward infantry companies.

Above: Battalion stretcher-bearers make camp and light the stove to cook supper after a hard cross-country march on snowshoes. *Below*: Appetites are keen but meals have to be cooked the hard way during the training.

Above: Lieut.-Colonel D. E. Holmes, commanding the 2nd Battalion, The Royal Canadian Regiment, refers to a map as he tells of the battalion's success in driving an "enemy" force off a high hill in a pre-dawn attack. His Battle Captain, Captain H. G. MacDonald, is at the left. In the centre is Lieut. F. T. Nesbitt, commander of the heavy weapons platoon. *Below*: Troops move to a new position after driving off the "enemy".

LEADERSHIP AND MAN MANAGEMENT

by

COLONEL J. A. DEXTRAZE, DSO, OBE, COMMANDANT OF THE ROYAL CANADIAN SCHOOL OF INFANTRY, CAMP BORDEN, ONTARIO*

I have read many papers on Leadership and Man Management. I have heard many people talk on this all-important subject and, frankly, I must say that some of those I have heard knew what they were talking about, but a great number knew very little about it.

The concept of Man Management or, if you prefer, Leadership is probably one of the most abused ideas, both in the Armed Forces and in the field of business enterprise. Too often those charged with the responsibility of leading or managing men give lip-service to the idea without understanding its meaning. Frequently when attending high level policy discussions both in business and the Service, I have realized that man management was the key to the problems under discussion. It has been considered by much better men than I: they have talked about it at great length but rarely have they succeeded in distilling their ideas to produce a formula or a specific set of rules for its most effective application.

I am sure, Gentlemen, that during the three years you have been training here at the School of Infantry you have noticed that we are applying ourselves to developing this all-important quality in you. I do not profess to have found the ultimate solution to the problem of developing this quality in each potential officer who passes through my command. Nevertheless, I have come to certain conclusions with regard to developing leadership ability in those who attend courses at this School. The training sequence I have developed exposes the future officers of the Regular Army to problems and situations where they must make the best use of their own inner capabilities in order to solve them. You certainly could not help but notice that we do not teach leadership only through the medium of lectures and that we have come to the conclusion that leadership is instinctive and can be reduced to a list of "do's" and "don'ts". I will come back to these in the last part of my talk.

We cannot touch the heart of this talk without defining the word "LEADERSHIP". What does it mean? Personally, I believe that Leadership is the art of influencing others to do willingly what is required in order to achieve an aim or goal.

Of course this definition is quite broad and general. It can include what may be described as autocratic or democratic leadership; as intellectual, artistic, scientific, religious or military leadership or a face-to-face relationship in which one man directs, guides and inspires the activities of others in some special way towards the attainment of a set goal. True military leadership exists when one man imposes his will upon a

This is the text of a lecture delivered by Colonel Dextraze to the 1959 graduating class (Regular Officers Training Plan) on completion of their Phase 3 training at the Royal Canadian School of Infantry.—Editor.

group of men in such a manner as to command their immediate obedience, their confidence, their respect and loyal co-operation to a point where these men will work instinctively as a team to achieve the desired objective. I am convinced that the ultimate in leadership in peacetime or in battle is the domination of the mass by the personality of the leader.

It is therefore obvious that to succeed, the would-be leader must possess certain qualities. An individual does not become a leader merely by virtue of the rank or appointment he may hold—far from it. Real determination and constant application to the fulfilment of one's duty are required.

I believe it is important for you to remember that in any field of endeavour, the leader must never forget the position he occupies and what he in fact represents. He must be worthy of the qualification with its attendant responsibilities. For instance, you, as officers of the Regular Army, by virtue of your commission, represent the Queen and the Government of Canada. Therefore, to be a true military leader you must possess certain basic qualities. Some of these must be highly developed, others may only be required to a lesser degree but they are all needed and if practised, will make you the leader your country needs.

Let us have a look at some of the qualities a leader must possess. To begin with, I think that the most important of these are loyalty, knowledge, integrity and courage.

Loyalty

You must be loyal in two ways. First, you must be loyal to your Sovereign and Government through the Army which is an instrument of the Government, and maintain this loyalty regardless of the individuals who hold office. Secondly, you must be loyal to your subordinates—and do not forget that they will be loyal to you to the same degree to which you display your loyalty to them and your own immediate superiors. Loyalty demands that you forsake personal pleasures if they conflict in any way with the performance of your duties. You have no right to take time off for amusement tonight if you should use this time to prepare for tomorrow's task. In the immediate future you will be given a platoon of men to look after, and look after them you must in every way. The demands on you will be great. The greatest task will be to maintain a delicate balance between satisfying the demands made on your loyalty to your superior and at the same time that which you owe to your platoon.

Knowledge

You must possess knowledge if you are to be efficient. If you have knowledge you will command respect not only from your subordinates but from your superiors. You must never stop learning and you must never pretend to anyone that you know something when in fact you do not. On the contrary, it is often best to admit your ignorance on a certain point under discussion and encourage whoever is speaking to you to clarify this particular subject further. In so doing you will be learning something new and making yourself more acceptable to those near you.

As you progress in rank, there will be a tendency to neglect certain matters but you must always set aside time to study them. This tendency will come naturally, as with rank you will have more privileges and more assistants to do things for you. Do not be fooled by this set of

circumstances and excuse your laziness to come to grips with the detail of problems by saying, as we often hear: "I am far too busy to deal with these details", "Why should I bark when I have dogs that can bark for me", "I cannot let myself get emotionally involved in this matter", and so on. Instead, remember that to lead you must know what you are talking about and in order to do so, you must study a problem with every means at hand.

Too many people believe that setting aside time to study as one did as a student at school is old fashioned. Military leadership without knowledge never has been and never will be truly successful. In the Second World War, Adolf Hitler decided to take personal command of his General Staff and autocratically direct the course of military operations. His ego was such that he believed he had the capabilities and the knowledge to successfully plan and direct the war. He thought that because of his high position he knew all the answers, forgetting that he had never set aside time to study the art of warfare. Hence, the German Army was defeated by following the plans of an amateur.

Do not be under the impression, Gentlemen, that as you grow in rank, a piece of grey matter proportionate in size to the star put on your shoulder is automatically inserted in your head. This just doesn't happen. You may be given more authority by promotion, but you are not by the same act given additional knowledge or ability. These you acquire yourself through study and application, and this is not easy nowadays.

Integrity

Integrity means the refusal to deceive others in any way, shape or form no matter what the circumstances. The leader must take decisions and accept their results. He is the one responsible for the success or failure of his own actions. He must admit his mistakes to himself, at least, and profit by them. The leader does not try to bluff his way through or shake his responsibility off onto others. Never be afraid or ashamed to recognize your errors. You will not truly lose face by so doing. On the contrary, your subordinates will conclude that you have acted as an honest human being who has confidence in his own ability.

Courage

I would define true courage in battle as the complete awareness of the degree of danger that exists and the desire or at least the willingness to face it. I have heard many people claim that the man who is courageous suffers no fears. I believe that if this were true one could hardly be called courageous. I believe rather that courage is a quality of the mind which makes one refuse to be swayed from his aim by danger or difficulty. To me it is a quality which forces a man to marshal all his abilities and powers to overcome the hardships standing in his path. I am positive that perseverance is the heart of courage. To sum up what I have said, I believe that the courageous man is one who has succeeded in mastering his emotions and weaknesses.

The courageous leader may consider the result of his action but that must not stop him or allow it to sway him in his judgement in doing what he thinks must be done. Our modern civilized way of living affords the soldier very few opportunities to test his courage. However, in peace-time as well as in war, opportunities exist for the development

of a strong personality. These strong personalities, much needed in war, should not in peace-time be stifled; rather, they should be moulded, developed and allowed to mature. You may often be accused, when you believe that you are acting in the best interests of the Service, of "rocking the boat", of acting rashly through inexperience. To some degree, this may be true as your enthusiasm will disturb the somnolence of others; however, it is better to act if you feel you are in the right than to sit back and leave a situation unsolved. Some time ago I had occasion to talk with a number of businessmen who remarked that "Indecision" at the top level of management was the most serious sickness now affecting the business world. The remark had a serious effect on me and after some considerable thought, I resolved that this "malady" was not peculiar to the field of business. In fact, this lack of decision at the required level, which in the final analysis is caused by lack of courage, is responsible for many of the problems of the world of today.

You may be taken to task for the inevitable mistakes you make in such a course of apprenticeship as a leader; but although you can incur the anger of your superiors, you will never fail to gain their respect if you can prove to them that you are honestly acting in the best interests of the Service. Similarly, you must look for and recognize this very same trait in your subordinates and apply yourselves to harness it for the success of the cause.

I could mention many other qualities inherent in leadership which are no doubt important, but in my opinion those I have just mentioned are the most vital ones. If you are loyal, and possess knowledge, integrity and courage, you will have the basic qualities required by a leader in any field of enterprise, particularly in the Canadian Armed Forces.

The success of an operation undertaken by a leader will not only depend on his capacity to lead but also on his sense of fairness. In any position of leadership or management of others, there arises the need for praise or criticism, commendation or rebuke of subordinates before the highest standard of group performance can be reached. Remember that when either rewards or punishments are required in your platoon, you must give them with impartiality and they must be merited. You will often, as leaders, have to pass judgement on your subordinates and when you are in such a position remember that you are judging another human being and that your judgement must be tempered by the circumstances. For example, a first offence is not as serious as an oft-repeated one. And when praise is due, do not reward a trifle, or commend routine well done.

In my position as Commandant of the School of Infantry responsible for conducting the course you have just completed, it is my duty to develop qualities which everyone of you possesses in some degree so that you may meet the condition of the world you will face tomorrow, perhaps alone with little or no guidance. And, Gentlemen, I am daily reminded of my tasks by the sight of my four sons whom you may one day be commanding in the face of the enemy. Therefore, I feel it is essential that I tell you that when disciplinary action is required in your command, you should make sure you do not administer it in anger or with a sense of annoyance or irritation, but with

the full consideration of justice and the judicious application of the corrective measures at your disposal. This does not apply only to officers of Her Majesty's Forces: it applies also to everyone concerned with the management of men.

I have known of officers too concerned about their popularity with their troops. Remember that in order to be a good leader you do not necessarily have to be the most popular man in your unit and always pleasant with others. On the contrary, successful leadership means the recognition of what is good and what is bad alike and it will not be effective if either factor is overlooked. When you are in command of your platoon, do not overlook faults or omissions because you find the rendering of disciplinary action distasteful. You must possess the moral courage to apply discipline when necessary, and in taking disciplinary action do not forget that you may have to cancel privileges or impose sanctions or take even stricter measures. You may also have to combine these elements to make the punishment fit the crime. Never forget punishment without constructive or corrective measures is seldom effective and is never conducive to lasting satisfactory performance. When you take disciplinary action you must have only one aim in mind and that aim should not be the satisfaction of your ego or certain written regulations; it must be to make your men better all-round soldiers.

Now that you are leaving the School of Infantry, you will be called upon to practise leadership in the true sense of the word. Make no mistake about the fact that it is not always a picnic; it is both arduous and exacting.

If you demand much of your men you must be prepared to give in greater amounts. The true leader knows all of the standards required by the authority he represents and much of the dispositions of those to whom he answers. He also knows the dispositions, characteristics and capabilities of his team. He is the intermediary who interprets between these elements in terms of the finished product. The quality of your platoon will be determined by your ability to conceive ideas or interpret them, motivate your subordinates, lead them and supervise them.

At the moment when so much is happening in the world, military leaders at all levels have to understand, cope and live with the implications of external conditions affecting the people they are leading. Today's world is unsettled and complex; economical and social conditions influence both military and governmental leaders. Look at what is going on in the world today. In particular look at those areas where millions of people have for centuries accepted life as their destiny, who suddenly, because they have seen a bit of the modern way of life, feel the urge, the compelling desire to completely change their concept or mode of life which endured for centuries. It is *now*, Gentlemen, that you must train yourselves to give deep and thoughtful consideration to external conditions affecting the internal management of our military operations. This in fact is a demanding phase of leadership in the difficult times we are passing through. Nevertheless, prepare yourselves to understand and to interpret, and guide your operations accordingly. If you do this, I am sure you will taste success.

Read and keep abreast of what is

happening in the world. Be on the lookout now to avoid being trapped and forced to follow the policy of "something for nothing". This you can do without too much difficulty if you are prepared in both thought and deed to do your share in your own particular field.

You may know, but let me remind you that there is no shortage of young men in this country who, being well coached, can develop into outstanding leaders; however, there is already a shortage of truly developed leaders. This, in my opinion, is due to the fact that many fail to contribute properly to the development of men. Be careful not to be found wanting in this field.

You must, as leaders, no matter at what level you work and in particular at the level of platoon commander, apply yourselves to select, train and develop the young people, your subordinates, to cope with the military, social and economical changes facing Canada at the moment. The training and development of a soldier into a junior leader is a time-consuming job, and to train him to become a leader it is necessary to know, understand and get to like him and also feel duty-bound to prepare him for successes equal to the potential of his talents.

Next month, next year, when you have command of your very own platoon, you should organize your work in such a way that you can move around your command so that you can watch your men function in training under your subordinate leaders, and be able to counsel them and get to know them better as individuals. If you are really interested in your job, you will have no time to worry about your own security or advancement, which is often the reason why the soldier is left to his own resources, seeing his commander only when a rebuke has to be delivered.

While it is true that there is no "magic system" to develop leaders, you will soon be faced with this task. Of course this must be the concern of all of us and it must start at the very top. Whenever you have the occasion, you must persistently press this point home. You will be told "Watch the man management in your platoon", or "Your junior leaders are not good—do something about it". Many more such remarks will be your lot. Do not allow yourself to be rattled by them or your confidence in your own ability to be shaken. Stop and think; remember your own training and solve your immediate problems by accepting such counselling as will help you prepare a better plan of action to develop leadership in your subordinates.

In a matter of a few weeks you will be gone from this School and this is my last opportunity to speak to you as a group before you actually take over the command of troops. Therefore, I would like to end my talk by passing on to you some tips which may help you in your work.

1. When you are finally in the position where you have to give commands, make sure you use a tone of voice which indicates without doubt that you expect your order to be executed. Look at your men straight in the eye, use simple words and be definite. It is not necessary to shout, but it is necessary that you have something to say before you open your mouth.

2. Do NOT coax your men into obeying your order. On the other hand, do not club them into it.

3. Do not flatter your men—there is nothing more disgusting to men

than an officer who has to use flattery to get his orders obeyed.

4. Avoid being sarcastic when you talk in a serious vein.

5. Do NOT put yourself in a position where you have to wave your rank under a man's nose to make him obey you. It is better to use the proper approach, tone of voice, etc., which will give the man the feeling of "Let's go and do it". One way to avoid placing yourself in a bad light is by making sure the order you wish to give is lawful.

6. Be proud of your rank and achievements. Be proud of your unit and of the formation to which you belong.

7. Do NOT criticize your seniors or the Army when you have nothing constructive to say about them. Keep your mouth shut instead. If you feel you must speak, be sure of your facts and be sure it will be profitable to the organization.

8. Show your men you have confidence in their ability to perform tasks, and avoid riding them.

9. Accept the responsibility and blame when your platoon has NOT carried out the plan as it should have. Never shift the blame to subordinates under your command.

10. Never end an order with a threat. You are the platoon commander and it goes without saying that because of the authority vested in you, you can apply sanctions if you so wish.

11. Do not be afraid to recognize in public the good points you have noticed in one of your subordinates. Always give credit where and when it is due. If you use someone else's plan or ideas, recognize the fact.

12. If you have to reprimand, do it in private unless it is for the good of the group to do so publicly.

13. When you have to apply discipline, be satisfied that your actions are justified by the nature of the crime and the circumstances that prevailed at the time of the offence. Be humane, impartial, unprejudiced.

14. Be proud of the discipline which governs your actions and make sure your men also are.

15. Cultivate the habit of ready and immediate obedience to orders and ensure that your subordinates react similarly.

16. Always be interested in the promotion and advancement of your juniors. Be interested in their personal problems and help settle them through sound counselling. Nothing annoyed me more when I had my own platoon than to hear of some man's problems through outside sources. So it is your job to make sure they turn to you first with their problems.

17. Be careful of your conduct, bearing, dress, relationships.

18. Do NOT abuse your privileges: in fact, leave a margin as an insurance, otherwise you may stretch their use over the permitted limit. Remember whatever example you set to your own men will be imitated by them.

19. During training, train your men to the limit of their mental and physical capabilities. Make sure that you participate in this training. Make sure when your NCOs are conducting training that you supervise them well. Do NOT lead by remote control.

20. Never take matters for granted. Check and double-check at all times.

21. Do NOT waste time. Plan your work. As far as avoiding waste of time and effort during war is concerned, there is a battle procedure in force in units. You must invent your own working and training proce-

dures for the good of your command. When I was a student I had a professor who drummed into our heads the following adage expressed by Boileau in his "Art poetique": "Ce que l'on conçoit bien s'énonce clairement, et les mots pour le dire viennent aisément", which, expressed in English, means "What is accurately thought out is clearly expressed and the words to say it come easily."

22. Show initiative, and always carry out orders to the letter. When in training or operations, make sure you lead your men conscientiously. Make sure now that you can forget yourself entirely in favour of your mission and your men tomorrow. You will be able to lead men in war in the proper fashion only if you have in peace-time practised yourself to that end.

The war of the future, in my own personal opinion, will require of soldiers of all ranks a maximum of knowledge, initiative and leadership ability. You can see this yourself by studying the many battlefield troop postures. It is evident that you will often have to fight your own battles with a minimum of supervision and guidance; you will be away on your own and the decision will be yours only. It is therefore imperative that you prepare yourself for this eventuality.

Being an efficient leader may appear, superficially at least, a lonely business. Some do believe it is. Personally, I do NOT consider that being a *leader of men* is a lonely job, inasmuch as the infinite satisfaction of accomplishment that ensues is the ultimate in reward. And remember that an honest leader leaves numerous living monuments in the form of leaders he has helped to develop and guide, who in part at least, reflect the guidance and man management to which they have been exposed. I often think that were it possible to infuse someone with all the qualities of good leadership, the pursuit of developing leaders would probably lose some of its zest. The fact remains that good qualities of any description can only be achieved through hard work, diligence and sacrifice. If any or all of these elements characterize your leadership while in command, you can, with your head high, take your place with those who have gone before and left their mark, and I am thinking of Montgomery, Simonds, Eisenhower, Rommel and many others.

What is more, you will be able to look back on a job well done.

In conclusion, I would like to say that the leaders of today and, more so, the leaders of tomorrow, must possess in a large measure all of the qualities which I have elaborated on earlier. You must possess the knowledge of your job to perfection. Set yourself a high standard of self-discipline; be bold, courageous and above all, today in peace-time, dedicate your life to your job no matter where or when you may be called upon to serve.

The best of luck to you.

One More Altar

Let us add one more altar—to the Unknown Leader—that is, to the good company, platoon or section leader who carries forward his men or holds his post, and often falls unknown. It is these who in the end do most to win wars.—*Field Marshal Wavell.*

ALARUM ON LAKE ONTARIO, WINTER 1812-1813

J. MACKAY HITSMAN IN THE FALL 1959 ISSUE OF *Military Affairs* (U.S.)*

The war of nerves that developed on both sides of Lake Ontario during the winter months of 1812-13 is an excellent example of how a relatively simple situation can get out of hand when commanders have time to ponder unduly about the courses open to both the enemy and themselves. Particularly when, in fact, the necessary men and munitions are not immediately available for offensive operations. The problem was control of Lake Ontario during the course of the coming campaign. The means were the opposing naval squadrons, which had to be kept safe during the months the lake would be frozen over and augmented by additional and larger ships then under construction.

As a consequence of the surrender at Detroit of the American Army which was to have swept across Upper Canada during the summer of 1812, and Major-General Henry Dearborn's listless behaviour as commander of the northern theatre of operations, Captain Isaac Chauncey had been ordered forward from the New York navy yard, of which he had been in charge for four years, "to assume command of the naval force on lakes Erie and Ontario, and to use every exertion to obtain control of them this fall".[1] Considered to be one of the most efficient officers in the United States Navy, Chauncey had just passed his fortieth birthday. His service at sea included the closing stages of the undeclared naval war with France (1798-1800) and the conflict with the pirates of Tripoli (1801-1805). Although he did not reach Sackets Harbour until 6 October, about 170 seamen and marines, 140 ships' carpenters, more than 100 cannon and other stores had gone forward earlier.[2] In less than a month Commodore Chauncey was cruising the eastern end of Lake Ontario with a makeshift squadron consisting of the 18-gun brig *Oneida* and six converted schooners.

On 10 November Chauncey chased into Kingston the *Royal George*, a 22-gun corvette which was then the largest warship on the Great Lakes. After an exchange of shots which lasted upwards of an hour and forty-five minutes the American vessels withdrew. Damage was slight and casualties were only one killed and a few wounded on each side. But there could be no gainsaying the fact that Chauncey had wrested command of Lake Ontario from the British Army's badly officered and generally incompetent Provincial Marine. Until the approach of winter put an end to

Mr. Hitsman is archivist of the Historical Section, Army Headquarters, Ottawa, and this article is reproduced by courtesy of Military Affairs. *In his editorial note which accompanied this paper, the Editor of that publication observes, in part: "Hitsman's paper contributes new information on the confused campaigning in the Spring of 1813, culminating in what one editorial reader . . . dubbed the 'amphibious double-header' of 28-29 April when the Americans hit Fort George, while the British attacked Sackets Harbour. The author offers a scholarly paper with solid documentation based on records in the National Archives of the United States and the Public Archives of Canada." The numbered references are listed at the end of the article.*—Editor.

further navigation, his vessels were able to cruise unmolested off Kingston.[3]

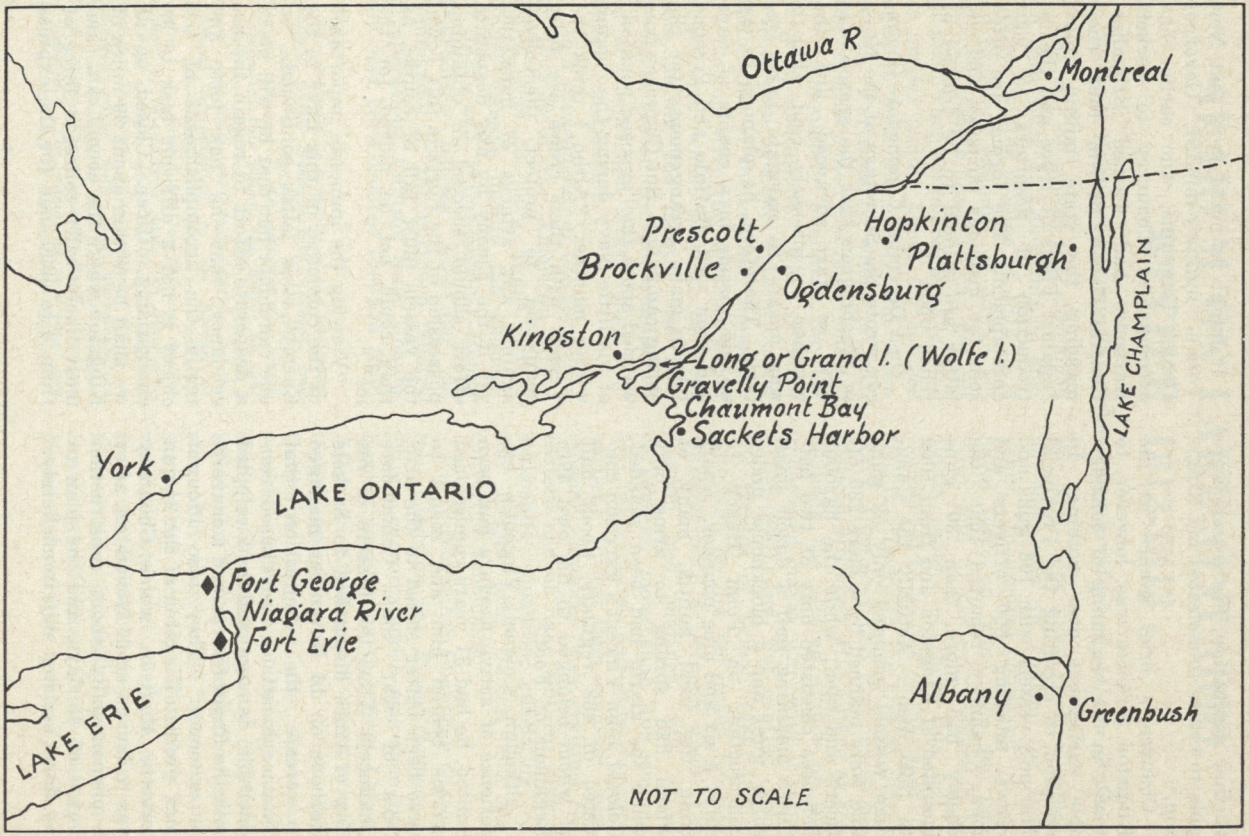
Chauncey's brief glance at the Kingston defences was, however, to result in the beginning of considerable excitement over nothing. In addition to crediting the Provincial Marine's vessels with 108 guns and crews totalling 890 officers and men, Chauncey reported that "the enemy had more than 30 guns mounted at Kingston and from 1000 to 1500 men". Actually the Canadian vessels mounted only 52 guns and were manned by a mere 230 officers and men; while the harbour defences consisted only of two batteries mounting half a dozen small ships' guns and a blockhouse under construction on Point Henry to carry a six and nine pounder. Apart from the local militia, many of whom had sprung to arms only when the alarm had been sounded, Colonel John Vincent's garrison consisted of 458 regulars, about half of whom belonged to his own 49th Regiment of Foot.[4]

Although Colonel Vincent's experience of active warfare had been limited, he had 31 years comissioned service behind him and seems to have been better suited to the artifices of war than Commodore Chauncey. Thus the bearers of his flag of truce dispatched to Sackets Harbour on 16 November managed to create the impression that Chauncey's attack had caused considerable damage and had crippled both the *Royal George* and a converted schooner.[5] They also brought back word to Kingston of the 24-gun corvette *Madison*, which Chauncey was to launch on 26 November, after a phenomenally short construction period of 45 days, and the plan to lay down a sister ship immediately.[6]

It might be noted here that New York's military-minded Governor Daniel Tompkins, who earlier had accompanied Chauncey to Sackets Harbour, had warned Brigadier-General Jacob Brown, then commanding the state militia there, "against Flags of truce and the introduction of deserters to your encampment. The former are often sent for insidious purposes and the latter are seldom to be trusted or relied upon".[7]

On 1 December Commodore Chauncey wrote the Secretary of the Navy in Washington that the season was now so far advanced, and the weather so intensely cold, that it was unsafe to navigate Lake Ontario. Therefore, he planned to lay up his vessels in a couple of days and then visit Buffalo and Presque Isle to make arrangements for the spring campaign. But Chauncey was worried about the "exposed position" of his little Navy during the coming winter months: "Altho I think the Vessels with their crews are fully competent to protect themselves against any attacks of musketry, yet if the Enemy by any desperate effort should succeed in obtaining possession of the Forts in this Town, the vessels must fall of course, as they could not be moved for the ice".[8]

"Viewing the immense importance of the command of this Lake to the Enemy", this letter continued, "no one can doubt but that he will make a desperate effort to regain the ascendancy that he has lost, and really the accomplishment of the object is not a difficult task to an enterprising officer. Closed up as we shall be within about 30 miles of Kingston where the enemy can, (and most likely will) collect a force of from 3 to 4000 men for the express


Ottawa R
Montreal
Prescott
Brockville
Hopkinton
Plattsburgh
Ogdensburg
Kingston
Long or Grand I. (Wolfe I.)
Gravelly Point
Chaumont Bay
Sackets Harbor
LAKE CHAMPLAIN
York
LAKE ONTARIO
Fort George
Niagara River
Fort Erie
LAKE ERIE
Albany
Greenbush
NOT TO SCALE

purpose of destroying our navel ascendancy on this Lake he can with great ease (after this month) cross from Kingston to Long or Grand Island [now Wolfe Island] on the Ice, from thence to Gravelly Point [now Cape Vincent], so along the shore to Chaumont Bay, across that Bay to this Harbour in about 12 hours as all their Troops are exercised to walk with Snow Shoes. Now, Sir, suppose 2 or 3000 men cross in the way pointed out, what can save us here? Nothing but a re-enforcement of Regular Troops sufficient to repel any attack that may be made upon us, and so preserve our little Fleet from otherwise certain destruction".

At the moment Colonel Alexander Macomb's military garrison consisted of 500 regulars and about 1000 militia. But not more than 600 of the latter were fit for duty and even this number was being reduced daily by desertions, discharges and furloughs. Moreover, the three months' tour of service for most of the remainder would expire at the end of the year. Macomb was co-operating in the construction of blockhouses to guard against any surprise, but Chauncey estimated that a further 500 to 1000 regulars were needed. The previous day he had written General Dearborn at Albany to this effect.[9]. Chauncey was ready to counter any argument that reinforcements would be required elsewhere for operations in the spring: the fleet could then transport them anywhere "with more facility than they can march."

In an effort to verify his suppositions and obtain first-hand intelligence, Chauncey sent a flag of truce across to Kingston on 5 December with the late owner of the sloop *Elizabeth*, a Mr. Vaughan who was well acquainted with Kingston from pre-war days. The latter discovered from an old acquaintance, now an officer on the *Royal George*, that the garrison consisted of only 600 regulars and 1000 militia, although a further 2000 militia might be assembled from the surrounding country within 24 hours. The Provincial Marine's vessels had been unloaded and laid up for the winter. As Chauncey reported to Washington, however, "Mr. Vaughan could not learn that the enemy contemplated an attack upon this place this winter: on the contrary, they appeared to apprehend one from us".[10]

Probably many of the older inhabitants remembered that back in 1794 the first Lieutenant-Governor of Upper Canada had tried unsuccessfully to have the naval base located at York (now Toronto), since he considered Kingston open to American attack across the ice during the winter months.[11]

Actually, however, consideration was being given at Kingston to the possiblity of launching an attack against Sackets Harbour, in much the manner envisaged by Chauncey. On 3 December Captain Andrew Gray had dispatched an outline plan for such an operation to Sir George Prevost, Captain-General and Governor-in-Chief in British North America, with headquarters at Quebec. A member of the Quartermaster-General's staff which was charged with the supervision of the Provincial Marine, Captain Gray had been advised, following his arrival at Kingston, that Sackets Harbour was but weakly defended by two batteries and that there were no block houses or other enclosed works. His suggestion called for only one battalion being sent forward from Montreal during January,

after having been trained in the use of snowshoes, to augment the local troops.

"The principal thing to be apprehended," his letter concluded, "would be the intelligence of our movements reaching the enemy; but if the enterprize is conducted with dispatch the blow would be struck before he could avail himself of any information he might receive. We would require 3 or 4 pieces of Artillery, on sleighs, to destroy any blockhouses or temporary works they may in the meantime run up".[12]

On the following day Colonel Vincent had written Prevost's military secretary complaining that no snowshoes had been forwarded from Montreal, despite his earlier insistence that "they were absolutely necessary at this post and could not be furnished by the Indians".[13] The request that at least 200 pairs should be supplied his garrison now received prompt action, the military secretary replying on 15 December that they would be forwarded "with as little delay as possible".[14]

Unfortunately, however, an attack on Sackets Harbour ran counter to the purely defensive policy which a naturally cautious Sir George Prevost was endeavouring to follow. Prevost hesitated to attempt any operation that might result in heavy casualties to his already inadequate forces. Moreover, a purely local success would be worse than useless should it tend to unite the American people behind a war which was particularly unpopular with the Federalist voters of New England and northern New York. Yet Lieutenant-Colonel R. H. Bruyeres, Commanding Royal Engineer in the Canadas, was directed to look into the matter during his forthcoming trip to report upon the defences of the upper province.[15]

When Lieutenant-Colonel Bruyeres reached Kingston on Saturday, 16 January 1813, he met Captain Gray who had returned there from York. He also appears to have gone into the question thoroughly with Colonel Vincent. But, as he wrote to Sir George Prevost, it was "now so long since any information has been obtained from that Post (being previous to the closing of the Navigation) that it is indispensably necessary first to procure a correct knowledge of the force at present there, and whether they have fortified and strengthened their position with the Ship guns, for it is ascertained they have nearly 100 pieces of Artillery in that Harbour for Naval purposes. Much will therefore depend to what use they have applied these Guns during the Winter".[16] Colonel Vincent intended to take advantage of a recent incident at Prescott to send a flag of truce to Sackets Harbour. An attempt would also be made to employ spies.

Actually there had been very little change at Sackets Harbour. Before leaving for Buffalo on 13 December 1812, Chauncey had written the Secretary of the Navy that his vessels were laid up for the winter and that the bay was frozen "quite across".[17] The squadron was moored in a line, flanked by two of the vessels, which would help protect the remainder against any sudden attack. When Colonel Macomb was transferred to Plattsburg, military command devolved upon Brigadier-General Richard Dodge of the New York militia. This officer must have seen through Colonel Vincent's subterfuge, for the bearer of the flag of truce failed to bring back to Kingston any useful intelligence.

Once again at Kingston, on his

return trip from visiting the more westerly posts, Lieutenant-Colonel Bruyeres wrote Sir George Prevost on 13 February that no intelligence had as yet been obtained concerning the situation at Sackets Harbour. But he would delay his departure for two or three days in the hope that the "two persons . . . now employed for that purpose" might return.[18] From what had been learned during his trip, however, he concluded that "the Enemy are extremely active, and using the greatest executions to strengthen the whole line of Frontier both on the St. Lawrence and Niagara Rivers with Troops, and will be prepared with a formidable Marine Force to act on this Lake very early in the Spring".

Chauncey must have arrived back at Sackets Harbour shortly after the British flag of truce had come and gone on 19 January. On the following day he sent a rather querulous dispatch to Washington, complaining that he had found everything much as when he had left: no additional regular troops had arrived and the blockhouses had not yet been completed.[19]

The letter also mentioned four deserters having arrived from Kingston, but Chauncey seems to have taken at face value their exaggerated story that its garrison now numbered 1000 regulars—because it corroborated information received from other sources. These other sources were farmers, who had crossed into Canada to sell flour and pork for higher prices and then had had their sleighs commandeered to transport troops and stores to Kingston, and the detachments of militia scattered between Salmon River and Ogdensburg on the American side of the St. Lawrence. In consequence, there was a fairly widespread belief in northern New York that the British were planning an attack on Sackets Harbour. For instance, on 22 January the New York Evening Post carried the following dispatch from Canandaigua, dated 10 days earlier:

"Look Out:—From information we have received, we think it highly probable, that the British are preparing to make a descent on Sackets Harbour with a view of destroying the American vessels which are hauled up there for the winter.—Their destruction would be important to the British, as thereby they may retain the command of Lake Ontario, which they cannot do, if our little fleet is well found in the spring. A great number of sleighs, loaded with British troops, have been seen to pass up on the other side of the St. Lawrence, and as soon as the river is frozen over, it is apprehended they will cross."[20]

On 5th February, the day before he set out for Albany to discuss the conduct of the coming spring campaign with General Dearborn, Chauncey wrote Washington that he had 22 guns mounted upon *Madison* and had her well manned: "We keep the Ice cut from around her and have everything in a state of preparation to repel an attack at a moment's notice either night or day. All the other Vessels are so arranged that they are calculated to protect each other, and as no officer or man is permitted to leave his Vessel after 8 o'clock, I think that we can protect our fleet against any force that will be brought against us by the Enemy, provided the Army will keep the Forts and prevent the assailants from turning our own guns upon the Vessels. Two blockhouses are nearly completed and I have 8 guns prepared with their ammunition, ready to mount upon them the moment they are ready.

These houses will add much to the means of protecting the Fleet and Forts against any sudden attack".[21] However, he was not happy that Brigadier-General Dodge had resigned the military command and been replaced by Colonel Van Alston, a military officer whom he dismissed as being a "very plain man". Presumably representations made to General Dearborn resulted in Colonel Macomb soon being returned to Sackets Harbour.

The plan approved in Washington for operations against Upper Canada called for the capture of Prescott and Kingston as the first objective of the spring campaign, the capture of York as the second, and the reduction of Forts George and Erie on the Niagara river as the third.[22] As Mahan was later to state in his two-volume study of the War of 1812, the capture of Kingston would have solved "at a single stroke every difficulty" in the inland theatre of operations: "No other harbour was tenable as a naval station; with its fall and the destruction of shipping and forts, would go the control of the lake, even if the place itself were not permanently held. Deprived thus of the water communictions, the enemy could retain no position to the westward, because neither re-enforcements nor supplies could reach them".[23]

Heartened by the news of the successful surprise attack launched by Major Forsyth's riflemen from Ogdensburg against the Canadian militia garrisoning the village of Brockville, however, Secretary of War Armstrong now began to develop more daring tactical concepts and saw no need to wait for spring. On 24 February he wrote General Dearborn, suggesting that Colonel Zebulon Pike's two brigades at Plattsburg be dispatched in sleighs up the St. Lawrence to attack Kingston, where Dearborn could join him with the balance of his troops.[24]

Three days earlier, however, Commodore Chauncey had written the Secretary of the Navy throwing cold water on a proposal made by a subordinate (Lieutenant Wolcott Chauncey) to lead 50 volunteers across the ice to Kingston and destroy the Provincial Marine's vessels there. Acording to the Commodore's information, the ice was kept broken around these for a distance of 12 feet and such a tiny assault force would be shot down, before it could negotiate this obstacle, by the ship's guns and those in the batteries and blockhouse. Chauncey wrote that he had deemed it unwise to attempt anything unless he could send a sufficiently large force to take the forts and blockhouses; in which case the vessels would necessarily be captured. "You must be aware," this letter emphasized, "that a defeat would be attended with disastrous consequences and perhaps put us back a whole summer".[25]

Although Dearborn had fought through most of the Revolutionary War as a regimental officer and had had a tour on Washington's staff during the Yorktown campaign, he had had no command experience. Later a politician and Secretary of War for eight years under President Jefferson, he had been serving as Collector for the Port of Boston when Madison appointed him senior major-general of the United States Army in 1812. Albeit no fool, he had just passed his 62nd birthday and was too old and set in his ways to react properly to the sudden activity now evidenced by Sir George Prevost.

Sir George Prevost had perfectly good reasons to visit Upper Canada, as soon as the legislature of the lower province could be prorogued and before the spring thaw should render the roads impassable. There had been rather alarming reports of increased activity by the Americans; shipbuilding at York was progressing slowly; while the continued ill-health of Major General Sir Roger Sheaffe, administering that province, had prevented the transaction of any public or military business for several weeks.[26] Prevost began his long and tedious journey by sleigh from Quebec on 17 February, travelling continuously and with as much speed as the depth of snow would permit. When he arrived at Prescott on the evening of 21 February he found that two of the four companies of the 8th (or King's) Regiment of Foot, which had been dispatched to reinforce the troops in Upper Canada, had got that far only a few hours earlier. Following Prevost's departure for Kingston on the following morning, his reluctant consent to a conditional attack upon Ogdensburg was immediately turned into the real thing. The temporarily augmented garrison of Prescott charged across the ice and quickly routed the Americans, who retreated inland.[27]

As soon as the news reached Albany on 25 February, General Dearborn began to draw the wrong conclusions, which were reinforced during succeeding days by a succession of rumours. Colonel Pike was ordered to reinforce Sackets Harbour with 400 of his regulars, travelling across country by sleigh from Plattsburgh, while Brigadier-General Brown was directed to call out 300-400 of his militia brigade to act as a screening force in northern New York. Dearborn concluded a hasty dispatch to the Secretary of War with the information that Commodore Chauncey had not yet returned from New York: "I am satisfied that, if he had returned as soon as I had expected him, we might have made a stroke at Kingston on the ice; but his presence was necessary for having the aid of the seamen and marines. . . ."[28] In a further dispatch on the following day, Dearborn relayed a report that Prevost was moving to Upper Canada with a considerable force. As a consequence, Dearborn had ordered 400 more of Pike's command to follow the first detachment from Plattsburg.[29] The troops at Greenbush also were put in motion for Sackets Harbour, while Major Forsyth and his riflemen were moved there instead of returning to Ogdensburg.

Chauncey's immediate reaction to this news, which greeted his arrival at Albany on the evening of 27 February, was somewhat different. After writing to the Secretary of the Navy on the following morning that General Dearborn had left for Sackets Harbour and that he would follow later in the day, Chauncey expressed the opinion that Prevost was in Kingston "more for the purpose of superintending the defence of that post than for any attack upon us".[30] Following his own arrival at Sackets Harbour on 3 March, Chauncey immediately reported that he had found his "Vessels in a perfect state of preparation to meet the enemy".[31] He did not believe, however, that Sir George Prevost was prepared to accept the large number of casualties that an assault was certain to entail. Moreover, should an attack fail, as Chauncey was confident it would, Kingston and its naval squadron

would then be at the mercy of a strong counter-attacking force.

On the other hand, Dearborn's dispatch to the Secretary of War was an alarming document. He was convinced that 6000 to 8000 troops had been collected at Kingston, including 3000 British regulars, and that an attack might be expected within 48 hours. Even counting the local militia who had been called in, his miscellaneous garrison totalled only 3000. Should Prevost attack before the regulars arrived from Plattsburg and Greenbush, the result would "at least be doubtful".[32]

Dearborn's gloom seems to have been contagious, for two days later (5 March) Chauncey was writing his own superior in similar vein: "We are still safe but hourly expect a visit from the other side. The enemy is obviously collecting a large Force at Kingston and by every account that we can collect from deserters and others a visit is contemplated. Sir George Prevost is to command in person and has assured his friends that he will destroy our little Fleet here or perish in the attempt. The latter I have no objection to, but the former I shall endeavour to prevent".[33] As the days passed, however, Commodore Chauncey adopted a more optimistic view. But, since the British Commander at Prescott had refused to receive a flag of truce and no further deserters appeared, Chauncey felt that something was in the wind.[34] His guess that the activity reported at Kingston was intended to mask an early offensive against General Harrison's troops on the Detroit frontier was, however, just as faulty an appreciation as that of General Dearborn. On 9 March Dearborn reported that the 400 troops had arrived from Greenbush. But he had heard nothing from Colonel Pike: "I have sent three expresses to meet him; neither has returned. I have suspicions of the express employed by the Quartermaster General to convey the orders to Pike; the earliest measures were taken for conveying a duplicate of his orders. I hope to hear from him today. His arrival, with eight hundred good troops, would be very important at this time".[35]

"I begin to entertain some doubts whether Sir George Prevost will venture to attack us," his letter continued, "but will not relax in being prepared to give him a decent reception... The ice will not probably be passable more than from six to ten days longer; it is not usually passable after the 15th of March. This unexpected movement of the enemy will effectually oppose the movements contemplated on our part..."

In his anxiety, General Dearborn had overlooked the practical difficulties facing Colonel Pike. According to a letter written by a resident of Hopkinton, in the Federalist stronghold of St. Lawrence county: "Although they hire and press all the horses and sleighs they can to expedite their march, yet Col. Pike's detachment was five days riding from Plattsburg to this place a distance of 75 miles — Three soldiers were frozen so that they died in coming from Plattsburg, and many more were badly frozen".[36]

Chauncey reported, on 12 March, that he was "more and more convinced that the Enemy does not intend an attack upon this place, but keeps up the appearance of it, for the purpose of covering his Designs upon General Harrison. . . General Dearborn thinks differently from myself upon this subject and is in hourly expectation of an attack. We have

accounts that 6000 men passed up on Sunday last. This cannot be true, for taking all the accounts together they would make out more than 20,000 men at Kingston. This force we know that they cannot raise in so short a time. I presume that the truth is that the people on the other side are as credulous as our own countrymen, and that they magnify a few Sleighs loaded with stores and accompanied by guards into a Brigade of Regular Troops".[37]

After mentioning that Colonel Pike had arrived that morning with about 600 men and another officer with about the same number was expected in a day or two, Chauncey's letter continued: "We are well prepared to meet the enemy whenever he may think proper to pay us a visit. I have stationed an officer and thirty Seamen in each blockhouse to manage the carriage guns. Exclusive of these men there will be stationed at each house from 50 to 75 Soldiers with Muskets. With this force they ought to be well defended and I have no doubt will be."

General Dearborn never did renounce his belief that the danger of attack had been real, even though finally satisfied that no attempt would be made from Kingston. His letter of 14 March merely advised the Secretary of War that Sir George Prevost, after visiting York and Niagara, had returned to Montreal, since it was now too late in the season to risk launching an attack across the ice.[38]

Two days later Commodore Chauncey wrote the Secretary of the Navy that "I think it would not be presumptuous in me to say that I consider the Fleet here as perfectly safe from any attacks from the Enemy."[39]

Independently, and for somewhat different reasons, however, Chauncey and Dearborn now decided against mounting an attack against Kingston as soon as navigation should open. Instead, they both recommended a re-arrangement of the plan of operations earlier approved by President Madison. York should be the first objective. Only after the British forts on the Niagara frontier had been seized, should they direct all their resources against Kingston.[40]

York was captured on 27 April and partially burned, following the accidental explosion of a magazine which killed Brigadier-General Pike. A month later Chauncey's fleet assisted Dearborn's army to dislodge Brigadier-General Vincent from Fort George and, temporarily, from the whole Niagara peninsula. But in Chauncey's absence the garrison of Kingston crossed the lake, protected by its own squadron which was now manned by the Royal Navy, and attacked Sackets Harbour on 29 May. That the attack failed, however, was due as much to the poor judgment shown by Sir George Prevost as to the spirited resistance offered by Brigadier-General Brown with the few American regulars and militia available.[41] As it was, the new ship under construction and a captured schooner were set on fire and a large quantity of naval stores destroyed by Lieutenant Chauncey to prevent the possibility of their falling into British hands. Captain Gray was killed while leading an assault against one of the blockhouses. Neither Kingston nor Sackets Harbour were ever again threatened, each squadron took care to avoid battle under conditions favourable to the other, and the struggle for naval supremacy on

Lake Ontario degenerated into a mere shipbuilding competition.

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12. PAC, C 728, Gray to Prevost, Dec. 3, 1812.

13. PAC, C 515, Vincent to Freer, Dec. 4, 1812.

14. PAC, C 1220, Freer to Vincent, Dec. 15, 1812.

15. PAC, Q 117, Prevost to Liverpool, May 18, 1812; C 728, Prevost to Gray, Dec. 19, 1812 (draft).

16. PAC, C 387, Bruyeres to Prevost, Jan. 19, 1813.

17. NA, Captains' Letters, 1812, Vol. III, Chauncey to Secretary of the Navy, Dec. 12, 1812.

18. PAC, C 387, Bruyeres to Prevost, Feb. 13, 1813.

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20. Courtesy of the New-York Historical Society.

21. NA, Captains' Letters, 1813, Vol. I, Chauncey to Secretary of the Navy, Feb. 5, 1813.

22. American State Papers Military Affairs, Vol. I (Washington, 1832) (hereinafter cited "ASPMA"), p. 439.

23. Captain A. T. Mahan, Sea Power in Its Relations to the War of 1812 (London, 1905), Vol. II, p. 30.

24. ASPMA, p. 440, Armstrong to Dearborn, Feb. 24, 1813.

25. NA, Captains' Letters, 1813, Vol. I, Chauncey to Secretary of the Navy, Feb. 21, 1813.

26. PAC, Q 121, Prevost to Bathurst, Feb. 6, 8 and 27, 1813.

27. PAC, C 678, Macdonell to Harvey, Feb. 22, 1813.

28. ASPMA, p. 440, Dearborn to Armstrong, Feb. 25, 1813.

29. ASPMA, p. 441, Dearborn to Armstrong, Feb. 26, 1813.

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31. NA, Captains' Letters, 1813, Vol. II, Chauncey to Secretary of the Navy, March 3, 1813.

32. ASPMA, p. 441, Dearborn to Armstrong, March 3, 1813.

33. NA, Captains' Letters, 1813, Vol. II, Chauncey to Secretary of the Navy, March 5, 1813.

34. *Ibid.* Chauncey to Secretary of the Navy, March 8, 1813.

35. ASPMA, p. 441, Dearborn to Armstrong, March 9, 1813.

36. Kingston Gazette, May 4, 1813 (Upper Canada) contains dispatch from Troy, N.Y., dated March 20, 1813.

LETTERS TO THE EDITOR

Providing the response is satisfactory, the *Journal* proposes to institute a "Letters to the Editor" column commencing with the April issue. This column will be 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 appearing in 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 will be 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. This protects both the writer and this publication against inadvertent breaches of security.

"So many men, so many opinions." The *Journal* hopes it may be privileged to publish some of them.

That Detroit Raid

95 Years Ago: The city of Detroit is again greatly excited by anticipation of a raid on it from Canada by rebels who are said to be now perfecting their organization. The civil and military authorities of the city are making every preparation to receive the raiders. Extra police have been placed on duty, and arrangements are being made for the enrolment and arming of the militia.—*From the files of the Army-Navy-Air Force Journal (U.S.).*

Alarum on Lake Ontario, Winter 1812-1813

(Continued from preceding page)

37. NA, Captains' Letters, 1813, Vol. II, Chauncey to Secretary of the Navy, March 12, 1813.

38. ASPMA, p. 442, Dearborn to Armstrong, March 14, 1813.

39. NA, Captains' Letters, 1813, Vol. II, Chauncey to Secretary of the Navy, March 16, 1813.

40. ASPMA, p. 442, Dearborn to Armstrong, n.d. (extract).

41. Mahan, *op. cit.*, pp. 44-45.

SOVIET CIVIL DEFENCE AGAINST CBR ATTACK

Digested by the *Military Review* (U.S.) from an article in the *Armed Forces Chemical Journal*, May-June 1959

The wholehearted support the USSR demands of her people extends to civil defence, including defence against chemical, biological, and radiological (CBR) attack. While we in America content ourselves with infrequent passive air raid and evacuation drills, the Soviet Union has many millions of her citizens of both sexes organized into well-trained groups who can, at a moment's notice, come to the defence of every city, town, village, and hamlet — indeed, every individual dwelling. The vast Soviet civil defence system embraces the entire country. And while we disbanded our volunteer air raid warning system immediately after World War II, the Soviet Union's civil defence system has grown and kept active in the post-war period.

Soviet authorities are convinced that CBR weapons will be used in future wars. Alleged bacteriological warfare in Korea inspired a number of Russian books, articles, and pamphlets on the subject. For propaganda purposes and perhaps to justify their own preparedness for CBR warfare, the Soviets have continued to fabricate accounts that the Free World has resorted to chemical warfare in other areas.

Active Defence

Active civil defence of the USSR against CBR attack by enemy aircraft is provided by the Active Defence Group (*PVO*). Under the control of *PVO*, a network of aircraft warning posts stretches across the Soviet Union. These posts, from which watchers scan the skies day and night, are known as Air Observation and Warning Stations (*VNOS*). Fighter planes and anti-aircraft guns stand ready to go into action. In any attack some enemy aircraft undoubtedly will break through to attack populated centres. At this time the Soviet passive civil defence system goes into action.

Passive Defence Organization

Passive civil defence is under the nationwide Local Air Defence Group (*MPVO*). All "national-economic installations" have *MPVO* groups. These groups are organized into teams of specialists trained to handle warning and communications, fire defence, first aid, CBR defence, shelters and covers, order and security, blackout, and — in farming areas—veterinary services.

Small institutions, schools, apartment houses, and groups of dwellings have *MPVO* "self-defence groups" which perform the same functions as the *MPVO* units in the larger installations. Special groups of Local Air Defence Squads (*Komandy*) are equipped with dosimeters and inspect damaged areas after attack to determine the degree of CBR contamination and to mark off contaminated areas.

MPVO draws support from many other organizations, including the All-Union Voluntary Society for Co-operation with Army, Air Force, and Navy (*DOSAAF*), a society of over 30 million members from all walks of life and the principal

means by which *MPVO* carries on passive civil defence training. With Stalin as its prime mover, *DOSAAF* was created in 1951. Its director is army Colonel General Pavel Belov.

The fourth *DOSAAF* convention, February 1958, resolved that the most important task of the society was to train the entire population for defence against atomic, biological, and chemical attack. Responsibility for this training was assigned to the Anti-chemical Defence Group (*PVKhO*) in each of the primary *DOSAAF* organizations. *PVKhO* groups are instructed and trained by reserve and retired chemical service officers and by engineers, chemists, teachers, and medical personnel selected by *DOSAAF*.

Incentives

DOSAAF strives to make all civilians from 16 years of age eligible to wear the "Ready for *PVKhO*" badge. To be awarded this badge, a Soviet citizen must complete a programme in which he receives 20 hours of CBR classroom instruction and engages in outdoor training in CBR decontamination, constructing slit trenches, administering first aid, and extinguishing incendiaries and fires caused by them.

To pass the examination he must have some knowledge of the kinds and effects of CBR weapons and of the methods of protection against them. He must learn to use the protective mask and clothing, be acquainted with anti-chemical equipment in the shelter, be able to utilize available equipment for traversing contaminated areas, and have some knowledge of hermetic sealing of water and food. He must know the rules to be observed when *MPVO* warning signals are given, and the way the population is to conduct itself in a contaminated area. He is even taught veterinary treatment of animals.

Training

In one exercise, *PVKhO* trainees responded to a night "chemical alert" alarm and went on a 20-kilometer march during which they wore protective masks for three kilometers. In order not to interfere with the working hours of the group, this particular exercise began Sunday at 0200 and ended at 0900. Another *PVKhO* exercise involved a 35-kilometer ski run in the dead of winter with protective masks worn for five continuous kilometers.

PVKhO groups are taught to expect chemical attack by airplane spray, chemical bombs, and artillery shells. They are told that bacteriological attack may be indicated by an aerosol spread by low-flying aircraft and that bacteriological warfare (BW) agents may be disseminated by rockets, bombs, shells, and by aircraft dropping boxes or packets containing infected rodents or insects. They are schooled in the measures against enemy overt or covert use of BW agents.

PVKhO instructors use textbooks such as the *Training Manual for Local Air Defence*, a 200-page profusely illustrated work published in 1956. It describes the following: Characteristics and effects of lewisite, hydrocyanic acid, tabun, cyanogen chloride, phosgene, diphosgene, chloracetophenone, and adamsite; methods of disseminating chemical agents; physical principles of atomic weapons, the destructive "factors" of an atomic explosion, and combat radioactive substances; bacteriological agents and the diseases caused by them. Obviously seeking to create

the impression that the USSR is innocent of all BW activity — if not knowledge of the subject — the manual declares that its information on BW is derived from "foreign published data." The manual also deals with CBR decontamination, with "measures to eliminate the after-effects of bacteriological attack", and with protection of the skin, foodstuffs, forage, and water against chemical agents. Most Soviet books on the subject of civil defence are printed for mass consumption and are issued in the millions.

Nor do the Soviets permit those trained in civil defence to forget what they have learned. Aware that civil defence training, particularly against CBR, is forgotten in time, *DOSAAF* conducts refresher courses every two years. Citizens who have acquired "Ready for *PVKhO*" badges must pass examinations regularly to retain them.

Protective Shelters

Little information is available on shelters in the USSR. Chemical defence shelters were used in World War II. Since the end of hostilities, apartment and office buildings have been erected over reinforced basements that furnish protection against chemical and atomic attack. The Soviets certainly are aware of the value of shelters and may be providing for them actively. A civil defence manual implies that shelters are available. It declares that:

A simultaneous protection of a large number of people from the effects of a shock wave of demolition and atomic bombs, light radiation, penetrating radiation, and toxic substances is ensured by collective means of protection—shelters and other protective installations of MPVO.

The *DOSAAF's* biweekly *Soviet Patriot* on 18 March 1957 announced a new film, "Civil Defence Against Atomic Warware", which presented shelters in homes and subway stations; methods of constructing sheltered passages, dugouts, and galleries; and other "collective and individual means of defence against atomic attack".

"Services" under the chief of a *rayon* (local urban or rural area) or city *MPVO* group include a shelter and cover service that provides the population with necessary shelters and covers, and controls shelter construction.

Special attention is given to organizing the population for defence against atomic attack. *DOSAAF* has formed Atomic Protection Circles (*PAZ*) of 20 to 25 members who receive training in atomic defence two hours weekly. The Union of the Red Cross and Red Crescent Societies (*Soikk i KP*) assists *DOSAAF* in training members of *PAZ* to familiarize the population with atomic weapons, individual and collective defence against atomic attack, first aid for atomic attack casualties, and the action taken on sounding of *MPVO* signals. Members of the All-Union Society for the Promotion of Political and General Sciences organize lectures and scientific reports on atomic weapons and atomic defence to increase the skill and knowledge of *PAZ* members.

PAZ members, who also train the population in BW defence, give considerable attention to instructing the Soviet people in self-decontamination after a nuclear attack. They are taught to carry out partial decontamination—that is, washing all exposed parts of the body—as soon as possible after leaving the stricken area. They are to receive complete

decontamination at public bathing installations with the help of medical personnel and are then to be given a dosimetric test.

Chemical Warfare Defence

The Soviet population also is thoroughly organized for defence against chemical warfare (CW) attack. On warning of a toxic CW attack, all *MPVO* units in large installations and all self-defence groups carry out *MPVO* measures in their immediate areas to include emergency decontamination by six-man decontamination squads pending arrival of *PVKhO* decontamination details. Medical squads trained by the Union of the Red Cross and Red Crescent Societies carry toxic agent casualties to decontamination stations.

The Russian people are instructed to have protective masks, capes, socks, and gloves in readiness for protection against CBR attack. Using visual aids displayed throughout the country from propaganda trucks *DOSAAF* instructors remind the population that these items of protective equipment are to be donned at the first warning of an attack. It may be questioned, however, whether the Soviet people are adequately supplied with protective equipment; for although protective masks are sold by *DOSAAF* stores everywhere in the USSR the people may be reluctant to purchase them because of their cost—the equivalent of 14 dollars, or 10 per cent of an average Russian's monthly income. It is also likely that, because of indifferences to civil defence, many Soviet citizens may not purchase available protective equipment. But such equipment is maintained in office buildings, factories, tractor stations, and key installations where primary *MPVO* units are organized.

Fight Against Indifference

Soviet propagandists conduct an incessant campaign against the indifference of the population to civilian defence. This propaganda seeks to motivate zealous participation in civil defence activities by instilling fear or enthusiasm in the masses. Curiously inconsistent with the policy of minimizing the dangers of atomic warfare, the campaign seeks to frighten the Russian people by reminding them that they are constantly threatened by the "capitalistic warmongers" who may attack the USSR at any time—and with CBR weapons.

Active participation also is encouraged through a system of awards, badges, and citations. It must be remembered that to be socially acceptable a Soviet citizen must participate in as many community activities as possible. The extent of his participation will, in part, determine his opportunities for promotion on his job and will offer him other rewards — for example, scholarships. By badges indicating his community achievements and by "performance reports" posted by the chairman of the committee of a primary *DOSAAF* organization, which keeps careful records of its members, a citizen gives proof of loyal service to the community.

In addition to the "Ready for *PVKhO*" badge, every *DOSAAF* member is expected to earn the "Ready for Work and Defence" badge which, worn by a student, housewife, teacher, artist, or scientist, is evidence that its wearer is ready to work for the defence of the USSR.

Civil defence must have mass participation to be effective. On this score the USSR is reasonably successful.

CANADIAN ARMY ORDERS AND BRANCH INSTRUCTIONS

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

CAO 4-5

Accidents — Vehicle Antennae Coming in Contact with Power Lines

(Issued: Nov 59)

This new order which supersedes GSI 57/4 details the procedure to be adopted when vehicle antennae come in contact with power lines.

CAO 10-1

Instructional Staff for the Militia

(Issued: 16 Nov 59)

This revision results from a change in the establishment of the Instructional Staff for the Militia (I Staff). The term "Instructional and Administrative Cadre" has been replaced by "Instructional Staff for the Militia" and all reference to the Royal Canadian Army Cadet Instructors has been deleted. The maintenance duties of the Administrative Cadre are now shown under the duties of the I Staff.

CAO 35-1

Military Commands and Areas in Canada

(Issued: 16 Nov 59)

This new order sets out the boundaries of military commands and areas in Canada. It reflects the recent changes in the boundaries of Western and Central Commands as a result of the elimination of Prairie Command. It also shows formation of Alberta and Manitoba Areas and minor changes in the boundaries of British Columbia Area.

CAO 48-1

Canadian Military Attaches

(Issued: 28 Dec 59)

This amendment provides that CALE may now correspond directly with military attaches to arrange visits to Continental Europe of their own staff officers or when doing so on behalf of AHQ.

CAO 55-2

Boards of Inquiry Change of Command

(Issued: 16 Nov 59)

This revision requires outgoing COs to hand over a statement and certificate regarding financial position and the amount and condition of non-public property of each institute to the incoming CO. Other minor changes relate to accounting for Canadian Army publications, classified and RCASC documents.

CAO 57-16

Army Sports— Boxing Championships

(Issued: 11 Jan 60)

This new order which supersedes GSI 56/5 details the procedure for the Army Boxing Championships, registering Army boxers and officials, and recording boxing meets and tournaments.

CAO 63-4

Loss of or Damage to Public Property—Investigations

(Issued: 16 Nov 59)

This revision brings the order in

line with the new provisions of Chapter 21 of QR(Army). It expands the order by providing for investigations of losses of or damage to public property either by means of a board of inquiry or a summary investigation.

CAO 78-1
Units Reduced to Nil Strength
(Issued: 16 Nov 59)

This revision includes a number of changes in procedures for disposal and accounting of equipments, supplies and publications on charge to units.

CAO 83-11
Transmission of Service Documents—
Document Transmittal Form
(Issued: 11 Jan 60)

This amendment provides that personal documents, except documents for illegal absentees, will now be dispatched by first class mail instead of by registered mail.

CAO 97-1
Materiel Entitlements
(Issued: 11 Jan 60)

This revision brings the index of materiel entitlement documents up to date, and authorizes an amended pro forma for requesting amendment action which will ease the task of units and headquarters.

CAO 128-36
United Nations Medal
(Issued: 28 Dec 59)

This new order announces the institution of the United Nations Medal and outlines the qualifications required for the award of this medal to members of the Canadian forces.

CAO 136-9
Federal Income Tax Reserves
(Issued: 28 Dec 59)

This amendment changes the rate of income tax deductions at source for members of the Reserves, from 13% to 14% of taxable service income, effective 1 Jan. 60.

CAO 174-31
Medical and Dental Treatment Abroad—Military Personnel on the Staffs of Canadian Military Attaches, SHAPE or Similar Headquarters, and Army Personnel on Leave
(Issued: 25 Jan 60)

This amendment provides that all Canadian External Affairs posts abroad, where Army personnel are stationed, are authorized to effect payment action for medical or dental treatment.

CAO 212-69
Aircrew Allowance
(Issued: 16 Nov 59)

This revision of Annex A brings up to date the list of civilian flying clubs which are authorized to conduct proficiency flying training under contract with DND.

CAO 212-71
Outfit Allowances Officers and Warrant Officers Class 1
(Issued: 28 Dec 59)

This new order consolidates in one order the procedure to be followed by Officers and Warrant Officers

Class 1 of the Regular Army who claim Outfit Allowance, Tropical Outfit Allowance, and Special Outfit Allowance prescribed in QR (Army) 205.50, 205.51 and 205.515 respectively.

CAO 219-11

Powers—Approving Authorities for Punishment Warrants (Issued: 28 Dec 59)

This amendment brings up to date the list of approving authorities for the purpose of NDA 136.

CAO 225-9

Canadian Army Catalogues of Ordnance Stores (Issued: 11 Jan 60)

This revision notifies a new Canadian Army Catalogue of Public Printing and Stationery Items and deletes RCOC Pricing Guides which are now a DOS responsibility.

CAO 225-35

Equipment Publications (Issued: 11 Jan 60)

This revision notifies the responsibilities of DCER in regard to sponsorship and co-ordination of certain types of publications covered by this order. The functions formerly carried out by the DND, Chief of Printing and Stationery, have been reallotted to the current responsible agencies. Data Summaries and Parts Identification Lists have been omitted from this order. Data Summaries are now contained in EME Manual instructions, and the title "Parts Identification List" is considered synonymous with the title "Parts List."

CAO 227-5

Local Purchase Orders (LPOs)—General Instructions (Issued: 16 Nov 59)

This revision provides for a new policy governing instructions for local purchase orders. The new order is simpler, changes the financial limits of some officers and removes the former maximum monthly limits of expenditure, except for purchases of P&S items.

AGI 59/5

Terms of Service—Rank of 2nd Lieutenant—Militia (Issued: 29 Sep 59)

This new instruction provides for the terms of service under which selected, unqualified personnel may be commissioned in the Militia.

AGI 59/6

45-Month Subsidization Plan Medical Undergraduate Students (Issued: 23 Oct 59)

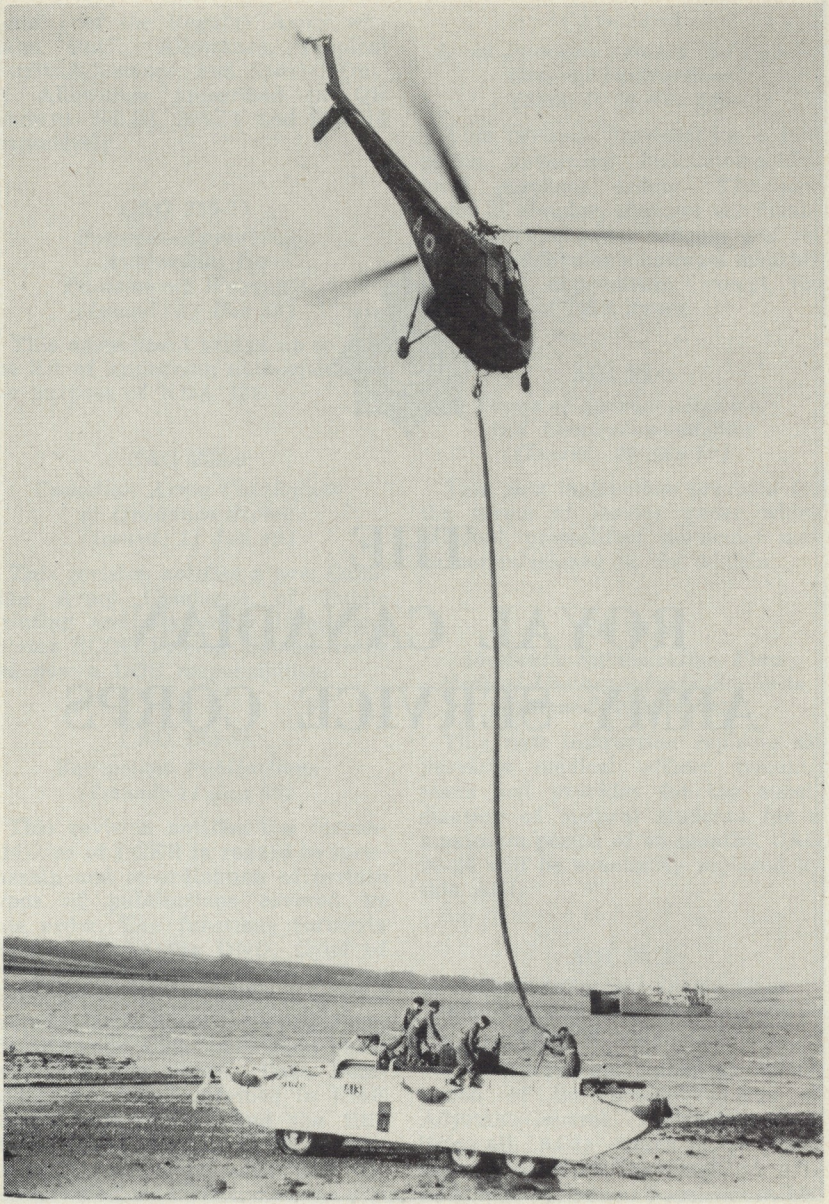
This new instruction replaces all previous medical officer training plans and provides for the subsidization of medical students for a maximum period of 45 months. CAO 20-24 will be eventually replaced by this AGI.

AGI 60/1

Adjutant-General Instructions Current and Cancellation Lists (Issued: 4 Jan 60)

This instruction serves as notification of the present status of Adjutant-General Instructions. It lists all AGIs which have been superseded since the issue of AGI 59/1. It lists also all current AGIs.

THE ROYAL CANADIAN ARMY SERVICE CORPS



LANDING BULK LIQUID PETROLEUM SUPPLIES

A REPORT ISSUED BY THE UNITED KINGDOM INFORMATION SERVICE

The photograph on the opposite page shows British soldiers taking part in the landing of bulk liquid petroleum supplies during "Exercise Softline" staged by the Royal Army Service Corps at Angle Bay, Milford Haven, England. A helicopter picks up the end of a pipeline (made of nylon fabric and synthetic rubber) from an amphibious vehicle to carry the pipe out to sea for joining on to a Dracone flexible petroleum tank.

The demonstration was designed to show how petroleum supplies could be speeded up during landings. The use of lightweight pipelines towed ashore by landing craft or picked up by helicopters from tankers off the shore, dispenses with the more familiar "jerrycan" containers normally brought ashore by vehicles.

Transportation in Nuclear War

Recent studies of the probable economic situation arising from conditions of a nuclear attack indicate that the problem of providing and distributing essential commodities for both military and civilian purposes would be critical and complicated. It would be necessary to have not only an organization with clear unified control over supplies of all types, but one that could be decentralized not only to regional but, if necessary, local areas.

In the uncertain conditions to be expected as a result of a nuclear attack, it is considered that the flexibility and widespread distribution of transport would be of major importance in helping us to survive and reorganize the economy. No one can forsee what part of our transportation resources will be left in an operating condition following a nuclear attack on this continent. Decisions will have to be taken promptly and any doubt as to where authority lay would result in serious delay and confusion. It is necessary then that we plan in advance of such a contingency in order to have unified control of all types of transportation in an emergency.—*From a speech by the Hon. George R. Pearkes, VC, Minister of National Defence, to the National Defence Transportation Association, Seattle, Washington, 12 October 1959.*

Unbelievable Firepower

We envision the time when the individual soldier will be equipped with almost unbelievable firepower. He will go into battle with weapons and equipment that just a few years ago were to be found only in science fiction, yet today are on the drawing boards or approaching the prototype stage. The future fighting man may have a two-way helmet radio, and perhaps television and infra-red equipment; he may ride a flying platform or an aerial jeep; and he may carry in his individual shoulder weapon the thunderbolts of atomic firepower. — *Lieut.-General Arthur G. Trudeau (U.S. Army).*

RCASC SCHOOL INSTRUCTOR WINS NATIONAL TRUCK ROADEO

Canadian Army Photograph

Corporal G. R. Thompson, an instructor at the Royal Canadian Army Service Corps School, Camp Borden, Ont., won first place over the Royal Canadian Air Force in the Armed Services Division of the National Truck Roadeo, 1959, at the Canadian National Exhibition Grounds, Toronto. He had a total of 365 points out of a possible 400 and his closest rival, Corporal H. Norden of the RCAF, placed second with 354 points. Holding the trophy, Corporal Thompson receives congratulations from Colonel G. F. Stevenson, CD, Director of Supplies and Transport at Army Headquarters, Ottawa. The winner also received $300.00 in cash.

Nuclear-Powered Submarine Launched

At Groton, Connecticut, the world's mightiest submarine, the USS *Triton*, powered by two atomic reactors, was commissioned 10 November last. The first skipper of the *Triton*, built at a cost of more than $100,000,000, is Captain E. L. Beach, a former naval aide to President Eisenhower. — *From the Army-Navy-Air Force Journal (U.S.).*

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This index has been prepared for the convenience of readers who want a ready reference for all subjects dealt with in Volume XIII of the Journal. *The majority of the subjects have been cross-indexed: e.g., the title "Plans for National Survival" is listed also as "National Survival . . ." and "Survival. . ." 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.

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