THE CANADIAN GUNNER

1967


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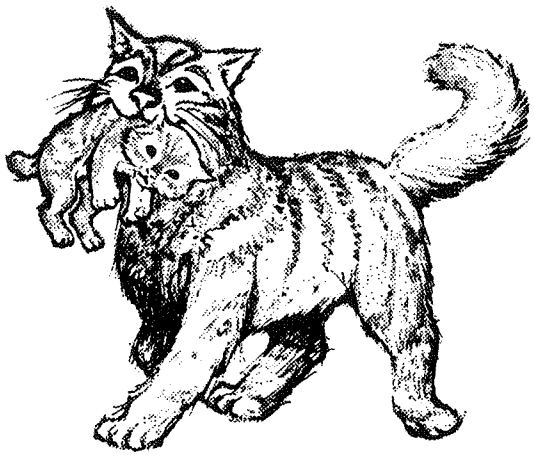

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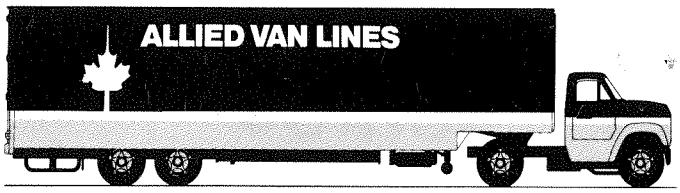

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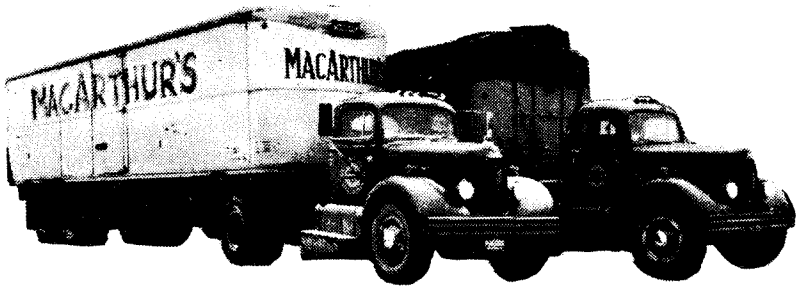

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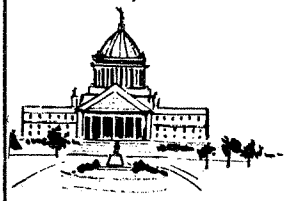

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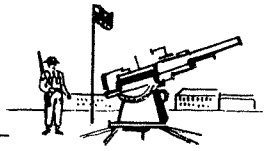

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THE CANADIAN GUNNER

Volume 3 December 1967

Captain-General, Royal Regiment of Canadian Artillery
Her Majesty The Queen

Colonel Commandant, Royal Regiment of Canadian Artillery
Major-General A Bruce Matthews, CBE, DSO, ED, CD

Senior Regular Gunner
Lieutenant-General WAB Anderson, OBE, CD

Chief of Artillery
Colonel JP Beer, MBE, CD

Commandant, RCSA
Colonel DW Francis, CD

THE CANADIAN GUNNER is published annually at the Royal Canadian School of Artillery, Shilo, Manitoba, within the operations of the Officers' Regimental Fund of the RCA Central Funds.

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MESSAGE FROM THE COLONEL COMMANDANT

Throughout the year the Regiment has shown a remarkable resilience to the stresses and strains brought about by the new Force structure. This is not less than was expected of The Royal Regiment of Canadian Artillery but credit is due to all members for the realistic approach, and contribution made to the changing scene prevailing in the Canadian Forces.

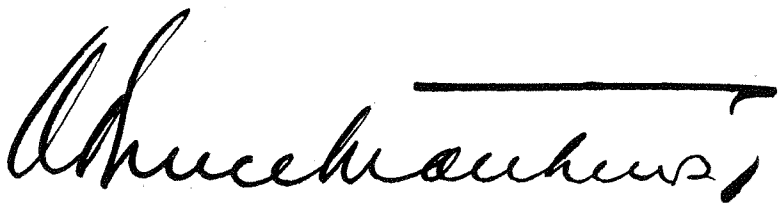
Major-General A Bruce Matthews CBE, DSO, ED, CD

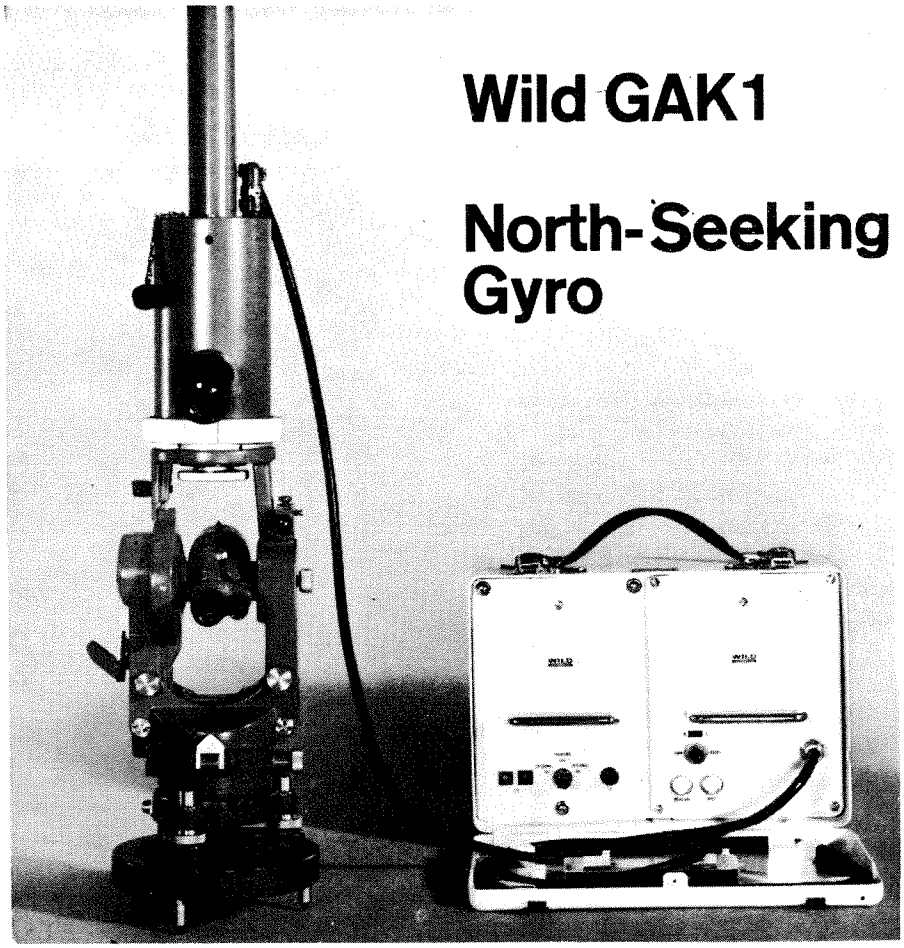
The year has produced a full quota of anniversaries and important public events. Starting with Canada's Centenary, The Regiment has played a full part in the planning and implementation of the Confederation Train, The Tattoo, Confederation Caravan, Forces '67 displays, countless centenary salutes and ceremonials. In addition, the Regiment received many well-deserved compliments for the great assistance rendered to the Pan American Games. While these varied outside activities are time consuming and demanding, they do have a profound impact on the public and serve to strengthen the bonds between the Regiment and the various communities served.

Over the years, the Regiment has provided many services to the civilian community. It is well to promote this identity whenever possible provided such co-operation is well defined and in the public interest.

The Militia Regiments and independent Batteries continue to deal with the perennial problem of recruiting and training. The steps proposed to create training headquarters for them augurs well for improved efficiency which should reflect more favourable results in attracting men to the Guns.

There is no question about the fact that the Canadian Centenary has captured the enthusiasm and imagination of the populace at large. I sincerely hope that all ranks derive a full share of satisfaction from the many activities of the Regiment. There have been the expected frustrations, but these have been found and largely overcome. I extend congratulations to all and assure you that your comrades, serving and retired, are proud of your endeavours on behalf of Canada at home and abroad.





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Editorial Notes

What an eventful year it has been. Without national and local centennial celebrations, Expo and Pan-American Games, 1968 bids fair to be a pallid let-down by comparison. Amidst the hoopla of 1967 an event of great significance to all Canadian Gunners, the long-awaited publication of our own story – THE GUNNERS OF CANADA – assumed a modesty of proportion not in keeping with its importance. The Royal Canadian Artillery Association is deserving of the deep gratitude of the entire Regiment for undertaking the heavy responsibilities inherent in the commissioning of such a monumental work. And the Association did well to secure the services of Col GWL Nicholson, one of Canada's most distinguished military historians. A former Director of the Historical Section of Army Headquarters in Ottawa, and author of several books, Col Nicholson has performed, in Volume 1 of the two-volume work, a magnificent job of setting out the story of the Canadian Gunners up until 1919. Volume 2, which will carry the story forward to the present, will be published later this year.

• *The Brooks Memorial Essay Competition produced disappointing results this year and consequently no award is being made. Last year, prizes of $100 and $50 were awarded and it is surprising that the effort put forward this year is in such contrast. The subject chosen each year is one which it is hoped will obviate, or at least distinctly minimize, any advantage being given to persons with special training, and which will thus offer, as near as possible, equal opportunity to all competitors regardless of rank, or whether they are of the Regulars, Militia, or officer cadet training system.*

• *We are grateful to Lt Col CG King (Retired) of Cobourg, Ontario, for setting us right on a point of detail. In our last edition we published an article about the Canadian School of Artillery which was established at Seaford, England, during World War 2. In that article we stated that a Reinforcement Officers Training Unit was set up at the School in August of 1944 under Lt Col EC Plow. Lt Col King tells us that the officer in question was Lt Col JF (John Foss) Plow, brother of the well known EC Plow (who was at that time a brigadier). Col King is correct, and his credentials are impeccable: he was Lt Col JF Plow's second-in-command at the time. Those who overlook the traditional Gunner double-check do so at their peril.*

• *Change, somebody once said, is the companion of time. At a recent get-together, a few old Gunners were wringing their hands over the present generation of troops and, in particular, deploring the absence of 'sense of urgency'. All had vivid recollections of exercises in which they had exhausted themselves sprinting from gun to gun, from command post to director, from director to command post, and then, as they lay panting on the grass during the inevitable critique, they heard the omnipotent IG, in dry, whiplash terms, upbraid them for lacking that essential characteristic, 'sense of urgency'. It was ingrained into them that it didn't matter particularly how well one did the job, just so long as he did it at the double. As the ultimate example of a fine display of 'sense of urgency', one old hand brought the conversation to a close by telling the true story of a well indoctrinated troop commander who, snatching the radio handset from his signaller, bellowed to his bemused GPO, "Move now, route later". One rarely sees that kind of urgency nowadays.*

• *We are now witnessing a particularly large exodus from our ranks of gallant and capable soldiers who joined the service during World War 2 and who have reached the age of compulsory retirement. They depart individually, as quietly as they came when young men a quarter of a century ago. It will not be long before the last of that great band will pass from the active scene. Despite deep and inevitable feelings of nostalgia, their departure does little to weaken the structure of the service. This is because they have trained well the men who will take their place. Two thoughts come to mind. They have left a legacy, in the form of able successors, of their long years of peace-time service. And it was their lot to serve during a long period when promotion was extremely slow, and what there was of it was based largely on seniority, which in turn was so often based on wartime or other ancient happenstance. They served well and have left their mark. This is what soldiers should do and hope to do, though few would admit for one moment to such a sentiment.*

The City of Brandon and the Regiment

In South-west Manitoba, on a gentle slope overlooking several lazy loops of the Assiniboine River, spreads the active friendly little city of Brandon. It is the largest community on the 350-mile stretch of Trans-Canada Highway between Winnipeg and Regina. Its 30,000 citizens are proud of their town, pleased with its sobriquet *The Wheat City*, somewhat in awe of its newly-established and fast-growing Brandon University, and very concerned over the problem of where to erect a new city hall.

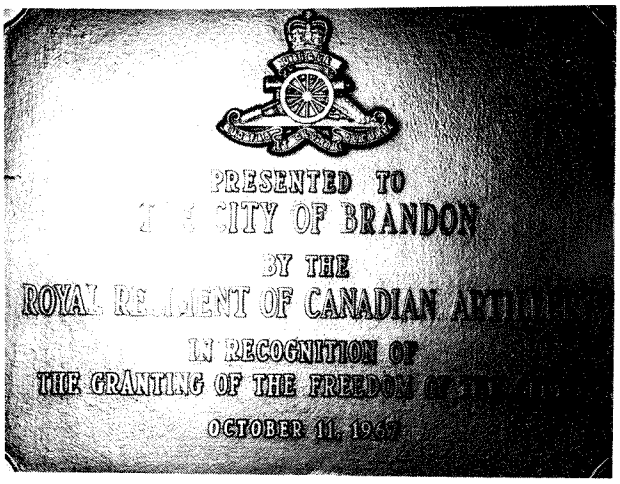
Brandon is a town with the stamp of the prairie on its wide streets, its weathered yellow-brick houses, and the strong, tanned faces of its people. Like the vast sun-soaked plain around them, they are open, friendly, straightforward people. Over the years, a deep and happy relationship has endured across the fifteen miles of prairie which separate the Wheat City and Shilo, Home of the Royal Regiment of Canadian Artillery.

On 11 October 1967, a very tangible expression of that relationship was manifest when, in the presence of hundreds of citizens, His Worship Mayor Stephen Magnacca bestowed the Freedom of the City on the Royal Regiment. It was a historic moment, the first time such an honour had been granted the Regiment as a whole by any Canadian city.

After inspecting a Guard of Honour in front of the City Hall, Mayor Magnacca read the special proclamation to the assembled troops and citizens and then presented the proclamation scroll to Col DW Francis, CD, Commandant, RCSA. The latter received it on behalf of the Colonel Commandant of the Regiment, Maj Gen A Bruce Matthews, CBE, DSO, ED, CD, who was not able to be present.

In reply to Mayor Magnacca's address of welcome, Colonel Francis spoke of the long and close association between Brandon and the Gunners of Canada. He then read a message of congratulation to the Regiment from the Queen, after which he

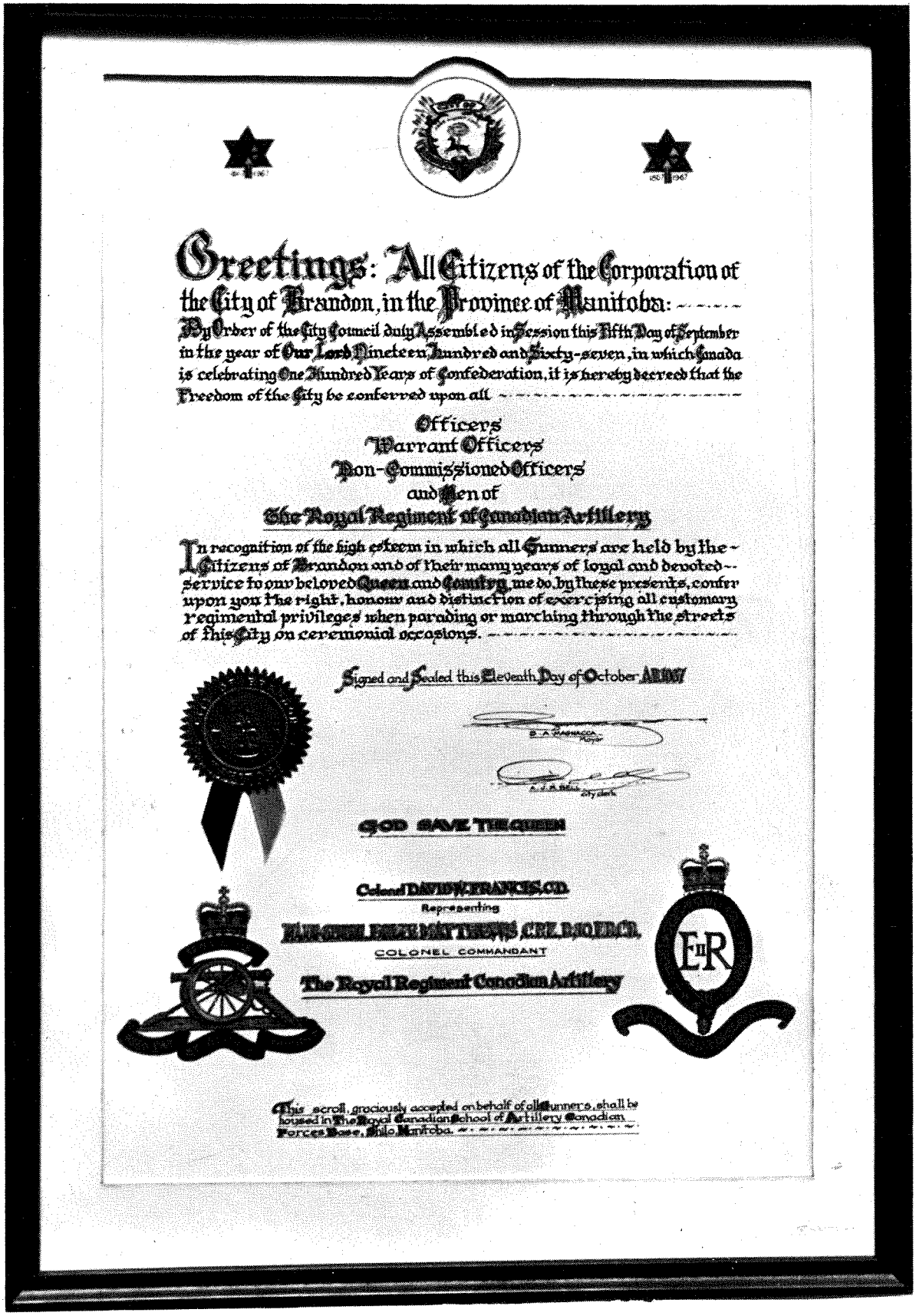
While Col DW Francis looks on, Mayor SA Magnacca reads the proclamation...



The bronze 14" × 19" plaque which commemorates the event

... and inspects the Guard of Honour.

The firing troop from 2 SSM Training Battery drives past the saluting base.



Greetings: All Citizens of the Corporation of the City of Brandon, in the Province of Manitoba: ---

By Order of the City Council duly Assembled in Session this Fifth Day of September in the year of Our Lord Nineteen Hundred and Sixty-seven, in which Canada is celebrating One Hundred Years of Confederation, it is hereby decreed that the Freedom of the City be conferred upon all ---

Officers
Warrant Officers
Non-Commissioned Officers
and Men of
The Royal Regiment of Canadian Artillery

In recognition of the high esteem in which all Gunners are held by the Citizens of Brandon and of their many years of loyal and devoted service to our beloved Queen and Country, we do, by these presents, confer upon you the right, honour and distinction of exercising all customary regimental privileges when parading or marching through the streets of this City on ceremonial occasions. ---

Signed and Sealed this Eleventh Day of October A.D. 1967

GOD SAVE THE QUEEN

Colonel DAVID C. FRANCIS, C.D.
Representing
MAJOR-GENERAL ERNEST BEATTIE MATTHEWS, C.B.E., D.S.O., E.D., C.D.
COLONEL COMMANDANT
The Royal Regiment Canadian Artillery

This scroll, graciously accepted on behalf of all Gunners, shall be housed in The Royal Canadian School of Artillery Canadian Forces Base, Shilo, Manitoba. ---

The Proclamation

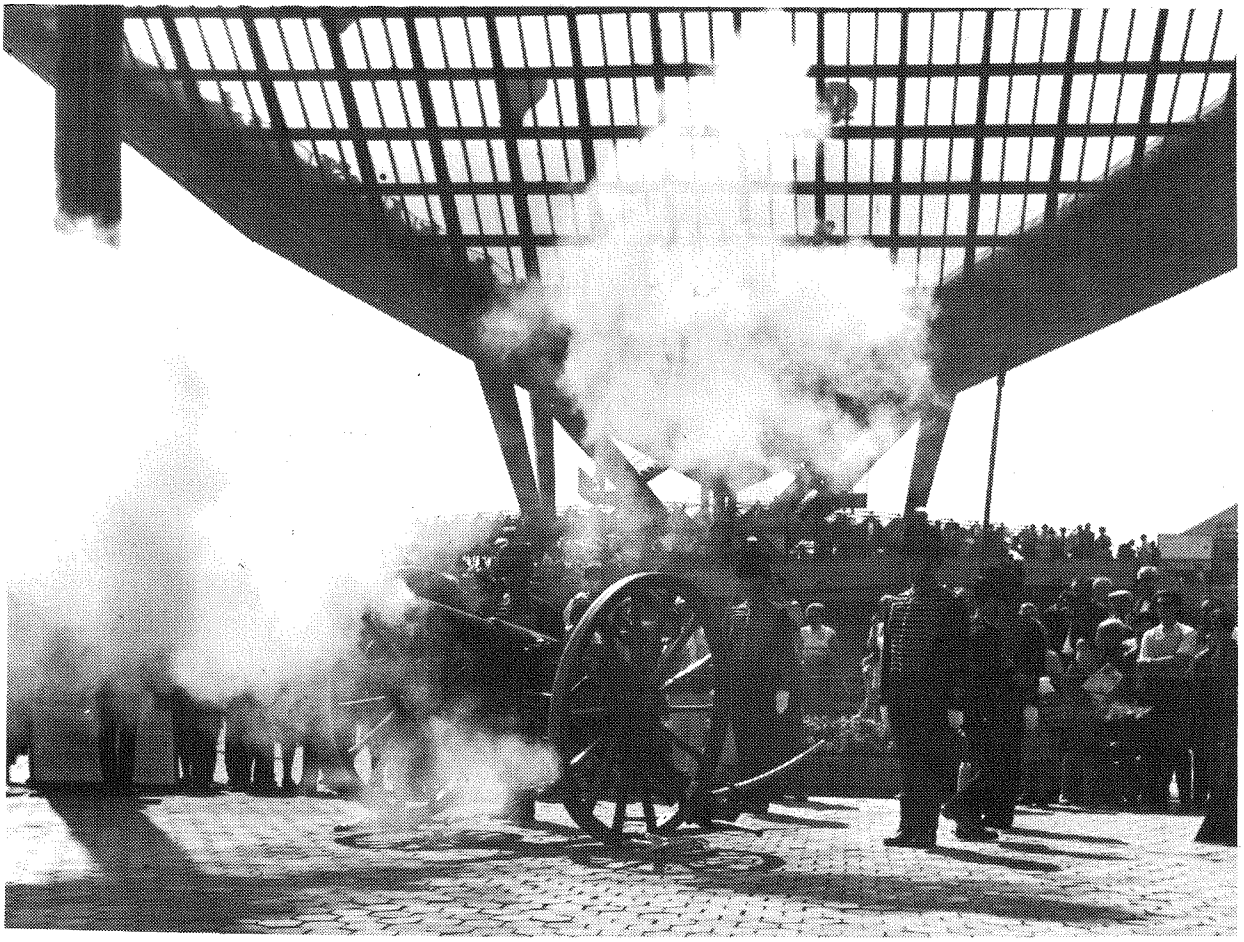
presented the city with a bronze plaque commemorating the occasion.

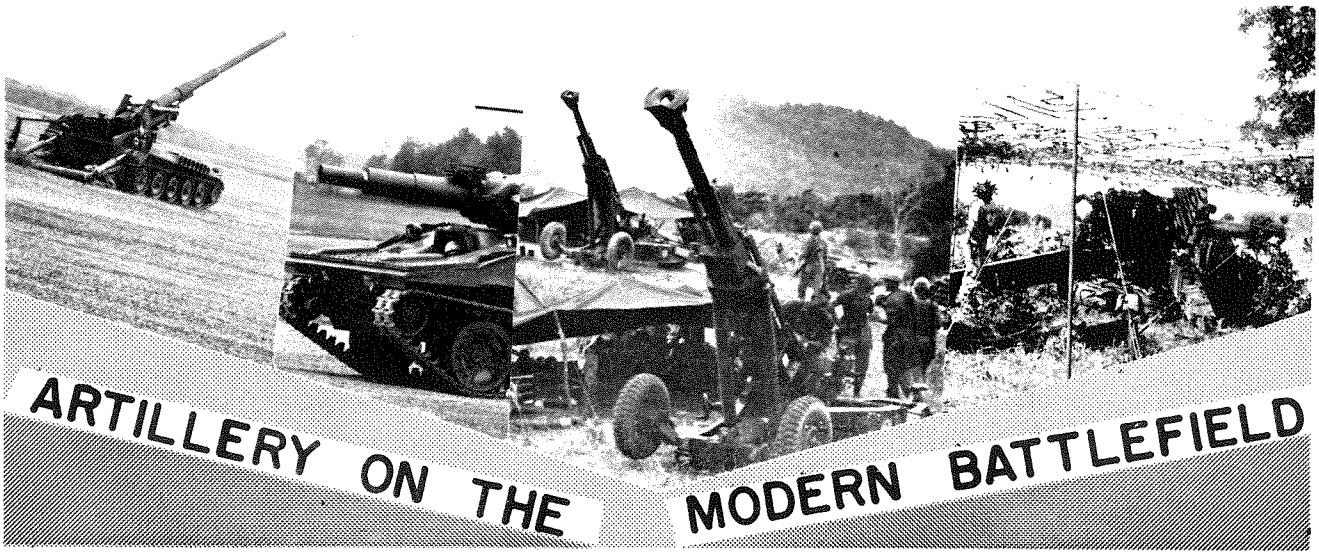
As befitting such an event, all components of the Regiment were represented at the ceremony and comprised approximately fifty guns and vehicles and some four hundred all ranks. The Parade Commander was Lt Col RG Heitshu, CD, Commanding Officer, 3 RCHA; the 50-man Guard of Honour, provided by 3 RCHA, was commanded by Capt LE West, CD. The parade area in front of the City Hall was ringed by six 105mm howitzers manned by 26 Field Regiment RCA(M).

At the conclusion of the ceremonies in front of the City Hall, the Guard of Honour fixed bayonets and, headed by 3 RCHA Trumpet Band, marched off, leading the parade past the reviewing stand and on a one-mile route through the heart of the city. They were followed by J Battery 3 RCHA, the RCHA Band, dismounted troops from 2 SSM Training Battery and the RCA Depot, a troop of 155mm howitzers from RCSA, a firing troop from 2 SSM Training Battery, counter-mortar radars of 1 Locating Battery, and the 26 Field Regiment Pipe Band. The review and parade concluded with a flypast of L19 aircraft from the 3 RCHA Air OP Troop. Immediately following the parade, the troops who took part were guests of the city of Brandon at a large reception.

Being the highest accolade which a community can bestow upon a military force, the granting of the freedom of the city is not, and must not be, lightly offered. Or lightly received. It was abundantly clear that the significance of this occasion was deeply realized by those two friendly neighbours, the City of Brandon and the Home of the Regiment.□

DURING EXPO 67, A DETACHMENT FROM 4 RCHA, IN FULL DRESS, FIRED A 9-POUNDER NOON GUN EACH DAY AT THE CANADIAN PAVILION.





Maj FR McCall, CD
Canadian Liaison Officer, Fort Bliss

Great guns were gleaming there – living things
seeming there
Cloaked in their tar clothes, up-mouthed
to the night,
Wheels wet and yellow, from axle
to fellow,
Throats blank of sound, but prophetic
to sight.

– Thomas Hardy

Once battle is joined, the throats of the guns are rarely "blank of sound." The roar of the guns and the sound of shot passing overhead has comforted friendly troops and terrorized foes in every corner of the world since man discovered how to propel shot through a tube. The fundamental role of artillery has changed very little since the invention of the gun, but advancing technology has brought about an ever-changing kaleidoscope of tools of war, and has necessitated a constant change in equipments and techniques to achieve its fulfillment.

It is the purpose of this paper to discuss briefly the future of tube-delivered artillery weapon systems in the light of armour, guided missile and close-support aircraft development; and to recommend the method of command, control, and the equipment which is required by the artillery to carry out its role on the modern battlefield.

Man's quest for improved artillery can be traced back to the very beginning of recorded history. Few warriors have had the spiritual backing that Joshua is reputed to have had at the battle of Jericho, and therefore they developed such ingenious devices as siege-engines and catapults to breech the walls of fortified cities. As defences were improved, new ways had to be found to defeat them. Alexander the Great used siege-engines at Tyre in 332 BC bringing death to 8,000 Tyrians. Similar use of siege-engines was made by Archimedes against the Romans in 214 BC. History records a long succession of continuous improvements in engines and catapults until Roger Bacon produced a formula for gun powder which inaugurated a new trend in hurling missiles at the enemy. Guns and cannon were developed to replace the siege-engines and, as a consequence, the walls of the defenders became thicker and higher to counter the threat brought about by the use of artillery. With the strengthening of walls, guns became larger and more ponderous, resulting in sieges which lasted for days, weeks and months.

Not all commanders, however, were guilty of pursuing such otiose tactics. King Gustavus Adolphus II ascended the throne of Sweden in 1611 and was to be acclaimed a great artillerist by historians. He classified his cannon as either naval guns, siege artillery or field artillery. His major contribution was in the latter category – "...he moved

Maj McCall

his cannon into the thickest part of the battle and employed it against men rather than against fortifications. He bent his efforts towards the development of light, mobile guns and cartridge ammunition".[1] The changes which drew out of his artillery tactics were both widespread and drastic. The mighty "Spanish Square" concept suddenly grew obsolete and kings and generals all over Europe began scurrying after light-weight cannon. The sight of huge guns and ponderous artillery trains crunching along behind scores of horses began to fade from the military scene. The Prussian, Frederick the Great, added to the development of artillery mobility by organizing the first horse artillery. He saw the need for the provision of fire support for his cavalry and subsequently developed a light gun towed by horses "...which could follow the cavalry and quickly wheel into action, unlimber and engage the the enemy at close range."[2]

As the science of metallurgy and ballistics improved, so did the demand for better artillery pieces and more diversified and sophisticated ammunition. Students of military history will find that one of the prime factors in the success of the great generals of history was their ability to develop and employ artillery to its best advantage. Generals such as Bonaparte and Marlborough (the first Master Gunner of Artillery) were always very conscious of the advantages of well-placed artillery fire to turn the tide of battle. In 1813 Napoleon said, "God fights on the side with the best artillery". He also said, "Great battles are won with artillery".[3] Since the advent of gun powder, no major land battle has been fought successfully without the aid of artillery. The use of guns became increasingly significant during World War 1; nothing could move on the front during the static years of trench warfare without the support of machine guns and artillery fire. It was largely due to the employment of massive artillery support that the stalemate was broken and the Allies were able to break through the German defences and attain eventual victory.

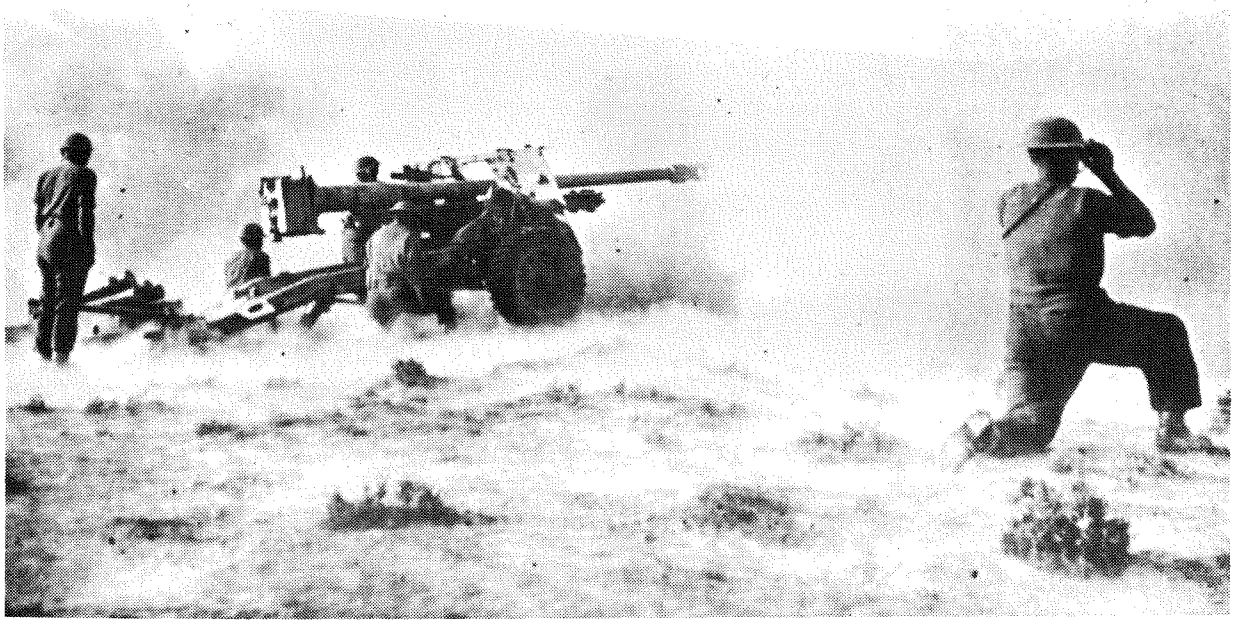
Successful armies have never been allowed a quiescent period in artillery development for it was inevitable that such a potent weapon would have to be countered. Subsequently, guns of longer range and larger calibre were developed to engage and destroy the enemy's fire power. The infantry had to become experts at night movement, digging and camouflage. The artillery then had to develop better methods of finding their targets, and better guns and ammunition with which to engage them. As aircraft

An early World War 1 anti-aircraft battery – the 13-pounder

[1] Phillip H Stevens, **Artillery through the Ages**, Watts, New York, p. 30

[2] **Ibid.**, p. 31

[3] **Ibid.**, p. 47



The 17-pounder anti-tank gun firing

began to take an offensive role on the battlefield, guns had to be developed to shoot them down. The tempo of the development race was stepped up with technological evolutions such as the internal combustion engine, the jet aeroplane, radar, missiles, rockets, electronic devices, tanks, radios and infantry fire power.

The artillery became a restless giant – required everywhere and with ever-increasing strength. Later it became the "friendly giant" as field commanders united with their organization. This union was strengthened with the spectre of atomic clouds over the battlefield. The infantry was forced to form small battle groups and spread out over the battlefield. The guns could no longer cover the whole front and had to be parcelled out to battle groups where they became part of the family and were thence reduced from the "friendly giant" to the "friendly dwarf".

But tactics are pragmatic, subject to the evolution of arms and political conditions, and therefore the artillery must acquiesce. The infantry is drawing in its satellites and forming itself into larger and more mobile units. It is able to move and strike rapidly and move again. The artillery must be organized and equipped to conform to these tactics to provide the fire support which will allow the infantry to carry out its task with a minimum of interference from the enemy. Many new weapon delivery systems, such as guided missiles and high-performance close-support aircraft have been developed in recent years. But none has succeeded in replacing the concept of close support from fast, accurate, tube-delivered explosives, in cost, volume, efficiency or dependability.

From the early 1600's to the end of World War 1, artillery provided the major portion of fire support on the battlefield. However, the rapid evolution of the tank and the aircraft during World War 2 introduced a new type of fire support. Tanks became highly manoeuvrable and carried large-calibre guns with varied types of ammunition. The infantry became more dependent on armour for fire support during the advance and attack phases of battle. Bomber aircraft became larger and faster and carried a larger payload of bombs. Fighter aircraft mounted rapid-firing cannons and rockets and were employed in the close-support role. These developments did not spell the end of artillery as the prime method of providing fire power on the battlefield. The tank and aircraft had serious limitations. Tank guns had a relatively short range, a flat trajectory due to their high muzzle velocity, and a lack of visibility which hampered night movement and precluded night firing. Due to their size and weight, tanks could not easily be transported from factory to battlefield or from one theatre of operations to another. Some of these limitations have been solved through the use of such devices as infra-red night driving and sighting aids. But the major limitations to their replacing artillery are still their flat trajectory and enormous size. When combat units have to be air-moved into a theatre of operations, the artillery is required to take over the role of the tank in assisting the infantry in breaking through the crust of enemy defences. Aircraft were limited to airfields normally located well to the rear of the battle line. For this reason, and because of lack of endurance, air support had to be pre-planned and targets of opportunity could not economically

be engaged from the air. Also, aircraft had not been designed specifically for close support of ground forces but were primarily bombers or fighters. Good visibility was a requirement. To counter enemy tanks and aircraft, the artillery developed anti-tank and anti-aircraft guns and trained specialist units to employ them. The artillery was still required to provide the bulk of the required fire support on the battlefield, in the form of indirect fire, counter-bombardment, smoke screens and timed barrages. General Montgomery paid tribute to the part the artillery had played during the battle of the Falaise Gap in 1944 when he said, "I think all the other arms have done very well too. But the artillery has been terrific ...".[4]

Following on the heels of the tank and the aircraft came the rocket and the missile. The Germans developed the V1 "Buzz Bomb" and the V2 Rocket, which were used with some success toward the end of World War 2. The jet aircraft and the atomic bomb were introduced at about the same time and their combined effect was to change the nature of future wars. Technological developments in the field of weapons for war produced a widespread armoury which would have staggered the imaginations of Gustavus Adolphus, Bonaparte and Marlborough. But the requirement for tube-delivered artillery was still not negated.

During the period since World War 2, a great many theories have been propounded as to the future of conventional artillery. It was thought by many that rockets would replace tube-delivered shells. Tests were carried out at Fort Sill, Oklahoma, to compare the effectiveness of the 105mm howitzer and the M16 rocket. It was found that an unacceptable dispersion was added to the inherent disadvantages of the rocket such as flash, smoke and delays due to preparation and deployment.

"Conventional rocket barrages of tremendous concentration had indeed been momentarily spectacular and psychologically stunning – ideal for spanning the 'fire gap' in amphibious operations and final assaults – but in cooler analysis they were seen to render little material damage to well-constructed earth-works."[5] The rocket, therefore, was not to replace conventional artillery but to supplement it. The next step in looking for a weapon with which to replace conventional artillery was to turn to the guided missile. Missile development has become sufficiently sophisticated to overcome the factor of dispersion but, because of its prodigious costs, time into action, and support requirements, it is suitable only for the delivery of large-yield atomic warheads, which can justify their use by the damage they produce. Smaller yield warheads can be delivered more efficiently by conventional artillery but will complement it with large-yield atomic warheads, which in turn will be supplemented by conventional fire. "Non-nuclear fire support (on the nuclear battlefield) will be required for:

a. Supplementing fire in the fringe areas of nuclear weapons effects;

b. Close, immediate and intimate support of our own troops;

c. Neutralizing areas that cannot or should not be subjected to nuclear attack;

d. Maintaining neutralization of areas previously subjected to nuclear attack."[6]

The only major area left to explore as a possible replacement for tube-delivered artillery is the high performance aircraft designed specifically for close support of ground forces. Modern jet aircraft can carry and accurately deliver a tremendous weight and variety of ordnance on pre-selected targets in close support of ground troops. The obvious limitations of relying solely on this type of fire support are the monumental costs of the delivery system; and the flying limitations imposed by fuel consumption, weather visibility, airfield requirements, logistical support and enemy air defences. Once again this can only be considered as being complementary to the fire support provided by conventional artillery.

The purpose of the preceding paragraphs is to show that the artillery has played a major part in the battles of the past, and that conventional or tube-delivered artillery will continue to play a major part in the battles of the future. It was not intended that the arguments presented should provide conclusive proof of this theory; such an undertaking is beyond the scope of this paper. They are to provide the criteria for the assumption that conventional artillery will continue in its role on the modern battlefield "... to support the other arms by establishing such fire supremacy in the battle area that the enemy can neither interfere with our operations nor develop his own effectively."[7]

To provide this fire supremacy, the art-

[4] **The Canadian Army Journal**, April 1955, Queen's Printer, p. 36

[5] Frank E Comparato, **Age of Great Guns**, Stackpole, p. 296

[6] CAMT 4-1-1, **Artillery in Battle**, Queen's Printer, p. 1

[7] **Ibid**

illery must be prepared to operate within the parameters of future types of conflict envisaged, and must be equipped and organized so as to be compatible with the characteristics and modes of operation of the arms it will support.

Studies conducted by NATO military leaders have produced a spectrum of conflict ranging from peace-keeping through internal security, guerrilla warfare or insurgency, and limited war to total nuclear war. These conflicts may range, in turn, from the suppression of a small number of local insurgents to the total destruction of a major nation. Forces designed to take part in these operations must be capable of fighting anywhere in the world and must be able to react quickly and move rapidly over long distances. The organization of these forces must be sufficiently flexible that they may operate in small independent groups for peace-keeping or guerrilla warfare and combine, without a major re-organization, to form the battle groups and armies which are required to fight a limited or total war. The combat arm which will most likely provide the nucleus of the forces designed to operate within the conflict spectrum is the infantry, and it is this arm which the artillery must be prepared to support.

The modern infantry unit is a hard-hitting, highly mobile force. It is organized to fight in small independent groups or be massed to fight as a large homogeneous battle group. It is capable of rapid movement over all types of terrain and can be launched into battle on very short notice. It can be airlifted in fixed- or rotary-wing aircraft and be concentrated or dispersed, unhesitatingly, to conform to the movements of the enemy. If optimum effectiveness is to be achieved from these characteristics, the infantry must be supported by artillery which is correspondingly organized and equipped. There is considerable room for improvement in this regard at the moment.

Research and development have kept pace with the demands of modern warfare but organization for command and control and material requirements have lagged behind. The staggering costs of modern ships, high performance aircraft and guided missiles have had a serious effect on the allotment of monies from defence budgets to equip land forces. If the artillery is to fulfil its role on the modern battlefield, it must be provided with the tools which researchers have developed in the areas of target detection, target acquisition, survey, fire direction and control, communications, mobility, delivery systems, meteorology and ammunition. These tools take the form of laser range finders; gyro-orienters; navigational aids; computers; multi-channel, crystal-calibrated radios; data link; radio-sonde; rocket-boosted ammunition; radar; light tracked vehicles; and air-portable guns. The artilleryman can no longer provide efficient fire support on the modern battlefield with Korean-vintage tools. The adoption of these modern tools will necessitate a change in the methods of command and control of artillery units in order that the greatest benefit may be derived from their use.

Napoleon once said, "Whoever manages to bring by surprise a mass of guns to a certain point is sure of carrying the day". A heavy volume of well-aimed artillery fire, employing the proper ammunition and delivered at the proper time, can neutralize a prepared enemy or effectively weaken the resources and manpower of a force which is not deployed in prepared positions. The problem is to have the guns and ammunition available and able to react at a moment's notice to deliver the rounds accurately on the target. If we can develop the expertise to hit any target which appears – instantly, we will put the enemy on the defensive at all times and restrict his freedom of movement on the battlefield. At the same time, we must be capable of engaging targets accurately, day or night, and in all weather conditions, without sacrificing the element of surprise by previous adjustment. This will involve the use of electronic aids to improve the reliability of predicted shooting. If the supported arm commander can rely on artillery fire to hit any given target within a very short time of its being discovered, that commander will be in a position to take bold and decisive action on the battlefield. Good artillery support can be likened to a fighter using his left jab to weaken his opponent by wearing him down and then striking a blow with his knock-out punch when the opponent's weakness has been found. To accomplish this, command and control must be kept at the highest possible level so that all guns on the battlefield are in a position to engage the enemy at all times in the most efficient density available.

This is not a new concept but one which has, perhaps, been lost sight of since the introduction of nuclear weapons and widely dispersed field forces. In the past, control of artillery has been handled by manual plotting methods with pertinent data being passed through successive headquarters on an ascending scale. Artillery commanders at each progressive level have been able, up until now, to keep track of the weapons and devices under their control and employ them efficiently and within an acceptable period of time. At the rate with which new weapon systems and control devices are being introduced to the battlefield, this type of control

will no longer be possible. As an example, the artillery regimental commander at a brigade headquarters will be responsible for the control and employment of his own guns plus any guns which have been allotted to the brigade from the divison or corps for a specific operation. In addition, he will be concerned with infantry support weapons; close-support air strikes; naval bombardment; helicopter, anti-tank and rocket delivery systems; counter-bombardment programs; anti-aircraft guns and missiles; and nuclear delivery systems. He will also be concerned with control of air space for guns, support aircraft, logistical aircraft and surveillance drones. He will be responsible for collecting and disseminating intelligence data through the deployment of drones, forward observers, artillery radar, electronic counter-bombardment devices, as well as monitoring supported arms nets. As the size of the field force increases from brigade through division to corps, the complexity of artillery control will increase accordingly. In order that the most efficient use can be gained from the fire power and fire control equipment which will be employed on the modern battlefield, manual control methods will have to be replaced by electronic computers which will allow control of these weapons and devices to be maintained at the highest level to take advantage of their characteristics and performance capabilities.

Guns, used singly, lose much of the fire power they possess when used together. Troops and batteries which are well dispersed (as they must be in anticipation of nuclear counter-bombardment) need not surrender their traditional capability of massed fire. Many targets will be so situated in time or terrain as to obviate the use of atomic fire. Large targets of this type will require the massing of as many guns as are in range, and engagement by the use of predicted data. Computers with electronic survey and field calibration and correlation facilities will permit rapid solution of ballistic problems. The artillery commander can schedule, pre-aim by remote control, and fire all the guns available, from one central location – thus considerably reducing the time required to engage a target. "Colonel Leonard G Robinson, instructor at the Command and General Staff School, United States Army, had called for greater surprise, mass, urity of effect, manoeuvre, and economy of force, believing that the artillery's past 600 years would not help solve its future problems. 'Artillery preparations,' he concluded, 'must be laid on with hurricane-like speed and ferocity to clear the way for infantry and tanks ...'."[8]

Experimental work with electronic computing machines in connection with missiles, and later adapted to tube-delivered artillery, has made phenomenal progress. Conventional fire control methods based on graphic and manual calculations are too slow and inaccurate for the desired standard of predicted fire. The inaccuracies are not necessarily based on human error, but are caused by calculations based on firing table and graphical data presentations which are only approximations or generalizations and which, in addition, require interpolation. For artillery calculations computers were adapted to fire-direction needs, with the acronym "Field Artillery Digital Computer (FADAC)". "Colonels Robert E Arn and William I King, working with technicians at Frankford Arsenal and the Belock Instrument Corporation, developed this gun data computer, which in tests brought a division-artillery fire mission down to 25 seconds. FADAC uses a pure ballistic solution, versatile enough to permit accurate surprise fires without registration; in its operation it applies corrections for all conditions affecting the projectile approximately each second during its flight, and its computations cease only when it has plotted the trajectory to within 10 meters of the target. Mobility and darkness are no problem for FADAC, nor is weather, which the machine computes for all altitudes through which shells pass... The computer (M18) is a rugged 232-pound digital computer into which a fire mission is fed manually. The target appears as a pip of light on the Electrical Target Map where the gunnery officer can determine its proximity to friendly lines; if the mission is accepted the Gunnery Officer's Console is used to transmit FADAC's firing data to a Battery (or Troop) Display Unit at the gun battery (position)."[9]

Other automatic data processing systems have been adapted to artillery needs and are able to allot guns and ammunition to targets, and to keep track of aircraft movements, gun controlled areas, ammunition holdings, gun states and other pertinent information which formerly have been compiled by personnel and plotted on maps and charts. Computers such as FADAC have revolutionized the process of fire planning in artillery command posts. Fire plans which in the past have required hours of staff work and compilations can be produced in minutes using a computer. In addition, computers can solve survey problems, produce meteorological firing data, produce target locations from sound ranging data; and analyse, compile and distribute target intelligence gathered from target acquisition devices. A well-balanced deployment of these computers tied together through a data-link system can change raw map data to firing

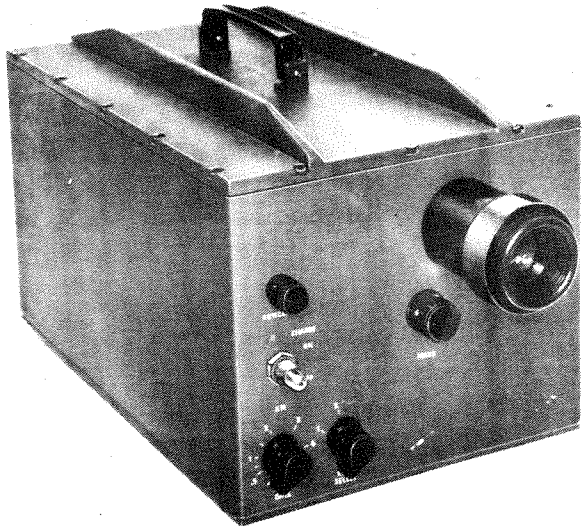
[8] Comparato, op. cit., p. 311

[9] Ibid., p. 312

data and pass it instantaneously to all guns available and in range of any given target. The memory circuits of the computers can store up-to-date firing data for all targets which have been recorded and can reproduce this data for a subsequent engagement in seconds.

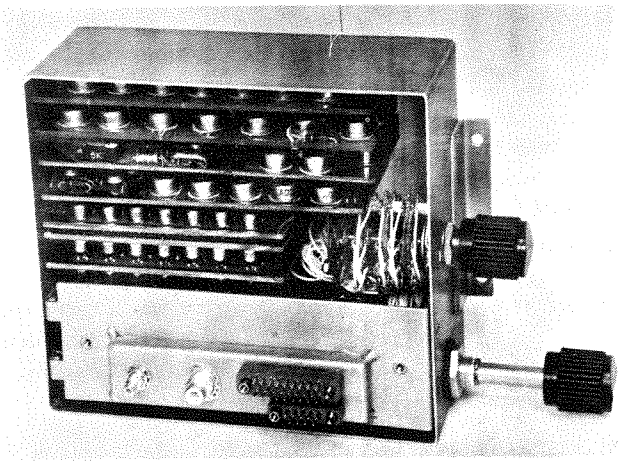
It will be seen from the preceding discussion that the artillery commander can rely on computers to do most of the "bull work" in the production of firing data, to keep track of artillery resources and to assist in the selection and employment of fire units to provide the quickest and most efficient support available. The use of data-link will allow the rapid transmission of firing data from any computer to the guns which have been selected to engage the target. This situation will provide a breakthrough in the traditional system of artillery communications in respect to the passage of technical data. One of the limitations of present day artillery springs from the need to pass fire control data from sub-unit or unit command posts to the next higher formation for onward transmission to the senior command post of flanking units and thence down to the gun positions of those units. This is a time-consuming process which can be eliminated by having the control of gun selection at the highest possible headquarters and having all of that formation's computers connected by data-link which would automatically provide all gun positions with the data required to prepare the guns for firing instantaneously. The only other information required would be the selection, by the formation headquarters, of the fire units to engage. The formation commander would be assisted in selecting fire units by the automatic data processing equipment located at his headquarters which would indicate what units are in range, the proximity of friendly forces, whether friendly aircraft are operating in the area, what guns are available, sub-unit ammunition status and what other fire support can be employed. By employing a computerized system, the artillery can make significant strides toward providing the supported arm commander with instant response to fire requests.

Before instant response and predicted accuracy can be achieved, however, there are other areas of the gunnery problem which will require up-dating of equipment and procedures. One of the major difficulties in the successful engagement of a target is target acquisition. Once the target to be engaged has been selected (usually by the supported arm), it becomes the task of the artillery observer to relate the position of the target to the map. Because of the inability of the human eye to accurately estimate range it is generally necessary for the observer to carry out a process of ranging

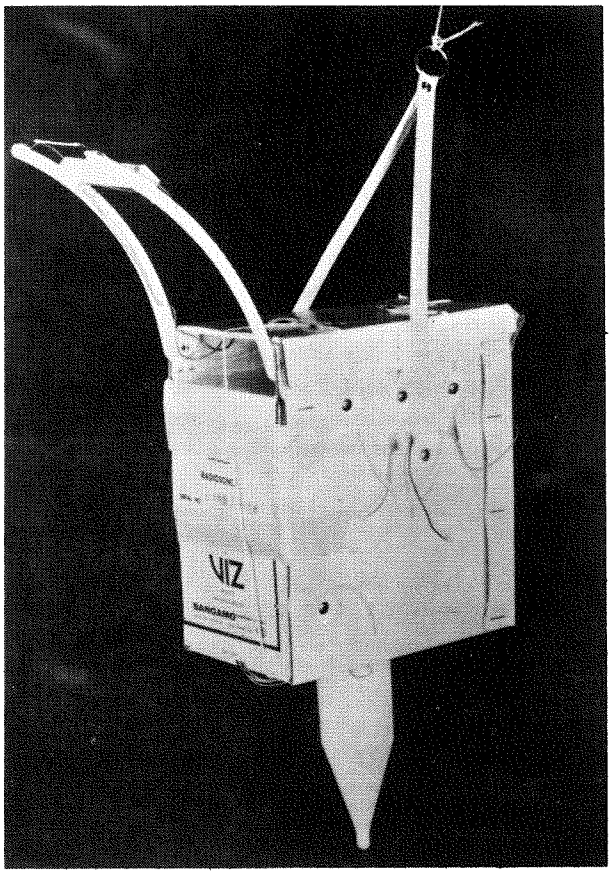


The TRG Model LA-65 laser rangefinder

(adjustment) with one or more guns in order that the artillery command post can locate the target in terms of map co-ordinates. This process not only wastes a great deal of time and ammunition, but it also provides the enemy with ample warning and deprives the supported arm of surprise. A major portion of this problem can be solved by the use of a laser range finder. A typical example is the TRG model which has a range of 300 to 10,000 meters and is accurate to within 10 meters. It is a small, compact instrument capable of taking six range measurements per minute. Equipped with such an instrument, plus a navigational aid for poorly mapped country, the artillery officer could accurately locate any target requested by the supported arm; and by employing a coded burst transmission system could have the required information passed to his affiliated command post in just over one minute. The command post, in turn, could have the firing data computed



Range-measuring circuits in the LA-65



The SA65-series radiosonde, as suspended from the balloon, with outrigger and transmitter in flight position

and disseminated to all the guns in the data-link circuit in less than a minute. The allotment of guns and ammunition and the decision to fire would be made by formation headquarters and disseminated in the space of time required to lay the guns. It is, therefore, conceivable that a complete fire mission from target indication to fire for effect (less time of flight) would take approximately three minutes. Effective fire support produced in such a short space of time would lead the supported arm commander toward complete domination of the battlefield through artillery fire.

Before accuracy can be achieved, the gun position must be provided with accurate survey. Our present system of providing sympathetic survey at regimental and higher levels is too slow to keep up with the flow of a fluid battle. Again, equipment has been developed which will assist in solving this problem. Reconnaissance parties should be provided with gyro-orienters to produce orientation, and a form of navigational aid to produce fixation. By the proper employment of calibration points, a reasonably acceptable sympathetic grid can be maintained between independent sub-units during mobile operations. This will allow frequent movement of the guns to keep them well forward so that the best advantage can be taken of overlapping arcs of fire. It will also improve predicted shooting of multiple fire units where regimental and theatre grid cannot keep up with the mobile battle.

Before accurate predicted shooting can be achieved, firing positions must be provided with current meteorological data and guns must be calibrated at regular intervals. Radar radio-sonde equipment is required at each formation command post or within the registration limits, i.e., datum limits prescribed by the relative positions of mutually supporting sub-units. Computer meteorological data could then be sent via data-link to the computer at each firing unit in the system every two hours or as often as required. Each formation headquarters should also be equipped with a portable electronic calibration instrument which could be sent to the firing units to recalibrate their guns as required. Calibration instruments have been developed that will allow recalibration to be carried out while the guns are in action.

To complete the new family of equipment, the artillery must obtain improved radios. Single side-band, crystal-calibrated, multi-channel radios have been developed and are available. This type of medium-range radio, together with a small transistorized short-range radio, each having a coded burst transmission capability, would greatly improve unit communications. There are already a number of highly sophisticated systems available for rear-link communications.

No attempt has been made to outline an exhaustive list of the new equipment available to the artillery. There are many other developments which have already been acquired or are under active consideration, such as light air-portable howitzers, rocket-assisted ammunition, medium self-propelled guns and light tracked prime movers. Once the artillery has been properly equipped, the only remaining consideration is the command structure best suited to modern warfare.

It has been the practice in recent years to adopt a standard procedure of allotting artillery sub-units to infantry battalions and artillery regiments to brigades, generally in direct support. This practice has lead to good teamwork between the infantry and artillery, and by having armour and engineer support allotted in the same manner, it has provided the local commander with strong battle groups at the company and battalion level. However, it has also had the effect of reducing the efficiency and

effectiveness of the artillery within brigade and division sized formations. By employing this system, guns are often misused or may be left idle even when in range of flanking formation targets. Target priorities are controlled at such a low level that targets may not receive the weight of fire that their perimeters or relative influence demand. This system has had the effect of containing artillery fire units within formation boundaries – batteries being deployed within the boundaries of the battalions supported, and regiments within the boundaries of brigades. Once artillery has been allotted in this manner, and the local commander has made his plan, it is very difficult to justify the movement of guns to an area where they are more urgently required. To get the maximum benefit from all guns on the battlefield, every gun must be deployed in relation to its neighbour to provide the maximum degree of saturation of the front, regardless of affiliated formations or formation boundaries. The deployment layout should be designed so that overlap in arcs of fire occurs wherever possible and particularly on probable lines of approach, likely forming up places, defiles, strong points and key terrain. Gun deployment control must be flexible enough so that the deployment posture can be altered to meet changes in the battlefield layout whether enemy or friendly. Artillery deployment must be able to flow with the battle and still provide adequate and accurate fire support. This can be achieved only if command of the guns is put in the hands of the commander who is controlling the battle. By utilizing the facilities provided by an automatic data processing system, coupled with data-link to a FADAC computer system, guns can now be commanded at a formation level which will give them a flexibility and effectiveness which has never before been achieved. The envisaged change in basic concept is that artillery *fire*, rather than guns and units, will be allotted to the supported arm.

The supported arm commander need not concern himself with the question of where artillery support comes from, providing he gets it when and where he wants it. In fact, more often than not, he will probably get more weight of fire than he would by having only his own unit of guns. He can still be guaranteed the fire of a given unit size, but if that unit is not specified by name, the higher commander will be provided with a greater degree of flexibility in employing the available artillery support. By allotting fire rather than fire units, the artillery can be superimposed over the battlefield with emphasis placed where the battle commander decides it is most required. It will also allow the battle commander complete flexibility of movement of artillery to deal with changes in battle posture as they occur. In addition, target priorities could be controlled at a higher level, which would result in a more efficient allotment of ammunition to target ratio. Guns would not be idle when they could be utilized, and artillery fire would not be wasted on unimportant targets. The basic organization of artillery units need not necessarily be changed to achieve this flexibility of employment. By having command at the formation level, units can be made more fissionable; i.e., gun troops and troop command posts need not be permanently locked together, but can be detached from their parent unit and attached to another, either joined as a complete fire unit or separated as the situation dictates. It should not become a general practice to detach guns and command posts from their parent unit, but the facility to do so should exist.

One of the major objections to discontinuing the practice of affiliating artillery units with units of the supported arm would be the possible loss of continuity and teamwork which has been enjoyed since World War 1. This could be overcome by attaching forward observation officers and an artillery staff officer to battalion-size units on some sort of permanent basis. These officers and their staffs would be responsible for providing artillery advice, the engagement of targets, liaison, battlefield surveillance, co-ordination of the fire of infantry and armour, and naval and close air support, as they have done in the past. No matter what organization is adopted in the future, this close liaison between artillery and the supported arm should not be lost. The need for co-operation and command at the highest level is borne out by an account of the battle of Aisne: "Although the Germans admitted the deadliness and accuracy of the British artillery, nevertheless its guns were relatively few and the methods by which it was controlled reduced its effectiveness still further. In 1914 there was no centralized control of artillery beyond division, and the necessity for that close co-operation between the infantry and the artillery in planning and carrying out an attack, which was developed in the latter stages of the war and was a feature of World War 2, was not fully realized at the battle of Aisne".[10]

Perhaps the best way to summarize the thoughts expressed in this paper would be to outline a hypothetical artillery engagement from the time of request to the moment of rounds on the ground. An advance has been held up by a reinforced enemy battalion and a brigade attack is being prepared. The artillery headquarters at division has analyzed

[10] DMT, Historical Section, **The Western Front 1914**, Queen's Printer, p. 116

the artillery situation with the aid of its automatic data processing (ADPS) equipment and is deploying reconnaissance parties and fire units from formations in depth. At this moment all flanking and depth artillery units which can be brought into range are going into action in areas which will give the best coverage of the battle area. This can be accomplished in a very short period of time through the use of gryo-orienters and NAVAIDS. The forward observation officers (FOOs) with the forward elements of the supported arms are engaging enemy targets with neutralizing fire. Normal battle procedures are being carried out and the artillery staff officers at battalion headquarters are preparing a fire plan with their infantry commanders. Co-ordinates for the targets chosen are being determined by the FOOs with the aid of their laser range finders. Map target data for the targets on the fire plans are being sent by coded burst transmission to the artillery command post at brigade headquarters. Fire plans are co-ordinated at brigade with the aid of their ADPS, and the co-ordinated plan is sent by data-link transmission to the artillery headquarters at division where all fire support data is fed into the main computer system and further available artillery support, close air support, etc., is added as determined by the computer. The fire plan, with meteorological data if required, is then sent by data-link transmission to the FADAC at each fire unit which will take part in the fire plan. All required information such as timings, rates of fire, units to engage and ammunition will be worked out by the computer system, and once approved by the battle commanders, will be included in the data sent to the fire unit command posts. During this period the guns have not been required for adjustment (registration) and have been employed in neutralizing targets as requested by the forward infantry commanders. The enemy, therefore, has been given no indication of what form the attack is likely to take. His movement is being restricted by artillery fire, and he is unable to adjust his defences without suffering casualties. The fire plan is prepared and the guns are laid on the first serial in less than 20 minutes, less time than it would take the supported arm commander to issue his orders and form up his forces for the attack. The first positive indication to the enemy of an attack is the predicted artillery fire landing on serial 1 of the fire plan. What advantages have been gained by this modern, sophisticated artillery formation over present formations? There is a tremendous number of advantages – and some disadvantages, such as cost and maintenance of the system. But on the final balance sheet, the advantages will outweigh the disadvantages, particularly in time, surprise, accuracy and flexibility. As can be seen from the brief hypothetical operation outlined above, one of the main advantages gained was surprise. The electronic devices employed left the guns free to engage the enemy during the time when the fire plan was being prepared, and the technical data was determined without the necessity of previous adjustment. Another advantage was time. A brigade fire plan, a task that normally requires two to three hours, was produced in twenty minutes. Flexibility was another major advantage gained. By keeping command at division level, the brigade commander received the maximum fire support which could have been made available from the resources of the division rather than being restricted to the resources of the brigade.

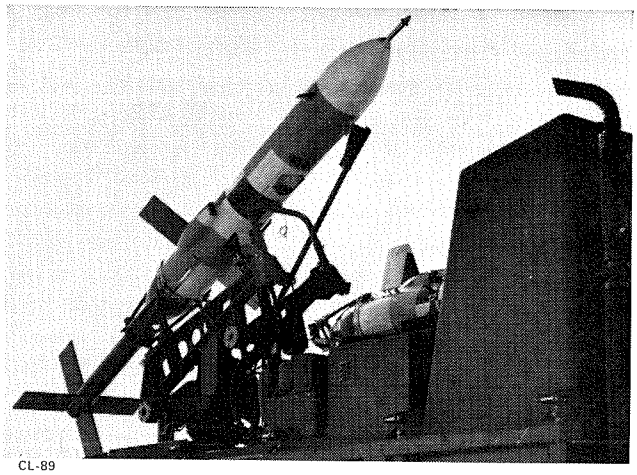
This has only been a broad outline of the employment of artillery on the modern battlefield; but it should indicate that if the infantry is to receive the fire support it needs to win battles, the artillery must be provided with the equipment the designers have made available.

After World War 1, Major-General McNaughton paid this tribute to his commanders and his men:

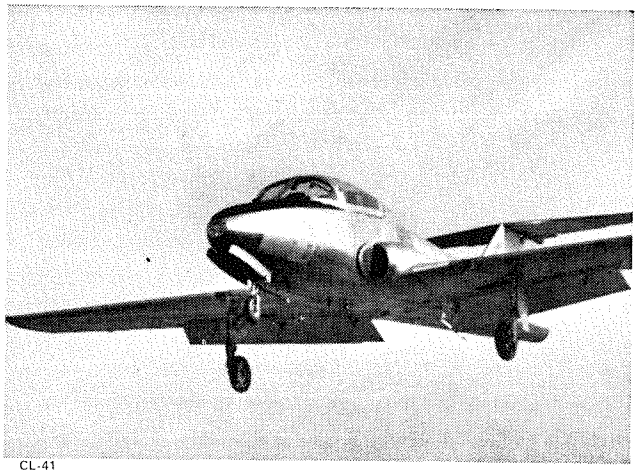
> "I know of no other organization in the history of the war which was able to produce such a high ratio in shells to troops, nor any in which the price paid for victory was lower in personnel. This was only possible because of our leaders.
>
> "Canadians took naturally to gunnery ... all ranks developing extraordinary skill, efficiency and dependability, and if there was ever a particularly difficult or dangerous task to do, a Canadian battery was called on to do it. Only on one occasion (Sanctuary Wood) were any guns of the Canadian Corps Artillery in German hands. All ammunition was gone and the gunners dead or wounded. The guns were recovered shortly in subsequent fighting."[11]

It was intended in this paper to show that conventional artillery will be required to play a major part in wars of the foreseeable future; to accomplish this it will have to be provided with modern tools and equipment. Properly equipped, the artillery is in a position to give its supported arm domination of the battlefield by providing accurate fire on enemy targets within a very short space of time after their appearance. If we can hit the enemy on the head with artillery fire every time he pokes it up, we can gain freedom of action on the battlefield and maintain continual offensive action. The artilleryman must be an expert in his field, and command and control must be designed to take every possible advantage which can be drawn from the forces available. There can be nothing more discouraging to a field commander or demoralizing to his troops than the continuous report of "pinned down by artillery fire, withdrawing under cover of smoke". □

[11] Larry Worthington, **Amid the Guns Below**, McClelland & Stewart, p. 87



CL-89



CL-41

CL-84

Dynatrac

Canadair can produce almost anything for the armed forces

except these.

We leave that to the navy. And the army. And the RCAF. Sure, Canadair can produce short range reconnaissance systems like the CL-89; all-through trainers like the CL-41 Tutor; revolutionary aircraft like the vertical take off CL-84, and all-terrain vehicles like the Dynatrac. But only our armed services can provide the trained men to guide them. Canada's proud of you, gentlemen. You're doing your job well. **CANADAIR**

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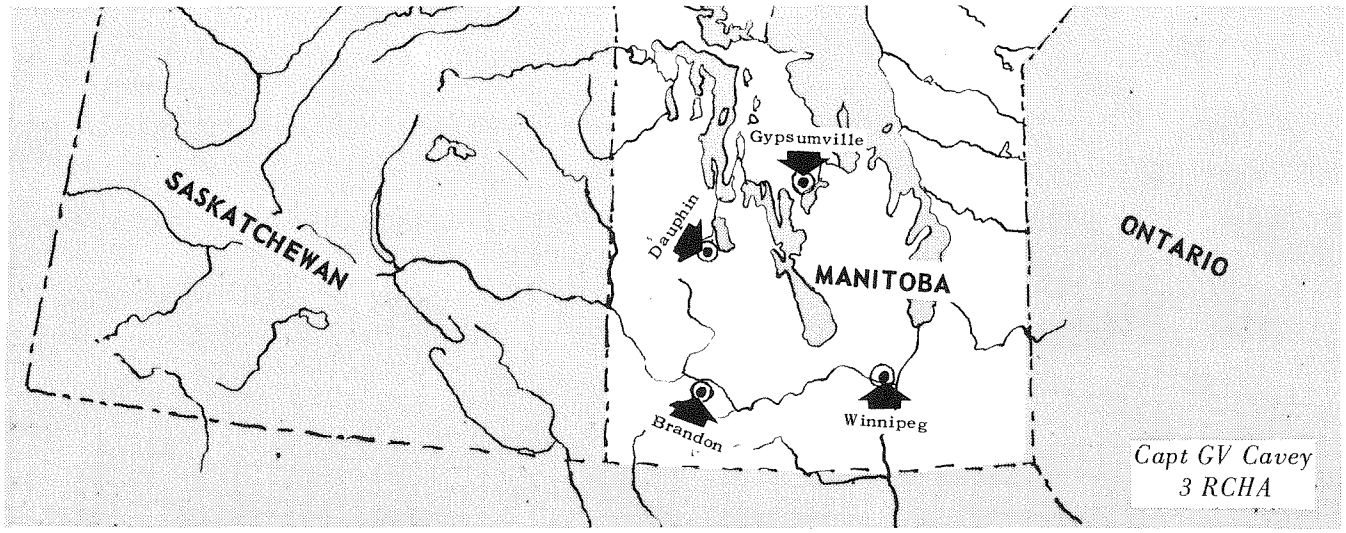
An Exercise with a Difference



Capt GV Cavey
3 RCHA

"Several enemy agents were picked up by the RCMP trying to find a way to sabotage the Greater Winnipeg water system."

This seems impossible. Is it? After interrogation it was leanred that six teams, each consisting of one officer and two junior non-commissioned officers belonging to the First Ontarasian Commando Battalion, were trying to acquire vital information throughout Manitogo.

These teams of foreign spies had been assigned tasks in Dauphin, Brandon, Gypsumville and Winnipeg. All teams had been captured and were being flown to work in the ice fields to the north. Unfortunately their plane crashed, the pilot was killed, and they escaped to continue their sabotage and subversion.

The above details appeared in the *Winnipeg Free Press*. Happily, it was only a press release by Lt Col JEG de Domenico, CD, Commanding Officer of 3rd Regiment, Royal Canadian Horse Artillery, warning the public that the third in a series of Voyageur adventure training exercises had started.

The aim of such exercises is to develop ingenuity, resourcefulness and physical stamina among junior leaders. This exercise took the form of an escape and evasion plan. It not only involved the military but also civic police and the RCMP. Unfortunately for those taking part, that old saying about the RCMP – "They always get their man" – proved true.

The exercise was conducted by Capt GV Cavey and for the first time included teams not only from 3 RCHA but also from 1 Locating Battery RCA and 4 Transport Company RCASC. Those selected to take part were:

3 RCHA

Team 1 – Lt Hague, Bdr Lake, L Bdr Legros.

Team 2 – Lt Pachal, Bdr Baker, Bdr Brant.

Team 3 – Lt Larson, Bdr Fisk, Gnr Bateman.

Team 4 – 2Lt Haslett, Gnr Cameron, Gnr Kerr.

4 Transport Company

Team 5 – Lt Ahlstrum, Cpl McKechnie, Cpl Sherritt.

1 Locating Battery RCA

Team 6 – Lt Adkins, Bdr Nasadyk, Bdr Baddcock.

The six teams were loaded into three Otter aircraft from 402 (Auxiliary) Squadron RCAF after being searched for such banned items as money, maps and extra food. Unfortunately, because of weather conditions, the simulated crash site was moved from The Pas as planned to the unused airfield at MacDonald, northwest of Portage La Prairie.

Capt Cavey engaged in PR duties

The teams were given a 12-hour head start before the RCMP, radio stations and newspapers were notified of the exercise. It must be said that without the splendid co-operation of radio stations and newspapers across Manitoba the exercise would have been impossible. This type of exercise depends for its success on quick and accurate warning being given to the civilian population regarding these desperate foreign infiltrators.

Each team had five tasks to complete:

Task 1 - We have heard that there is a new army unit called the 70th Field Battery, 26 Field Regiment, which has just moved into Dauphin. We would like to verify the strength of this unit and know the names of all officers in this battery.

Task 2 - Air recce has verified an air strip at Brandon. However, the photographs were very bad and you must confirm the exact length of the main runway.

Task 3 - Our agents feel that our country has the sympathetic ear of the present mayor of Brandon. We have been unable to find out much about this man. You must obtain the fullest biography you can of this man. The biography must not pry into personal matters but confine itself to facts such as date of birth, address, military service record, etc.

Task 4 - A sympathetic building contractor has told us that he was involved in building a radar site at Gypsumville. Unfortunately he was caught before he could give up the full plans. You must find this site and, without going inside it, find out how many radars there are, how big the site is, its security arrangements, etc.

Task 5 - The Manitogo capital of Winnipeg is a target we would like to disrupt in case of open war. We have no nuclear weapons and our scientists feel the best way to disrupt city life would be to cut off its water supply, which we understand is piped into the city. You must find out where this water supply comes from, how it reaches the city, and put forward a plan to sabotage the Winnipeg water system.

To complete all tasks would mean a journey of approximately 700 miles through hostile territory. All teams but one were captured by the RCMP at least once. It would be impossible to relate all the amusing incidents reported at the debriefing held after the exercises. Lt Hague's team was declared the winner. This was based on a marking system which granted a maximum of 1000 points for a comprehensive report. From these points were deducted marks for such things as missing equipment, failure to fulfil a requirement, and being apprehended by the RCMP.

It was regrettable, for the control staff at least, that once the police report was issued the public took the side of the so-called enemy saboteurs. Most civilians regarded these dangerous desperados as friends trying to hide from the RCMP. Help given in the form of car rides, accommodation and meals was most unexpected. This did backfire, however, when a "friendly" driver took one team to a cafe and, knowing they were without

Boarding the aircraft in Winnipeg at the beginning of the exercise: (left to right) an unidentified gunner from 1 Locating Battery; and Gnr Bateman, Lt Laison, and Bdr Fisk, all from G Battery

Free lodgings for (left to right) Lt Leary, Lt Chartres, and Lt McQuinn

money, gave them a much appreciated dollar for coffee. Whilst the desperados contemplated their good luck over the coffee and cake, the RCMP burst in and arrested the whole team. The friendly driver turned out to be an enemy informer. Being a desperado is not an easy life.□

ARE YOU TIRED?

Do you feel awful? Run-down? Overworked?

Perhaps there is a reason. We have run across some absolutely irrefutable statistics from the United States that show exactly why you are tired. There aren't as many people actually working as you may have thought.

The population of the country is 160 million, but there are 62 million over 60 years of age, leaving 98 million to do the work. People under 21 total 54 million which leaves 44 million to do the work.

Then there are 21 million employed by the government, and that leaves 23 million to do the work. Ten million are in the armed forces, leaving 13 million to do the work. Deduct 12,800,000, the number in the state and city offices, and that leaves 200,000 to do the work. There are 126,000 in hospitals and other institutions, and that leaves 74,000 to do the work. But 62,000 of these people are bums and vagrants who refuse to work, so that leaves 12,000 to do the work or job. Now it may interest you to know that 11,998 people are in jail, so that leaves just two people to carry the load.

That is you and me, pal, and I'm getting tired of doing everything myself!

Wild Echoes

Mr CE L'Ami

Not so long ago, the strident, vibrant peal of the brass trumpet signalled the various phases of the day in proud Gunner units. The infantry answered to the historic and perhaps more melodious copper bugle. Both valveless, the instruments differed mainly in tonal effect. The calls were similar, the occasions, responses and sentiments were alike. Those who have not answered the trumpet, or the bugle; who have not, day after day, been dragged from sleep to the reality of a chill, damp dawn by the sounding of Reveille; who have not listened for Last Post as the velvet darkness of a starlit night softened the day's heat, have not savoured the full cup. Mr L'Ami has captured the feeling in the following article, which we print with the kind permission of the Winnipeg Free Press and Mr L'Ami.

If you ask old soldiers experienced in war, they will tell you that a man's willingness to risk life and limb in battle depends to a large extent on morale. That is why, they will say, certain morale-building practices are essential in the soldier's life: traditions of the regiment; squad drills and physical jerks, route marches; butt practice, and fatigues. As these routines of the soldiering life go on day by day, they are (or were) marked by bugle calls which some soldiers remember perhaps more vividly than any other detail of their army careers.

I hope the new green-uniformed soldiers will have a few buglers among them. For us of the old army, the calls that roused us and put us to sleep, day by day and night by night through the years of war, seem now, 50 years later, strangely peaceful. Many will testify that apart from its moments of violent action, surprisingly rare in practice, the soldier's life on active service is, more than most men's, serene, unruffled, and unburdened with worries and responsibilities.

In talking about the old bugle calls, we will have to keep the principles of Dr. Bowdler in mind – Dr. Bowdler, that Shakespearian editor who made Macbeth say: "Out, unpleasant spot!" and who today would unquestionably call it the South Saskatchewan Darn.

Bugle calls have a haunting beauty, praised by many. Only soldiers know its full depth and richness. Lord Tennyson caught the poet's but not quite the soldier's feeling, in the famous song from The Princess:

> O hark! O hear! How thin and clear,
> And thinner, clearer, farther going;
> O sweet and far from cliff and scaur
> The horns of Elfland faintly blowing!...
> Blow, bugle, blow, set the wild
> echoes flying!
> And answer, echoes, answer dying,
> dying, dying!

For the soldier, in bivouac as the day ends, there is all this and something more. For him, the bugle brings memories – of the mad moments of battle, of comrades wounded, comrades dead, the terrible immediacy of life and death which wakes a strange beauty; of the deep friendship of men, of the big, brooding mother, Nature, whose warmth surrounds them, whose fecundity restores all broken ranks.

Do you still, you young mechanized soldiers, wake in the morning to the stern notes of the Reveille, which technically, I suppose, we would call the Rouse? Do you remember it, and still sing the old words?

> I bought a horse, I bought a cow,
> I bought a donkey. I sold the
> horse, I sold the cow, but not
> the donkey. Because – the – son-
> of-a-gun – he died!

Though it may not have been a gun he was the son of, Dr. Bowdler. Hour by hour, throughout the soldier's day, the bugle marked the calm routine: wakening, dress, breakfast, assembly, parade, NCOs and officers, the mid-day meal, fatigue, retreat, First and Last Posts, and then Lights Out and sleep. Can any soldier forget that hurried scramble for equipment, rifles, water-bottles, and whatnot, that accompanied the sounding of the "Quarter Hour Dress"?

You've got a face like a chicken's beak!

Or something – I forget, and it may be just as well. But then one dashed for the assembly point, hearing down along the tent lines the sententious and somehow non-committal notes of the Sick Call:

Sick, lame, and lazy!

Elsewhere the matter-of-fact, energetic Fatigue Call would go out:

I called him, I called him, but the blighter wouldn't come!

Blighter? May not be exactly right. But let us hurry on, for the Fall In is blowing:

Fall in A, Fall in B, Fall in every Company!

Short, sharp, and to the point. Soldiers are essentially men of action, and when the time for action comes they waste neither words nor notes.

And now we are on parade. The regimental sergeant-major's powerful voice calls us to attention, and a hush falls over the thousand assembled men. At a signal from RSM, the bugler springs to attention, and the soaring, dramatic notes of the Officer's Call ring out. The colonel and his officers approach. The RSM salutes and turns over the parade. Officers take their places quickly before companies and platoons, and we march away to the day's work. Squad drill, manoeuvres, machine-gun practice, butts – how we hated the first and loved the last!

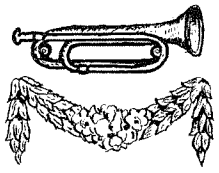
But the day wore on, with a pause at midday, and then as a hint of gloaming began to fall over fields and woods, we heard, far-off, from the direction of camp, the homing call, the Retreat. I sometimes wonder if there is anything more beautiful. Its descending notes call the soldiers home, to rest, to warmth and sustenance, to peace after the long, hot day.

Odd calls of one sort or another went on in camp during the day. The Guard and Picket Call: "Come and do your picket, boys, come and do your guard; You might think it's easy, boys, but it's very hard!" Defaulters: "You can be a defaulter as long as you like, As long as you answer your name!" The Cookhouse: "Come to the cookhouse door, boys!" And the Men's Meal: "Pick 'em up, pick 'em up, hot potatoes, hot potatoes!" On rare occasions one might hear the magnificent General Salute, probably the most familiar of all bugle calls.

But these were incidental and special events. Toward evening the guard turned out, and we heard the sober notes of the Long Tattoo, the First Post. It bears some resemblance to its celebrated companion piece, but begins and ends more briskly. Soldiers on evening pass must take warning. It is time to head for home. The shadows are lengthening. The soldier's place is in camp, among his comrades. Candles are lit in the tents. Lying against packs of rolled bedding, men are shining buttons, polishing boots, telling tales.

Then, as the night deepens, we hear the supreme call, the unforgettable call, the call whose beauty is like the evening star and the westering moon – the Last Post. There is comfort in it, and quiet, and peace. The comfort of the day's work done, the quiet of home and comrades, the peace of sleep. That is why we play it over our dead. I remember the bugles sounding it when we buried young Fraser at Les Brebis, after a horrible week in Citie St. Pierre. We stood with rifles at the reverse, hands folded on the butts. The old call came over us like a benediction, deeper and richer even than the words of St. Paul that the padre had been reading: "Thanks be to God, who has given us the victory!" For it had none of the littleness of triumph, only the depth of completion, "Soldier, rest, thy warfare done . . ."

Soldiering is not all blood and battles, but is a good life, and a healthy and a godly life. There are no more reverent men than soldiers, unless it be sailors. Their reverence springs from the natural outdoor life, the daily toil, comradeship and, at the peak moments, peril and stress. Hedged about with danger and death, men think of God. God gives them peace – greater peace than men in the fatness of security and prosperity can ever enjoy.□



The RCHA Band

Stationed in Winnipeg, the Director of Music is Capt AL Lee, CD

The RCA Band

Home station is Halifax. The Director of Music is Capt IT Dowell, CD

A SCHEME IN SARDINIA

Capt SJ Reid
4 RCHA

This year's Exercise ANNUAL BARBARA was held at the Italian Armoured Training Centre, CAUC Teulada, from 29 April to 12 May. CAUC Teulada is located on the southwest tip of the island of Sardinia on a rocky, mountainous peninsula which juts into the blue Mediterranean. The northern side of this peninsula is a flat grassy plain studded with cactus and broom. A series of sand dunes bordering the sea forms its western extremity.

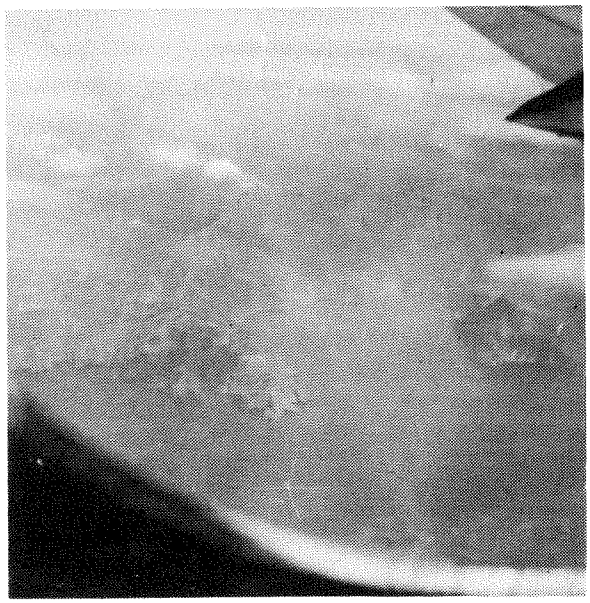
For L Battery, the exercise began on 27 April with a combined road and air move from CFB Petawawa to Teulada. The flight was made in Yukon and Hercules aircraft from CFB Uplands to Decimomannu, Sardinia, with a three-hour stop in Baden-Solingen, Germany. We took our 4.2-inch mortars, our eight mortar vehicles, and essential technical equipment.

When not in the field, our home was Cassermette 2, a large three storey marble and stucco barrack block. The men occupied two large white-washed 80-man rooms on the third floor, the officers occupying five rooms on the first. The quarters were about 200 metres away from the mess hall where we had the opportunity of sampling Italian cuisine. A few people complained about the food, as the few will always do, but most of us enjoyed it – especially the wine which was served with breakfast, lunch, and dinner.

The weather was fine for our entire stay, the only bad day being the day that we arrived, when it was cold and raining. Every day thereafter was sunny and warm, with the temperature being in the low eighties by the time we were ready to return home. As soon as the sun went down, the winds came up and it turned very cold. On our days off it was just right for sun bathing. Although the sea was really just a bit too cold to swim in, we all went in anyway.

On 30 April we had our first view of the ranges, a shake-down exercise being prescribed after our long air move. It was the first opportunity to work with our Italian drivers and to practise the little Italian we had hurriedly learned.

On Monday, 1 May, the battery travelled to Cagliari to see "La Sagra di Santo Effusio",



First view of Sardinia from the aircraft

the festival and parade of Sardinia's native saint. The parade lasted a little over two hours and the photographers in the battery took the shots of a lifetime. In turn, the Canadians were the subjects of many Italian photographers, and four of the officers – Major Sosnkowski, Captain Jurgensen, and Lieutenants Bowles and Clarke, who occupied front row seats during the parade – even managed to appear on Italian television that evening. The parade, which is the main feature of the festival, features the traditional costumes of Sardinia, and attracts tourists from all over the world.

The training on the following day was divided into various parts. A safety exercise was conducted first to familiarize the safety officers from 40th Regt RA with our equipment, procedures and vernacular. Actually, both the safety officers had spent some time in Canada and consequently few problems arose. The safety exercise was extended to a command post exercise, without the guns, and was designed to acquaint the duty officer and the signallers with radio problems and procedures and, even more important, with the language problems.

The artillery units from the various nations which participated in the exercise were:

(1) Forces Artillery HQ provided by 40th (United Kingdom) Light Regiment, Royal Artillery.

(2) L Battery, 4th Regiment, Royal Canadian Horse Artillery,

(3) 3rd Battery, 265 (German) Parachute Artillery Battalion,

(4) 2nd Mountain Battery, SUSA (Italian) Artillery Battalion,

(5) Heavy Mortar Platoon, 2nd Battalion, 34th (United States) Infantry,

(6) 38 (SERINGAPATAM) Light Battery, 40th (United Kingdom) Light Regiment, Royal Artillery.

In addition, there were working observers representing the light artillery contingent from Belgium. Many high ranking NATO observers attended various portions of the exercise, foremost among whom was Deputy SACEUR, General Bray from the United Kingdom. L Battery was accompanied throughout the whole exercise by a team of Belgian observers.

The afternoon was devoted to Forward Air Control Training. We had British and Canadian artillery officers and American and German pilots controlling nine F-104 aircraft from the Canadian Air Division, and five F-84 aircraft from the Italian Air Force. Again we had problems with foreign languages and procedures, but by the time the day was over we were all on a common net. The aircraft dropped 11-pound practice bombs with great precision and made runs on targets of opportunity, much to the chagrin of our Sgt RM Lewis, who was buzzed by two F-104 aircraft flying at a height of 50 feet.

Wednesday was spend on course shooting. The pace was rather leisurely, the emphasis being placed on precision, accuracy, and working through language and communication problems. An Italian observer would fire the British, Canadian, and German batteries while a Belgian observer was firing an Italian battery and the American platoon. It was here that L Battery began to establish a local reputation. Being a mortar battery, there was some scepticism as to how we would perform as Gunners, and of how well we would put fire on the ground. We were the first battery to report "Ready" on 11 of 16 observed "regimental" fire missions, and also on many of our predicted shoots. Whatever corrections were made were small ones – well, fairly small ones. This was also the first of three days of live air strikes for the Forward Air Controllers (FACs). These live FAC strikes marked a *first* for 1 Canadian Air Division.

We spent Thursday and Friday on a dry fire and movement exercise in the Sardinian countryside beyond the camp. It was a first class opportunity to see the land, the people and their customs. We departed at about 8 AM and deployed in a shel-

tered valley east of Tratalisus. The morning was spent amid the almond trees of a ruined farm, flanked by fields of barley, and backed by a rocky ridge. A shepherd, shearing his sheep in some ruins was distracted by our presence, but seemed to enjoy the attention paid to him by gunners with cameras. In the afternoon we moved back toward Tratalisus and deployed in a pine plantation. From there we observed the peaceful fireworks of a marriage festival, and some war-like air strikes on the British and German batteries posted across the valley. That evening, near the conclusion of the festival, we carried out a night occupation in the cold and rain which, for many of us, was our first acquaintance with the mud of Italy.

The remainder of the next day was spent cleaning up and preparing for a live fire and movement exercise in the range area.

That exercise got off to a crashing good start. The German battery commander, in attempting to drive to his observation post, rolled his jeep and broke his foot. The troops were helpless spectators at this point – too far away to help but close enough to see. The remainder of the exercise was far less exciting, simply firing and moving. It ended around 9 AM with an extensive fire plan. The afternoon of 7 May marked the culmination of a week of sports competition among the several nations. This year, the different countries competed in basketball and volleyball, and the Barbara Cup, symbolic of the overall sports championship, was won by the SUSA Battery of Italy. That afternoon we took advantage of the break and swam in the sea. Although the air was very warm, the sea was quite cold. Most of us relaxed on a sandy beach, but a few chose to explore the rocks at Porto Pino. That evening we had a beach party with the Italian drivers and friends from other batteries.

Monday, 8 May, was a holiday for the men of the force and our second opportunity to visit Cagliari. We toured the mediaeval quarter, the docks, the colonnade, and of course a selection of bistros and restaurants. Leather gloves, brocade, and toys were purchased in great abundance, although a few men bought the more exotic items for which Italy and Sardinia are noted. By 9 PM most of the rolls of film had been shot, the tourist shops were closed, and a tired battery returned to Cassermette 2 in anticipation of one more exercise, and then the flight home.

The final exercise, run by Lt Col NS Spurgeon, RA, on 9 and 10 May, was the real challenge. At first we drove over a narrow twisting goat track to descend into a sheltered valley at the base of Mount Lapanu. We engaged several targets from that area and were ourselves engaged by fighter aircraft from the Italian Air Force. At noon, and with the customary departure of recce parties prior to, or simultaneous with, the arrival of lunch, we reclimbed the goat track and redeployed in the river bed of one of the many watercourses which traversed the plain. All went well until last light when the Battery Reconnaissance Officer, Lt SJ Reid, briefed the other officers on the route to the new gun area. The night move was made without lights. It was a *first* for the Italian drivers and they were most cautious. We inched along until we reached the swamps north of the rendezvous area. At that point, in the maze of roads and tank tracks crossing the swamps, with 'A' Echelon mired in the mud of a river, and Lt BM Lees' hat swimming down a muddy creek, the recce party finally found us, as somebody said later, "like Moses in the bullrushes." At first light, with gun programs in the hands of the number 1s, we began the final fire plan. As befits the conclusion of a major multi-national exercise, it was almost perfect.

The return home was almost anticlimactic. We departed CAUC Teulada at 1 PM on 11 May and reached Decimommanu two hours later. Twenty-four hours after that we were winging our way north towards Lahr, Germany, for a four-hour stop before heading across the Atlantic for Uplands. By 4 AM Saturday morning we had cleared Customs and Immigration. By 6:30 AM the first few arrived home and it was like Christmas all over again; presents were opened, families were re-united.

In a sheltered valley east of Tratalisus, in the southwest corner of Sardinia, a shepherd shears his sheep and perhaps wonders about all those foreign soldiers who suddenly appeared one day and insisted on taking his picture from all angles.□

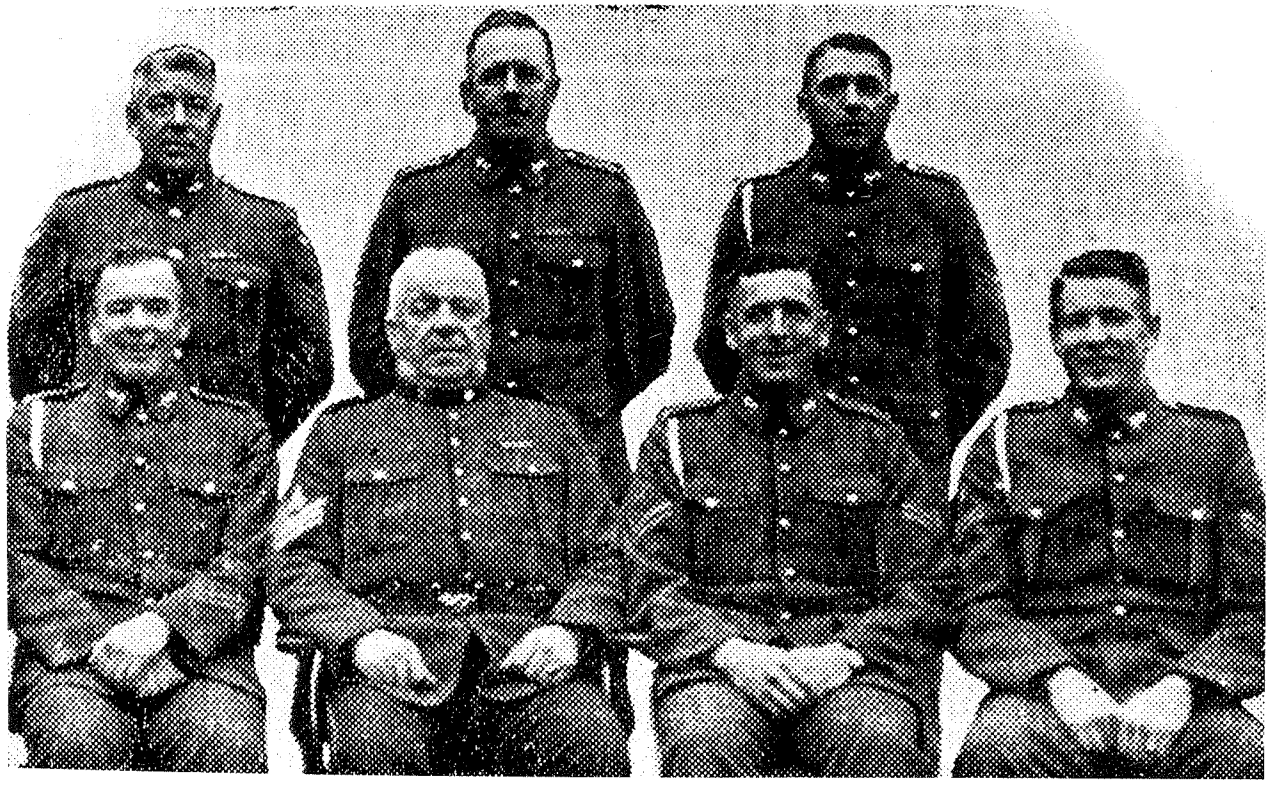
It's different from Petawawa.

A FAMILY AFFAIR

Once upon a time there were six brothers in the same artillery regiment, and they decided it would be a great lark to form themselves into a hockey team and challenge the regimental team to a match. So they did just that, and with their dad, who happened to be a retired WO1 of the same regiment sitting in the stands, they beat the regimental team by the score of 7 to 2.

This of course is too improbable an opening for a story which is going to need all the reader co-operation it can get if its credibility is to ring true, but we are stuck with it. It happened. The regimental team did admittedly restrict itself to to six players, with the idea of keeping the sides reasonably even, but to prove that the victory was no fluke, the brothers challenged all comers. The Kingston (Ontario) City Police Force team, with 10 players, turned up for a match and came off the ice on the short end of a 10 to 1 score. In the 60-minute game the family team drew three penalties and the law-abiding police drew two. The six Pugh brothers were all on parade the following morning – a cold February 1933 morning – in front of the limestone RCHA barracks which now house the Canadian Army Staff College in Kingston.

It all started in 1864, when an unsuspecting Sgt Thomas Pugh of the British Army, who had never heard of ice hockey, was posted with his regiment from Malta to Canada. When his unit returned to England in 1871, Sgt Pugh, liking the look of the new young country, took his discharge from the British Army, in which he had served for 14 years, and became a charter member of the newly-formed Canadian Permanent Force artillery which was activated in October of that year. After a career of 27 years with Canada's regular Gunners – making a total of 41 years of service as a professional soldier – and having contributed four sons and two nursing



Father and Sons in 1939

Left to right: (front row) Gnr Robert D Pugh, Band Sgt (retired WO 1) William R Pugh, Bdr Roland T Pugh, Bdr Lawrence G Pugh; (rear row) BQMS Mart R Pugh, BSM Rupert W Pugh, Sgt Ross A Pugh

BSM Rupert W Pugh Mounted on "Bracken"

By their combined efforts, they won the RCHA Brigade Mounted Sports Trophy (which now rests in the RCA Officers' Mess, Shilo) in 1927, 1928, and 1929.

sister daughters to Canada's armed forces, Sgt Pugh felt that it was time to enjoy honourable retirement.

One of the sons was WO1 William R Pugh – father of the afore-mentioned hockey team – who subsequently served for 41 years in the Permanent Force artillery. Forty-one years. After retiring from the RCHA in 1928 he served for another 16 years in the Militia as a sergeant musician. Before joining the Permanent Force artillery, he had served for four years in the Militia. Mr WR Pugh – who died in 1954 at the age of 87 – served for a total of 61 years in the Canadian Army, enlisting as a young teenager and ultimately retiring in his mid-seventies as a member of the Prince of Wales Own Regiment Band of Kingston, Ont. Among other achievements, he won a place on Canada's Bisley team no fewer than five times, although he was able to make the trip to England only twice.

Meanwhile, back at the rink, no big league scouts showed up for any of the family hockey games so the six brothers soldiered on in the RCHA and the RCA, contributing to the excellence of the Regiment and compiling honourable records. A seventh brother, Sydney, who was the second eldest son of WO1 WR Pugh, served for 14 years in the artillery before retiring from the RCHA because of the ill health which preceded his death at a relatively early age. His was the shortest military career of any of the seven sons of WR Pugh, the longest being that of WO1 Mart R Pugh, the eldest son, who served the guns for 35 years as a Regular. The third son, WO1 Rupert W Pugh, served for 32 years. Between them, the seven brothers concurrently compiled 173 years of service in the Canadian regular armed forces.

Time removed the seven Pugh brothers from active scene, one by one, and today the family mantle is worn by Sgt MW Pugh, son of WO1 Mart R, at present serving in the RCE in Germany. To date, Sgt MW Pugh has served for 28 years as a Regular. As the son and grandson of soldiers who served for 35 and 41 years respectively in Canada's Permanent Force, he doubtless wears his mere 28 years of service lightly.

The web of military statistics and unique situations which grew from Sgt Thomas Pugh's decision to join the Canadian artillery in 1871 defy capsule summary. One of his four sons, Lt Col T Pugh, served full time in the artillery and ordnance

for a total of 40 years. We have already met son WO1 WR Pugh, who served full time in the artillery for 41 years. Have any other two brothers in Canada's military history compiled such a record? Has there been an equal of the 61 years of Regular and Militia service of WR Pugh?

To date, the combined service of the progeny of Sgt Thomas Pugh in the militia and regular forces of Canada totals some 470 years.

It is uncommon for a father and son to serve in the same regiment at the same time, much more so for a father and his sons to be active members of the Sergeants' Mess at the same time. But WO1 WR Pugh and his eldest son Mart, who was then a BQMS, not only were fellow members of the same regimental Sergeants' Mess, they both wore the Long Service medal while serving together. This medal, no longer current, was in those days awarded for 18 years of exemplary service in the Permanent Force. Nine of the Pugh family were awarded this medal.

And when will we again hear of six brothers in the same regiment (at one point, five Pugh brothers were in the same battery) challenging and defeating their regimental hockey team? If such a sextet should emerge, the Pughs would surprise none of their acquaintances by prying themselves up from their easy chairs and trumpeting a defiant challenge.

And if they failed to do so they might well hear from ex-Nursing Sister MM Pugh, the younger sister of their father, and the daughter of Sgt Thomas (whom you will remember as the fellow who came to Canada via Malta in 1864 without a schmick about hockey). At 85, Nursing Sister Pugh, who, with her sister, saw service overseas in World War 1, is the oldest living member of the clan. Among the Pughs sitting in the stands behind the players' bench would probably be WO1 A Pugh and WO2 J Pugh – no, they haven't been mentioned above – both sons of Gnr S Pugh, who was another brother of WO1 WR Pugh, the players' dad. Which is more or less where we came in. Program, anyone?□

A Recent Photo

Left to right: Robert, Roland, Mart, Ross, Lawrence, Rupert

FROM CANADA TO ENGLAND TO MEET AN ITALIAN GUN

Lt DB Fenny
3 RCHA

The Wessex V helicopter dipped sharply to starboard and I peered out of the open door. Below me lay the barren ground of Dartmoor, England; and up slightly to our rear, moved eight other helicopters, three of them with 105mm Pack Howitzers slung precariously beneath them. I looked at my companions. They were already preparing their pack boards for their exit and my British counterpart, Lt Rob Allison, GPO of 145 (Miwand) Commando Light Battery, RA, was giving me the "Get ready" hand signal. My official capacity as observer did not exempt me from doing my share of work and I tightened my grip on the radio and packboard that I was carrying. Our helicopter lost altitude rapidly, and with a not-too-gentle bump, we were on the ground.

Ten bodies in green berets, and mine in a borrowed blue one, tumbled out onto the marshy ground. Our helicopter disappeared in a rush of wind and noise and was immediately replaced by another with a gun twisting dizzily beneath it. At the instant the gun touched the ground, it was automatically released by the pilot and a swarm of British gunners descended on it to bring it into action. The entire battery of six guns was on the ground ready to fire in eight minutes. I was impressed, but I didn't have time to think about it. A shout of "Hey Canada! Get that bloody radio set turned on!" galvanized me into action. I suppose good GPOs are the same in any country.

Sgt Allingham and WO1 Malcolm fit an intermediate trail leg on the L5 during firing practice in Larkhill.

During this exercise I was observing the use of the Italian 105mm Pack Howitzer (L5) in the helicopter-borne commando role. The 10 days that I spent with 29 Commando Light Regiment RA was only part of a month-long familiarization tour in England, intended to acquaint Canadian officers and senior NCOs with this Italian-made pack howitzer. The Royal Artillery has been using the L5 for about seven years in a number of regiments in operations in the Near and Far East, as well as in England and on Scandanavian training exercises.

On 28 January 1967, Lieutenant DB Fenny, RSM GN Malcolm and Sergeant GW Allingham from 3 RCHA, as well as three representatives from 4 RCHA and six from RCSA, arrived at the British School of Artillery, Larkhill. We were warmly welcomed by Brigadier RS Streatfeild, MC, Commandant of the School of Artillery, and then we settled down to work. For the next five days we were involved in lectures and practical work on all aspects of operation with the L5. Under the supervision of the British instructors we covered the stripping and assembling of the equipment, gun drill, maintenance, the recoil system, and deployment and movement procedures. We also delved into the appropriate range tables and studied the ballistic characteristics of the equipment and its ammunition.

Once the more formal portion of the tour at the School of Artillery was completed, we were attached to various regiments throughout England which were equipped with the pack howitzer. Many of the officers and men of these regiments had operated in Borneo, Aden or Malaya with the L5, and were able, therefore, to give us a very detailed picture of any problems that they had experienced with the equipment. The 3 RCHA representatives were attached to 25 Field Regiment, RA, which is the support regiment for the School of Artillery. For the final portion of our tour in the UK we were integrated into batteries for field firing practices. It was from here, after weeks of working with the equipment, that I was able to join 29 Commando Light Regiment RA in Plymouth, for their exercise in Dartmoor and Bodmin Moor.

The tour offered a golden opportunity to see some of England and to sample a bit of English life. Our hosts were most gracious in their messes

and homes, and numerous tours were arranged for us. The weather was most accommodating; temperatures were in the high 50's for the entire month. We visited Bovington, the Royal Armoured Corps School; Woolwich, the Mecca for all gunners; and, of course, London. As well as meeting new friends and visiting many places, some of us were able to renew acquaintances made during World War 2.

On 27 February we donned our greatcoats, bade farewell to our British friends, and boarded the RCAF aircraft which was to take us home. As the cliffs of Dover passed under our wing tip I thought I heard a faint and distant cry of Tally Ho! But I dare say it was my imagination.□

SIXTEEN YEARS AGO IN KOREA

Under far from ideal conditions, Sgt VK Cornish of Toronto, Gnr RJ Galarneau of Montreal and Gnr GW North of Hamiliton man their 25-pounder on 28 May 1951 near the Hahn River, Korea. The detachment is C Subsection of D Troop, E Battery, 2 RCHA. On the night of 20 November 1951 the above gun was destroyed by enemy action and Sgt Cornish and Gnr JEM Watson were killed. The men were buried in the UN Military Cemetery in Tanggok, Korea. Photo by Sgt (now Lt) PJ Tomelin.

THE COLONEL GEOFFREY BROOKS MEMORIAL

PRIZE ESSAY COMPETITION

1968

The name of the competition is "The Colonel Geoffrey Brooks Memorial Prize Essay Competition". Two prizes will be awarded: first, $100.00; second, $50.00. The right to compete is extended to:

> Regular and Militia Officers of the Royal Canadian Artillery, and
>
> Officer Cadets who are enrolled under the Regular Officer Training Plan, the Officer Candidate Training Plan and the Canadian Officers' Training Corps who have completed their first phase of training and who have selected the Royal Canadian Artillery as their corps.

Entries should be between 3500 and 5000 words in length. They must be typewritten and submitted in quadruplicate.

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.

The title and page of any published or unpublished work to which reference has been made, or from which extracts have been taken, must be quoted.

Entries are to be addressed to the Editor of the Canadian Gunner, CFB Shilo, Manitoba, and marked "The Colonel Geoffrey Brooks Memorial Prize Essay Competition" on the envelope. They must reach the office of the Canadian Gunner not later than 31 July 1968.

The Head of Corps will arrange for a committee to judge the entries. The decision of this Committee will be final.

Results will be made known in the next issue of the Canadian Gunner, and the winning essay will be published in that issue.

If, in the opinion of the judges, no entry is of the required standard, prizes will not be awarded.

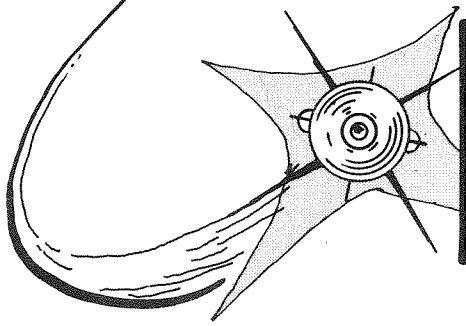
The Editor and staff of the Canadian Gunner cannot be held responsible for the loss or return of any essay submitted; nor shall they incur any liability whatsoever in connection with the receipt of essays, any dealings therewith, the judging thereof, or the reports thereon.

The copyright of any essay which is published in the RCA Annual will belong to the RCA NPP.

The subject for 1968 will be:

> Discuss the problems of command and control of all fire support weapon systems within a divisional battle area. Should one group be established to provide necessary communications and support to commanders at all levels, or should the Canadian Forces continue to operate with independent support elements loosely co-ordinated at formation headquarters as is done at present?

THE AN/USD-501 DRONE SYSTEM



Maj W Johnston, CD
OC Drone Trials Unit

The *Concise Oxford Dictionary* describes a drone as "male of honey-bee which does not work; idler" – in short, a creature with little *get up and go*. But the AN/USD-501 Drone (neuter) is intended to work very hard indeed, and it is certainly intended to have plenty of *get up and go*.

The AN/USD-501 Drone, developed by Canadair, is a rocket-takeoff, jet-powered, surveillance vehicle that travels at nearly the speed of sound. The 8-foot, 200-pound, missile-shaped drone carries two 70mm cameras that can photograph critical details on the ground, even at night using flares. Its purpose is to fly over enemy-held territory, take photographs, and return to a pre-designated spot where it will be recovered and the photographs removed from its innards. The cameras are then loaded with more film, and the drone checked over, refuelled, and placed on its launcher to await another mission. Since it returns to earth with the help of a parachute which is opened at a low altitude, a drone can be used many times over.

The Trials Unit

In mid-December of 1967, a Drone Trials Unit, comprised of military and civilian personnel of Canada, Britain, and the Federal Republic of Germany, finished cold weather Contractor Trials (20 flights) on the AN/USD Drone in Shilo. The team came to Shilo from Yuma Proving Ground in Arizona, where it had operated from May 1965 to June 1967. In Yuma, the drone made 51 successful flights during Service Engineering Trials.

Basically, the Trials Unit was made up of a troop headquarters, three launcher detachments (one Canadian, one British and one German), a recovery detachment, and a maintenance area detachment. In support of the troop were administrative, gunnery, workshop, and other appropriate sections.

Although the British and German drone troop organizations, tactical concepts, and drills differ somewhat from their Canadian counterparts, Canadian drills and procedures were used throughout the trials. Several dry-run exercises were conducted on the Shilo ranges, and the experience gained will be fed into the drone concepts of tactical operations of all three of the partner nations.

Tripartite Management

The AN/USD-501 Drone Program is funded jointly by Canada, the United Kingdom, and the Federal Republic of Germany. The program is unique in that it was the first program in which more than one nation has been directly involved in the design, development, test, and evaluation of an item of military equipment.

The management of this tripartite program consists of a Policy Committee, a Management Board, a Project Office, and a Modification Review Board. The three participating nations are represented at all levels of management, and Canada is charged with the responsibility of managing the AN/USD-501 Program.

Description of AN/USD-501 Drone

The drone is launched from a zero-length launcher mounted on a 2½-ton cargo vehicle. A solid-propellent booster is used which is jettisoned after burnout (approximately two seconds). After

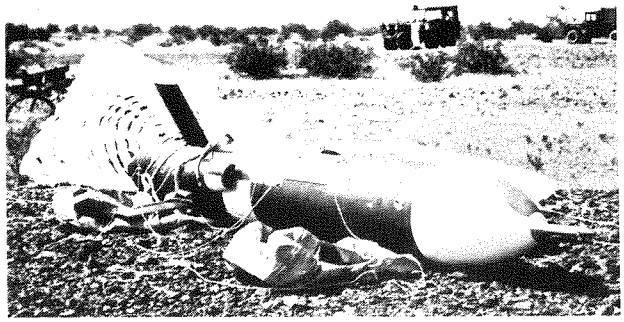
The AN/USD-501 Trials Unit, photographed in Shilo in December 1967, a few days before disbandment. The OC, Maj W Johnston, is seated at the centre of the front row, with Maj P Stegmann, the Federal Republic of Germany user representative on his right, and Mr F Agnew of Canadair Ltd on his left.

booster separation, the drone's subsonic speed is sustained by a turbo-jet engine.

The drone will fly any selected flight path. The flight path data is put into a pre-set flight programmer prior to flight and thereafter all camera operations and drone manoeuvres are controlled by the pre-set flight programmer. After photographing the target area, the drone will fly on a heading towards the recovery area.

The drone parachuting into the recovery area. Note the inflated landing bags.

When the drone approaches the recovery area, it is captured by a ground homing beacon whereafter the drone engine is shut off and a drogue parachute is deployed. At a pre-determined height above ground, the main parachute is deployed and a pair of rubberized landing bags is inflated. The landing bags absorb the initial shock of landing.



The landed drone, immediately before the film was removed

The camera is then removed and the film extracted, quickly processed, and interpreted.

The recovered drone is back-loaded to the maintenance area where it is refurbished and sent back to the launcher for another photographic mission. Each drone should be capable of flying an average of 10 missions in its life time.

Trials Unit Triumphs at Yuma Proving Ground (YPG)

In retrospect, it can be conceded that the AN/USD-501 Trials Unit gave a very good account of itself. It proved that a three-nation trials unit, using well-rehearsed drills and procedures, can, providing the equipment is good, conduct a successful trials program. It completed, according to Yuma sources, the most successful drone program ever conducted on that range.

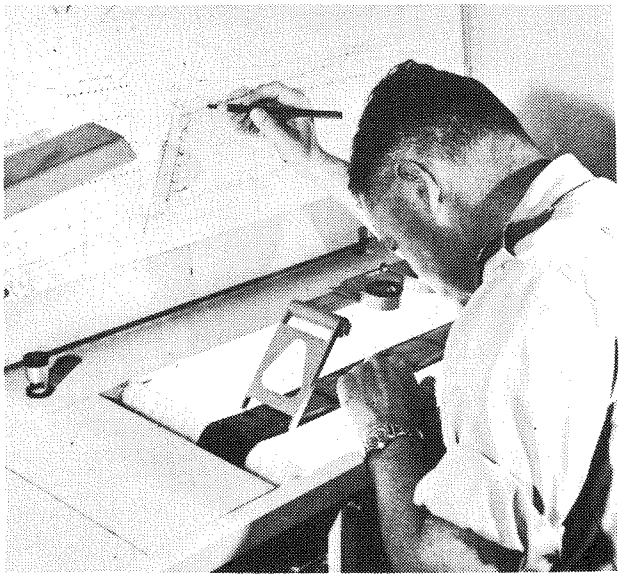


Photo interpretation by Capt CK Bisset, C Int C

The Commander of YPG congratulated the unit on its fine record – one drone mishap in 51 flights. He was particularly impressed by the fact that during the 2½ years the unit was at YPG, there was never an occasion whereby he had cause to inform the CO of the Trials Unit that a YPG rule or regulation had been broken by a member of the unit. There was a bit too much pride in the unit for that.

One of the off-beat responsibilities of the Trials Unit was that of organizing and staffing the International Soccer Team. The team (90 percent Trials Unit) was entered in the Arizona State Soccer League. They finished neither first nor last and had a wonderful time playing soccer and making new acquaintances.

The Trials Unit participated in other sports. It placed second in the Yuma Proving Ground Volleyball League. It supplied 50 percent of the softball team that won the Yuma League title and the right to represent Yuma in the Arizona State Championships. The team was up against semi-professional teams and lost its first two games. However, the boys stated the experience and comradeship was an experience never to be forgotten.

The hospitality of the people in Yuma, and in Yuma Proving Ground, was excellent; in fact it was so good that three members of the Trials Unit are taking home American brides. It was certainly a sad day for all when "Good-bye" and "*Auf wiedersehen*" had to be said to that warm environment in Arizona.

Shilo Trials

In order that the Service Engineering Trials (Cold) could be conducted at CFB Shilo, an instrumentation facility was built. To enable the facility to be employed in future trials and training programs elsewhere in Canada, the elements were made transportable. Except for the telemetry element, which was staffed by civilian engineers and technicians, the instrumentation facility was staffed by Trials Unit and Locating Battery personnel.

The logistic, administrative, survey, meteorology, safety, target layout, and communications support was supplied by 1 Locating Battery. Without this generous technical support the trials could not have taken place. The Trials Unit is now in the throes of disbandment and the British and German personnel are returning to their respective countries. The Canadian military personnel will return to the Locating Battery and to various units in Canada. It is expected that in early 1969 a Canadian Trials Unit will be formed to conduct User Trials on the first production drones.□

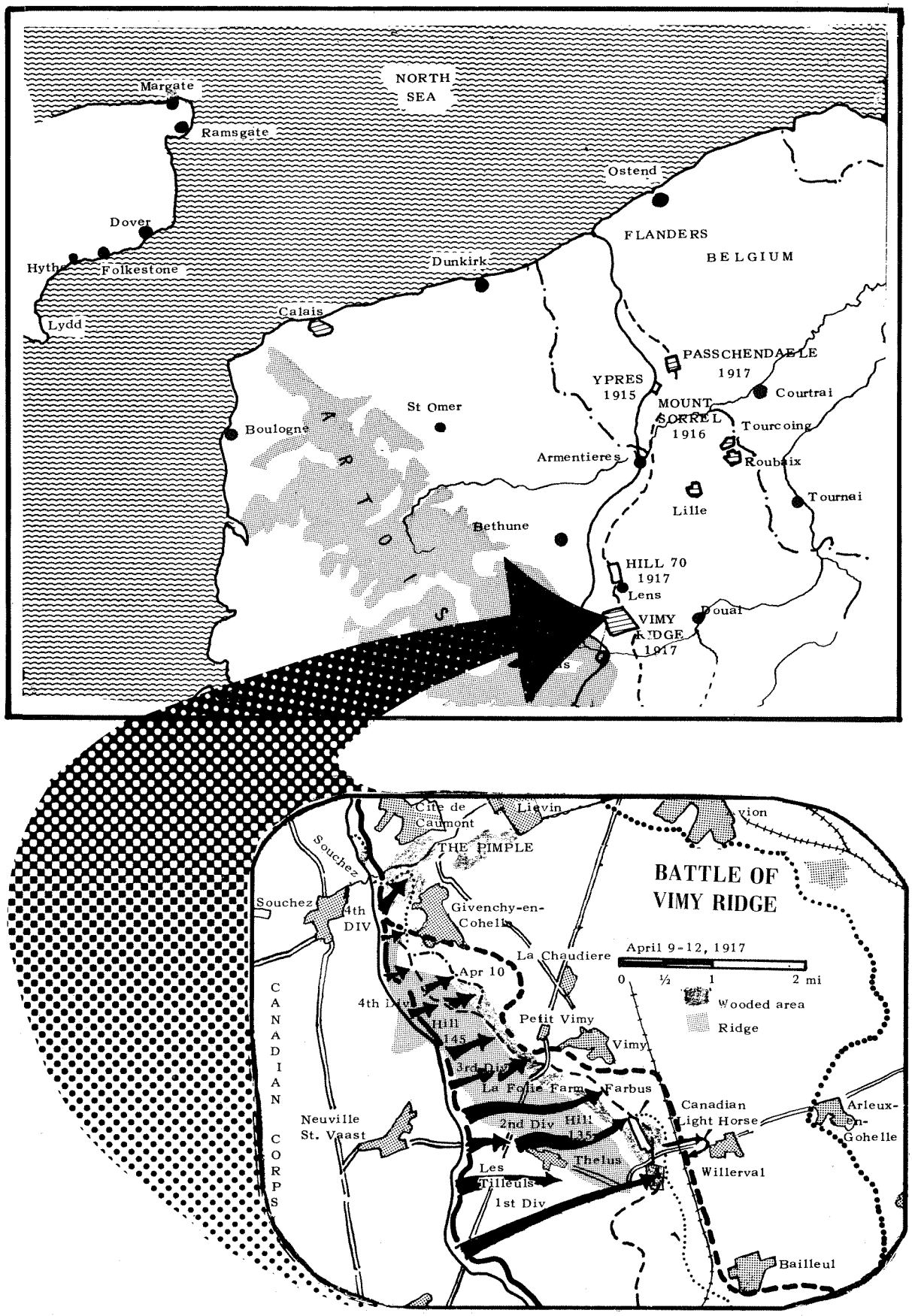
WHY A MEMORIAL STANDS ON VIMY RIDGE

Capt PT Alward, CD
CFHQ

1967 marked the 50th anniversary of the Battle of Vimy Ridge. When the battle was fought, Canada was exactly half-way to achieving its centennial. In the article below, the author describes the odds against the Canadian Corps at Vimy, and some of the reasons for the startling victory in the battle which is generally regarded as the most historically significant Canadian feat of arms to date. In particular, Capt Alward was requested to tell us of what the Gunners did at Vimy Ridge. He does this very thoroughly, at the same time emphasizing that "it was the concerted effort of all arms that provided the startling victory".

9 April 1967 marked the fiftieth anniversary of the capture of Vimy Ridge by the Canadian Corps. It was only a tactical victory and did little to shorten the dreadful war of which it was a part. In comparison with the immense involvement of all nations along the Western Front, it was but one small action in a whole series of actions which were, in turn, little more than a diversion for a larger and grander plan involving many French armies. Why is it then, that this battle has been remembered moreso than Ypres, Mount Sorrel, Courcellette, Hill 70 or Passchendaele – where so many Canadians also fought and died? And why was Walter Allward's noble memorial to all the battles and all the dead raised on this ridge, rather than at Amiens, where, on 8 August 1918, the Canadian breakthrough meant much more than one small tactical victory? Both questions can perhaps best be answered by asking a third – How was it that one Corps employing five divisions could conquer the *impregnable* Fortress Vimy, where armies, employing up to eighteen divisions, had failed on successive occasions in the past? This was the fact that staggered the imagination. A

Capt Alward


NORTH SEA
Margate
Ramsgate
Dover
Hythe
Folkestone
Lydd
Calais
Dunkirk
Ostend
FLANDERS
BELGIUM
PASSCHENDAELE 1917
YPRES 1915
MOUNT SORREL 1916
Courtrai
Tourcoing
Roubaix
Tournai
Armentieres
Lille
St Omer
Boulogne
Bethune
HILL 70 1917
Lens
Douai
VIMY RIDGE 1917
BATTLE OF VIMY RIDGE
April 9-12, 1917
0 ½ 1 2 mi
Wooded area
Ridge
Cite de Calumont
Lievin
THE PIMPLE
Souchez
4th DIV
Givenchy-en-Cohelle
La Chaudiere
Apr 10
Petit Vimy
Vimy
Hill 145
3rd Div
La Folie Farm
Farbus
Canadian Light Horse
Arleux-en-Gohelle
Neuville St. Vaast
2nd Div
Thelus
Willerval
Les Tilleuls
1st Div
CANADIAN CORPS
Bailleul

significant fact was that the taking of the Ridge gave to the Allied cause one of the few successes in the year 1917, and by all odds it was the most dramatic and complete.

The parts played by the infantry, the machine gun corps, the engineers and the supply services have been examined by many writers, and now with the publication of *The Gunners of Canada*, by Colonel GWL Nicholson, the artillery contribution has been placed in proper perspective. In effect, it was the concerted effort of all arms that provided the startling victory. The infanteer could not have gained the top of the Ridge without the artillery, and the artillery would have had no reason for existence without the infanteer. By the same token, neither would have been of any value to the other without the engineers, the signallers and the supply services. The point is emphasized, for by taking a look at the battle through the eyes of the gunners, it is not meant to detract from the efforts of the other arms and services, all of which were vital to the carrying of the Ridge. Before discussing the artillery side, however, it is first necessary to have a look at Vimy's history from Autumn 1914 up to November 1916, when the Canadian Corps took over that portion of the line . . .

After a minor skirmish with French cavalry in late September 1914, elements of the Sixth German Army occupied the Ridge. It was to be the first and last *minor* skirmish in the contest for its possession. On 16 December 1914, an offensive was opened with six divisions of the Tenth French Army. It called for converging attacks on a one-mile portion of the Ridge between Hill 145 and La Folie Farm; and besides field artillery, thirty-four batteries of heavy guns were amassed in close support. The mud was too deep, however, and the fog too thick, and the First Bavarian Reserve Corps too obstinate – and 8000 Frenchmen fell. The next offensive opened on 9 May 1915. This time eighteen divisions, supported by 1100 guns, fought a continuous battle for six weeks. French gunners hurled 2,000,000 rounds of ammunition at the Ridge, but the Germans, employing nine divisions, still held – and 100,000 Frenchmen fell. Again, in Autumn 1915, the Tenth French Army employed eighteen divisions and mounted yet another attack. In four days of terrible fighting, amidst a deluge of rain, they advanced 400 yards along a 7000-yard portion of the Ridge. The Germans, having improved their their defences, were now fighting as in a fortress. They continued to hold – and 40,000 Frenchmen fell.

Then, in March 1916, British troops took over the line. They fared rather worse than their French comrades, for in two months of incessant fighting the Germans drove them from 1500 yards of trench systems in front of Hill 145. Next came a quiet period in Sector Vimy, as the summer on the Somme fully occupied all contestants. Before the Canadians came, however, it should be noted that more than 300,000 men – French, British and German – had been killed or wounded on the western slopes of Vimy Ridge. Little wonder that when it was known the Canadians would launch the next attack, they were the least envied troops along the whole Western Front.

Someone once said that more of the war could be seen from the heights of Vimy Ridge than from anywhere else in France. Between the nine miles separating the Rivers Souchez and Scarpe, it formed a natural barrier along the western edge of the great Douai Plain. The northern end rose abruptly to a summit, known in 1917 as *The Pimple*. Travelling southwards, the ground rose another one hundred and fifty feet in one mile to the main summit, then known as Hill 145, and where today stands the Canadian Memorial. From here the Ridge gradually sloped away towards the south-east to the River Scarpe. The western slope of the massif masked its true stature in that it consisted of open and rolling countryside, gently rising to the crest. Only on the top could one see how sharply the eastern slope fell away to the Douai Plain, and appreciate the size and magnitude of this prominence.

Superimposed on the open land were the German defences, and they were indeed formidable. Covering the whole span of the Canadian Corps front, to a depth of 700 yards, lay three parallel lines of advanced fieldworks. These consisted of an interlocking system of strong points, deep dugouts, and communication trenches; all protected by artillery fire, machine guns, and barbed wire. Acre upon acre of wire covered the whole western slope of the Ridge. In front of the forward line of fieldworks it was 30 feet deep and similar entanglements had been placed in front of the second and third lines, forming one continuous impenetrable belt. Further up the slope lay another more intricate network, covering the forward lines. These trenches were woven around a maze of concrete machine gun posts and wooden redoubts, and it was here the Germans intended the main battle to be fought – should an attacker conceivably penetrate the outer fieldworks. One other factor which immeasurably aided the defences was the chalk soil which underlay the whole district. It was hard packed and firm

and could withstand the force of severe concussions. Most important it made digging easy and, as a result, the Ridge was honey-combed with tunnels. These provided the Germans with covered approaches to and from their forward positions, and the deep dugouts necessary to withstand artillery fire. Whole battalions could be hidden away in the bowels of the Ridge, and then, as an attacker passed overhead they would emerge from their underground caverns and give battle in the rear.

The troops that faced the Canadian Corps were old experienced hands. For the most part they were Bavarians and had served on the Ridge since 1914. They fought well together, knew each other's worth, and their morale was high. If there was anxiety or dismay in the obvious preparations that the Canadians were making, it was concern for the fact that once more many comrades would be killed or wounded – few, if any, entertained the thought that their mighty fortress might be overrun. Group Vimy, which would bear the brunt of the Canadian attack, consisted of two divisions and was under the command of General Von Fasbender. The 1st Bavarian Reserve Division (Major-General Schmaus) held the line south of Thélus and opposite the 1st Canadian Division (Major-General AW Currie). In the centre, and opposite the start line for the 2nd and 3rd Canadian Divisions (Major-Generals HE Burstall and LJ Lipsett, respectively), stood the 79th Reserve Division. It was a Prussian formation and its commander, Major-General Von Bachmeister, had received six battalions of Prussian Guards in February 1917, with which to stiffen his defences. Farther to the north and guarding Hill 145 and *The Pimple*, stood the 16th Bavarian Jaeger Division. It came under a formation known as Group Souchez and was not a part of General Von Fasbender's Group Vimy. Nevertheless, it faced the left flank of the 4th Canadian Division (Major-General D Watson) and provided the stiffest resistance met in the taking of the Ridge. As well as the three divisions holding the Ridge, five German divisions were in reserve, about twenty miles behind the front and beyond the range of Canadian Artillery. General Von Falkenhausen, commander of the Sixth German Army (of which Groups Vimy and Souchez were a part) considered the defences of Vimy so powerful that there would be ample time to get fresh troops forward if the

The build-up

need arose . . .

By March 1917, the mass of Allied artillery deployed in the Vimy area challenged the imagination. More than 1100 guns were concentrated to provide covering fire for a front of 7000 yards. To make possible the concentration, batteries and brigades from many other formations were attached to the Canadian Corps. It should be noted that at capture of the Ridge, the Corps strength stood at 170,000, of which slightly less than 100,000 were Canadians. The remainder was made up of 30,000 gunners of the Royal Artillery, the 5th British Division and other ancillary troops. Major-General HF Mercer, artillery adviser to the First Army Commander, stood at the top of the vast artillery organization. Under him came Brigadier-General EWB Morrison, GOC RA of the Canadian Corps, and Brigadier-General M Peake, GOC RA of the 1st British Corps. With fifty-five batteries of heavy artillery and one hundred and twenty of field, Morrison's command was far larger than Peake's. By the same token, General Peake's twenty-eight batteries of heavy and twenty-six batteries of field were considered as part of the Canadian operation, as their orders were to enfilade the German trenches facing the Canadian front, as well as to engage the German batteries opposing their own guns in the valley of the Souchez. Reporting direct to Brigadier-General Morrison were seven divisional artillery commanders, including three Canadians: Brigadier-Generals HC Thacker, HA Panet and JH Mitchell of the 1st, 2nd, and 3rd Canadian Divisional Artilleries, respectively. Also reporting direct was Brigadier-General RH Massie, an Englishman much older than the others, but as GOC Heavy Artillery, holding a very important command.

The fifty-five batteries of heavy artillery were made up of eighteen batteries of heavy howitzers, twenty-six batteries of medium howitzers, nine batteries of 60-pounder guns and two batteries of 6-inch guns. Translated into numbers this meant that the Canadian Corps held 245 heavy equipments, not including the twenty-eight heavy batteries of 132 pieces to be found in the 1st British Corps. The heavy batteries were organized into eight Siege Groups which, for ease of control, were coupled together to form four Double Groups. Each of these, in turn, were allotted to an Infantry Division. Also under command of the GOC Heavy Artillery were three Counter-Bombardment Groups, under control of Lieutenant-Colonel AGL McNaughton, and of which more will be said later.

The field artillery available consisted of thirty brigades in the Canadian Corps and an additional seven in the 1st British Corps. Each brigade comprised four batteries (three of 18-pounders and one of 4.5-inch howitzers) and each battery had six guns. A recent reorganization had increased the battery establishment from four to six guns, because of the loss of so many experienced artillery officers on the Somme. In many cases, however, the reorganization had not been completed and the numbers of field guns at Vimy bore little relation to the new establishment. In any event, there were 618 field equipments in the Canadian Corps and 102 in the 1st British Corps, for a grand total of 720. One other group of gunners, often maligned and forgotten, were employed at Vimy. These were the men of the Divisional Trench Mortar Batteries. Three batteries of medium mortars and one of heavy were allotted to each divisional artillery, and about a thousand officers and men served seventy-two 6-inch Newtons (mediums) and twenty-four 9.45-inch mortars (heavies) on the western slopes of the Ridge. If they were disliked by the infantry for their fire-drawing proclivities, they were enthusiastically hated by the Germans for their death-dealing *rum jars* and *flying pigs*. Most important was the fact that their projectiles were admirably suited for cutting wire; and the work they did in opening up lanes for the infantry can never be calculated.

As already noted, there were seven divisional artilleries to support four infantry divisions. Each of these formations had a normal establishment of three field brigades of artillery (similar in size to the present-day field regiments) but these were now supplemented with two, three and sometimes four additional brigades. All of this artillery was placed at the disposal of the four Canadian infantry divisions, but all action was co-ordinated by General Morrison's headquarters. The Germans did not have a comparable organization, their highest headquarters not extending beyond the divisional level. Consequently, for them to direct the fire of two, three or four divisional artilleries onto a single target was a complicated exercise, whereas it had become a standard operating procedure in the Canadian Corps. This flexibility in fire power out-weighed the German advantages of better guns, more refined technical equipment, and safer ammunition.

On the surface, the plan of attack appeared orthodox. The operation would be carried out in four stages, with four coloured report lines drawn on the map to mark the completion of each stage. All four Canadian divisions would attack at the same

Making ready for the preparatory bombardment program

time, and brigades and battalions would leap-frog each other as the advance progressed. The Corps Artillery Instruction also called for four distinct phases. The first two of these were concerned with the preparatory bombardment, the third phase with the attack itself, and the fourth with consolidation. No attempt was made to conceal the preparations – indeed, how could there be, with the Germans looking down from the commanding ridge? For their part, the enemy saw nothing that they had not viewed before: thousands of men constructing roads and laying signal cable; dumps of ammunition, food and general stores, steadily increasing in size and numbers; more and more gun positions dotting the landscape – all the feverish activity that indicated an attack was in the making.

How was it then, that without surprise, and from what appeared at a glance to be an orthodox plan, the Canadian Corps was able to succeed? The answer lay in a number of innovations, and emphasis in certain areas that had long been neglected. Many of the innovations were already known and had been used in other battles with varying degrees of success, but never in combination with each other. The originality, therefore, lay in their concerted use and in the way they were developed to suit the Corps's needs. Excluding the human factors of morale, courage, tenacity, and initiative; and the industrial factor which made available the great quantities of guns and ammunition; there appear to be four major innovations responsible for the German defeat:

1. *Emphasis on Counter-Bombardment and the First Use of Sound Ranging and Aerial Observation as a Means of Collecting Artillery Intelligence.* The complicated network of information-gathering devices and agencies, developed in the Corps between November 1916 and March 1917 reaped a bountiful harvest of German batteries during the preparatory stages before the attack. Fully 83 percent of the German artillery was neutralized or destroyed, rendering its covering fire, on 9 April, desultory and ineffective. In connection with sound ranging, a small band of scientists had been attempting to find

someone interested in their principle for sometime. Laden with odd-shaped microphones and oscillographs, they had travelled from corps to corps, but no one would listen to them. In the Canadian Corps, however, they found an eager audience in the form of Lieutenant-Colonel AGL McNaughton, the Corps Counter-Bombardment Officer. By today's standards their devices were crude, but given reasonaonable atmospheric conditions and limited shelling in the area of the microphone base, accurate plots were obtained.

2. *Platoon Tactics.* Since 1914 an attack was signalled by the advance of long straight lines of upright soldiers moving forward, as if in a trance, towards some distant objective. They were seldom briefed on their mission and it was considered unmilitary to break ranks or to take cover by making use of the ground as they advanced. For the attack on Vimy, however, it was decided to revert to the old but long-forgotten principle of platoon tactics. The platoon subaltern was now given added responsibility and his platoon, definite and distinct objectives. An area behind the front was prepared to resemble the western slopes of the Ridge, and each and every platoon, company, and battalion was rehearsed in the role it had been given to play. As the men's knowledge of the plan increased, so did their morale.

3. *The 106 Fuze.* This non-delay fuze had been developed for use with high explosive shells in the cutting of barbed wire. It had been used during the later stages of the Somme battles, though not in sufficient quantities to make its value felt. It detonated the shell instantaneously, whereas other fuzes with delay actions detonated their projectiles beneath the surface. Consequently, the full blast effect of the HE shell with a 106 fuze radiated above the ground and cut and ruptured the tortuous wire. For months, the medium howitzers and medium mortars pummelled the forward defences, gradually carving great lanes through the vast seas of concertina. The excellent results gave the infantry the speed and freedom of movement they needed to quickly gain the crest of the Ridge.

4. *Fire and Movement.* For the first time, fire plans were co-ordinated with the movement of the infantry, rather than separate and distinct bombardments preceding the attack. This allowed the infantry to occupy whole trench systems within minutes of lifting the barrage, and before the Germans, protected in their deep chalk dugouts, could surface and give battle.

There were other factors that added immeasurably to the victory. These included the use of machine guns supplementing artillery fire in an indirect role as well as firing ahead of the advancing infantry in enfilade; the tunnels pushed forward by the engineers to the assembly points and start lines, which, by providing covered and secret approaches for the infantry, did more than anything else in providing the necessary element of tactical surprise; the distribution of the unprecedented number of 40,000 accurate maps; the preponderance of trench raids, which provided considerable intelligence, although costly in officers and men; the training of Canadian gunners in the handling of German ordnance, so that captured equipment could be turned about and used against their former owners during the consolidation stage.

All of these innovations, as well as all arms and services working together, produced the startling victory. It must be remembered, however, that none of it would have been possible without that unique desire within the Corps for new ideas, new methods and new techniques. General Julian Byng, the Corps Commander, fostered free-thinking, and he sent his divisional commanders far and wide to look and talk and listen and to bring back the experiences and knowledge of others. Many have condemned the commanders of World War 1 for lack of foresight, rigidity of thought, and adherence to outmoded principles; but this was not the case within the Canadian Corps in the winter of 1916-17.

During the preparatory bombardment, over 550,000 shells of all natures were fired at the Ridge – an expenditure of 13,000 tons – and on the day of the assault 863 field, heavy, and siege guns covered the attack with 211,000 shells. Philip Gibbs in his book *From Bapaume to Passchendaele* provides a word picture of the barrage that fell on the morning of 9 April 1917:

> *"The bombardment was now in full blast. It was a beautiful and devilish thing, and the beauty of it and not the evil of it put a spell upon one's senses. All the batteries, too many to count, were firing, and all their shells were rushing through the sky*

"The bombardment was now in full blast."

as though flocks of great birds were in flight, and all were bursting on the German positions, with long flames which rent the darkness and waved sword blades of quivering light along the Ridge. The earth opened and pools of red fire gushed out. Star shells burst, pouring down a magnificent golden rain, and along the whole sweep of the German lines green distress signals rose towards the sky . . . The wind blew strongly across the front, beating back the noise of the guns, but the air was all filled with the deep roar and the slamming knocks of single heavies and the drum fire of the field guns."

The results of the four-day battle are well known. The Germans were driven completely from the Ridge with a loss of 54 guns, 104 trench mortars, 124 machine guns, and over 4000 prisoners. Their total casualties on the Canadian front are not recorded, but two divisions alone lost 6600 officers and men between them. Canadian casualties for the second week of April stood at 11,297 – a heavy price to pay, but not nearly so great as that forecast, nor as that suffered in the previous struggles for Vimy by the French and English. The German High Command was astonished not only because of the loss of the Ridge but at the speed with which it had been taken. Subsequent investigations showed their artillery had been slow and inadequate and that counter-attack divisions should have been closer to the front, and should have intervened as soon as the line was broken. It was also admitted they had miscalculated not only the efficiency of the Canadian preparation, but also the ability of the Canadian Corps to pass so readily from the assault to the defence.

The French High Command were almost as astonished as the German. Their verdict of the plan, coloured perhaps to some extent by their own bitter experiences, had been far from reassuring. The French press paid tribute to Canadian valour and accepted the Ridge as an Easter gift – a gift which was acknowledged in December 1922, when the French Government generously presented to Canada 250 acres of the battlefield as a memorial

"... the air was all filled with the deep roar and the slamming knocks of the single heavies."

site. Another fine tribute, however, was reserved for the ears of one lone artillery officer who served with the 25th Battery, CFA. Colonel Nicholson tells the tale in his book *The Gunners of Canada:*

> *"... He had been wounded at the Somme and while returning from England was held up overnight on April 8 at Houdain. During lunch the following day, in one of the local estaminets, word came that Vimy Ridge had been taken. A group of French officers were seated at the next table. They were 'old hands' from Vimy and knew the massif all too well, but, by a quirk of fate they had also served alongside the Canadians during the gas attacks at Ypres 1915. They initially ridiculed the news with, 'C'est impossible!', but a little later word came that it was the Canadian Corps that was involved. The Frenchmen's incredulity faded away. 'Ah, les Canadiens – peut-être c'est possible!'"*

The battle for Vimy should not only be remembered as a startling, decisive victory against all odds. It was also here that the Corps developed its mode of operation, which was to carry it through the next one and a half years as the strongest formation for its size along the Western Front. It is therefore right that the memorial to Canada's heritage of endurance, self-sacrifice and loyalty, should stand on top of Hill 145 on Vimy Ridge. It is only regretted that in these days, when we sometimes feel we cannot work together and that we have no common heritage, we cannot look back and draw a little from the spirit that bound our fathers together some fifty years ago.□

ON SPECIFICATIONS, TRADES, AND STANDARDS

Capt HF Champion-Demers, CD
RCSA

The hallowed halls of RCSA are largely devoid of those traditional commemorative plaques, inspiring photos of illustrious forbears, dusty pennants, and like bits of collegiate memorabilia which add a comforting patina to halls of learning on so many a picturesque and ivy clad campus. Instead, neat little uniform signs project at 90 degrees from the walls. There is one over every office door. The office occupants confidently assume that the cryptic abbreviations printed thereon are universally understood. In a few cases whole words appear on the signs. One sign, for example, bears the legend "Training Standards Section". The occupants of that office do not assume anything regarding the extent of public knowledge of their responsibilities. In fact there are moments when they themselves are something less than crystal clear on the matter. To wit, passers-by could have overheard the following over the past few months.

Sep 66: "Pity, there will be no time for leave this year. You must write the Artilleryman Group 1, 2, 3, and 4 Training Standards!"

Oct 66: "Artilleryman Group 2! Do you mean Artilleryman Pay Level 4 or Artilleryman Pay Level 5?"

Dec 66: "You've done a good job. Those Supplementary Trade Specifications (STS) just might receive approval from the Trade Standards Establishment (TSE) in Trenton."

Jan 67: "Fire Discipline! Which reference should I use, CAMT 4-3-3, CFP 000, or CFP 221?"

Mar 67: "What, exactly, does this term *Chief Artilleryman* mean? Would he be a sergeant? WO? CGA?"

Apr 67: "Write a solo? For whom, Patti Page the Singing Rage, or Harry Belafonte maybe?"
"No, No. Surely you must know that a SOLO is a Statement of Learning Objectives. Training Command's directive is very specific. Trade Study Teams must be excused from all other duties and SOLOs must be prepared immediately."
"Well, what does it entail?"
"A trade analysis and a description of all knowledge and skills required by a tradesman at various pay levels and specialties."

Jul 67: "Forget about STS. They are obsolete."

Nov 67: "Knowledge is not required. *PERFORMANCE* is now the criterion."

The boys are trying. In fact they are making considerable headway and the School courses are now all based on the Course Training Standards recommended by the artillery trades study team at RCSA. In the near future, field units will be applying the On-the-job Training Standards as prerequisites for pay level advancement.

This is a good moment to review what has been accomplished in respect to Artillery Training Standards.

The Artillery Trades Specifications (TS), drafted at RCSA, were given final approval by CFHQ on 30 January 1967. Approval of the Supplementary Trades Specifications followed in February 1967. Immediately these specifications were received, a qualitative analysis was conducted to make sure that no major inaccuracies were included in the scope, to ensure that progression in a trade was feasible, and to determine what the differences in trade skills and knowledge would be for each pay level. This analysis permitted the Training Standards Section to produce a training pattern (Trade Qualification Profiles – TQP) which ensured the trade specifications could be met.

SOLOs for the Artilleryman, Artillery Technician, and Artillery Surveyor trades were then produced and submitted for pay levels 3 to 6. Training Command reviewed the SOLOs and found that the approach used was inadequate. It was then suggested the L in SOLO should be replaced by a P for Performance to make the aim of this project more accurate. Although that suggestion was not used, directives were issued emphasizing what the tradesman had to do as opposed to what he had to know.

The original task analysis had to be reviewed in detail. The duties and tasks required further description. The Trade Qualification Profiles (TQP) had to be reviewed, ensuring the correct trade performance at each pay level. A new set of draft Course Training Standards was then prepared.

The trades study team is also considering the tasks that apply to Artillery specialties as

opposed to the trades. These specialties include Communicator, Driver (Wheeled), Driver APC and Driver SP, 762mm Launcherman, 762mm Rocket Assemblyman, 762mm Technician, and drone operator.

SOLOs are written on the basis of tasks performed at present. As the proposed establishments are approved and implemented, Trade and Specialty SOLOs will be revised. A continuous trade analysis will be required as long as establishments change.

What exactly will be shown on SOLOs and how will they be put into effect? SOLOs will define in detail each task performed by Artillerymen, Artillery Technicians, Artillery Surveyors, and Artillery Locators by describing what to do, what to do it with, what to do it to, and to what standard it must be done. Instructors and students will have access to the SOLOs related to the trade or specialty of the individual concerned. The preparation of SOLOs is a difficult and lengthy procedure, but to the tradesman they will be of considerable value. From a training point of view, SOLOs will sort out what is required to be taught on formal courses and what is required to be taught on the job. They will remain within the authorized Trade Specification framework. One of the outstanding advantages of SOLOs is that no test will be administered as a direct *knowledge test*; all qualifying tests will be of a *performance* nature. It is an accepted fact that if a tradesman can do the job, he has the required knowledge. Henceforth, therefore, qualifying test questions on definitions, principles, and other descriptions will be abolished.

Come to think of it, it's fascinating what goes on behind some of those signs in the RCSA hallways.□

THIS WAS SAID ABOUT US

Excerpts from THE GUNNERS OF CANADA (Vol 1) written by Col GWL Nicholson, CD McLelland & Stewart publishers.

"Most men employed for gunners are very negligent of the fear of God" – an early Puritan moralist.

"The demand for Artillerymen is so great that the smallest body of infantry wish not to move without them." – From an official request to England for reinforcements to be sent to the New World in 1777.

"As I write, they (the artillery) are moving in line across the plain and make a grand appearance. All the disengaged men go out to the line as the drawling shout of "Tro-ot-t" comes echoing along the brigade and the twenty guns go swinging and pounding off across the field. Lt Col Montizambert is in command, and it is not often a professional soldier in Canada gets a chance to toy with five good batteries massed in brigade, and he is taking advantage of the luxury. The Hamilton battery and one of the Guelph batteries are rivals for the cup again this year, but Major Van Wagner's lively lads (of Hamilton) are determined to keep it." – From Lt (later Maj Gen) EWB Morrison's account in the *Hamilton Spectator* of a Militia camp at Niagara-on-the-Lake in June 1892. (A Gunner first and last, Morrison sniffed at the cavalry at the camp as *"a lot of undrilled farmers mounted on sway-bellied, thin-legged mares"*.)

"I am glad to know that our friends in the War Office and the British nation have learned that Canadian artillery is inferior to no Artillery in the British Service." Dr Frederick Borden, Minister of Militia, during an address in 1901 immediately following the Boer War.

"There was not that happy combination in the employment of the Artillery in support of the other arms which leads to success in battle ... many of our battery officers and higher commanders were inexperienced; they could not be otherwise; our artillery intelligence was in its infancy; the methods of co-operation between aircraft and the military command were rudimentary; the type of shell was in many instances unsuitable for the task to be performed..." – General AGL McNaughton, in 1929, referring to operations on the Somme in 1916.

"Great fun digging these rear positions (alternative gun positions). A party of about forty have to go on their off-duty day, and dig from about seven in the morning till about six at night". The diarist of 10th Canadian Siege Battery in 1918. The diarist was Acting Battery Sergeant Major Frooke Claxton, in later years the Minister of National Defence.

THE LAST OF THEIR KIND

Capt LF Greene, CD
Manitoba District I Staff

The Apprentice Training Battery is no more. The last graduation parade, held in June 1967, brought to a close a brief but productive era which began in 1954.

The main aim of the Soldier Apprentice Plan was to train selected 16 year old youths as soldier tradesmen, providing them with a background for promotion to senior NCO level. Applicants were enrolled in the Regular Army with the rank and classification of "Gunner Recruit under 17". The initial period of service was seven years, with the option of release at the end of five. The first two years were spent in Shilo with the Apprentice Training Battery. There the training comprised both military and academic subjects.

The military training included common-to-all-corps subjects in the first year; in the second year, special-to-corps training qualified the Apprentice as a gun number, technician, and in more advanced cases as a surveyor.

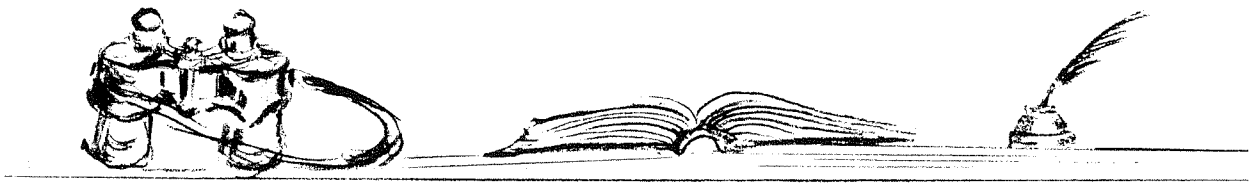
The academic curriculum stressed Mathematics, Science and English, with a view to junior matriculation standing for the soldier. This instruction was given by civilian teachers licensed by the Manitoba Department of Education.

After his two years in Shilo, the newly-trained soldier was posted to a field unit.

Some Apprentices have attained officer status, a great number are junior or senior NCOs, and the inevitable few have returned to civilian life. News of the termination of the Soldier Apprentice Plan will no doubt stir up for many a graduate pleasant memories of vigorous youthful days spent with the Apprentice Training Battery in Shilo. □

The author was acting as Officer Commanding Apprentice Training Battery at the time it was disbanded. – Ed.

Led by Gnrs WE Lecky, JJN Lavallée, and JGJL Trepanier, the final graduating class marches off.



From the CP Log

A proud moment for Ottawa's 30 Field Regiment. The Colonel Commandant visited the unit to present the Commandant's Challenge Trophy and the Shaughnessy Trophy. The first trophy had been won in the live firing competition held on the Shilo range the previous autumn (1966). The second trophy was awarded for the unit's having placed second in the general efficiency competition.
Left to right: RSM L Warren; The Colonel Commandant; Lt Col B Shapiro, unit CO at the time; and Lt Col T Vergette, RCA Association Awards Committee chairman.

* * *

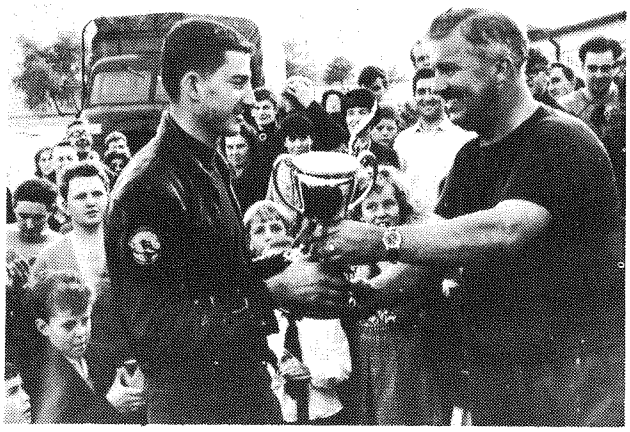
If present plans remain unchanged, Cyprus will be the destination of X Battery, 3 RCHA, in April 1968. The 128-man contingent, commanded by Maj GBC Parenteau, CD, will be a component of the United Nations peace-keeping operation for a six-month period. The battery will not take its guns, and is currently sharpening its skills in radio procedures, small arms, driving, and crowd control.

* * *

Our congratulations go to C Battery, 1 RCHA, for winning in Germany the 1967 Tug-of-War Championship of 2 British Division, and also to the following members of that regiment:
Lt MA Kryzanowski, who attained a "B" grading and a "Distinguished" mark on the 1967 Part 1 Lieutenant to Captain Promotion Examinations;
Sgt RA Balma, who achieved the highest position and an "A" grading from the Defence Nuclear, Biological, and Chemical Warfare School in England during a Unit NCO Course in April 1967; and
Gnr MT Wright, who has driven 100,000 accident-free miles in Germany in DND vehicles.

* * *

Bdr L Smallenberg of 1 SSM Battery RCA is shown on the left receiving the British Army of the Rhine Go-Cart Championship Trophy which he won on 24 September 1967. During his tour in Europe, Bdr Smallenberg has won 64 Go-Cart racing trophies. In the BAOR championship event he placed 2nd in 1965, 4th in 1966 and 1st in 1967.



* * *

"A" gradings were achieved at RCSA by the following students between 1 December 1966 and 15 December 1967:

Lt EB Beno – Command Post Officers' Course

O/Cdts CZJ Chamberland, JDL Krauter, and A Wahid Bha (Malasian Artillery) – OCP Phase 3

O/Cdt WE Myers – COTC Phase 2

Sgts BE Donnelly and PJ Garneau – Chief Artilleryman Pay Level 7

Sgts A Boudreau, FD Clark, AW McIntosh, and JM Simmons – Artilleryman Pay Level 6

Bdr TJ Hartholt – Artillery Locator (Radar) Pay Level 4

Bdr CM Bowden – Artillery Locator (Sound Ranging) Pay Level 4

Gnr JD Stears – Artillery Technician Pay Level 3

Gnr JD Stears – Artilleryman Pay Level 3.

* * *

Early in March 1967, 3 RCHA was host to 28 Light Battery, RA. The British unit had just completed five weeks of winter training at Shilo and was about to return to the UK. The program in Winnipeg under the auspices of 3 RCHA included a guided tour of the city, a shopping trip, a party at the Niakwa Motor Hotel, and an inter-unit sports afternoon followed by an all-ranks Happy Hour. The photo shows WO2 RL Thomson, the PMC of 3 RCHA Sergeants' Mess, greeting WO2 Foster of 28 Light Battery.

* * *

The Jubilee Trophy, presented annually to the CFB Petawawa unit with the best all-round sports standing, was won this year by 4 RCHA. Points were granted for victories in volleyball, basketball, and cross-country running. Bdr AA Hiscock is shown receiving the trophy from Col NW Reilander, CD, Commander, CFB Petawawa.

* * *

A comment often heard in BAOR golfing circles is "British courses are tougher than Canadian, with smaller greens and narrow fairways that do not go all the way to tee boxes". Two Canadian soldiers from 1 SSM Battery obviously hadn't heard, or chose to ignore, the above comment for they came home from RAF Base Bruggen with First and Second Low Net in the BAOR Fall Open Championships.

The championships were played from 21 to 23 September and were plagued most of the time by heavy rain and winds.

Gnr John Fader, who started playing ten years ago at the Smiths Falls (Ontario) Golf and Country Club, achieved First Low Net; Second Low Net was taken by Bdr Cliff Lowe of Brandon, Manitoba.

* * *

Sixty years ago the 25th Independent Battery was formed in Lethbridge, Alberta. Its first Commanding Officer, Maj (now Brig Gen) JS Stewart still maintains a close interest in the activities of the Lethbridge Gunners – 18 Field Regiment – and is seen above watching the firing of the centennial 100-gun salute by that unit. From right to left, behind Brig Gen Stewart, are BQMS W Stanton, Honourary Lt Col F King, Lt Col RA Jacobson the regimental commander, Maj AD Cook, and RSM DM Lee.

* * *

On 1 July 1967 the Mayor of Sault Ste Marie presented the Freedom of the City to two Militia units during Centennial celebrations in that city. Lt Col (now Col) WA Maddox, who was then Commanding Officer of 49th (Sault Ste Marie) Field Regiment RCA, holds the presentation scroll with Mayor Alex Harry. On the Mayor's left is Maj GH Tolley (retired), who is the city clerk, and Maj GR Nott, the Commanding Officer of 34th Technical Squadron RCEME.

* * *

Brig EMD Leslie, the well known Gunner who now commands 2nd Canadian Infantry Brigade Group, awaits a visitor at the Fort William airport during Exercise Poncho IV. This exercise, which was conducted recently in the Lakehead area, was a command post exercise in which 2 CIBG deployed as a United Nations peacekeeping force.

* * *

In April, the 2 RCHA AOP Troop was requested to supply aircraft and pilots to support the Canadian National Soaring Championships to be held in Hawkesbury, Ontario, from 17 to 21 June 1967.

Three days were taken up settling in and briefing the pilots on towing practices. This included hand signals used to get the glider under tow, tow speeds, methods of release, and emergency drills. During this period the gliders, pilots and crews began to arrive; there were nineteen entries including two from USA.

A contest day began with a briefing in which was described the requirement for that day. The requirement varied from day to day but it was either a flight to cover maximum distance, or one where the best time over a given distance was the deciding factor.

Due to weather, the meet did not prove to be as successful as had been expected. It was warm and sunny throughout, but the convection currents never developed to the degree necessary for really good soaring. Consequently few of the daily requirements were completed and no records were established. But the L19s have proven themselves in yet another role. They may be stretched an inch or so but are still quite serviceable and ready for another go at glider towing.

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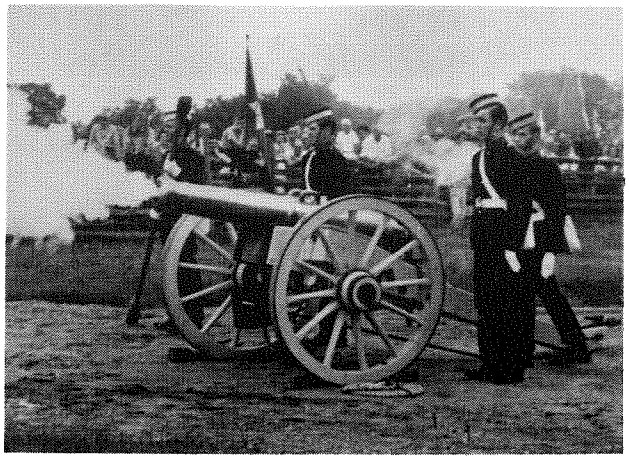

The 50th Field Regiment RCA(M) of Peterborough, Ont, has designated the above gun as its Regimental Flag Gun. Cast in England in 1822 by Cornelius King, and bearing the cyphers of George IV and the Master General of Ordnance at the time, the Duke of Wellington, the gun is reputed to have been used by the Peterborough Company of the Midland Battalion at Batoche in 1885 during the Riel uprising.

It is a solid bronze, 9-pounder muzzle loader and has been in the unit's possession for a considerable time. The above photo, by Mr Bob Santen of Peterborough, shows a detachment of 50th Field Regiment demonstrating 1867 gun drill during Centennial celebrations at the newly opened Peterborough County Century Village at Lang.

* * *

Brig JL Drewry, a former Director of Artillery who now commands 3rd Canadian Infantry Brigade Group, has visitors drop in. At centre is the Honourable Leo Cadieux, Minister of National Defence, while on the left is Maj Gen JA Dextraze, Deputy Commander (Operations) of Headquarters Mobile Command. Brig Drewry is a former CIG of RCSA, as is Brig Leslie, whose picture appears elsewhere on this page.

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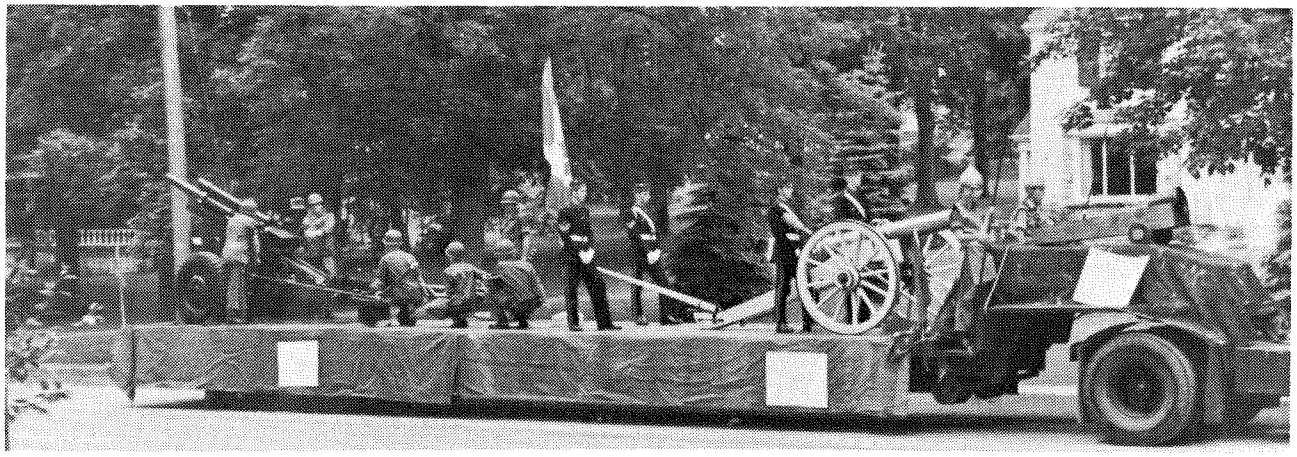

One of the more impressive floats in the Peterborough, Ontario, Centennial parade was that of 50 Field Regiment RCA(M). Mounted on a 40-foot trailer, which was kindly provided by CFB Trenton, the float contained three of the weapons used by the Royal Regiment over the years.

At its head was a mock-up of a Crecy bombard of the 1346 period with two gunners in period dress; the main body of the float carried the bronze 9-pounder muzzle-loading Regimental Flag Gun, with detachment in period dress; while at the rear of the float was a 105-millimetre howitzer with detachment in modern combat uniform.

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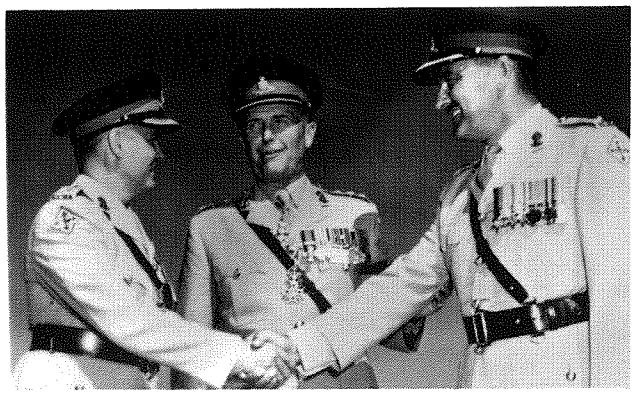

Maj Gen A Bruce Matthews, CBE, DSO, ED, CD, Colonel Commandant, looks on as Lt Col RG Heitshu, CD (left), newly appointed Commanding Officer of 3 RCHA, shakes hands with Lt Col JEG de Domenico, CD, who has been appointed head of Armament Section, DLFOR(L), CFHQ. The change-of-command ceremony took place at Fort Osborne Barracks on 11 August.

* * *

When a couple of thousand energetic guests drop in on you, a few adjustments in family and household routine are inevitable. This happened to Winnipeg when the Fifth Pan-American Games were staged in that city last summer.

The Pan-American Force of 1100 all ranks, commanded by Lt Col JEG de Domenico, CD, was organized into a general support battery, a hosting and reception battery, a ceremonials battery and a transport company. This task force, which also included a games control and games support group, was one of the major organizations behind the scenes which made the conduct of the Pan-American Games so highly successful.

The Winnipeg Free Press of 29 July stated, "One out of every three individuals behind the Pan-American Games wears the uniform of the Canadian Forces." The 3 RCHA home station at Fort Osborne Barracks was transformed into Pan-American Village; and barrack blocks, mess halls, lounges and recreational facilities were all made available for the accommodation of 2,131 atheletes.

The Winnipeg Tribune considered that "without the superb organization of the armed forces, there likely would have been no Pan-Am Games. It would cost millions of dollars to replace the personnel, services and accommodation provided by the armed forces."

* * *

At Fort Prince of Wales in Westfalia, Germany, Group Captain NG Wade, CD, Regional Surgeon, signed the handover documents at the change-of-command ceremonies of 1 RCHA. He is flanked above by the departing commanding officer, Lt Col DB Crowe, CD, on his left, and by the new commanding officer, Lt Col DR Baker, CD.

* * *

The formation of the Canadian Airborne Regiment and an airborne artillery battery (to be known as 1 Airborne Battery, RCA) is expected to take place in early 1968. The Canadian Airborne Regiment (Planning Staff) headed by Col DH Rochester, OBE, CD, (late RCE) is currently located at Mobile Command Headquarters, CFB St Hubert. Maj EB MacLatchy, CD, has been designated to command the battery; the battery captain will be GR Hirter.

The delay in announcing the final details of the location and organization of the Regiment has been due to manpower adjustments and other considerations affecting base consolidation.

The Canadian Airborne Regiment is an all arms group of approximately 1200 all ranks. Present planning calls for a battery of 110 all ranks in the Regiment. The complement of battery officers is the same as for a normal field battery. Two troops of four guns will provide the close support for the regiment in operations.

Formation of a parachute battery will revive the spirit and traditions of Z Battery (Para) 1 RCHA which was the artillery support for the various parachute battalions during the days of the Mobile Striking Force in the late 1940s, and up until September 1956 when Z Battery was taken out of the airborne role.

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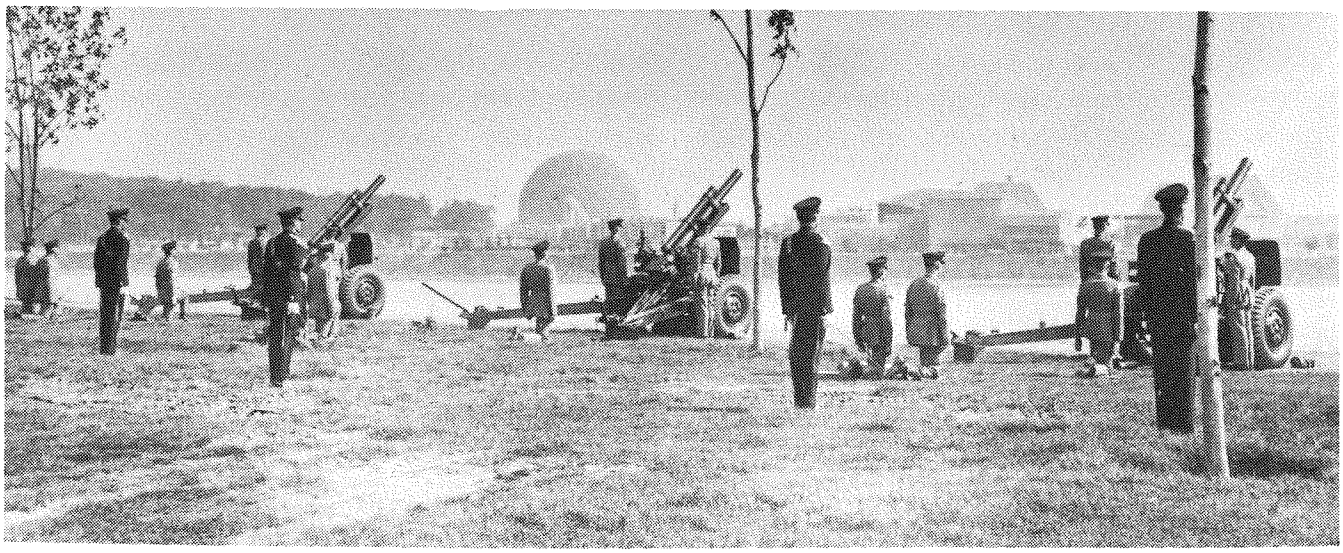

In celebration of Canada's Centennial of Confederation, approximately seventy-three Heads of State and other foreign dignitaries were invited to come to Canada to visit Expo 67 during the period 28 April to 30 October 1967. Visits of the Heads of State were arranged to coincide with their respective National Days at Expo 67.

A Guard of Honour from the 3rd Battalion, Royal 22nd Regiment, was inspected by visiting Heads of State and Canadian and foreign dignitaries. At a site several hundred yards away, a troop of guns from 2 RCHA, in action on the narrow peninsula known as Cite du Havre in Montreal Harbour, fired the appropriate salute on each occasion.

A further task of the salute troop was to carry out the role of a shore battery. All countries that participated in Expo 67, and which had naval forces, were officially invited to send visiting warships to the exhibition. Montreal had been designated as the main naval saluting port in the St Lawrence area. To all ships that fired a 21-gun national salute on arrival in Montreal Harbour, the 2 RCHA troop, in their role as a shore battery of three guns, returned the salute. One of the highlights of this particular role came when three Scandinavian ships – from Sweden, Denmark, and Finland – arrived five minutes apart with each ship firing a national salute.

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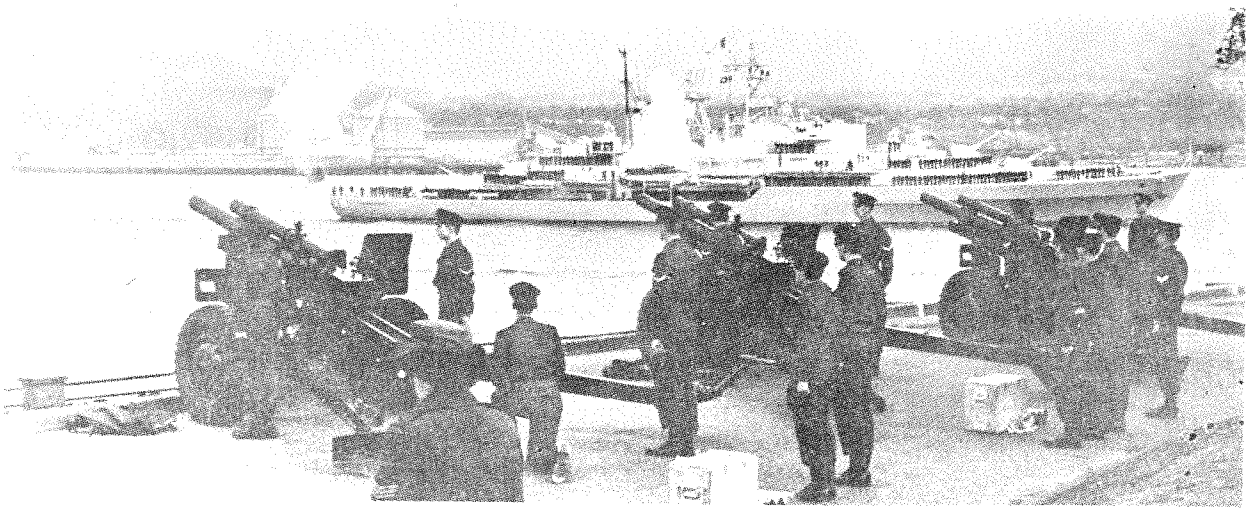

The German cruiser "Deutschland" steams into Vancouver harbour firing a 21-gun salute. It was replied to by members of 15 Field Regiment in the foreground. The "Deutschland" is the largest ship in the West German Navy, and on its visit in mid-April carried 527 officers and men, 200 of uhom were officer cadets. The "Deutschland" arrived in Vancouver from Kiel during the course of a five-month visit to Canadian and US ports.

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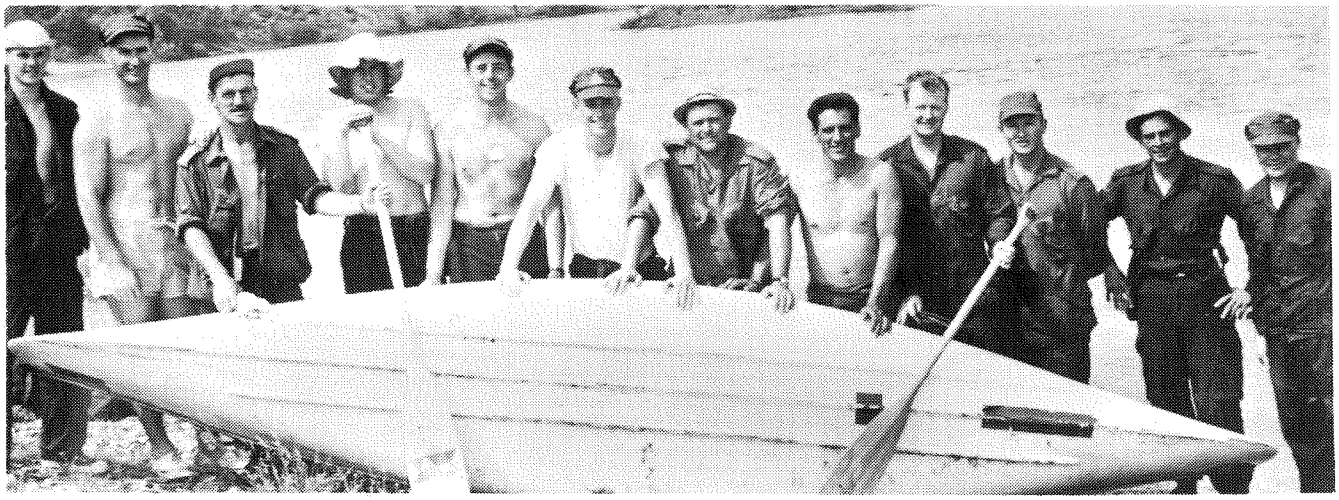


During Exercise Murky Weather (June 1967), twelve 4 RCHA canoeists spent nine days aboard six canoes on the lakes and rivers of Ontario's Algonquin Park.

The exercise was supported by Major DH Clark and the pilots of 4 RCHA Air OP Troop who disregarded wind and rain (it rained on every day of the exercise but one), and daily checked progress and flew in supplies.

The standard of canoeing among the novices rose immeasurably as a result of practical experience in fast water. Many rapids were shot by the entire team, usually after the two experts, Lt Moon and Bdr Spurrell, had pioneered the way. The old maxim – "time spent in recce is never wasted" – was disdainfully ignored by Sgt Girard who ploughed into the foam with great aplomb, rarely slowing for even a quick look-see at the head of the rapids. As a result he enjoyed the distinction of being capsized on more occasions than the rest of the party combined.

In keeping with the "coureur de bois" nature of the regime, several beards became increasingly noticeable as the exercise progressed; but, as policy in regard to beards within the unified force could not be ascertained locally, they were dutifully, reluctantly and painfully removed at journey's end.

The picture above shows, from left to right, 2Lt RJM Selman, Bdr LG Spurrell, Bdr AF Hannaberry, Lt WL Pender, Lt TAH Sparling, Sig RJB Archer, Sgt RP Mc Cavour, Sgt JA Girard, Capt RG Glover, Lt RD Moon, Sgt JE Walton, and Sgt A Currie.

* * *

Gnr CP Guilderson of 1 SSM Battery RCA returned to the beaches of Normandy on 6 June 1967, 23 years after he first landed there. His first landing was on 6 June 1944 with the North Nova Scotia Regiment; this occasion saw him returning under different and happier circumstances. He was part of a quarter guard, commanded by Capt JEF Bryce, sent by 1 SSM Battery to help commemorate the twenty-third anniversary of the landing of the Allied Armies in Europe. This year they were honouring the Canadian servicemen who took part in Operation Overlord at Juno Beach.

The Quarter Guard took part in ceremonies at two different towns. The first was held at Beny-Sur-Mer, one of the D-Day landing beaches and now the site of the Canadian war graves in Normandy. During this ceremony the Last Post was played by Bdr RA O'Neil.

The guard then moved to the Maison des Jeunes in Courceulles for a luncheon. Here they were met by the French naval band.

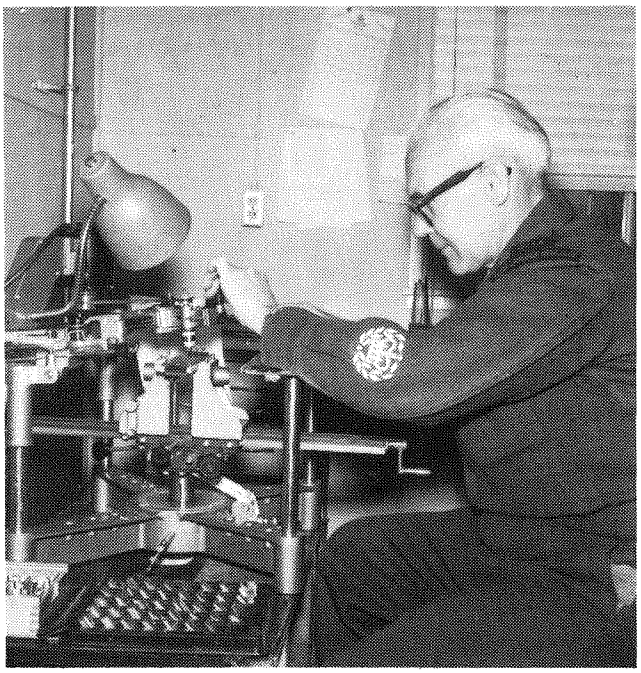
They departed after lunch for an Honours Ceremony at the Monument and to take part in a final march past. The march past was led by the Canadians and included troops from the French Foreign Legion, the French Army and the French Marines. A fly past by the French Air Force also took place.

While in France, the guard was the guest of the towns of Courceulles and Graye-Sur-Mer.

* * *

Would it fit?

In the RCA Museum, Shilo, Capt P Baldaro was caught taking a close professional interest in the tunic of the late Gen the Honourable HDG Crerar, PC, CH, CB, DSO, CD, ADC.



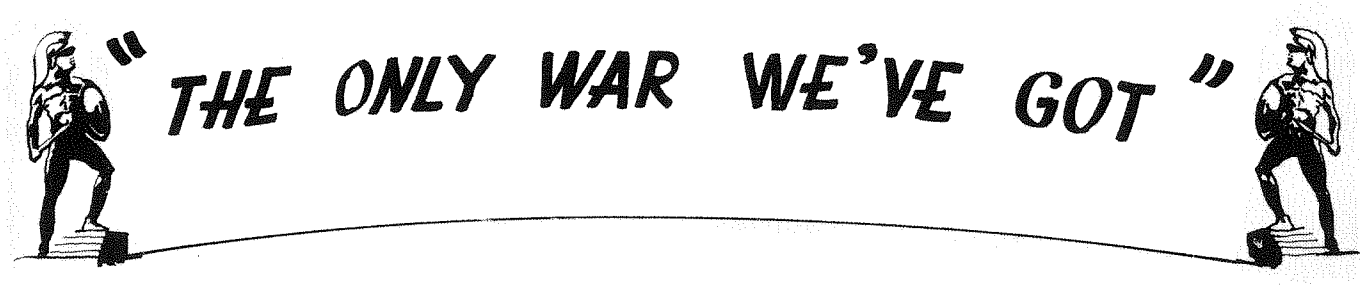
Precision Adjustment

Sergeant Major RJ Speare at the engraving machine in the workshop of the RCA Museum. A large number of plaques, trophies, name plates, etc., is engraved each month on this machine for various units, organizations, and institutes.

* * * * * *

As a memento of Expo 67, and a token of appreciation of the fine performance by the Noon Gun Detachment at the Canadian Government Pavilion, Expo 67, from the opening day to the closing, 4 RCHA was presented one of the two 30-foot Canadian flags which flew from the big flagpole under which the noon gun ceremony was carried out. Mr H Leslie Brown, Commissioner General of Canadian Government participation in Expo, presented the flag to the detachment commander, Sgt AD Murphy, who is shown above handing it over to his Commanding Officer, Lt Col LC Baumgart.

* * *



by "De-Be-John"

As wars go, Korea wasn't much; but as our Commanding Officer often said in reply to our complaints: "It's the only war we've got." These words came back to me last year on hearing a very learned and very young university professor state with authority: "We lost in Korea." Despite the exhortations "to keep the troops advised", I could not remember anybody saying whether we had won or not. I had not bothered to enquire; the notion that we had lost was preposterous. Later, I pondered a reply to this outrageous charge but failed to find an answer. My reflections, though, did produce some memories of Korea which I relate here as an apology for my ineptitude.

One of our more important tasks in Korea was to fire propaganda leaflets (at the enemy) at various intervals throughout the night. This was a very popular duty with the gunners. Before firing, the afternoon was spent stuffing the shells with leaflets. After firing, the morning was spent picking up leaflets from shells which had detonated prematurely. It distressed me some years later to overhear one of our gun sergeants boasting that material other than leaflets found its way into these shells. This revelation distressed me because it brought to mind what might, under more favourable circumstances, have been considered a very successful use of propaganda shells. One fine morning, the Commanding Officer watched while two or our shells burst on a target we were supposed to be marking with red smoke for an air strike. I was unable to convince him that the leaflets and toilet rolls which covered the target were more effective markers for the aircraft than red smoke. It would be interesting to know what the pilots thought.

Mistakes in identifying the correct type of ammunition were not uncommon. This was due to the remarkable forethought shown in stockpiling artillery ammunition for the Korean War. The ammunition was placed in bunkers in the Far East early in the Second World War. Later, the bunkers were flooded to keep the ammunition from the Japanese. With the coming of the Korean War, the ammunition was salvaged and sent to us for onward transmission. The gunners scraped the rust off, so as not to give the enemy blood poisoning, and fired it. Certain types had a nasty habit of prematuring, but usually well out from the bore with no danger to us. Late one evening a heavy battery moved into a position about a thousand yards in front of our guns. Our gunners considered this an insult because, as field gunners, they felt it their right to be first in face of the enemy. We fired heavily during the night. At first light there was a murmur of satisfaction as the heavy battery was seen to be on the road moving back. They passed our gun position, addressed us in the most endearing terms, and proceeded to pelt us with the shrapnel we had showered them with the night before.

At the time, I was worried more by the chunks of shrapnel than by the name calling. A few weeks later I was to learn that what people call you *is* important. My first assignment as an artillery observer was with a Korean infantry company. They spoke no English and I spoke no Korean. After several tries at pronouncing my name, the company commander said something like "De-be-john." The other Koreans with him giggled and looked pleased. I took this to mean that the name was that of some well-known national hero and hastily agreed to adopt it. Some weeks later while discussing national customs with a Japanese girl in Tokyo, I asked her what De-be-john meant. Very coyly she said: "Pregnant woman." Your best friends won't tell you. Worried, I immediately went on a diet.

When I came back from my leave in Japan I got my first job with one of our infantry companies. They were seasoned troops; but despite this, they were extremely tense for about fifteen minutes every evening; and all because of the climate of the British Isles. Daily, for some obscure reason, we received a report on the weather in the UK. This is a nerve-racking experience in itself but, in addition, the company had a pool on the number of times during the report the announcer would say the word *rain*. Every evening the whole company listened and counted. On this particular evening, right in the

middle of the sixth *rain*, two loud thuds interrupted the count. A couple of shells had landed on our position and the lookouts reported weapon fire coming from the ridge immediately to our front. I rushed to my observation post. Sure enough, there were flashes of fire all along the ridge. Without hesitation, I called for a regimental target (24 guns) – my first in action. It did the trick; the shelling ceased and so did the flashes along the ridge. It was very satisfying to see the worth of your own arm when well and truly applied. The following morning the company commander called me over. As I approached him I preened a little, expecting something like "The guns were magnificent last night" or "It is the Gunners who decide the battle". Without a word he handed me a number of pieces of shrapnel which had obviously come from our own guns. Silently, he pointed to a rack of 32 shovels hung neatly in a row at the back of a bunker. Shrapnel had gone through the blades of all 32 of them. Apparently the shell fire the night before – the two loud thuds – had been caused by a gun from another regiment firing short due to faulty ammunition. The flashes of light at which I had fired were the bursting shells of other guns in this regiment engaging the ridge as a harassing fire task. It was unfortunate that the company commander was young and bright. Now, as a high-ranking officer, he takes great pleasure in reminding me, at the most inopportune moments, of his 32 shovels and the remarkable effectiveness of artillery.

The weather reports were too much for our infantry and they went out on rest with the remainder of the Commonwealth Division. Gunners of course never rest, so we stayed on with the 2nd US Division. One wet, miserable afternoon I reported for duty to a US infantry company. After supper, as we sat around talking, the master-sergeant expressed interest in my regimental shoulder flashes. He seemed impressed when I told him RCHA stood for Royal Canadian *Horse* Artillery and not Royal Canadian *Heavy* Artillery. I explained that the *horse* was purely traditional. A glint came into his eyes, the meaning of which I did not understand until some time later. The master-sergeant and quarter-master sergeant were the only two regular soldiers in the company. The former was forceful; the latter, devious. They carried on a constant battle of wits, good-naturedly trying to outsmart one another. The score, at that moment, was in favour of the quarter-master sergeant. The day before, he had taken the master-sergeant's leave money in a crap game. At about 2100 hours, I heard the master-sergeant speaking to the quarter-master sergeant on the field phone. The side of the conversation which I heard, went something like this; "Yeah, well we've got this Canadian officer here now. He's from the horse artillery, yeah h-o-r-s-e. Of course he has to have his horse up here. What? You better be doing something about it; that horse arrives at 0700 hours tomorrow. Yeah, well the company commander ain't going to take kindly to you if that horse has to stay out in the rain with no hay or oats." No more was heard until 0300 hours, when the quarter-master sergeant stumbled into the command post. Having fallen a number of times while climbing the 300 yards from the bottom of the hill, he was a sorry-looking sight, soaking wet and covered in mud. After exchanging a few pleasantries with the master-sergeant, he turned to me and in a troubled and apologetic voice said: "Lieutenant, about that horse. We've fixed up a bunker as a stable; I got some hay but, man, there ain't no oats in this whole goddam theatre."

There were no oats in Korea but, then too, there were no horses. Perhaps too, there were no winners and no losers. In any case, for many of us the Colonel was right: "It's the only war we've got." □

"...*Silently he pointed*..."

CLOSE FIRE SUPPORT

Col HA Dye
United States Army

"The Army does not need close air fire support."

This is a brash statement. It refutes what has been preached by the Army and the Air Force for years, yet it is a statement that deserves serious consideration. That statement can be reinforced by another which is equally shocking. "The most inefficient and expensive way to get close fire support is to get it from aircraft." The expense is in lives as well as money.

In Vietnam in early June of last year, Captain William S. Carpenter, West Point's lonesome end, called for an air strike in his own company position. *The New York Times* of 12 June 1966 gave the following account, quoting Captain Carpenter as saying:

> *'I can't tell you how I arrived at the decision to call the air strike in on our position.'*
>
> *'I didn't really think about it,' he said. 'They were all around us and getting into our position.'*
>
> *'Put it right on top of me,' Captain Carpenter had shouted into his radio. 'We might as well take some of them with us.'*
>
> *The captain's radio operator, who was next to him, was killed by the air strike, as were a handful of other men in the company.*
>
> *The napalm, however, broke up into patches of flame in the heavy bamboo jungle and left a few bare lanes for Company C to run through.*

Perhaps in Captain Carpenter's case, there was no artillery in range for him to use, but, if not, why not? It may have been that the planning for the operation was poor and the artillery had been accidentally left out of the task force. Or, perhaps, the execution of the plan was inept and the artillery was outranged.

There is, of course, the possibility that no artillery was available to assign to the task force at the time. The unavailability of artillery or, perhaps, inability to transport it sounds more plausible than either poor planning or poor execution.

Lack of Knowledge

However, there is still another possibility. The indoctrination of so many with the idea that "airpower is the answer" has reached so far that some officers are mistakenly using airpower as a substitute for artillery fire support. Consequently, these officers, backed up by planners and budgeteers, are relying on the aircraft for close fire support and are eliminating the artillery by design and not as the result of a local planning error. If this misconception is a fact, then training, retraining, and new and proper indoctrination at all levels are in order. In fact, they are required.

Perhaps the degree to which lack of knowledge has influenced fire support is greater than we would like to admit. If not, then why use napalm which seeps into foxholes and all the low places seeking out the defending Americans? Why use a system which requires a pilot who in a 500-mile-an-hour bombing run cannot see through fire, smoke, and canopy, when there is a system available that is controlled by a man who is in, or next to, the fire and smoke, is under the canopy, and knows what is happening? Why not use a system that can maneuver its fire a few miles left or right, bring it in closer or move it farther away, all at the request of a man who is on the spot?

Why not select a system where the exact

The author is employed with the Weapons Systems Evaluation Group, Office of the Secretary of Defense, Washington, DC. *The article is reprinted from the September 1967 issue of the US Command and General Staff College publication, Military Review.*

time of arrival of the projectiles can be known to the Americans and not to the Viet Cong, so that the Americans can at least have the advantage of ducking a second or two before the projectile arrives? Why not select a system that can be immediately available at all times, rather than one that can, at best, be available less than half the time and almost never immediately?

Quantity and Quality

However, in Vietnam, availability of air support at times presents an exception to this general condition. The Air Force does not have an air superiority problem in South Vietnam. Therefore, many more planes are made available for Army support than normal. This surplus of air support when weather is good leads both the Army and the Air Force astray. This reliance, based on the abnormal, may be one reason that artillery is not made available in sufficient quantity and quality.

From a quantity and quality point of view, we should like to think of Captain Carpenter's being able to call on his artillery observer to bring the artillery fire down just as the enemy advance; or to put the fire immediately in front of the Viet Cong so that they could not advance through it, then roll the fire back on top of him; or, if too late and the position is being overrun, to call for the fire on the position at an exact time so the Americans could take evasive action at the right moment.

I would even like to think of Captain Carpenter's telling the artillery and mortars, "This is our location, fire in a circle around us, but don't hit us, and keep it up until I tell you to stop." The artillery can do all these things and more, provided the artillery has been trained, is in range, and is used as it should be.

There is one more proviso which is, perhaps, the most important of all. Artillery support must be requested. The man under pressure may never call for artillery – and he may be losing his best bet because he did not know better.

The airpower advocate immediately counters that statement with the word "effectiveness." He generally concedes that artillery fire can be more "available"; that artillery can hit an area through fog, rain, or snow in the daytime or at night; but he will counter that the air-delivered munitions are more effective than the artillery. Therefore, the air-support advocates stress that it is a matter of choice, rather than not knowing better.

Historical Record

The best answer to this question of choice is available in the following historical record. Early in World War II, particularly in Italy, the Germans found it imperative that they disperse their forces widely throughout the first three or four miles of the defended zone. Effectiveness of US and Allied fire support weapons made this dispersal necessary. In this zone, it was not uncommon to find the Germans deployed to a density of only 25 or 30 men per square mile. Farther back, out of close support artillery range, the German forces were more heavily concentrated.

German wide dispersal of forces near the front was one of the best indications of the effectiveness of artillery fire. The Germans, because of their casualty rates at the hands of US artillery, and because of their knowledge of what their own artillery had done to the Soviets, established doctrine which demonstrated their desire to stay out of range and sight of artillery observers. Even with such doctrine and evasive tactics, the artillery and mortars caused over 80 percent of the German military casualties.

Of course, wide dispersal up front requires greater concentrations farther back with a rapid reinforcement capability. In Normandy, when pressure was applied by Allied landings, the Germans were forced to move large numbers of troops toward the pressure points. The Allied air arm created havoc on the moving German forces in the rear areas. The ground forces, with ground weapons in the forward area and the air forces in the deeper areas, combined to force the German withdrawal from Normandy.

There were occasions in Europe, and more frequently in the island-hopping operations of the Pacific, when the roles were reversed, or at least overlapped, but these were exceptions. Most often, and with the best results, it was artillery for close support and aircraft for support in depth.

From a study of reports, numbers of casualties, testimony of German, Japanese, and Korean prisoners, and, finally, from a study of enemy doctrine, the effectiveness of our artillery is well established. In general, the same applies to aircraft effectiveness farther back, using strafing, bombing, and armed reconnaissance in those areas which cannot be reached by artillery. The record does not show a clear-cut effectiveness advantage in using close air support rather than artillery.

Since there does not appear to be an effective advantage in using close air support over

US Army Photo

A 105-millimeter howitzer crew of the 173d Airborne Brigade supports infantrymen in war zone "D".

artillery, it does not make sense to use an airplane against a target that can be reached with artillery. There might be an occasional reason to use an airplane against a special target if there were no other uses for aircraft at the time, but even then, consideration must be given to whether or not the target is defended with antiaircraft weapons and to the relative importance of the target.

Aircraft Effectiveness

Using a million-dollar airplane, which might be lost along with its far more valuable pilot, on a target which can be reached with artillery does not appear to be reasonable. Artillery could fire for a few seconds, accomplish the mission, and then shift its fire to other targets. If the aircraft is used and survives, it must return to its base for rearming and, consequently, be unavailable for a considerable period of time. During this recycling time and during bad weather and darkness, ground forces must fall back on artillery for continuous fire support. The close air-support system does not meet the basic requirements of all-weather, all-time support. Therefore, at best, airpower should be used only to augment the artillery fire support system, not to replace it.

But if we still decide to use the airplane in close support, does the effectiveness of the airplane justify its use in that role? The usual thought seems to be that airplanes can destroy targets which cannot be destroyed by artillery. Therefore, the airplane is needed to augment the fire of the artillery. This seems to be a reasonable thought when based on the fact that a thousand-pound bomb can do more damage than a hundred-pound projectile. If both are delivered to the proper spot on or near the target, the bigger explosive will, undoubtedly, do the most damage. But will one big one do more damage than six little ones hitting simultaneously – or 18 little ones or more? The answer may be yes or no, but in either case, it needs clarification.

Destruction Not Answer

The big bomb may be able to destroy a target that might not be destroyed by a hundred-pound projectile, but destruction is not necessarily the right answer. In fact, destruction on the battlefield is a badly overused word. Destruction usually costs too much and accomplishes comparatively little. A tank can be put out of action by killing or wounding its crew, making the crew surrender, turning the tank over, driving off its supporting

infantry, jamming its turret, screening it with smoke, or any of a dozen other ways, none of which destroys the target, but all of which will probably force the target to change or abort its mission. Since forcing the enemy to abandon or change his mission is the immediate goal, destruction is only incidental thereto.

Casualties produced on the enemy cause him to change his plans and bring about our victory on the battlefield faster than any other measurable means. Since artillery and mortars have produced 80 percent of the enemy casualties in the last two wars, it appears that the way to force the enemy to change his mission and give us victory is through more and better artillery.

For the price of one tactical aircraft at 1.5 million dollars, approximately 108 towed, 105-millimeter howitzers can be purchased. This number of howitzers makes up 18 batteries or six battalions of artillery. The aircraft can deliver, perhaps, a ton and a half of explosives on a target a few hundred yards in size. Any one of the 18 batteries can deliver the same amount of explosive over the same area in less than one and one-half minutes, leaving the other 17 batteries free to fire on other targets. Eighteen batteries can cover over 965 square miles with at least two batteries hitting any point in that area.

Daytime Coverage

For continuous daytime coverage, a minimum of three aircraft are needed to keep one over the target area. The two additional aircraft give greater coverage, but they also cost as much as 216 additional 105-millimeter howitzers. The three aircraft might deliver nine or 10 tons of explosives on selected targets during the 12-hour period. The 324 howitzers which cost about the same amount could deliver over 1,000 tons during the same period of time without even approaching the maximum rate of fire. The cost per round of explosives per unit of area in the close support zone is in favor of the artillery by a multiple of thousands. And the artillery covers the area 24 hours a day.

It appears that at least 500 aircraft have been lost in areas of Vietnam that are or could have been covered by artillery fire. These are aircraft that cost from 1.5 million to three million dollars each, or a total of as much as 1.5 billion dollars, plus, perhaps, 250 pilots. It seems that losses of this magnitude should be enough to make desirable a comprehensive study of these losses, their location, and other coverage means that might have been available, which, if used, might have eliminated or greatly reduced these losses.

US Army Photo

The 1st Cavalry Division (Airmobile) uses CH-47 helicopters to transport 105-millimeter howitzers.

Specific Advantages

It must be remembered that in Vietnam, aircraft are highly vulnerable to ground fire, whereas the artillery is comparatively immune. It does not seem reasonable to take the most expensive fire support system and expose it to the greatest risk to produce the smallest return when a much less expensive system can be exposed to little or no risk to produce a maximum return. There must be a better one. It is the use of airpower in depth beyond the range of the artillery and out of range of our own surface air defense weapons.

Fire support in depth should not be confused in any way with close fire support. The break between the two is reasonably clear now. It should be made more definite in the future. There are specific advantages to the infantry-armor-artillery team in establishing a line of demarcation on some recognizable terrain feature five to six miles deep to separate clearly the "close support zone" from the "support in depth zone."

Freedom from a close air-support requirement would enhance the Air Force's ability to carry out its mission in depth. Aircraft and Air Force personnel would be released from a tightly circumscribed and relatively unproductive mission in favor of a far more lucrative mission, a mission even more important to the Army.

Artillery, when fully and solely responsible for close fire support relieves the Air Force for its more effective roles. At the same time, the artillery performs in a role for which it was designed and for which it is particularly adept. In the close fire support role, artillery adds to our technological superiority by taking the best advantage of that superiority. This role is not new nor does it require anything new. It does require the proper application of techniques we already know, plus a more dynamic employment of artillery-infantry-armor tactics.

A towed, 105-millimeter battery of six howitzers can easily be transported by air or it can move under its own power. It has few mobility limitations that cannot be provided by proper emphasis. If the battery is employed within approximately 11,000 yards of another 105-millimeter battery, the two can be mutually supporting. They can fire protective fires for each other, mass their fires, or simultaneously take two or more targets under fire. The dividends accruing from one battery working with another are significant. However, these dividends multiply tremendously when battalions instead of batteries are employed and the battalions are positioned for mutual support.

Considering only the three 105-millimeter battalions of a division artillery, at least 18 howitzers can deliver fire on any point in an area roughly 25 miles wide by six miles deep. Any task or maneuver occurring within that 150-square-mile zone can be immediately supported by fire. But this is not all. The fires of these division artillery battalions are usually reinforced with the fire from heavier division and corps weapons.

The size of the area and density of coverage are increased as the weapons increase in number, range, and caliber. With this coverage, the mass and suddenness of artillery fire produces chaos in enemy units. In reality, the only way by which an enemy might survive in the area covered by the division artillery is to avoid being located. If he can be located, he can be killed or forced to live so deep in the ground that he cannot perform his mission.

In Vietnam, there are not enough divisions available to cover the large majority of the country. Therefore, to drive the enemy from a larger percentage of the country, it is necessary to move out of the defended areas into the more remote countryside. It is in such "search and destroy" missions that the artillery can perform a vital service, provided, of course, indoctrination, training, and planning are properly carried out with artillery as well as with the infantry.

For us to win in Vietnam we must make the enemy lose his will to fight. Killing or capturing the Viet Cong will do more to destroy that will to fight than capturing land. Massed artillery fire can do more to kill the enemy than any other weapon system. Therefore, the infantry and artillery should in reality be a hunter-killer team in which the infantry actively seeks targets for the artillery to kill. The best support is given to the infantry when the infantry finds the enemy and helps maneuver the fires of the artillery so that the artillery does the job of destroying.

In this light, the classic mission of the infantry "to close with and destroy the enemy" needs reexamination. In the first place, such a mission tends to equate an American infantryman on a par with a Viet Cong. In the second place, it often does not take advantage of our technological superiority as demonstrated by the artillery-infantry team.

Perhaps the infantry mission should be to "find the enemy" and the artillery mission to "destroy the enemy." Certainly, the Air Force mission which would best supplement the Army mission would include hitting the enemy before he gets into the close support area. Such a combination of missions would help to build a winning team regardless of the level of conflict.□

ON DESIGNATIONS – RCHA AND RCA

Prepared in the office of the Chief of Artillery

On 16 Jun 67 an artillery conference was held at Headquarters Mobile Command under the direction of the Senior Regular Gunner, Lt Gen W.A.B. Anderson OBE, CD. The aim of the conference was to discuss the RCA titling system and on the basis of this discussion to select appropriate titles for all RCA units and, if possible, to establish a titling system that would meet the dictates of the future. The titles and system selected were to meet the following criteria:

a. Be compatible with Bill C 243 (Canadian Forces Reorganization Act);

b. Be consistent with the requirements of the Mobile Command Force Structure Study of 15 Aug 66;

c. Be a system capable of expansion to meet the dictates of a mobilization plan;

d. Permit retention of the Canadian Gunner Traditions established over the past 112 years; and

e. Meet the personal demands of the modern Canadian Soldier.

The conference participants were the Commander Mobile Command, Chief of Artillery, Senior Staff Officer Chief of Artillery Division, the current and immediate-past regimental commanding officers at present in Canada. Each officer attending the conference was given an opportunity to present his views and the views of his subordinates. In addition, those officers who were invited but were unable to attend submitted briefs which were presented to the conference by the Chief of Artillery.

The conference examined in detail the pertinent historical factors. Without elaboration, the key historical events considered were:

a. 1855 - The Militia Act;

b. 1871 - The formation of A and B Batteries;

c. 1887 - The formation of C Battery;

d. 1899 - The formation of D Battery;

e. 1905 - The authorization of the title RCHA;

f. 1914-18 - World War I;

g. 1919-39 - Canada's Permanent Force;

h. 1939-45 - World War II;

j. 1950 - The formation of 2 RCHA;

k. 1953 - The renaming of 79 and 81 Field Regiment as 3 and 4 RCHA respectively; and

m. 1966 - Mobile Command Force Structure Study.

On the completion of the historical analysis of the RCA, an exacting study of the many aspects of this somewhat complex problem was conducted. The discussions that evolved were kept on a level that precluded emotional and personal prejudicial digressions. Factors which could not be substantiated were discounted. Only the most valid considerations which arose during the conference will be recorded here.

Probably the most apposite point raised during the entire conference was the need to ensure that unnecessary changes, especially at this time, should not be contemplated just for the sake of change. There are no significant pressures, either internal or external to the RCA,

that are capable of forcing unwarranted changes on the Regiment. At no time should the Regiment permit irrational changes to be implemented without due consideration being given to all aspects of the requested change and the ramifications of its implementation.

The discussion progressed from this point to the RCHA identity problem. Although the RHA is considered the elite of the RA, this is not the case in the RCA. Membership in the RCA is the primary consideration and once within the Regiment each member should be employed according to his individual talents. It is only as a strong cohesive corps that the RCA can perform its many functions to the standard expected. Since 1905 RCHA has been the identity given to the field artillery regiments of Canada's professional army, while the other regular artillery units, the Militia and the wartime regiments used the RCA titling system. The continuation of this system permits an easy understanding of the roles and employment of all RCA components.

If alterations were made to the existing RCA nomenclature several disadvantages would accrue. Firstly, it would be relatively costly to both units and individuals. When one considers that the investment now in band uniforms, mess crystal and china, pennants, ciphers etc would essentially be lost, one is inclined to weigh decisions carefully. Secondly, the present four field regiments have all established unit traditions and histories based on current titles. A change now would negate anywhere from 14 to 62 years' endeavours. Thirdly, RCHA dress regulations lend themselves to more distinctive uniforms in the use of chain mail and ball buttons. Fourthly, RCHA units have precedence on parade and the loss of the privilege of "the right of the line" should never be self-generated. The 4 CIBG unit rotation policy is undergoing drastic alterations. It is envisaged that in the future 1 RCHA will remain in Europe. Hence, all reinforcements will be on an individual basis with each of the regiments in Canada being responsible for a specified number of replacements annually. With this being the case then most personnel proceeding to Europe will require no re-badging prior to posting if all field regiments remain RCHA.

Units with distinctive roles and/or equipment such as airborne, missiles and locating obtain suitable identity by virtue of their specialization. At the command and staff levels corps affiliation is the prime consideration and when employed in such appointments individuals loyalty must be corps-oriented, not directed to any one unit within the corps.

On the basis of these discussions the system of titling in the RCA will remain as it is now. That is, close-support artillery regiments of the regular force will be RCHA and all other units, components and elements will be RCA. The titles for the artillery units in Mobile Command will be:

1st Regiment Royal Canadian Horse Artillery (1 RCHA).

2nd Regiment Royal Canadian Horse Artillery (2 RCHA).

3rd Regiment Royal Canadian Horse Artillery (3 RCHA).

4th Regiment Royal Canadian Horse Artillery (4 RCHA).

1st Airborne Battery, Royal Canadian Artillery (1 AB Bty). This unit will be organic to the Canadian Airborne Regiment.

1st Surface to Surface Missile Battery, Royal Canadian Artillery (1 SSM Bty).

2nd Surface to Surface Missile (Training) Battery, Royal Canadian Artillery (2 SSM (Trg) Bty).

1st Air Defence Battery, Royal Canadian Artillery (1 AD Bty).

2nd Air Defence Battery, Royal Canadian Artillery (2 AD Bty).

1st Command and Control Battery, Royal Canadian Artillery (1 C&C Bty).

1 Loc Bty will be redesignated, re-equipped and reorganized to form this unit.□

THE CHIEF OF ARTILLERY AND HIS STAFF

Left to right, front row: Maj JA Cotter, CD; Maj RH Duke, CD; Col JP Beer, BDE, CD; Lt Col RN McKay, CD; Maj DR Foster, CD. Centre row: Mr Gnr (WO1) MJ Fraser, CD; Capt GN Mastine, CD. Rear row: Sgt RS Hubbard; Sgt JO Prud'homme, CD; Bdr DC Rock; Capt JA Parnham. Missing: Bdr JHG Gareau

CONDUCT OF THE NIGHT DEFENSE

(Extracted from a report from Vietnam entitled "Observations of a Platoon Leader")

a. *Keep fighting positions close together at night and when visibility is very limited.*

b. *Dig deep. Check each hole verifying the assigned sectors of fire and the correctness of positions.*

c. *Sleeping positions should be below the level of the ground. Keep in mind that the more men at one single position, the more rest each man will receive.*

d. *At night the enemy can be engaged effectively only at close range.*

e. *Plan to use grenades and mines to avoid compromising your position.*

f. *Clear the area around the defensive perimeter at dusk and first light.*

Artillery in the War of 1812

Lt Col JD Cambridge, CD
President, The RCA Association

The War of 1812 commenced on 18 June 1812, with the American declaration. This was six days before Napoleon's ill-fated invasion of Russia, and, not unnaturally in the light of the cataclysmic clashes anticipated across the Niemen, the North American war attracted little attention in Europe.

The harsh demands of 20 years of Napoleonic warfare, interrupted only by the brief respite of the Treaty of Amiens, had exhausted British military strength in North America. At the outbreak of the War, the total number of British regulars in all of present day Canada was only 5,454, of which 445 were from the Royal Artillery.

The Royal Artillery in Canada consisted of four companies (as batteries were then known) and came under the command of Maj Gen George Glasgow, CRA for all of North America.

The Royal Artillery as such participated in the following engagements of the War, listed in chronological order with the name of the commander:

Capture of Detroit (16 August 1812) Lt (later Maj) F Troughton

Battle of Queenston Heights (13 October 1812) Capt W Holcroft

Defence of Fort Erie (12 November 1812) Lt C King

Battle of Frenchtown (22 January 1813) Lt F Troughton

Defence of Fort George (26 to 28 May 1813) Maj W Holcroft

Battle of Chrystler's Farm (11 November 1813) Capt (later Lt Col) HG Jackson

Capture of Fort Niagara (18 December 1813) Capt (later Lt Col) Cyprian Bridge

Capture of Black Rock (30 December 1813) Lt (later Maj Gen) RS Armstrong

Capture of Oswego (6 May 1814) Capt (later Lt Col) Edwin Cruttenden

Battle of Chippewa (5 July 1814) Capt James MacKonochie

Battle of Lundy's Lane (25 July 1814) Capt James MacKonochie

Siege of Fort Erie (28 July to 11 September 1814) Maj (later Maj Gen) Phillott

Of all the engagements in which the Royal Artillery participated, the most desperate was the bloody Battle of Lundy's Lane, fought within the present city limits of Niagara Falls, Ontario. During the six-hour engagement, the British regulars and the Upper Canada Militia suffered 770 casualties out of a total force of 1,600.

The number of Gunner casualties is not known, but it would be high. The British and American guns were reported as being almost muzzle to muzzle; on both sides, guns were captured and re-captured and gunners bayoneted in the desperate hand to hand fighting that characterized the day. A battery of the Royal Artillery is still called the Niagara Battery to commemorate this occasion.

The provincial Militias of both Upper and Lower Canada also had their artillery component, but this was long before the term Royal Canadian Artillery had been coined, and the terminology used then sounds strange to our ears.

There were numerous defensive non-mobile batteries in such places as Kingston, Prescott, York and Amherstburg, manned by local Militia; in addition, the following Militia artillery units are

The spelling "CRYSLER'S" is that used in the original inscription on the monument. A tablet subsequently placed on the same monument carries "CHRYSLER'S". The spelling "CHRYSTLER'S" is used on the medals awarded for the action. –Ed.

listed as integral organizations:

Cameron's Incorporated Artillery Company (Upper Canada Militia). As was common practice at this time, this unit was named after the commanding officer, Capt Alexander Cameron. This battery participated in the defence of Fort George.

Mississippi Volunteer Artillery (Prairie-du-Chien Militia, Upper Canada Militia). Commanded by Lt James Keating, this troop participated in the engagements at Prairie-du-Chien 17 to 20 July 1814, when this fort on the headwaters of the Mississippi in the present State of Wisconsin was captured.

Capt John Powell's Company of Artillery (1st Lincoln Artillery, Upper Canada Militia). This battery, commanded by Capt John Powell, participated in the Battle of Queenston Heights and in the defence of Fort George.

Troop of Provincial Royal Artillery Drivers (Upper Canada Militia). Commanded by Capt Isaac Swayze, this troop participated in the Battle of Queenston Heights.

Corps of Provincial Royal Artillery Drivers (Lower Canada Militia). This unit was commanded by Lt James Mason, and was attached to the Royal Artillery in the Montreal district.

Members of the Militia Artillery also demonstrated the well known versatility of Gunners by assisting in the manning of the guns aboard ships of the Royal Navy and the Provincial Marine on the Great Lakes; all available seamen were usually fully occupied in the sailing of the vessels.

In addition to the Royal Artillery and the provincial Militia Artillery, another Gunner element appeared in the course of the war in the form of the Marine Artillery, a division of the Royal Marines.

In the fall of 1813, two battalions of the Royal Marines were dispatched from Halifax to Quebec with the Marine Artillery, under the command of a Lt Anderson. Interestingly enough, the Marine Artillery included a rocket detachment equipped with Col Congreve's rockets, almost certainly the first in North America. Information is sketchy as to the employment of the Marine Artillery, but Royal Marines fought at Chrystler's Farm and at the Capture of Oswego. It is to be presumed that their Gunners also participated.

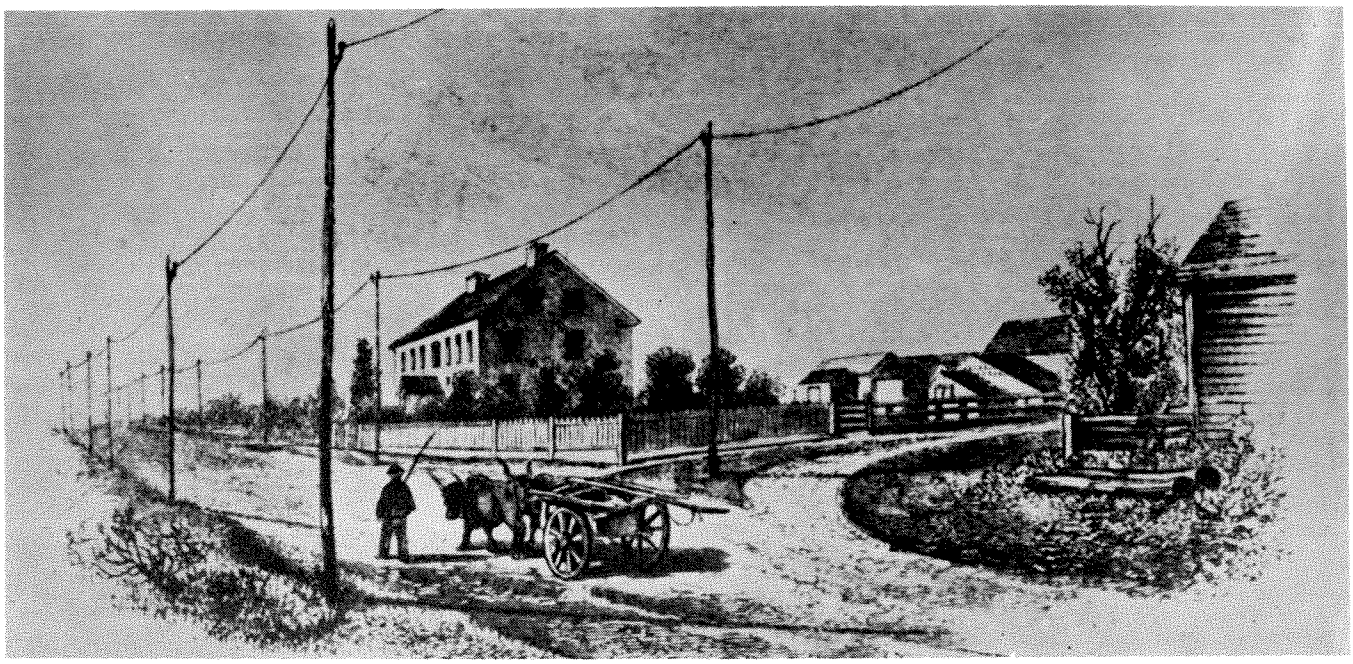
The monument raised by the Canadian Parliament in 1895. Due to the flooding of the actual battlefield site by the construction of the St Lawrence Seaway, it was moved to its present site near Upper Canada Village.

The shocking state of the road system of Canada at the time of the War of 1812 severely curtailed any serious use of the Gunners in a mobile role. Nevertheless, nearly every battle and action of the war in the Canadian theatre had artillery support, justifying once again the boast of our motto, *Ubique*.

Modern historians have downgraded considerably the military importance of the role played by the provincial Militias from the opinion held by our Victorian forebears, who, in the words of the second verse of *The Maple Leaf Forever* proclaimed

> *"At Queenston Heights and Lundy's Lane*
> *Our brave fathers side by side*
> *For freedom, homes and loved ones dear*
> *Firmly stood and nobly died."*

If the military contribution of the provincial Militias was insignificant, however, the spirit of Canadian pride and consciousness engendered



Chrystler's house (facing the St Lawrence River) and farm buildings as they appeared in 1885 (From an old print)

by the War of 1812 was not. For the Gunners, here in these pitiful little batteries and units were created the seeds of a Gunner pride combined with a national pride that came to full flower in two world wars.□

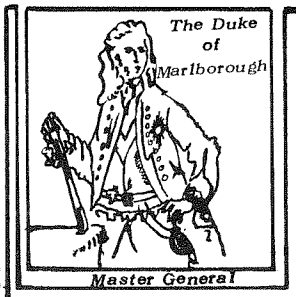
Editorial note: –

Lt Col Cambridge leaves us standing beside a muzzle-loading cannon in 1814, peering forward into the future, speculating on "the seeds of a Gunner pride... that came to full flower in two world wars". Let us look briefly at the records of those wars.

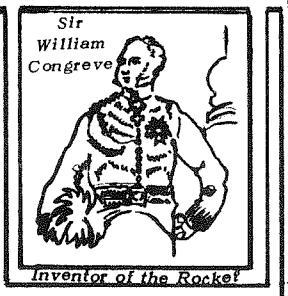
World War 1 – When the cease fire was ordered on 11 November 1918, the artillery component of the overseas Canadian corps included ten brigades (regiments) of field artillery, twelve siege batteries of heavy guns, nine trench mortar batteries, one anti-aircraft battery and five ammunition columns. Also, there were two batteries of field artillery serving in Northern Russia.

World War 2 – There were thirty-seven Canadian artillery regiments, of various types, serving overseas in the First Canadian Army on 5 May 1945, the day that Lt Gen Foulkes and Lt Gen Simonds accepted the German surrender on the Canadian corps front on behalf of the Army Commander, Gen Crerar.

THE GOOD OLD DAYS



FINE YOUNG MEN



of respectable Parents and Good Character have an opportunity (if not married or apprentices) of joining the:

ROYAL ARTILLERY

In which Superior Service they may be made Gentlemen of and treated accordingly. They must measure 5 feet 8 inches in height and be between 18 and 22 years of age. Growing Lads not more than 17 may be admitted. They will all receive the same Liberal Bounty of £5, 15s, 6d.

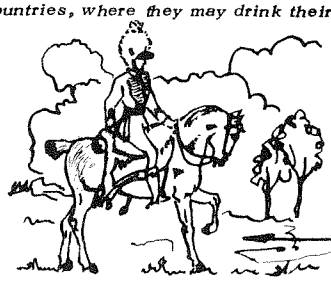
On their Arrival at Headquarters they will be taught the Art of Riding, Driving, Drawing, Fencing, Gunnery and Mechanics. The making and use of Gunpowder, Sky Rockets, and other, and by the Power of the Lever to move a 42-pounder Battering Gun with the same facility as a Penny Whistle.
The Cannon used in the field are called:

FLYING ARTILLERY

from the astonishing rapidity of their movements.


Sadler's Flying Artillery 1798

The GUNNERS ((for so ARTILLERYMEN are styled) wear a: — SPLENDID UNIFORM & are well mounted on taking the Field. They are lodged in finest Barracks in the WORLD. They have Light Work and GOOD PAY, the best BEEF that KENT can afford, and a comfortable place in the Barracks called the Canteen set apart for them to see their friends in, and Reading Room; a Park and Pleasure Grounds, with a select number of Horses for their Instruction and Amusement. After the Education is completed, they will have an opportunity afforded them to Travel to Foreign Countries, where they may drink their Wine at TWO-PENCE per Bottle by the new Tariff!
If well conducted they will be promoted to:


Royal Horse Artillery Officer, 1804

NON COMMISSIONED OFFICERS:

THE ROCKET TROOP IN: 1838

from whom the Quartermasters are selected, who are the best paid in the Army, and return to see their Friends with Money, Manners and Experience.

THE RATES OF PAY OF THE ROYAL ARTILLERY ARE AS FOLLOWS:

Quartermasters	*7s, 10 d*	*Sergeants*	*from 2s, 6¼d to 3s, 0¼d*	*Collar Makers*	*1s, 11¾d to 2s, 3¾d*
Sergeant Majors	*4s, 2¼d*	*Corporals*	*from 2s, 3 d to 2s, 9 d*	*Gunners, Drivers*	*1s, 4¼d to 1s, 10¼d*
Quartermaster Sergeants	*3s, 8½d*	*Bombardiers*	*from 2s, 1 d to 2s, 7 d*	*Shoeing Smiths*	*2s, 2¼d to 2s, 6¼d*
		Farriers	*from 3s, 3¼d to 3s, 7¾d*	*Wheelers*	*1s, 11¾d to 2s, 3¾d*

YOUNG MEN wishing to avail themselves of the advantages here offered (with the consent of their Friends and good References) may apply to the:

RECRUITING SERGEANT of the ROYAL ARTILLERY at
THE RENDEZVOUS:

AT THE OLD ANGEL INN TAUNTON

. . . an old recruiting poster

AN ALTERATION TO THE HOME MESS

Some people just won't let well enough alone. They are good people to have around, sometimes. The sun room at the Home Mess was as comfortable and relaxed as an old shoe – but like most old shoes it was really an embarrassment to its owners. The room contained a billiard table which bore in mute resignation the scars of many a long dinner night, a television set which was balanced inelegantly on a couple of tired coffee tables, a dart board, and various chairs well contoured from long usage. The people who won't let well enough alone didn't like it.

An ad hoc committee, consisting of Maj DJ Bedknap and Capts AW Carnell, RP Hill, and DB Walton, went down into the basement and reorganized storage space. They cleared out a room, cajoled mess members into embellishing the walls of the room with murals, then tenderly moved the friendly old billiard table from the sun room down the stairs to the new-found space. Anyway, who wants to look out of windows at the prairie while playing billiards?

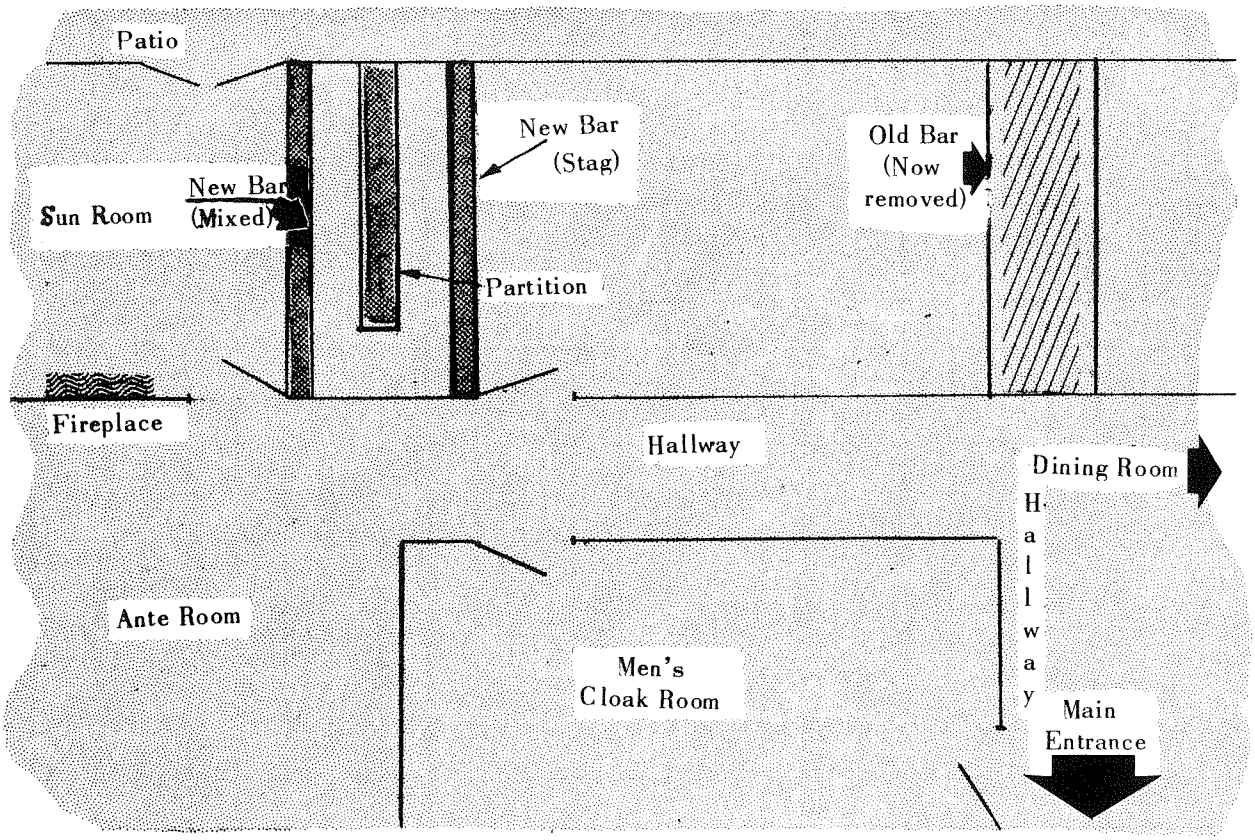
The ad hoc committee, now warming to its task, sold the old chairs and coffee table for what few cents and promissory notes they could get for them, moved the TV set into the reading room, and somehow managed to lose the dart board completely. The sun room became an empty shell. Gutted.

Uncertainty and concern settled over the Mess. Coffee breaks were disrupted by the whine of power tools, the smell of sawdust, and a disturbing feeling that possibly the committee had got out of control and beyond its depth. The bar and the sun room had been reduced to shambles. The ad hoc committeemen became taciturn and vague when politely asked whether they had a plan. If they had one, it was not evident.

But it turned out that they had a plan. A beautiful one. As if somebody had waved a magic swagger-stick, the sun room and the bar, which had been converted into a lumber yard, were one day suddenly transformed by a new, two-sided, panelled bar which divided the two rooms; wall-to-wall carpeting; new drapes; and different furniture; into two handsome rooms, which anybody would be proud to take his father-in-law into.

The room which contained the former bar is still an exclusively male preserve. The sun room now also has a bar, and is a popular mixed lounge. Billiards? – available in the basement, in the mural room.□

The committee's handiwork as seen from the sun room



The Mess Steward, Sgt RE McMullen, attends to the requirements of the ad hoc committee which planned and effected the new bar arrangements. Left to right: Capt Hill, Maj Redknap, Capt Walton, and Capt Carnell on the stag side of the two-sided bar complex

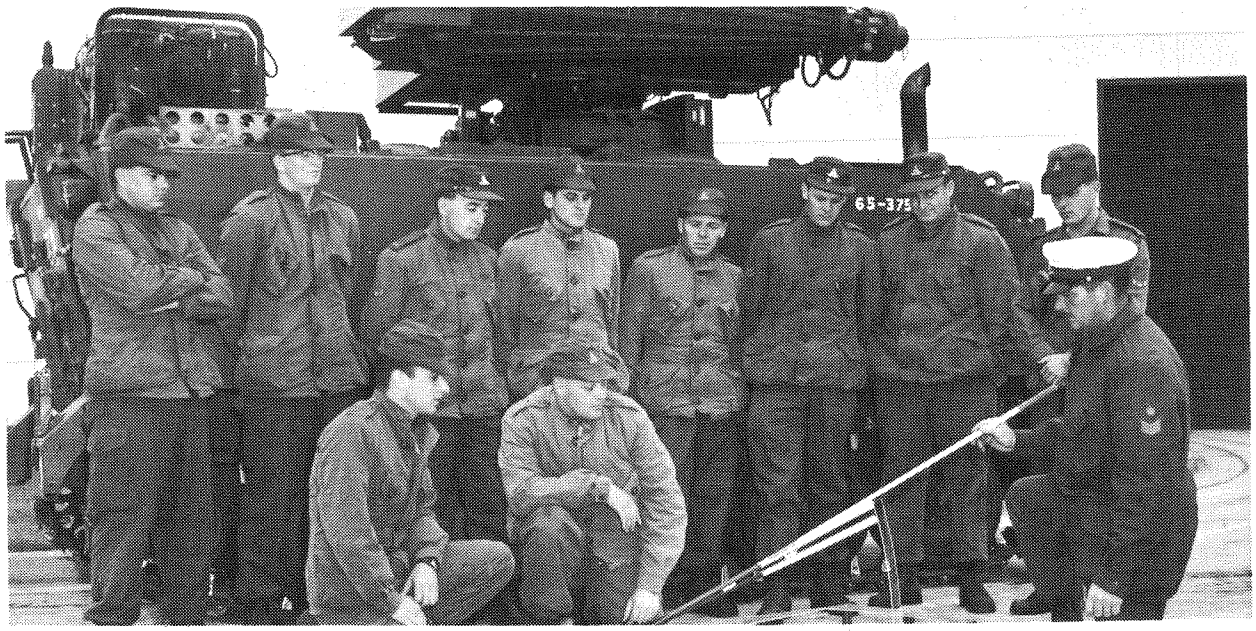
First REGULAR OFFICER TRAINING PLAN PHASE 4 COURSE (Summer 1967)

Left to right: (rear row) Lts JW Beese, RC Coleman, RG Kyle, T McBurney, SGH Paech, R Paquette; (front row) Lts OE Van Rooyen, JV Glaus, BE Stephenson, ML Moldaver, RL Hanbury, WB Wheaton, DB Struthers; (standing) Capt FE Seely IG

CHIEF GUNNERY ASSISTANT GROUP 4 COURSE (1966-67)

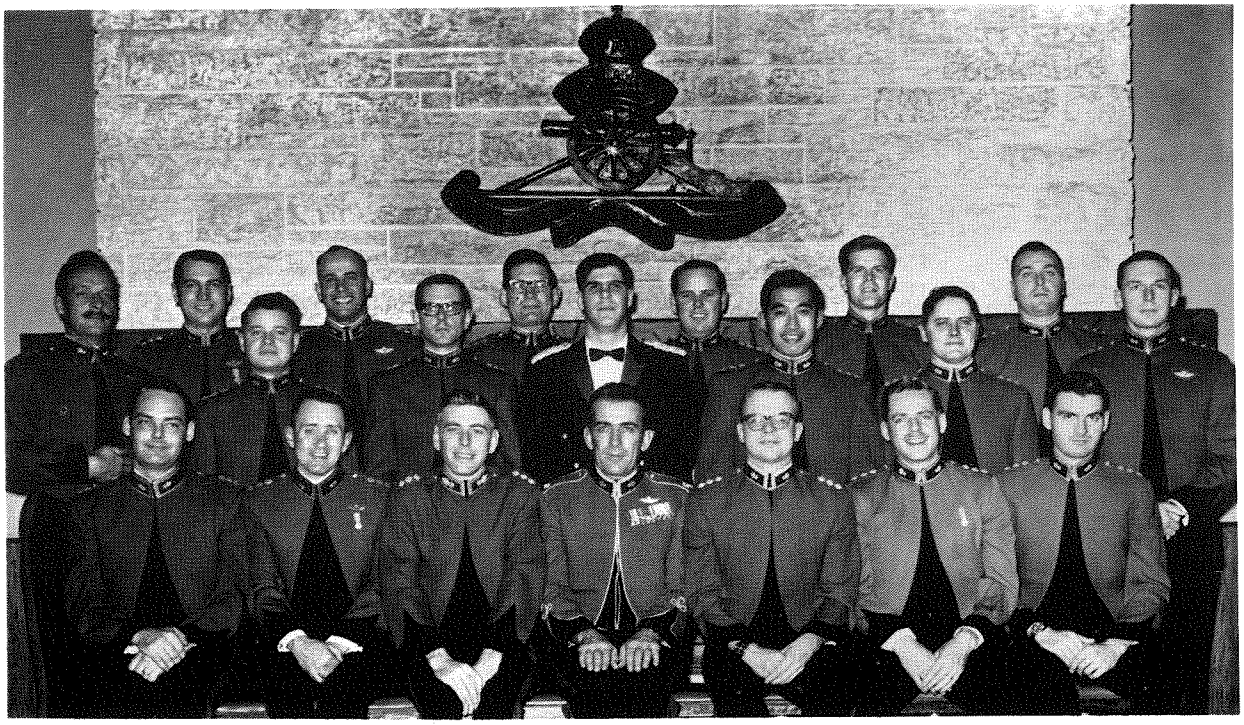
Left to right: (standing) Sgts CG Oderkirk, CB McCormick, DJ Phillips, BE Donnelly, DA McCulloch, RH Parks, JN Clifton, RA Pilch, KG Reeves, RA Douglas; (kneeling) Sgt WD Harrison, Capt WMJ Wolfe IG, Sgt WD Hatton, Sgt JA Bell, S Sgt MRJ Sauve CGA; (missing) Sgts DRG Brow, PJ Garneau, FJ Gardner, JDA Poire

AT THE ROYAL CANADIAN SCHOOL OF ARTILLERY



ARTILLERY LOCATOR (RADAR) PAY LEVEL 4 COURSE (September - October 1967)

Left to right: (standing) Bdrs RV Anderson, RCSA; TJ Hartholt, RCSA; J Ross, 3 RCHA; H Downing, 2 RCHA; ET Jenkins, RCSA; DW Sherman, 2 SSM Battery; BE Davis, 3 RCHA; RN Robertson, 2 SSM Battery; (kneeling) Gnr WF Ingle, 2 SSM Battery; Bdr WL Klockars, 2 RCHA; S Sgt F Wagg CGA; (background) an AN/MPQ 501 counter-mortar radar



Number 14 ARTILLERY STAFF COURSE

Left to right: (standing) Capt AF Ouellette; Capt N Mulikow; Capt DB Bianco; Capt DB Walton; Capt JJ Fraser, Capt JA Poh; Maj FJ Bochnowski, US Army; Capt WE Gordon; Capt TT Itani; Capt WL McMullen; Capt WR MacNeil; Capt AP Carroll; Capt GW Oliver; (sitting) Capt RG Thomason; Capt RG Hall; Capt JEF Bryce; Maj GL Wetherup, IG; Capt BA Reid; Capt DE Rousseau; Capt DJ Beatty

Lt LWF Cuppens

In 1967, for the first time in the history of the Royal Regiment of Canadian Artillery, a Gunner team entered the historic Nijmegen marches. These marches were originally conceived in 1909 by the Royal Netherlands League for Physical Culture. When the Olympic Games took place in Amsterdam in 1928, it was decided to internationalize the marches. At that time participation in the four-day marches was 1,181. This year approximately 15,000 marchers, both military and civilian, from 25 countries participated.

The object of these long distance marches is to encourage intending participants to train themselves in such a way that they will be able to cover a considerable daily distance without impairing health. Since it is not the intention that the daily distance be covered in the shortest possible time, there is no question of competition.

This year, a team selected from 1 RCHA and 1 SSM Battery, and consisting of fourteen marchers and one medical bicycle orderly, entered the 40-kilometre (25 miles) event. The distance had to be covered within eleven hours on each of four successive days. No team was allowed to lose more than 10 percent of its members and the teams had to march together in uniform, each member carrying a total weight of 10 kilograms (about 22.5 pounds).

The Gunner team began practising about two months before the marches, daily distances being increased gradually until the 40-kilometre distance was achieved. To gain practice and experience, the team entered the Rheindahlen marches sponsored by Headquarters Northern Army Group.

Lt Cuppens is a GPO in A Battery, 1 RCHA in Germany. He commanded the Gunner team in the 51st International Four-Day Marches. – Ed.

Readers might wonder about the purpose of the bicycle orderly. This man was responsible for foot care during the marches. He followed the team, riding a bicycle and towing a small wagon. Naturally the Gunner wagon well advertised the fact that the team members were Gunners and were Canadians.

The Nijmegen marches began with a gigantic flag-raising ceremony at the Stadium. This was a spectacular sight as each country's flag was hoisted and its national anthem played. At 0500 hours on Tuesday, 25 July 1967, the 51st International Four-Day Marches began. For four successive days the Gunners were up at the crack of dawn and marching.

The team avoided the normal boredom of marching by singing songs, eyeing the beautiful blond blue-eyed girls, and receiving the embrace of at least one young lady who apparently remembered that Canada had played a major part in the liberation of Holland.

The nature of the route varied: smooth-surfaced asphalt, gravel, flat plains, steep hills and the Berg en Dal area (seven consecutive hills and valleys). No doubt many of our war veteran readers will recall the latter.

The third day was of special interest to all Canadian teams. The route on that day passed by the Canadian War Cemetery at Groosebeek and the teams paid their respects with a smart "Eyes right" as they passed.

The last day of the marches will long be remembered by all participants. As units approached the end of the route they were given tremendous ovations, embraces by exuberant Dutch folk, garlands and bouquets of flowers. Also, all the teams from 4 CIBG massed together, seven abreast, to march

Straight and tall

Eau de Cologne?

to the finish line. The composition was as follows: seven Canadian flags in front, seven detachment officers, seven unit pennants (that of the Gunners on the right) and then the main body.

The salute was taken by Princess Beatrix, flanked by many dignitaries at the finish line.

The Gunner team was awarded the group medal for endurance and for not losing a man. In addition, each man received an individual medal. The artillerymen demonstrated the oft-forgotten fact that they are capable of marching as far and as quickly as the infantry of today – and still have the endurance to shout with pride the Dutch motto of the marches: *Willen is kunnen* (To will is to succeed).□

WHO SAID THAT?

"Renown awaits the commander who first in this war restores the Artillery to its prime importance upon the battlefield."

The above was included in a note which Winston S Churchill circulated to various of his high commanders in October 1941. He was subsequently to write "General Montgomery was not one of those to whom the paper was sent, and it was not till after I met him in Tripoli in 1943, after the victory of the Eighth Army at Alamein 18 months later, that I chanced to show him a copy. 'It is as true now,' he wrote, 'as when it was written.' Renown by then had certainly attended his restoration of Artillery to its position upon the battle field."

AN ALL EXPENSE TRIP TO LABRADOR

Maj DD Snow, CD
2 RCHA

PROLOGUE

3 CIBG Standby Force is a group of men comprising 35 all ranks and commanded by a major. This force is required to do a three week tour of duty, after which time it is relieved by another 35 all ranks and, if all goes well, it is quite unlikely that an individual will be called upon to perform more than once a year.

This force is required to provide prompt assistance to the Civil Power in an emergency, including aid to federal penitentiaries, fire fighting, rescues and any other minor emergency.

This force, by June 1967, had not been called out for the past two years.

Scene 1 – An Ugly Situation

At 1700 hours on Friday, 30 June 1967, the Standby Force Commander is comfortably ensconced in 2 RCHA Officers' Mess, firmly gripping a glass of squash, observing the traditional rites of Happy Hour, and happily contemplating a long leisurely Dominion Day weekend.

The phone rings. Ominously. The duty officer, a cunning fellow noted for his practical jokes, addresses the Standby Force Commander. "The Brigade Major just 'phoned, sir. Wishes to see you right away. Something about forest fires in Labrador."

The duty officer has maybe had one too many, it's a long weekend, it's pouring outside, nothing ever happens in Labrador. He's got to be kidding. Right? ... Wrong!

The Brigade Major, who attained his high position in part through his uncanny ability to improvise, had set up an operations centre in the bar of the Brigade Officers' Mess. Spread out before him was a five-year-old road map of Labrador showing all 23 miles of its twisting, tortuous highways. The briefing commenced.

"During the ni 28/29 Jun a series of dry electrical storms moved across LABRADOR leaving an est 70 forest fires burning roughly along a line from GOOSE BAY on the HAMILTON RIVER to LAKE EON on the QUEBEC Border. The NEWFOUNDLAND Provincial Government has sought federal aid and this evening an adv party from the Bde will be dispatched to form the nucleus of a Mob Comd Force in GOOSE BAY."

The advance party originally consisted of two officers and two NCOs. The Commanding Officer of 2 RCHA had planned to wave goodbye to this group from the safe confines of the air terminal. In fact, he was on his way to the airport to do just that when a quick message from the acting Brigade Commander informed him that he would accompany the advance party, thus changing both his plans and his complexion.

Scene 2 – To the Rescue

This party, still in the best of spirits, was greeted at 2200 hours by the Provincial Minister of Lands and Mines for Labrador, Mr Granger. A DOT Viscount had carried the group to Goose Bay, an eventless journey of two hours' duration, relieved only by the sight of myriad tongues of flame licking away at Labrador's finest timber stands.

Also awaiting the advance party on their arrival at Goose Bay was the Base Commander, two 40-passenger buses and – even at the bewitching hour of 2350 – oppressive heat. A conference was held immediately with two Department of Forestry experts in attendance. By 0330 hours the number of troops required, along with their necessary equipment, had been discussed and a hurried call went out to the regimental 2IC back in Gagetown. His task was to see that 100 men were assembled along with their appropriate equipment by 1000 hours that same day, ready to depart for Goose Bay via Yukon aircraft. Unbelievably he did just that, and at 1300 hours the first plane load of fighting troops had landed at

what would prove to be their home for the next two weeks.

Meanwhile, the advance party had not been idle. In the best tradition of integrated conservation, the two 40-passenger buses had been exchanged for a staff car. This seemed to suit the needs of the five much more admirably and it was used to convey the officers to the US Air Force Area of the base where a meeting was held to arrange accommodation and messing for the troops.

CFB Goose Bay was in the process of drastically reducing its strength to a small detachment with the sole task of operating the air traffic control facilities. Therefore the administrative support for the operation had to come from a variety of sources. The Americans, with their usual efficiency and co-operation, would provide the messing and quarters for the field troops who were to stage at the Base on their way to the fire sites. Messing, quarters and office space for Force Headquarters would be supplied by DOT and CFB Goose Bay.

The recreational facilities consisted of a swimming pool, cinema, various American Officers' and NCOs' Clubs, and the Labrador Club (whose main distinction was the lack of topless waitresses).

On board the Yukon carrying the initial group of fire fighters was the first CARE package to be despatched from the home front. It was for the advance party and consisted solely of marshmallows which presumably were to be roasted over the dying embers of what was once a thriving nation.

Scene 3 – We Keep Our Cool

The combined forestry/military Operations Room along with the Air Operations Centre made up the nerve centre of the complete organization. In order to carry out its task the following resources, not necessarily shown in their order of importance, were required:

Civilian fire fighters
Military fire fighters
Fixed-wing aircraft
Float-equipped fixed-wing aircraft
Helicopters
Water bombers
A helluvalotaluck

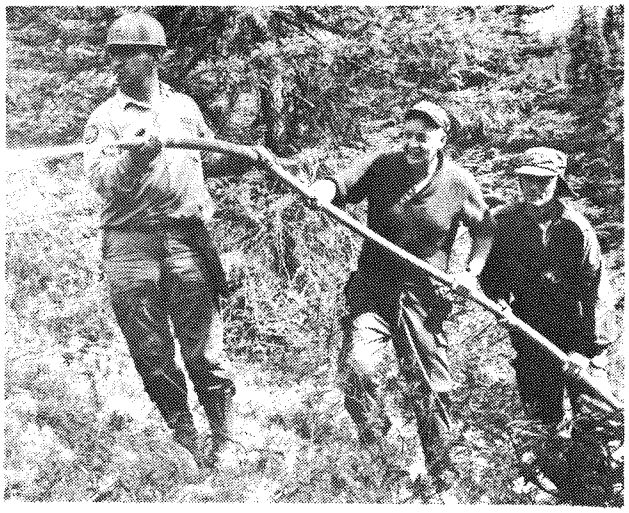
There were four major fires to which we were about to give our undivided attention. With our usual military logic we christened them *Dominion Lake*, *Grand Lake*, *Kenamu* and *Winokapau*. We were most happy to bring the latter under control early on as everyone was loath to attempt its pronunciation to begin with. These fires ranged from 40 to 75 miles away from our main base. This, coupled with the lack of roads, presented the staff with its major problem. Every fire fighter and every piece of equipment was flown to the nearest suitable lake in light float-equipped fixed-wing aircraft. Once in the general area, detailed deployment to the actual scene of fire fighting was carried out by helicopter. Since most aircraft carried only four or five men, the process was complicated and time consuming.

Fire fighters rush to board a Canadian Coast Guard helicopter that will take them to a new fire near Grand Lake.

The troops were formed into companies consisting of three platoons each of three 10-man sections. Attached to Company Headquarters was a forest ranger who had received forestry training short of a university degree. With each section was a woodsman who was a forestry employee skilled in the operation of pumps, hoses and back tanks.

One platoon was airlifted to the *Winokapau* fire site on 1 July and the battle was on. By 6 July, four companies were deployed at the various locations. The first three days had been extremely hot and windy; on the night of 4 July, however, the rains came and it was only then that we could breathe a little easier knowing that the blazes would soon be under control. The combination of rain, water bombers and back tanks had broken the backs of the fires and, except for isolated break outs, the job had deteriorated to patrolling the fringes.

Originally the plan had been to rotate each company back to the Base after each four-day period for rest and recuperation. The shortage of aircraft



Bdr PV Charters (centre) and Cpl K Muszynski, a medical assistant, assist a forest ranger.

precluded this and it was also suddenly discovered that apart from the hard rations and bugs, the *boondocks* were really a sportsman's paradise. Requests for cigarettes, beer, fishing tackle, playing cards, volleyball and softball equipment were helping to sow the seeds of distrust in the minds of the harassed base staff. Perhaps the fires were out?

They were. The last of the fearless fire fighters were airlifted back to Gagetown on 14 July just in time for Happy Hour. This time the phones were carefully left off their hooks in the Mess and the two-week-old annual leave passes were amended and distributed.

(Scene closes to discordant rendition of "Bless 'em all" as wives, brigade major and a girl upriver all try desperately to raise 2 RCHA Officers' Mess on the telephone.)

WHO WOULD BE THE LEADER?

Lt JR Farncombe, RC Sigs
3 RCHA

Introduction

From earliest time, man has striven to lead his own kind. Necessity, perhaps, forced early man to unite in his struggle for survival – a unification that inevitably resulted in a need for organization – food was needed and had to be hunted for; protection against predatory beasts became a law necessary to his very existence; the fire that must not dwindle had to be fuelled. These and many more aspects of our earliest civilizations dictated a need for organization. Who would hunt? Who would gather firewood? Who would stand watch over the gathering at night?

In the earliest community perhaps, the father bore command over his sons. One can envisage an old man, who, by virtue of respect, delegates duties to his sons; but eventually, Death gathers its fold and only sons remain. Who will command? Certainly the eldest warranted consideration for this position of respect but perhaps a younger proved stronger and forced his command upon his brothers.

Families united into tribes, with physical strength prevailing as a prerequisite to leadership. It is envisaged that many insurrections had to be forcibly subdued in order to retain supremacy, but a leader prevailed – a leader who relied upon his own physical strength to retain command.

As time eroded the face of the earth, man multiplied his numbers and gained dominance over the plant and animal kingdoms. Villages grew and domestication of earth's creatures settled man into areas of natural fertility.

Jealousy now pitted man against man, village against village, to determine control of possessions. Gradually the conduct of skirmishes became somewhat standardized and became an art. As military knowledge grew, defences were organized and tactics and strategy planned. Conflicts became warfare.

Gradually a commander was required less often to display his physical courage and his followers began to rely more and more on their leader's knowledge of the military art.

Today men are taught how to lead and are appointed, by merit or otherwise, to positions of command. By virtue of his position, a man may lead; but to be a good leader, to pass the supreme test – leading in war – certain qualities must be present. What are these qualities?

History has recorded many great battles and with them, the deeds and being of many great leaders. But certainly all great leaders have not been victorious commanders. Any list of the "Great Captains" would include Hannibal and Napoleon, yet both ended their campaigns in defeat, their careers in failure. It remains only for posterity, questioning its own ability, to learn from the past and apply the lessons to the future. From the past, man may attempt to evoke the qualities essential to leadership, but it can be only an individual's interpretation, for what makes man willingly follow another is as complex as all of mankind.

The Definition

What is leadership? Even the *Concise Oxford Dictionary*, the accepted authority for current military usage, fails to define leadership; but, at considerable length, lists the meanings of the verb *lead*. In the strictest application to the military the following four meanings appear to apply:

1. Conduct, guide, especially by going in front
2. Direct movements of (as a commander)
3. Guide by persuasion
4. Induce to do unconsciously all one wishes

The last definition at first appears inappropriate to the military application, but as Major-General C Vokes, CB, CBE, DSO, CD points out, it "could well apply in the leadership of an international group of armies".[1] He also includes the third meaning in this category. However, in addition to the obviously political aspect of this third definition, a leader at any level, may, simply by being a good leader – one respected by his men –, unconsciously effect persuasion.

"In battle it is the duty of a junior officer or non-commissioned officer to lead his men, literally

[1] Maj Gen C Vokes, "Leadership in Battle", **Canadian Army Journal**, Vol XVII, No 2, 1964, p. 72

in front, particularly in the final assault or in dangerous places. But, if a senior commander issues the order 'Follow me' in battle, he is either leading a forlorn hope or else he is jeopardizing his command. His duty is to control the various bits and pieces of his tactical command and to influence the battle by manoeuvring his reserves. His position is solely dependent on where he can best control the battle".[2] Leadership may then take either form dependent upon rank, but the qualities that make a leader will unquestionably be found at all levels – they are consistent.

The Qualities of Leadership

Field Marshall the Viscount Montgomery of Alamein, KG, has expressed the following qualities as necessary to leadership:

1. Will to dominate men and events
2. Will to drive men and self to the utmost
3. Refusal to be diverted from the aim
4. Supreme confidence in oneself
5. Calmness and clearsightedness
6. Ability to maintain morale
7. Ability to select and support commanders
8. Ruthlessness in enforcing plans
9. Personal and direct operational control in battle
10. A sense of spiritual purpose

Wavell, on the other hand, proposes the following, more generally accepted qualities:

1. Robustness, the ability to withstand the shocks of war
2. Calmness in the midst of tumult
3. Character – must know what he wants and have courage and determination to get it
4. A genuine interest in a real knowledge of humanity; be just
5. A fighting spirit
6. A spirit of adventure, the touch of the gambler
7. Common sense, based on a sound knowledge of the mechanism of war
8. Ability to inspire and trust others

Thus we have the opinions of two men who have proven themselves leaders in recent history. The evaluation of one emphasizes the more ruthless and forceful attributes; the evaluation of the other, the humanness and more comradeship-like approach. All of these are very commendable qualities and and certainly worth cultivating, but serve to illustrate the difference in emphasis as placed on leadership by different leaders. Leadership qualities are a matter of individual evaluation.

It is a truism to say that one of the first requirements of leadership in battle is that of personal courage. The moral and physical aspects of courage must both be encompassed. "It is not always easy in peace-time to spot the man who will prove a successful leader in war. Only too often the hero of the training area and barrack square turns out to be not quite such a hero when it comes to the empty but noisy battlefield with danger lurking behind every hedgerow".[3]

An officer or NCO obviously cannot be an expert in all the complex weapons with which a modern army is equipped, and, as the machines of war become more and more complicated, this fact becomes more and more evident. The junior commander must endeavour to maintain, as closely as is possible, a first-class knowledge of all the weapons with which the men of his subunit are equipped, and must understand how the other arms can help in battle. Efficiency breeds self-confidence; no man can impose confidence in others when not confident in himself or in his own ability.

Initiative and the offensive spirit must be inbred qualities. Even the most cursory perusal of history will bear out the fact that no battle has ever been won by adopting a purely passive attitude; a refusal to yield is not enough. To fight willingly, with a will to win, all troops must be imbued with this offensive spirit and must have a strong desire to get at the enemy and overcome him – to kill him if necessary. This spirit will come only from the leaders.

Every opportunity to force a junior commander to think problems out for himself must be seized. Supervision, but more, in peace-time, of an observer nature than assistive; and direction, but only if necessary, must be given by superiors. It is emphasized, however, that this supervision and direction must be made available as required. "Spoon-feeding", on the other hand, must always be avoided.

[2] Vokes, Ibid.

[3] Training for War, 1950, p. 94

A genuine concern for the welfare of his men must form a large part of a leader's character. A sincere regard for the men, their comfort, their training, and their personal problems will go a long way toward earning their respect.

"Any man who is physically fit is capable of enduring hardship, provided he believes he can... There can be no excuse for a leader at any level failing in this respect as he has to set the example... Ultimate success will always depend on the personal endurance and resolution of leaders and their troops."[4]

Cheerfulness under all conditions and hardships, and a capacity to instil his enthusiasm into others, are perhaps two of the greatest assets that a leader can have. The mere possession of cheerfulness and enthusiasm will instil the same into the most dejected of men.

The ability to make up his mind and not deviate from his decision is another sign of a good leader. Even a poor plan, if carried out, is better than no plan at all.

Loyalty is one of the most essential qualities of a leader; and loyalty must be extended to both subordinates and superiors. This loyalty must encompass both performance of duties, and an at least outward adherence to policy and conduct. No man can expect loyalty from those under him if he is constantly criticizing the actions of those above him.

Too, a leader must never take shelter behind the mistakes of his subordinates. When plans for which he is responsible go wrong, he must take the blame, correcting such mistakes himself. Yet fear of mistakes must not preclude decentralization of responsibility; such decentralization must be made with confidence.

Discipline is the backbone of the efficiency of an army and must be founded on duty, self-control and self-respect. It fortifies the mind so that it can conquer fear and fatigue. Discipline is not something related to the barracks or parade square alone. It is a state of mind which helps the individual to do his duty as he knows it should be done, whether he is under supervision or not.

The Application of Leadership

We have presented the qualities and discussed, certainly not to an exhaustive degree, the current teachings; but what about the application?

The application is, of course, a matter of an individual's approach and will be a product of his character, intelligence, and training. Certain additional aspects must be borne in mind.

"An officer who is newly posted to a unit to take up command at some level faces an immediate disadvantage: he was not chosen by the men whom he is called upon to lead. He comes equipped with his authority as an officer, his knowledge, and – most important – his personality. His authority as an officer provides him with the means of directing his men in the execution of their task. The manner in which the task is carried out will depend largely on his knowledge and personality. It naturally follows, then, that to achieve success in his command he must use his authority, knowledge, and personality in the best possible combination.

In other words, initially every officer undergoes a trial. If, after a while, he can look back on a job well done and sense that the men regard him as the one they would have chosen at the start, he will realize with satisfaction that he has emerged not simply as the officer in charge, but as the leader of that group".[5]

Leadership must be by example. If you want your men to work hard, you must work hard. If you want them to look smart, you must look smart. The truth of this statement is apparent – it is not a difficult law to follow, but it is a most important one.

A young leader's newly-granted authority may indeed be the major contributor to his failure. Never abuse your authority; never rule by fear. Tacitus is reported as having said: "Fear and threats are poor bonds in place of love. When they are removed, those who cease to fear turn to active hatred." The tendency today appears to be more toward comradeship with the men than leadership. Aloofness or a "greater-than-thou" attitude must not be maintained; a junior leader, however, must remain apart from his men.

A junior leader must display a keen interest in his men and must not make short work of any personal problem that one of them wants to discuss. "Remember, no man will lay bare his troubles, except to a friend. When a man comes to you with a

[4] **Training for War**, 1950, p. 95

[5] Capt NA Rety, RCAMC, "Leadership: Everyday Aspects and Problems", **Canadian Army Journal**, Vol XVI, No 3, 1962, p. 44

problem, it is a sign that understanding prevails in your unit. Do not forget that you are the leader, collectively of the unit, and individually of each and every man".[6]

The quality of courage is difficult to exhibit in peace-time, but may be displayed by accepting responsibility for the actions of your men. Again you may stand alone because of an opinion you hold. To maintain a stand against group opinion requires considerable courage. Your own conviction should be your guide, yet remain humble enough to change your mind if you are proven wrong.

Lastly, you must remain yourself at all times. Care must be taken to ensure that you are consistent and do not assume different personalities to suit the occasion. Your own personality should be strong enough to deal with any kind of setback.

Epilogue

"... there are no good units and no bad units – only good and bad officers and NCOs (from a statement by Napoleon Bonaparte). They make or break the unit. Today we cannot afford anything but the good ones. No man can be given a more honourable task than to lead his fellows in war. We, the officers and NCOs, owe it to the men we command and to our country that we make ourselves fit to lead the best soldiers in the world; that in peace the training we give them is practical, alive and purposeful, and that in war our leadership is wise, resolute, and unselfish. Leaders are made more often than they are born. You all have leadership in you. Develop it by thought, by training, and by practice".[7] □

[6] Rety, **op. cit.**

[7] General Sir William Slim (then CIGS), "Introduction", **British Army Journal**, First Edition

A NOTE FROM EXERCISE ROB ROY

The 1967 Autumn Exercise of 4 CIBG

Problem areas during the exercise centered around communications. Because of the wide frontage and the terrain involved, this problem was foreseen and the Air OP Troop became the backbone of artillery communications and, at times, of brigade command communications. With a section airborne every possible moment, and using a modified relay procedure, pilots relayed everything from brigade commander's orders to requests for fresh batteries. Aircraft communications also proved successful in working through certain types of jamming.

FROM THE MAXIMS AND CORRESPONDENCE OF NAPOLEON BONAPARTE:

Cannon, like all other arms, must be massed if one is to obtain important results.

Let that general dread my displeasure – he who leaves his pieces behind; that is contrary to military honour – one ought to leave everything but his cannon.

It is in broken country that, by rapidity of manoeuvre, the accuracy of fire, the correct estimation of distances, that the good artilleryman displays superiority.

God fights on the side of the best artillery.

SOVIET ARMOUR

Lt JF Bryan
3 RCHA

In the event of a non-nuclear war in Europe involving the USSR and the NATO nations, the tank will be the principal weapon of defence and offence employed by both sides. To determine the most effective reaction to the armoured threat, it is necessary to know something of the main tanks in use by the Russian Army, and also of the battle tactics which will govern their employment.

There are at present three main types of tank in use in the Soviet Army. These are the light reconnaissance tank, the main battle tank, and the heavy tank.

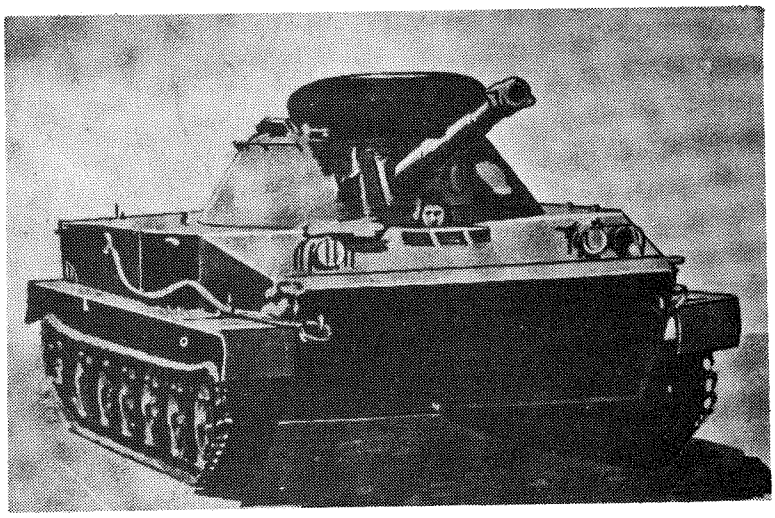
The light reconnaissance tank, designated the PT76, weighs 16 tons and mounts a 76mm gun capable of penetrating two inches of plate at 1000 metres. It is amphibious. This tank would be in the leading elements during the advance to contact stage of a conflict. It would serve to reconnoitre water crossings, defensive positions, and anti-tank defences. Because of its light armour plate, the PT76 is vulnerable to all anti-tank weapons; its low silhouette of seven feet, however, greatly facilitates concealment and protection. This tank would normally be accompanied by armoured personnel carriers and, if need be, could provide effective fire support to troops attacking our own reconnaissance elements or lightly defended positions.

The main battle tank of the Soviets is the T54. This tank weighs 40 tons, mounts a 100mm gun capable of defeating six inches of plate at 1000 metres, and, with a snorkel device, can cross bodies of water more than 15 feet deep. An added feature is the ability to fire 100mm high explosive artillery shells as well as its normal anti-tank ammunition. The T54 has a top speed of 30 miles per hour and can cruise over 400 miles with auxiliary fuel tanks. The important features of the T54 are speed and fire power. It is vulnerable to all anti-tank weapons and must therefore make careful use of ground and cover until it is within effective striking range of its main armament. These tanks would probably be used in large numbers at relatively high speeds.

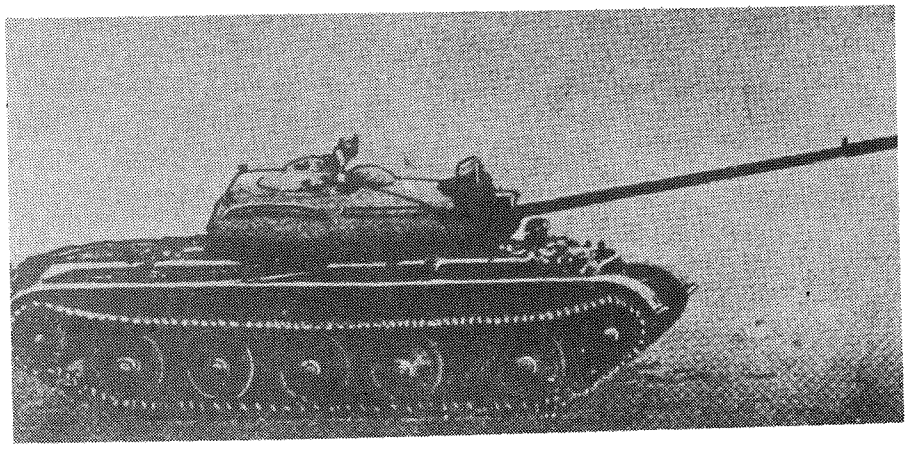
The T10 is the most powerful and best armed of all Soviet armoured vehicles. It mounts a 122mm gun and would be employed as a long range anti-tank killer. With a silhouette height of only eight feet, the T10 can make excellent use of ground and cover while relying on its exceptionally heavy armour to defeat all but the most powerful anti-tank weapons. Its limitations are its low road speed of 20 miles per hour, a short cruising range of 137 miles, and a very limited ability to carry ammunition.

All Soviet armour mounts infra-red sighting mechanisms and advanced fire control systems. They are technically comparable to NATO tanks in their capabilities even though generally lighter than NATO's main battle tanks, the British "Chieftain" and the American M60. The big difference between the NATO and the Warsaw Pact forces lies in the number of tanks available.

Soviet offensive tactics will depend upon the establishment of bridgeheads across the many water obstacles in Europe. These bridgeheads will require the use of airborne troops, light amphibious assault guns, heavy artillery and aircraft support, helicopters, and portable bridging equipment. Once established, bridgeheads would be well protected by anti-aircraft weapons, artillery fire, and anti-tank squads dropped by air. The main body of Soviet armour, i.e., tanks and armoured personnel carriers, would stream across the obstacle, deploy on the move and then sweep into battle. The Soviet tactical doctrine calls for penetration in over-



The PT76
Light Reconnaissance Tank



The T54
Main Battle Tank

The T10
Heavy Tank

whelming strength as deep as 100 miles within the first eight hours.

There are slightly over 400 T54 tanks in an armoured division, and the division is supported by a corresponding number of armoured personnel carriers. These tanks and APCs can be deployed on a front approximately 3500 metres wide in three successive waves. The main tactic is to advance quickly and overwhelm or bypass any resistance encountered. A specific number of tanks, APCs, and assault guns are designated to destroy defensive anti-tank positions and to provide covering fire for any dismounted attacks. If the assault is stopped by a strong defence, tremendous artillery support, mortar fire, and multiple rocket launchers can be brought to bear on the offending position. (The fire support capability of a division is 22,000 pounds of high explosive in one salvo.)

Against such massive armoured thrusts in conjunction with artillery support, air support, and mobile infantry, it would seem that there could be little defence. However, the Soviet Army realizes the fallacy of such a notion and has launched a program to counteract the increasing effectiveness of NATO's anti-tank defences. Modern anti-tank weapons, primarily the anti-tank guided missile and the accurate rocket-launcher, have caused concern in the Russian Army. The Soviets now estimate that approximately 40 percent of all attacking armour will be destroyed by guided anti-tank missiles. The next greatest threat occurs not at 800 metres and up, but at close ranges of 50 to 200 metres; the individual weapons of the infantry section are very effective at this range and can penetrate any known Russian armour.

The basic problem now resolves itself as a question of numbers. Soviet armoured strength facing NATO is approximately 41,000 vehicles, deployed in 150 tank and motorized divisions. NATO has about 25 divisions facing this tremendous force. All Russian battle tanks mount 100mm or 122mm guns as do ours. However, the development and deployment of effective Allied anti-tank weapons, such as the "Shillelagh" missile, is altering the tactical picture. Nevertheless, Soviet strength still precludes anything but defensive operations on our part and thus imposes several important restrictions. Our forces must be able to move quickly and quietly while maintaining the utmost vigilance. Troops must not be caught in the open or on the move by Soviet armoured forces, or their destruction will be almost certain. Units will have to be capable of disengaging and withdrawing from enemy forces in the middle of action and of preserving their ability to fight while so doing. The probable axis of the enemy's advance must be determined accurately so that adequate defences can be planned and established. This last point brings us to one of the most important features of modern armoured warfare.

A prime requirement is a reconnaissance vehicle or tank that can be used for deep range patrolling and penetration of the enemy's forward screen. Without such a reconnaissance tank, our patrols will be overcome by armoured vehicles such as the PT76 and thus no accurate data can be gathered to pin-point enemy strength and deployment. The very mobility and speed of the enemy makes it absolutely essential that we have this data. Without it, we would have little idea as to how our defences should be sited.

Our forces simply do not have enough tanks to fight a massive Soviet thrust across Europe. The small armoured forces available to us would serve only to check the enemy for a short time and would then be crushed by sheer weight of numbers. An anti-tank guided missile mounted on a heavily armoured carriage could greatly ease this situation.

There is little choice open to us at the moment. Our lack of equipment must be offset by training, discipline, and steadfastness. A small group of well armed, determined men can defeat an armoured force several times its size. Therein lies the interim answer to the Soviet armoured threat.□

MINUTES OF THE EIGHTY-SECOND MEETING OF THE ROYAL CANADIAN ARTILLERY ASSOCIATION HELD IN OTTAWA, ONTARIO, 19 – 21 OCTOBER 1967

1. The eighty-second Annual Meeting opened at 2:00 PM, 19 October 1967, with the president, Lt Col RJ Connor, in the chair.

2. The President opened the meeting by welcoming all delegates, especially those from other Corps Associations, and the Regular Force commanding officers, both of which groups were meeting with us for the first time.

3. On the motion of Maj DV Reynolds and Lt Col WD Elsdon, the minutes of the 1966 meeting were approved.

4. The resolutions submitted last year, with the answers received, were reviewed. Paricular note was made of our request to have classified officers as quartermasters. The Directorate of Land Reserves representative expressed the hope that this resolution would be successful in the near future.

5. Notice of Motion to Amend Rules. These amendments as detailed in last year's report were adopted on the motion of Lt Cols Platt and Turnbull.

6. Aide Memoire. The meeting was advised by the CIG RCSA that this is not yet available because of problems in standardizing drill between America, Britain, Canada, and Australia. Good progress was being made on this and it is expected that by next year agreement will have been reached.

7. Reports were presented as follows:

   a. Financial – Secretary Treasurer; adopted on the motion of Maj Reynolds and Lt Col Scardina.

   b. History Promotion – Lt Col Cambridge; adopted on the motion of Col Maddox and Lt Col Grose.

   c. Competitions – Lt Col Vergette; adopted on the motion of Lt Col Elsdon and Col Maddox. There was a discussion on the cancellation of firing by some units, which eliminates them from the battery and regimental competitions. The Directorate of Land Reserves is to look into this matter.

   d. Chairs for Shilo – Lt Col Shapiro; adopted on the motion of Lt Col GM Platt and Lt Col OFC Cook. It was decided to discontinue this committee. A motion made by Col Maddox to levy all units $8.00 to purchase two chairs as a centennial gesture was defeated. It was reported that the plates are missing from some of the chairs. Lt Col W Simcock said he would enquire into this.

   e. The RA Association – Lt Col Clemis; adopted on the motion of Lt Col Platt and Maj Sherwin. It was agreed that the formation of an association similar to that of the RA not be proceeded with.

   f. History Committee – Maj Gen Sparling; adopted on the motion of Lt Col Davis and Col Maddox.

8. Life Memberships. On the motion of Lt Cols Platt and Lynch-Staunton, applications for life membership from Col Hague and Lt Cols Shapiro and Kenyon were approved.

9. Honorary Life Membership. The nomination of Col EH Lancaster, honorary colonel of 57 Field Regiment, was unanimously approved.

10. The following officers addressed the meeting and answered questions:
    Gen JV Allard, Chief of the Defence Staff
    Maj Gen M Dare, Deputy Chief Reserves
    Lt Col W Simcock, CIG RCSA

11. The following resolutions were presented and dealt with as follows:

a. Lack of technical equipment – approved; to be sent to Directorate of Land Reserves.

b. Changes in matters affecting Artillery to be discussed by CFHQ with the Colonel Commandant and President – approved; to be sent to Directorate of Land Reserves.

c. Standards of training for all artillery units be maintained regardless of commitments – approved; to be sent to Directorate of Land Reserves.

d. RCAA tie – defeated.

e. Change in timing of competitions – withdrawn.

f. Non-military use of armouries – withdrawn.

g. Employment of retired Regular Force officers as instructors – withdrawn.

h. RCAA investigate with CFHQ as to the long term plan for the total number of artillery Militia regiments – withdrawn in favour of a reworded resolution covered in subpara c above.

Lt Col RJ Connor, outgoing president of the RCA Association, places a wreath at the national memorial of the Royal Regiment of Canadian Artillery in Ottawa, during the Association's annual meeting which was held in October 1967.

12. Location of 1968 Meeting. On the motion of Lt Cols Williamson and Elsdon, it was decided to ask the CDS if we could meet in Shilo in 1968. It was also decided to meet in Ottawa in 1969 and take advantage of the reservations already made at the Skyline Hotel. The meeting also favoured meeting in Ottawa and Shilo on alternate years.

13. Travel Expenses 1968 Meeting. These were approved on the motion of Lt Cols Grose and Scardina.

14. Artillery Memorial, Thélus, France. On the motion of Lt Cols Shapiro and Ingram, the increased cost of yearly maintenance as suggested by the Commonwealth War Graves Commission was approved. The request for £138 for renovation of the whole site of the memorial was deferred.

15. Lt Col Price, representing Directorate of Land Reserves, reviewed training which it is hoped will take place in the next year.

16. The president stressed the point of all unit commanders helping as much as possible with the sale of the History and pointed out that each officer should buy a copy.

17. The chairman of the nominating committee submitted nominations as follows, which were approved on the motion of Lt Cols Clemis and Platt.

President	– Lt Col JD Cambridge
Vice President	– Lt Col WD Elsdon
Secretary	– Lt Col EC Scott

Assistant Secretary	– Lt Col HT Vergette
Auditor	– Mr Chas W Pearce
Advisory Committee	– Maj Gen HA Sparling
	– Lt Col B Shapiro
	– Lt Col JG Lefebvre
	– Lt Col LO Grose
	– Lt Col ER Clemis
Atlantic Region	– Lt Col JH Turnbull
Eastern Quebec District	– Lt Col DL Davis
Western Quebec District	– Lt Col JHE Day
Central Ontario District	– Lt Col D Ingram
Eastern Ontario District	– Lt Col OFC Cook
Saskatchewan and Manitoba Districts	– Lt Col AV Taylor
Alberta and British Columbia Districts	– Lt Col GM Platt

18. On the motion of Lt Cols Turnbull and Grose is was agreed to send a message of greeting to the Master Gunner.

19. The incoming president, Lt Col JD Cambridge, took the chair and commented on the attendance of the Regular Force officers and hoped that such attendance would continue in the future. Each one in turn was asked to say a few words to the meeting.

20. Lt Col Day moved a vote of thanks to the outgoing executive and congratulated the president on the excellent way in which he had conducted the meeting. This was unanimously approved.

21. The meeting adjourned at 11:30 AM, 21 October 1967.

(All reports, resolutions and addresses will be printed in full in the annual report.)

THE ASSOCIATION REMEMBERS

In the autumn rain, with the Parliament Buildings in the background, the members of the RCA Association take time out from their deliberations to visit the Regimental memorial and pay tribute to fellow comrades.

COMMANDING OFFICERS RCA(M)

1st (Halifax-Dartmouth) Field Artillery Regiment
Maj LW MacDonald, CD

2nd Field Artillery Regiment
Lt Col JHE Day, CD

3rd Field Artillery Regiment (The Loyal Company)
Lt Col JH Turnbull, CD

6th Field Artillery Regiment
Lt Col J Chouinard, CD

7th Toronto Regiment
Lt Col DA Reed, CD

8th Field Artillery Regiment
Lt Col JA Williamson, CD

10th Field Artillery Regiment
Lt Col AV Taylor, CD

11th Field Artillery Regiment
Lt Col DG Ingram, CD

14th Field Artillery Regiment
Lt Col CR Dyke, CD

15th Field Artillery Regiment
Lt Col GM Platt, CD

18th Field Artillery Regiment
Lt Col RA Jacobson

20th Field Artillery Regiment
Lt Col AG Lynch-Staunton, CD

21st Field Artillery Regiment
Lt Col JD Harvey, CD

26th Field Artillery Regiment
Lt Col WG Ames, CD

27th Field Artillery Regiment
Lt Col SDD Smith, CD

30th Field Artillery Regiment
Lt Col NFE Scardina, CD

46th Field Artillery Regiment
Lt Col DL Davis, CD

49th (Sault Ste Marie) Field Artillery Regiment
Lt Col DW Geddes, CD

50th Field Artillery Regiment (The Prince of Wales Rangers)
Lt Col OFC Cook, CD

53rd Field Artillery Regiment
Maj LW Beaumont, CD

56th Field Artillery Regiment (Dufferin and Haldimand Rifles)
Lt Col RJ McMillan, CD

57th Field Artillery Regiment (2nd/10th Dragoons)
Lt Col LM Salmon, CD

62nd (Shawinigan) Field Artillery Regiment
Lt Col P Hogue, CD

5th (British Columbia) Field Battery
Maj AE Sherwin, CD

44th Independent Field Battery
Maj MC Millar, CD

116th Field Battery, 40th Field Artillery Regiment
Maj BH Findlay, CD

OFFICERS' LOCATION LIST

(As of 1 November 1967)

Lt Gen	WAB	Anderson, OBE, CD	Commander, Mobile Command
Maj Gen	RP	Rothschild, MBE, CD	Commander, Materiel Command
Maj Gen	DAG	Waldock, CD	Deputy Chief Engineering, CFHQ
Brig	AJB	Bailey, DSO, OBE, ED, CD	Director, National Defence College
Brig	GRA	Coffin, CD	Commander, Ontario Region
Brig	JL	Drewry, DSO, CD	Commander, 3 CIBG
Brig	LE	Kenyon, CD	Director General Intelligence, CFHQ
Brig	ML	Lahaie, DSO, CD	Commander, CFB Montreal
Brig	EMD	Leslie, DSO, CD	Commander, 2 CIBG
Col	JP	Beer, MBE, CD	Chief of Artillery, HQ Mobile Command
Col	JS	Dunphy, CD	Superintendent, CADEE
Col	DW	Francis, CD	Commander, CFB Shilo and Commandant, RCSA
Col	RE	Hogarth, DSO, CD	Secretary Defence Staff (Army)
Col	RG	Kingstone, MBE, CD	Canadian Forces Staff College
Col	GP	Marriott, ED, CD	Deputy Director General Centennial
Col	JS	Orton, MBE, MC, CD	Canadian Forces Language School, CFHQ
Col	PJ	Paterson, CD	Director of Armament Engineering Land, CFHQ
Col	NW	Reilander, CD	Commander, CFB Petawawa
Col	KA	Toms, CD	Commander, Prairie Region
Col	WW	Turner, CD	Directorate of Operations, CFHQ

Lt Col	DC	Badenoch, CD	CDLS (Washington)
Lt Col	CR	Baker, MC, CD	SHAPE
Lt Col	DR	Baker, CD	CO, 1 RCHA
Lt Col	LC	Baumgart, CD	CO, 4 RCHA
Lt Col	RER	Borland, CD	Air Section, HQ Mobile Command
Lt Col	GO	Brown, CD	Directorate of Armament Engineering CFHQ
Lt Col	JEJ	Caryi, CD	CADEE
Lt Col	MLA	Chabot, CD	DS, CASC
Lt Col	EA	Coolen, CD	Directorate of Force Development, CFHQ
Lt Col	DB	Crowe, CD	DS, CASC
Lt Col	JD	Crowe, MC, CD	DS, CFSC Toronto
Lt Col	LV	Cushing, CD	Deputy Secretary Defence Staff
Lt Col	JEG	deDomenico, CD	Directorate of Land Forces Operational Requirements (Land), CFHQ
Lt Col	JE	deHart, MC, CD	CO, Artillery Regiment Training HQ, CFB Gagetown
Lt Col	JK	Ewing, CD	MCCD, Viet Nam
Lt Col	JP	Francis, CD	SHAPE
Lt Col	DE	Gayton, CD	Directorate of Manpower Programming and Control Establishment Records, CFHQ
Lt Col	C	Giokas, CD	CFB London
Lt Col	DH	Gunter, CD	HQ, ACE Mobile Force (Land)
Lt Col	RG	Heitshu, CD	CO, 3 RCHA
Lt Col	JG	Henderson, CD	CO, 2 RCHA
Lt Col	JA	Hilliard, CD	Director General Personnel Plans Requirements, CFHQ
Lt Col	PDS	Lafferty, CD	CFB Edmonton
Lt Col	SV	Lloyd, CD	CAFATT Tanzania
Lt Col	AB	MacKenzie	Director General of Senior Appointments, CFHQ
Lt Col	JW	MacNaughton, CD	CFHQ/AU
Lt Col	RN	McKay, CD	Office of the Chief of the Defence Staff
Lt Col	JOVF	Menard	NATO Planning Staff
Lt Col	OR	Monette, CD	CFB St Jean
Lt Col	SA	Mooney, MC, CD	CJATC
Lt Col	JF	Pendergast, CD	Directorate of Survival and Emergency Operations, Deputy Chief Reserves, CFHQ
Lt Col	JSG	Peterson, CD	Directorate of Policy Implementation, CFHQ
Lt Col	JE	Pincock, CD	Deputy Secretary Defence Staff, CFHQ
Lt Col	GH	Reid, CD	CFB Winnipeg
Lt Col	JM	Reynolds, CD	HQ, British Columbia Region
Lt Col	WO	Roney, CD	HQ, Western Ontario District

Lt Col	WE	Sills, CD	Directorate of Strategic and Force Planning, CFHQ
Lt Col	W	Simcock, CD	CIG, RCSA
Lt Col	JM	Sinclair, CD	Directorate of Reserve Personnel, CFHQ
Lt Col	AB	Stewart, CD	CO, Artillery Regiment Training HQ, CFB Shilo
Lt Col	JC	Stewart, CD	Canadian Liaison Officer, Office of the Assistant Chief of Staff, Force Development, Washington
Lt Col	RCD	Stewart, CD	UNTSO (Palestine)
Lt Col	RAD	Stokes, CD	CFB Petawawa
Lt Col	DG	Struthers, CD	Canadian Liaison Officer, Fort Munroe
Lt Col	JM	Sutherland, CD	HQ, Central Ontario Region
Lt Col	HH	Winter, CD	Directorate of Project Formulation and Management, CFHQ
Maj	EY	Adkin, CD	HMCS Venture, CFB Esquimalt
Maj	FW	Bayne, CD	Exchange IG, School of Artillery, Larkhill, UK
Maj	AK	Beare, CD	RCSA
Maj	CE	Beattie, CD	HQ, Mobile Command
Maj	RP	Beaudry	CASC
Maj	JLP	Belanger, CD	DS, CMR (Retirement Leave 27 Apr 68)
Maj	SB	Benton, CD	HQ, New Brunswick/Prince Edward Island District
Maj	EJ	Berris, CD	Exchange Officer – CDLS (Washington) Office of Personnel Operations
Maj	T	Boldt, CD	Director General Communication Electronic Systems, CFHQ
Maj	RP	Bourne, CD	HQ, UNFICYP
Maj	CA	Buchanan, CD	Pacific Region I Staff
Maj	RGG	Buell, CD	CO (Acting), Artillery Regiment Training HQ, CFB Borden
Maj	CF	Burant, CD	Deputy Chief Reserves/Cadets, CFHQ
Maj	FA	Bussieres, CD	HQ, Mobile Command
Maj	C	Butler, CD	Directorate of Land Forces Operational Requirements (Land), CFHQ
Maj	RM	Callard, CD	CADEE
Maj	MD	Calnan, CD	HQ, 1 BAOR
Maj	FS	Card, CD	UNTSO (Palestine)
Maj	JT	Carpenter, CD	Atlantic Region Logistics and Administrative Staff
Maj	LL	Charest, CD	Directorate of Manpower Programming and Control, CFHQ
Maj	DH	Clark, CD	Student, USMC Command and Staff College
Maj	WS	Conrod, CD	Directorate of Reserves, CFHQ
Maj	RS	Cork, CD	CFHQ/AU
Maj	JA	Cotter, CD	HQ, Mobile Command
Maj	ELK	Cowan, CD	Directorate of Project Formulation, CFHQ
Maj	WD	Creighton, CD	HQ, Ontario Region

Maj	JE	Crosman, CD	CO, 1 SSM Battery
Maj	CJ	Crowe, CD	RMC Course Director
Maj	JD	Currie, CD	Director General Personnel Plans Requirements, CFHQ
Maj	AW	Curry, CD	Directorate of Land/Operational Research CFHQ
Maj	MW	Dauphinee, CD	CFHQ/AU
Maj	CR	Davidson, CD	DS, CFSC
Maj	FA	Davies, CD	4 RCHA
Maj	PW	Davis, CD	HQ, Mobile Command
Maj	WR	Dawes, CD	1 RCHA
Maj	JK	Devlin, CD	HQ, Mobile Command
Maj	JJ	Donahue, CD	Directorate of Armament Engineering, CFHQ
Maj	JJA	Doucet, CD	Student, US Command and General Staff Course
Maj	SS	Drew, CD	HQ, Atlantic Region
Maj	RH	Duke, CD	Artillery Section, HQ, Mobile Command
Maj	DF	Elkins, CD	JSSC, Latimer, UK (to HQ, Mobile Command Nov 67)
Maj	FJR	Ervin, CD	CFB Gagetown
Maj	DC	Fitzgerald	Secretary, Deputy Chief Plans, CFHQ
Maj	RA	Finney, CD	2IC, 4 RCHA
Maj	DR	Foster, CD	AOP Troop, 4 RCHA
Maj	WES	Gamblin, CD	CFB Shilo
Maj	VW	Gay, CD	Directorate of Personnel Requirements Control, CFHQ
Maj	RN	Gleason-Beard, CD	HQ, Mobile Command
Maj	THC	Goodfellow, CD	Carleton University (Post-graduate Training)
Maj	JE	Goodine, CD	Directorate of Survival Emergency Operations, CFHQ (To Directorate of Nuclear Weapons Dec 67)
Maj	RE	Gorham, CD	Directorate General Intelligence, CFHQ
Maj	RD	Gowland, CD	Directorate of Officer Cadets, CFHQ
Maj	T	Graham, CD	Defence Research Board, CFHQ
Maj	WH	Green, CD	HQ, Atlantic Region
Maj	GM	Guy, CD	Student, Camberley Staff College
Maj	GF	Hammond; CD	3 RCHA
Maj	HT	Haney, CD	CFB Calgary (Retirement Leave May 68)
Maj	PDA	Harrison, CD	Pacific Region Logistics and Administrative Staff Militia
Maj	PF	Heenan, CD	3 RCHA
Maj	WB	Helman, CD	Directorate of Policy Implementation, CFHQ
Maj	RM	Hemmingsen, CD	Directorate of Land Forces Operational Readiness and Training, CFHQ
Maj	DA	Henderson, CD	Directorate of Personnel Career Policy, CFHQ

Maj	GM	Henderson, CD	Directorate of Flight Safety, CFHQ
Maj	EC	Hipwell, CD	Officer Cadet Training Squadron, CFB Chilliwack
Maj	GH	Howitt, MC, CD	CFB Shilo
Maj	RR	Howsam, CD	Student, CFSC
Maj	JMA	Hulsemann, CD	HQ, 4 CIBG
Maj	SP	Hunter, CD	Office of the Director RA
Maj	W	Johnston, CD	CFHQ/AU (AN/USD 501 Drone Trials, Shilo)
Maj	DW	Jordan, CD	HQ, Alberta District (Retirement Leave Aug 68)
Maj	CA	Justice, CD	4 RCHA
Maj	MD	Kearney, CD	Directorate of International Plans, CFHQ
Maj	EA	Keenan, CD	Ontario Region Logistics and Administrative Staff Militia
Maj	JC	Kennedy, CD	2 RCHA
Maj	TJT	Kennedy, CD	HQ, Ontario Region
Maj	E	Lasch, CD	Directorate of Armament Engineering, CFHQ
Maj	KD	Lavender, CD	Directorate of Armament Engineering, CFHQ
Maj	RV	Leaman, CD	HQ, Ontario Region (Retirement Leave Nov 67)
Maj	VJ	Legere, CD	MCCD, Viet Nam
Maj	HF	Leggett, CD	HQ, Northern Army Group, Europe
Maj	OJ	Lester, CD	Directorate of Land Operational Research, CFHQ
Maj	WDW	Lewis, CD	Directorate of Strategic and Force Planning, CFHQ
Maj	JM	Liston, CD	Western Ontario District I Staff
Maj	DM	MacDonald, CD	HQ, Atlantic Region (Plans and Operations)
Maj	LR	MacDonald, CD	HQ, Atlantic Region (Administration and Technical Services)
Maj	WA	MacIntosh, CD	Directorate of Continental Plans, CFHQ (Retirement Leave Apr 68)
Maj	AGM	MacIsaac, CD	Directorate of Land Forces Operational Requirement (Land), CFHQ
Maj	EB	MacLatchy, CD	CO, Light Artillery Battery, Canadian Airborne Regiment
Maj	NM	MacLean, CD	Directorate of Integrated Defence Programs, CFHQ
Maj	RB	Mallory, CD	Experimental Army Signal Establishment, CARP
Maj	JL	Mantin, CD	CAFTT, Ghana
Maj	H	Marston, CD	Directorate of Land Forces Operational Readiness and Training, CFHQ
Maj	EH	Martin, CD	Directorate General Ordnance Systems, AN/USD 501 Drone Project, CFHQ
Maj	PB	Martin, CD	Office of the Assistant Chief of Staff (Intelligence) Washington
Maj	GN	Mastine, CD	HQ, Mobile Command
Maj	FR	McCall, CD	Canadian Liaison Officer, Fort Bliss
Maj	JB	McCanse, CD	Student, CFSC
Maj	GA	McDonald, CD	AOP Troop, 1 RCHA

Maj	MA	McDowell, CD	Directorate of Officer Cadets, CFHQ (Retirement Leave Oct 67)
Maj	J	McGregor, CD	Eastern Ontario District Logistics and Administrative Staff
Maj	FE	McLean, CD	Experimental Army Signal Establishment, CARP
Maj	HA	McLellan, CD	Directorate of Postings and Careers/Land Logistics (Artillery Officers)
Maj	AC	Moffat, CD	DS, CFSS
Maj	RF	Morrison, CD	CFB Shilo
Maj	EStJC	Murdoch, MC, CD	CFB Gagetown
Maj	TW	Musgrave, CD	2IC, 2 RCHA
Maj	CA	Namiesniowski, CD	1 RCHA
Maj	MT	O'Brennan, MC, CD	CAFATT Tanzania
Maj	GNR	Olson	CO, 2 SSM Training Battery
Maj	CAdeL	Panet, CD	HQ, Training Command
Maj	GB	Parenteau, CD	3 RCHA
Maj	NM	Pettis, CD	2IC, 1 RCHA
Maj	KS	Pickard, CD	Office of the Director RA, Tygroes, Wales
Maj	DG	Porter, CD	HQ, UNFICYP (To Directorate of Armament Engineering, CFHQ Jan 68)
Maj	PF	Pride, CD	UNMOG (India – Pakistan)
Maj	GR	Proulx, CD	HQ, Quebec Region
Maj	NE	Ramsey, CD	Directorate of Land Forces Operational Requirement (Air), CFHQ
Maj	WJ	Ready, CD	Directorate of Armament Engineering, CFHQ
Maj	DJ	Redknap, CD	RCSA
Maj	JF	Reeves, CD	Directorate of Physical Education and Recreation, CFHQ
Maj	ME	Rich, CD	HQ, Atlantic Region
Maj	JK	Robertson, CD	Directorate General Communication/Electronics Systems, CFHQ
Maj	JN	Robertson, CD	HQ, Saskatchewan District (Retirement Leave Nov 67)
Maj	NA	Robertson, CD	CDLS (London)
Maj	WG	Robson, CD	Emergency Measures College, Arnprior
Maj	DI	Rodway, CD	Pacific Region I Staff
Maj	L	Sanschagrin, CD	Civil Defence College, Arnprior
Maj	HE	Saxon, CD	HQ, Mobile Command
Maj	JM	Selman, CD	HQ, Mobile Command
Maj	CR	Simonds, CD	HQ, Mobile Command
Maj	JK	Skinner, CD	Directorate of Land Forces Operational Readiness and Training, CFHQ
Maj	RD	Smyth, CD	Directorate of Armament Engineering, CFHQ
Maj	DD	Snow, CD	2 RCHA
Maj	A	Sosnkowski, CD	BM, 2 CIBG

Maj	HJ	Stein, CD	HQ, Mobile Command
Maj	IC	Stewart, CD	Canadian Liaison Officer USAAMS, Fort Sill, Okla
Maj	HP	Stickley, CD	Combat Arms School, CFB Borden
Maj	WB	Stoddart, CD	Directorate of Land Forces Operational Requirement (Land), CFHQ
Maj	DE	Stothers, CD	Student, CASC
Maj	RL	Strawbridge, CD	HQ, CCUNCYP
Maj	RW	Strickland, CD	2 RCHA
Maj	PJA	Tees, DFC, CD	CDLS (Washington)
Maj	JEY	Theriault, MC, CD	CADEE
Maj	BE	Thorsteinson, CD	Directorate of Electronic Systems Engineering, CFHQ
Maj	WJ	Tippett, CD	Directorate of Armament Engineering, CFHQ
Maj	CA	Van Allen, CD	Office of the Vice Chief of the Defence Staff (Standardization), CFHQ
Maj	JAR	Vandal, CD	2IC, 3 RCHA
Maj	GE	Walker, CD	LETE
Maj	RK	Wallace, CD	Student, CFSC
Maj	JO	Ward, CD	Student, CFSC
Maj	BRH	Watch, CD	HQ, Saskatchewan District
Maj	DW	Wellsman, CD	HQ, Northern Army Group Europe
Maj	CME	West, CD	Directorate of Program Planning and Control, CFHQ
Maj	LE	West, CD	3 RCHA
Maj	WJ	West, CD	HQ, Training Command
Maj	GL	Wetherup, CD	RCSA
Maj	HR	Wheatley, CD	1 RCHA
Maj	T	Wheeler, CD	4 RCHA
Maj	PA	White, CD	RCSA
Maj	ML	Williams, CD	UNTSO (Palestine)
Capt	EJ	Adams	RCSA
Capt	RI	Adams	AOP Troop, 4 RCHA
Capt	PJ	Addis, CD	CFB Kingston
Capt	RF	Alessio, CD	RCSA
Capt	CF	Allen, CD	RSO University of Western Ontario, London
Capt	PT	Alward, CD	Directorate of Intelligence, CFHQ
Capt	EH	Anderson, CD	HQ, New Brunswick/Prince Edward Island District
Capt	FK	Anderson, CD	CFB Edmonton
Capt	CJLH	Archambault	1 RCHA
Capt	TH	Argue, CD	HQ, Prairie Region

Capt	RV	Armishaw, MBE, CD	Directorate of Policy Implementation, CFHQ
Capt	RB	Armstrong	1 RCHA
Capt	FC	Ayers	Student, CASC
Capt	JJ	Baker, CD	Directorate of Armament Engineering, CFHQ
Capt	P	Baldaro, CD	RCSA
Capt	NH	Barrett	Officer Cadet Training Squadron, CFB Chilliwack
Capt	DJ	Beatty	Artillery Staff Course, RCSA
Capt	EB	Beno	1 RCHA
Capt	JC	Berezowski, CD	Artillery Regiment Training HQ, CFB Borden
Capt	MV	Bezeau	RSO, Carleton and Ottawa Universities
Capt	DB	Bianco	Artillery Staff Course, RCSA
Capt	JGR	Bigras	HQ, Western Quebec District
Capt	JW	Bird	Assistant Professor of Chemistry, RMC
Capt	RW	Boadway	3 RCHA
Capt	JNGG	Boudreau	CFRC, Quebec
Capt	JP	Bouvette	RMC of S Student, Shrivenham
Capt	SJ	Bowers, CD	Directorate of Cermonial, CFHQ
Capt	GWR	Bowman, CD	MCCD, Viet Nam
Capt	JJ	Brotherton, CD	CFB Kingston
Capt	FS	Brown, CD	Western Ontario District I Staff
Capt	MC	Brown	2 RCHA
Capt	SA	Brown, CD	CFPSU Vancouver
Capt	JEF	Bryce	Artillery Staff Course, RCSA
Capt	JE	Bulger, CD	1 Locating Battery RCA
Capt	AF	Cameron, CD	CDLS (London)
Capt	AW	Carnell	RCSA
Capt	RV	Carriere	1 RCHA
Capt	AP	Carroll	Artillery Staff Course, RCSA
Capt	AJ	Casey, CD	Saskatchewan District I Staff
Capt	GV	Cavey	3 RCHA
Capt	F	Champion-Demers	RCSA
Capt	WB	Cheadle, CD	HQ, Atlantic Region (Militia Training)
Capt	JP	Cheevers	CO, 1 Locating Battery RCA
Capt	JD	Chown, CD	RCSA
Capt	LJ	Chown, CD	Director General Ordnance Systems, CFHQ
Capt	MF	Clark	1 RCHA
Capt	PW	Colbert, CD	HQ, Training Command

Capt	NH	Connolly	1 RCHA
Capt	AVA	Coroy	Student, CASC
Capt	AK	Court	1 RCHA
Capt	JA	Crowder, CD	Directorate of Armament Engineering, CFHQ
Capt	HL	Davis, CD	CFB Borden
Capt	GA	Decker	1 SSM Battery
Capt	RA	Diespecker	HQ, Training Command
Capt	JT	Dolan, CD	CFRC, Ottawa
Capt	RR	Doyon	HQ, 1 CIBG
Capt	BG	Earl	Student, LGSC, Larkhill
Capt	WA	Emery	3 RCHA
Capt	TAD	Fetterly	1 SSM Battery
Capt	JC	Fleming	CFB Shilo
Capt	PW	Forsberg	RCA Depot
Capt	AR	Fowler, CD	HQ, Atlantic Region
Capt	JJ	Fraser	Artillery Staff Course, RCSA
Capt	FL	Furness, CD	HQ, Western Ontario District
Capt	GA	Gamblin, CD	HQ, Atlantic Region
Capt	IWC	Gibbons	4 RCHA
Capt	RG	Glover	4 RCHA
Capt	H	Goertzen, CD	Directorate of Armament Engineering, CFHQ
Capt	WE	Gordon	Artillery Staff Course, RCSA
Capt	GF	Gower	AOP Troop, 1 RCHA
Capt	PJ	Graves	HQ, Newfoundland District
Capt	SD	Green	Student, CASC
Capt	LF	Greene, CD	Prairie Region I Staff
Capt	OL	Greenizan	1 SSM Battery
Capt	DA	Greensides	Canadian Forces Language School, CFB St Jean
Capt	LL	Greig, CD	Eastern Ontario District I Staff
Capt	DA	Gronbeck-Jones	1 Locating Battery RCA
Capt	TJ	Guiler	1 RCHA
Capt	RW	Haig	3 RCHA
Capt	RG	Hall, CD	Artillery Staff Course, RCSA
Capt	MJ	Harmston, CD	Directorate of Land Forces Operational Readiness and Training, CFHQ
Capt	AV	Harris	HQ, Prairie Region
Capt	DB	Harrison	HQ, CCUNCYP (HQ Pacific Region)

Capt	JR	Hartlen, CD	Atlantic Region I Staff
Capt	FC	Haynes	Directorate of Policy Implementation, CFHQ
Capt	JD	Hetherington, CD	HQ, Pacific Region
Capt	MW	Hewes	CFRC, Winnipeg
Capt	RP	Hill, CD	RCSA
Capt	WM	Hill, CD	Administrative Officer CASC
Capt	JK	Hilton	3 RCHA
Capt	GR	Hirter	2IC, Light Artillery Battery, Canadian Airborne Regiment
Capt	JM	Hoffman	HQ, 1 CIBG
Capt	JE	Howes	Student, CFSC
Capt	NF	Hull	Royal Roads
Capt	FC	Hummel, CD	RCSA
Capt	RG	Hurley	2 RCHA
Capt	JR	Hutchison, CD	Eastern Ontario District I Staff
Capt	RY	Hutton	Directorate of Operations, CFHQ
Capt	RM	Hyslop	1 SSM Battery
Capt	DGH	Hyman	ADC to His Excellency The Governor General
Capt	TT	Itani	Artillery Staff Course, RCSA
Capt	RK	James	Directorate General Personnel Plans Requirements, CFHQ
Capt	WR	Johnston	2 SSM Training Battery, (CDLS (London) RMC of S Student Jan 68)
Capt	NW	Johnstone	Student, Camberly Staff College
Capt	GH	Jussup, CD	Directorate Project Formulation, CFHQ
Capt	JM	Kavanagh	2 RCHA
Capt	LC	Kempffer, CD	RCSA
Capt	DJ	Ker-Hornell, CD	3 RCHA
Capt	GD	Kerr	Student, Artillery Officers' Course, Fort Sill
Capt	WF	Kirk, CD	Deputy Secretary Defence Staff, CFHQ
Capt	JS	Klenavic	Student, CASC
Capt	ST	Klubi, CD	Alberta District I Staff
Capt	CD	Knight	2 SSM Training Battery
Capt	MA	Kryzanowski	1 RCHA
Capt	FK	Laforge	1 RCHA
Capt	PR	Learmonth	4 RCHA
Capt	DA	Lockridge	CFRC, Toronto
Capt	SW	Lobban, CD	RCSA
Capt	G	Logan	Student, CASC

Capt	RJ	Lovell	102 KU RCAF, CFB Trenton (Attached to CFB Kingston)
Capt	JA	Lowe	412 Transport Squadron, Ottawa
Capt	JM	MacFie, CD	MCCD, Viet Nam
Capt	JG	MacGregor	AOP Troop, 1 RCHA
Capt	JA	MacInnis	1 RCHA
Capt	JM	MacInnis	1 Locating Battery RCA
Capt	HK	MacKinnon, CD	Directorate of Ammunition, CFHQ
Capt	AA	MacLeod, CD	Pacific Region I Staff
Capt	WR	MacNeil	Artillery Staff Course, RCSA
Capt	JOA	Maher	RCSA
Capt	MD	Maher	HQ, Western Ontario District
Capt	R	Malcolm, CD	2 SSM Training Battery
Capt	JAG	Marceau	AOP Troop, 2 RCHA
Capt	CW	Marmo	Directorate of Land Reserves, CFHQ
Capt	RB	May, CD	Student, CASC
Capt	RA	McClenahan, CD	HQ, Ontario Region
Capt	JP	McConville, CD	Artillery Regiment Training HQ, CFB Borden
Capt	JE	McCorkell, ED, CD	Director General of Ordnance Systems, CFHQ
Capt	DB	McGibbon	RCSA
Capt	BTN	McGrath	1 RCHA
Capt	RW	McKinlay	CFRC, Ottawa
Capt	L	McKinnon, CD	Office of the Assistant Director General Ordnance Systems, CFHQ
Capt	RL	McLellan, CD	HQ, Training Command
Capt	WE	McLeod	1 RCHA
Capt	AD	McMillan	HQ, Training Command
Capt	LH	McMorran, CD	AOP Troop, 2 RCHA
Capt	WL	McMullen	Artillery Staff Course, RCSA
Capt	MW	McQuinn	3 RCHA
Capt	CJ	Mialkowski	HQ, Mobile Command
Capt	KL	Miller, CD	CFB Chilliwack
Capt	AG	Mills	4 RCHA
Capt	CA	Moogk	1 RCHA
Capt	SR	Moore, CD	Directorate of Postings and Careers/Land Logistics Artillery (Men), CFHQ
Capt	JEA	Mosley, CD	Directorate of Personnel Legal Services, CFHQ
Capt	N	Mulikow, CD	Artillery Staff Course, RCSA
Capt	GR	Mummery	RCSA

Capt	AW	Nethercott, CD	AOP Troop, 3 RCHA
Capt	GJ	Oehring	1 RCHA (attached to HQ, 4 CIBG)
Capt	GW	Oliver	Artillery Staff Course, RCSA
Capt	AF	Ouellette, CD	Artillery Staff Course, RCSA
Capt	JW	Owen, CD	RSO, Queen's University
Capt	CMJ	Pachal, CD	1 Locating Battery RCA
Capt	AZ	Palmer	1 RCHA
Capt	JA	Parnham, CD	HQ, Mobile Command
Capt	WL	Pender	4 RCHA
Capt	RE	Peterson, CD	Directorate of Personnel Career Policy, CFHQ
Capt	M	Pisnook, CD	HQ, Western Ontario District I Staff
Capt	MAS	Pittman, CD	HQ, CCUNCYP
Capt	JR	Pleasance	HQ, 3 CIBG
Capt	N	Plishka, CD	CFB Edmonton
Capt	JA	Poh, CD	Artillery Staff Course, RCSA
Capt	WF	Pollock, CD	CJATC
Capt	HT	Posten, CD	CFHQ/AU
Capt	TG	Power	Ontario Region I Staff
Capt	G	Prior, CD	Office of the Deputy Secretary Defence Staff/Graphic Arts, CFHQ
Capt	GDL	Protz, CD	Northern NORAD Region, North Bay
Capt	WJ	Quinn, CD	New Brunswick/Prince Edward Island District I Staff
Capt	LG	Ramsey, CD	Director General Ordnance Systems, CFHQ
Capt	EW	Rance, CD	National Research Council
Capt	BA	Reid	Artillery Staff Course, RCSA
Capt	CHG	Reid, CD	CFB Calgary
Capt	SJ	Reid	4 RCHA
Capt	WB	Rendell, CD	HQ, Newfoundland District
Capt	JH	Rennie	RCSA
Capt	DM	Robb	Exchange Officer, 3 RHA
Capt	TE	Roberts, CD	4 RCHA
Capt	LH	Robitaille, CD	Director General Communications/Electronics Systems, CFHQ
Capt	TAW	Robson	HQ, Ontario Region
Capt	RB	Rogers	AOP Troop, 3 RCHA
Capt	JGVN	Rouleau	HQ, Quebec Region
Capt	DE	Rousseau	Artillery Staff Course, RCSA
Capt	RDC	Rowdon	Artillery Regiment Training HQ, CFB Gagetown
Capt	GEM	Ruffee, CD	25 NORAD Region, Tacoma

Capt	JH	Ryan	4 RCHA
Capt	MJ	Sadler, CD	Student, CFSC
Capt	RA	Salisbury, CD	1 RCHA
Capt	JK	Sangster	HQ, Saskatchewan District
Capt	GH	Sawatzki	RCSA
Capt	DG	Schott, CD	RCSA
Capt	EL	Schrader	1 RCHA
Capt	GDC	Scott	1 Locating Battery RCA
Capt	WM	Scott	Student, CASC
Capt	FE	Seely	RCSA
Capt	HE	Senior, CD	CFB Petawawa
Capt	JD	Shaver, CD	Director General Maintenance, CFHQ
Capt	GM	Shellard, CD	AOP Troop, 2 RCHA
Capt	P	Sherrick, CD	Artillery Regiment Training HQ, CFB Shilo
Capt	M	Shewchuk, CD	Ontario Region I Staff
Capt	JFLP	Simard, CD	CFB Petawawa
Capt	KA	Smee	Assistant Professor of Physics, RMC
Capt	AHC	Smith, CD	Adjutant, RCSA
Capt	HK	Smith, CD	Directorate of Clothing and General Engineering, CFHQ
Capt	MW	Smith, CD	CADEE
Capt	SM	Smith, CD	Directorate of Recruiting, CFHQ
Capt	WL	Smith, CD	CFRC, Vancouver
Capt	JS	Soutter, CD	HQ, New Brunswick/Prince Edward Island District (Retirement Leave May 68)
Capt	A	Spooner, CD	Directorate of Clothing and General Engineering, CFHQ
Capt	JA	St Louis, CD	Quebec Region I Staff
Capt	KG	Stowell	1 RCHA
Capt	SS	Takahashi	HQ, 4 CIBG
Capt	JJG	Tanguay, CD	1 RCHA
Capt	JER	Tattersall	GMSO Course, Fort Bliss
Capt	LU	Thibedeau	OC, AOP Troop, 2 RCHA
Capt	RG	Thomason	Artillery Staff Course, RCSA
Capt	HD	Thompson	4 RCHA
Capt	RV	Thompson	Directorate of Operations, CFHQ
Capt	FMS	Thorpe, CD	Materiel Command (Release Dec 67)
Capt	WT	Thorpe, CD	Directorate Engineering Plans and Co-Ordination, CFHQ
Capt	GE	Trainor, CD	RCSA
Capt	VA	Troop	HQ, Ontario Region

Capt	CH	Van Aggelen, CD	1 SSM Battery
Capt	KD	Varey	1 SSM Battery
Capt	HR	Vye, CD	CFB Gagetown
Capt	D	Walker, CD	Office of the Assistant Director General Ordnance Systems, CFHQ
Capt	HA	Walinsky	1 SSM Battery
Capt	TJ	Walsh	Deputy Chief Reserves/Cadets, CFHQ
Capt	DJ	Walters	British Military Mission to the Soviet Forces
Capt	DB	Walton	Artillery Staff Course, RCSA
Capt	GG	Ward, CD	CFB Kingston (Retirement Leave 28 Jul 68)
Capt	RB	Wark	3 RCHA
Capt	JAS	Watts	RCSA
Capt	AR	Weeks, CD	Alberta District I Staff
Capt	DI	Whalen	Student, CASC
Capt	ET	Whalen, CD	AOP Troop, 3 RCHA
Capt	AJ	Wilson	1 RCHA
Capt	JR	Wilson, CD	HQ, CBUE
Capt	WMJ	Wolfe, CD	RCSA
Capt	JF	Woodley, CD	RCSA
Capt	CE	Wormell, CD	Directorate General Ordnance Systems, CFHQ
Capt	NA	Wright, CD	Office of the Assistant Director General Ordnance Systems, CFHQ
Capt	WF	Wright	AOP Troop, 1 RCHA
Capt	GL	Younger-Lewis	Directorate of Land Forces Operational Requirements/Air, CFHQ
Capt	AM	Zamoyski, CD	1 SSM Battery
Capt	WL	Zawyrucha	1 RCHA
Lt	JP	Abbott, CD	CFB Moose Jaw
Lt	LC	Adkins	1 Locating Battery RCA
Lt	RL	Armstrong	1 RCHA
Lt	RJ	Beardmore	1 RCHA
Lt	ICM	Belton	4 RCHA
Lt	KL	Bennett	1 RCHA
Lt	RJ	Bird	1 SSM Battery
Lt	ABC	Bowles	4 RCHA
Lt	LA	Branum	1 SSM Battery
Lt	TE	Brewster	2 SSM Training Battery
Lt	JD	Briscoe	4 RCHA

Lt	DH	Brown	1 RCHA
Lt	JF	Bryan	3 RCHA
Lt	MF	Burns	3 RCHA
Lt	CS	Cant	3 RCHA
Lt	RA	Cathcart	2 SSM Training Battery
Lt	JZC	Chamberland	2 RCHA
Lt	JP	Chartres	3 RCHA
Lt	RW	Chaulk	1 SSM Battery
Lt	KL	Clarke	4 RCHA
Lt	SA	Colburne	2 RCHA
Lt	RC	Coleman	4 RCHA
Lt	GR	Conway, CD	Ontario Region I Staff
Lt	GA	Cook	3 RCHA
Lt	LWF	Cuppens	1 RCHA
Lt	CP	Czartoryski	1 Locating Battery
Lt	JA	Davidson	2 SSM Training Battery
Lt	JP	Davies	CFRC, London
Lt	JA	Dorman	RCSA
Lt	HRJ	Eamor	4 RCHA
Lt	FG	Earl, CD	Northern NORAD Region, North Bay
Lt	MD	Elkins	1 RCHA
Lt	HC	Ellery	RCSA
Lt	DA	Elrick	1 RCHA
Lt	RG	Elrick	2 SSM Training Battery
Lt	TA	Favier	2 RCHA
Lt	DB	Fenny	RCSA
Lt	DR	Ferguson	CFB Shilo
Lt	W	Filonik	3 RCHA
Lt	H	Finestone	RCSA
Lt	FJ	Forsyth, CD	CADEE
Lt	RM	Foster	2 RCHA
Lt	AG	Gallant	2 RCHA
Lt	GA	Gallop	1 RCHA
Lt	GV	Glaus	3 RCHA
Lt	WD	Gowanlock	3 RCHA
Lt	BM	Grace	CFB Toronto (To 4 RCHA Dec 67)
Lt	WH	Groom, CD	Northern NORAD Region, North Bay

Lt	JHAJ	Groulx	1 RCHA
Lt	CO	Gustafson	1 RCHA
Lt	RL	Hanbury	2 RCHA
Lt	TP	Haney	4 RCHA
Lt	FH	Hansford	4 RCHA
Lt	MN	Hargest, CD	Alberta District I Staff
Lt	EC	Hague	3 RCHA
Lt	RN	Haslett	3 RCHA
Lt	DW	Hawthorne	1 SSM Battery
Lt	JE	Hawthorne	1 SSM Battery
Lt	RP	Hitchman	3 RCHA
Lt	RP	Hodgson	2 RCHA
Lt	DR	Hopper	1 Locating Battery
Lt	R	Hoyland	4 RCHA
Lt	EA	Hynes	AN/USD 501 Drone Trials, RCSA
Lt	GF	Ireland	2 RCHA
Lt	MK	Jeffery	2 RCHA
Lt	JB	Knapp	4 RCHA
Lt	JDL	Krauter	2 RCHA
Lt	RG	Kyle	4 RCHA
Lt	AM	Lacey	1 RCHA
Lt	DJ	Lacey	3 RCHA
Lt	JB	Lapointe	2 RCHA
Lt	GM	Larson	3 RCHA
Lt	BM	Lees	4 RCHA
Lt	RJ	Lees	2 RCHA
Lt	RJ	Lucas	2 SSM Training Battery
Lt	MJ	MacDonald	1 SSM Battery
Lt	RN	McAlpine	3 RCHA
Lt	TJ	McBurney	4 RCHA
Lt	JA	McKay	1 Locating Battery RCA
Lt	DG	Miller	2 RCHA
Lt	DG	Miller, CD	CADEE
Lt	LTB	Mintz	1 RCHA
Lt	ML	Moldaver	3 RCHA
Lt	RD	Moon	4 RCHA
Lt	JW	Mortlock	RCSA

Lt	JDE	Niles	1 RCHA
Lt	JW	Nixon	3 RCHA
Lt	RL	O'Banion	CFRC, Hamilton
Lt	RC	Pachal	3 RCHA
Lt	GS	Paech	3 RCHA
Lt	JAR	Paquette	3 RCHA
Lt	KW	Pizer	2 RCHA
Lt	CD	Pollard	Canadian Forces School of Administration and Logistics
Lt	DR	Robertson	RCSA
Lt	TP	Ross	3 RCHA
Lt	JA	Roszell	3 RCHA
Lt	RJM	Selman	4 RCHA
Lt	JMA	Siple	4 RCHA
Lt	GR	Smith	2 RCHA
Lt	TAB	Sparling	4 RCHA
Lt	WA	Stenton	2 RCHA
Lt	JB	Stephens, CD	RCSA
Lt	BE	Stephenson	2 RCHA
Lt	AG	Stoddard, CD	Directorate of Personnel Requirements Control, CFHQ
Lt	DB	Struthers	2 RCHA
Lt	PJ	Tomashewski	2 RCHA
Lt	TR	Toogood	2 RCHA
Lt	RS	Usher, CD	Directorate Land/Air Operational Research, CFHQ
Lt	OE	Van Rooyen	2 RCHA
Lt	GM	Walker	3 RCHA (To 1 RCHA Dec 67)
Lt	WR	Watling	1 SSM Battery
Lt	WB	Wheaton	2 RCHA
Lt	MR	Wilson	RCSA
Lt	RS	Wilson	1 RCHA
Lt	MJ	Winter	4 RCHA
Lt	VW	Zaharychuk, CD	CADEE

WARRANT OFFICERS' LOCATION LIST

(As of 1 November 1967)

WO 1	JFW	Barham, CD	Artillery Regiment Training HQ, CFB Borden
Mr Gnr (WO 1)	LF	Binkley, CD	RCSA
Mr Gnr (WO 1)	AJ	Brim, CD	Office of the Assistant Director General Ordnance Systems, CFHQ

WO 1	WT	Chilton	Pacific Region I Staff
WO 1	HA	Clarke, CD	Eastern Ontario District I Staff
Mr Gnr (WO 1)	FP	Collins	Directorate of Armament Engineering, CFHQ
Mr Gnr (WO 1)	RL	Cull	Directorate of Armament Engineering, CFHQ
WO 1	J	Davies	RCA Band
WO 1	JO	Dube, CD	RCSA
Mr Gnr (WO 1)	MJ	Fraser	HQ, Mobile Command
WO 1	GA	Griffiths	CFB Petawawa
WO 1	RF	Hanlon	Western Ontario District I Staff
WO 1	SR	Holtom	New Brunswick/Prince Edward Island District I Staff
Mr Gnr (WO 1)	FG	Hooper, CD	CADEE
WO 1	DL	Hughes, CD	RCSA
WO 1	G	Jackson, CD	Alberta District I Staff
WO 1	R	Jackson, CD	CFB Edmonton
WO 1	JJ	Klenavic, CD	Ontario Region I Staff
WO 1	JA	Kolmer, CD	Directorate of Postings and Careers/Land Logistics Artillery (Men), CFHQ
WO 1	EC	Lemaire	Ontario Region I Staff
WO 1	GN	Malcolm	3 RCHA
Mr Gnr (WO 1)	GW	Miller, CD	CADEE
Mr Gnr (WO 1)	DA	Moreside, CD	Atlantic Region I Staff
Mr Gnr (WO 1)	RD	Nickerson, EM, CD	Directorate of Armament Engineering, CFHQ
WO 1	A	North	RCHA Band
Mr Gnr (WO 1)	HN	Osgood	RCSA
WO 1	JS	Richmond, CD	4 RCHA
WO 1	JG	Stevens, CD	RCSA
Mr Gnr (WO 1)	KG	Stinson, CD	Assistant Director General Ordnance Systems, CFHQ
Mr Gnr (WO 1)	RG	Sutherland	Directorate of Manpower Programming and Control, CFHQ
WO 1	R	Syrette, CD	2 RCHA
WO 1	E	Tremblay	Western Quebec District I Staff
WO 1	LJ	Vallee, MM, CD	Prairie Region I Staff
WO 1	RA	Vidler, CD	1 RCHA
WO 1	DA	Waite, CD	Directorate of Personnel Career Policy, CFHQ
Mr Gnr (WO 1)	LE	Walker	Directorate of Armament Engineering, CFHQ
WO 1	FD	West	CFB Gagetown
Mr Gnr (WO 1)	DE	Williams, CD	CADEE
WO 1	PA	Winter	RCSA
WO 1	SG	Witt	Saskatchewan District I Staff
WO 1	FC	Wood	NATO Committee, Brussels

WO 2	GS	Armstrong, CD	2 RCHA
WO 2	FA	Barnard, CD	Saskatchewan District Logistics and Administrative Staff
WO 2	CG	Barnhart, CD	2 SSM Training Battery (Release Oct 67)
WO 2	JPA	Begin, CD	Western Quebec District I Staff
WO 2	ER	Bell, CD	1 RCHA
Mr Gnr (WO 2)	DD	Bittle, CD	3 RCHA
WO 2	EJJ	Blackwell, CD	2 RCHA
WO 2	JE	Boyle	4 RCHA
WO 2	AF	Brown, CD	1 RCHA
WO 2	EA	Brown, CD	Directorate of Land/Air Operational Research, CFHQ
WO 2	RB	Byer, CD	1 SSM Battery
WO 2	KA	Cameron, CD	Western Ontario District I Staff
WO 2	TH	Campbell, CD	1 Locating Battery
WO 2	JA	Charles, CD	NATO Committee, Brussels
WO 2	HJ	Cheverie, CD	RCSA
WO 2	LH	Clarke	Office of the Director General Communication/ Electronic Systems, CFHQ
WO 2	PD	Cloutier	1 SSM Battery
WO 2	EF	Cobham, CD	4 RCHA
WO 2	E	Cole, CD	2 RCHA
WO 2	W	Conway, CD	2 RCHA
WO 2	MJ	Cove, CD	1 RCHA
Mr Gnr (WO 2)	DJ	Crawford, CD	3 RCHA
WO 2	WD	Darling, CD	Atlantic Region PEI/PWC
Mr Gnr (WO 2)	AD	Derbyshire, CD	School of Meteorology, CFB Trenton
WO 2	JW	Donnelly	HQ, Eastern Ontario District
Mr Gnr (WO 2)	EM	Evoy, MM, CD	Directorate of Armament Engineering, CFHQ
WO 2	AE	Farewell, CD	Pacific Region Logistics and Administrative Staff
WO 2	RJ	Fenske, MM, CD	RCSA
WO 2	MW	Fleet, CD	2 RCHA
WO 2	LE	Gargan, CD	HQ, Atlantic Region
Mr Gnr (WO 2)	WE	Grover, CD	Directorate of Ammunition, CFHQ
WO 2	RW	Hallam, CD	3 RCHA
WO 2	C	Harrup, CD	Directorate of Policy Implementation, CFHQ
WO 2	RT	Hibbert, CD	4 RCHA
WO 2	CE	Hicks, CD	RCSA
Mr Gnr (WO 2)	FG	Hiltz, CD	Office of the Assistant Director of Ordnance Systems, CFHQ (Release Sep 67)

Mr Gnr (WO 2)	T	Holodiwsky, CD	CADEE
WO 2	RR	Hooper, CD	RCSA
WO 2	K	Hubbard	2 RCHA
Mr Gnr (WO 2)	CK	Jenkins, CD	RCSA
WO 2	BE	Johnson	1 RCHA
WO 2	RM	Johnson, CD	Directorate of Procurement, CFHQ
WO 2	FE	Johnston, CD	2 SSM Training Battery
WO 2	CT	Kirbyson, CD	2 RCHA (Release Oct 67)
WO 2	L	Lacharity, CD	RCSA
WO 2	DM	Larkin, CD	3 RCHA
WO 2	TL	Larkin, CD	1 Locating Battery
WO 2	SWJ	Lentle	1 RCHA
WO 2	WM	Lunan	4 RCHA
WO 2	DB	MacDonald	3 RCHA
WO 2	FJ	MacDonald, CD	3 RCHA
WO 2	KC	MacDonald, CD	2 RCHA
WO 2	MN	MacDonald, CD	1 RCHA
WO 2	RO	Marcum, CD	2 RCHA
WO 2	CB	McBay	1 Locating Battery
WO 2	JE	McCabe, CD	RCSA
WO 2	BR	McMillan	RCSA
WO 2	WC	McNeil	CFB Shilo
WO 2	FE	Moss	RCSA
WO 2	AJ	Mulherin, CD	HQ, Ontario Region
WO 2	LJ	Nesdoly, CD	1 Locating Battery
WO 2	TW	Niles, CD	4 RCHA
WO 2	JCW	Parsons	RCSA
WO 2	EE	Patrick, CD	1 RCHA
Mr Gnr (WO 2)	RL	Patrick, CD	4 RCHA
WO 2	WD	Paxton, CD	RCHA Band
WO 2	AL	Pederson, CD	Western Ontario District Logistics and Administrative Staff
WO 2	CS	Phillips .	Office of the Assistant Director General Ordnance Systems, CFHQ
WO 2	MMP	Pinaud, CD	CFB Chilliwack
Mr Gnr (WO 2)	RG	Pyke, CD	RCSA
Mr Gnr (WO 2)	RMI	Rhyno, CD	4 RCHA
WO 2	M	Roman, CD	2 SSM Training Battery
WO 2	NJE	Schafer, CD	3 RCHA

WO 2	J	Scully	3 RCHA
Mr Gnr (WO 2)	W	Sonnenberg	RCSA
WO 2	RH	Speare, CD	RCSA
WO 2	NH	Stammers, CD	3 RCHA
WO 2	HG	Stein, CD	CFB Chilliwack
Mr Gnr (WO 2)	W	Stephenson, CD	Office of the Director General Ordnance Systems, CFHQ
WO 2	A	Sterritt	4 RCHA
WO 2	DC	Thomas	1 SSM Battery
WO 2	RL	Thompson, CD	3 RCHA
WO 2	WE	Tripp	Office of the Assistant Director General Ordnance Systems, CFHQ
WO 2	GE	Tweedy, CD	2 RCHA
WO 2	GH	Wade, CD	1 Locating Battery
WO 2	BB	Walker, CD	1 RCHA
WO 2	FH	Walsh, CD	Ontario Region I Staff
WO 2	HC	Wambolt, CD	RCA Band
WO 2	CF	Watson, CD	Director General Plans, CFHQ
WO 2	EE	Wells, CD	1 RCHA
WO 2	SG	Williams	CAFATT Tanzania
WO 2	SG	Wilt	1 SSM Battery
WO 2	ER	Zecca, CD	CFB Borden

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