

THE ARMY DOCTRINE AND TRAINING BULLETIN

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Mechanized Brigade and the Gulf War, 1990 - 1991
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FIGHTING THE GOOD FIGHT:
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IN HUMANITARIAN ACTION OPERATIONS
Major Vic Sattler, CD

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This is an official publication of Land Force Command and is published quarterly. *The Army Doctrine and Training Bulletin* is dedicated to the dissemination and discussion of doctrinal and training concepts, ideas and opinions by all army personnel and those civilians with an interest in doctrinal, training and other military matters. Articles on related subjects such as leadership, ethics, technology and military history are also invited. Considered, reasoned debate is central to the intellectual health of the army and the production of valid doctrine and training policies. Articles promoting thought and discussion are therefore welcome. All ranks and personnel from other environments are encouraged to contribute. Opinions expressed in the articles remain those of the author and do not represent departmental or Canadian Forces policy. The doctrine, training and other updates do not represent authority for action on that particular topic. All published material remains the copyright of the Department of National Defence and may be used with written permission from the Managing Editor.

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Part of Our Heritage

Two Hundred Years Ago...

Between 1793 and 1802, the British Empire was at war with the Revolutionary France. The presence of French warships in the North Atlantic and tensions with the United States, led to the creation of several regular colonial units to bolster the British garrison in Canada. The Queen's Rangers, raised in 1791, were joined by the Royal Newfoundland Regiment, the Royal Nova Scotia Regiment, the King's New Brunswick Regiment, the Island of Saint John Volunteers and the Royal Canadian Volunteers Regiment. An armistice signed in 1802 brought the disbandment of these little known units in the summer and fall of 1802. In less than a year, the British Empire and Napoleonic France would be at war, leading to the creation of a series of new regiments in British North America.



Francois Mailhot, Captain of the 2nd Battalion, Royal Canadian Volunteers, circa 1797. The Royal Canadian Volunteers was a two-battalion regiment raised for the defence of British North America. It was the first regiment to embody French and English Canadians for regular service. (Courtesy Musée du Québec)



A private of the King's New Brunswick Regiment, 1793 - 1794. The regiment was stationed mainly in Fredericton, with detachments at Saint John and at Saint Andrews. (Courtesy Osprey Military, Men at Arms No. 319).



A corporal of the Island of Saint John Volunteers. Authorized to have 200 men in two companies, this unit was renamed as His Majesty's Prince Edward Island Fencibles in 1800. (Courtesy Prince Edward Island Museum and Heritage Foundation)



An officer of the Queen's Rangers. This regiment was authorized in 1791 for service in Upper Canada. It served mainly at York (Toronto) and Fort St. Joseph. (Courtesy Toronto Historical Board)

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Guest Editorial

Infantry in the Future Canadian Army: A Riddle Wrapped in a Mystery inside an Enigma?

by Brigadier-General Glenn Nordick, OMM, MSC, CD

In our history, Canada has had an *infantry* army. Although it may remain so into the foreseeable future, this is certainly not written in stone. The Chief of the Land Staff's intent is to build an army that is strategically relevant, expeditionary by nature, and capable of deploying a credible combat capability across a broad range of coalition operations. As the army struggles to build these future requirements within a tightly constrained fiscal envelope, there is no question that the infantry battalion and the entire infantry trade structure must, and will, come under the microscope. As we all struggle through this difficult restructuring exercise, there has been very little public debate on the place or role of the infantry in that future, particularly among the infantry community itself.

Instead, within the Infantry Corps, there has been some debate, at times acrimonious, about what core infantry skills are, and how they should be nurtured and protected. It has also become clear that, given the size of the Army, we will not be able to afford the grab bag of infantry approaches effected by many of our allies (light,

In the purely Canadian context, increased technology and the adoption of successively more effective armoured personnel carriers (Bren Gun Carrier; Kangaroo; M113; armoured vehicle,

general purpose [AVGP]; and now the LAV III) have drawn a line between traditional light infantry and mechanized infantry. Special operating forces, including parachute-delivered light infantry, which are present in most Western armies, remain an emotive subject in the wake of Somalia and the disbanding of the Canadian Airborne Regiment. As well, the need to operate across virtually all types of terrain also factors strongly in the infantry debate and drives the Corps to stay current in winter warfare, mountain operations, and urban operations. Finally, there is the fact that the infantry corps is viewed as being fractured along geographic and regimental lines, more than the other three combat arms.

These issues are important, but, at the same time, we must not lose sight of the fact that Canada produces superb infantrymen, the equal, and often the envy, of any in the world. Therefore, in our drive to rationalize and reorganize, we must ensure we do not break the system.

The *raison d'être* of the infantry is "to close with and destroy the enemy" and remains at the heart of what armies are expected to do today and into the future. This responsibility, to take and

hold ground, is coupled with a growing range of complex and challenging peace support missions and domestic operations. There is also a growing realization and acceptance that many of our most likely, and most difficult, operations will be conducted on *complex* terrain.

There is also little argument that the rifle company remains the core of the infantry and the primary means of carrying out the infantry mission. Within the company are the vehicles, capabilities, and technologies that permit the infantry to carry out its mission. At issue is how much of this surrounding capability needs to be integral to the infantry battalion, and how much could and should be grouped from external sources, as required.

In the current search for balance, there is an accusation that the infantry battalion is actually a mini battle group, lacking only tanks to go into battle. Although there is a significant difference between an infantry battalion and a battle group, the organization of the battalion is not an accident. The current structure of the infantry battalion grew out of the need to conduct close combat on complex terrain, in situations where everyone

There is an accusation that the infantry battalion is actually a mini battle group.

There has been very little public debate on the place or role of the infantry.

mountain, parachute, ranger, marine, air assault, motorized, armoured infantry, mechanized). Instead, to be relevant and to meet the future requirements, we must truly be a general-purpose infantry and maintain the equipment and skills to perform a broad range of combat and other missions.

had to be an infantryman first and a specialist second. All the capabilities in the battalion were man portable and focussed on the need to close with and destroy the enemy. Integral combat support grew out of necessity. Reconnaissance, for example, is a core component for every combat arm, and no unit can be without an integral recce capability. In the infantry battalion, they are the *elite*; elite in the sense of being the best at surviving while dismounted on the battlefield in extreme conditions, finding the enemy, navigating, patrolling, observing, sniping, and leading rifle companies or combat teams to the attack position. With the advent of tanks and armoured vehicles came the requirement for anti-armour protection; again, however, the emphasis was on dismounted operations. The anti-armour platoon had to, and still must be prepared to, abandon the heavier vehicle-mounted or towed systems and either convert them to the dismounted role or use lighter man portable systems. The platoon is formed and equipped as infantry, enabling them to perform primary infantry duties when required. They use their weapons, not just for anti-armour, but also in supporting roles (bunker busting, destruction of weapons positions) and to complement and reinforce the recce platoon by providing a flank protection force in a variety of circumstances. Assault pioneers breached the wire, crossed the obstacles, and then went through the breach or over the bridge alone, or with the leading company, as infantrymen carrying the satchel charges. In the defence, they helped dig in the company and battalion headquarters, put up minor obstacles (wire and protective minefields), and formed part of the battalion commander's infantry reserve. More recently, they have been responsible for rapid individual decontamination in a nuclear, biological, and chemical (NBC) environment. Mortar platoon was the same, equipped with light, man-portable, indirect fire systems to provide final protective fire against infantry, plus provide illumination and smoke to cover friendly movement.

History is replete with examples where an entire combat support company was forced to dismount and fight in close and complex terrain, either as infantry or employing their sub speciality.

The importance of combat support is also imbedded in the current infantry military occupation classification (MOC) structure. By trade progression,

There is limited room and scope for armoured vehicles in urban or mountain operations.

infantrymen move from rifle companies to combat support, as they gain confidence in their infantry skills and are ready to take on advanced infantry tasks. Under the current infantry trade structure, NCOs gain part of their legitimacy as leaders through their advanced combat support qualifications. Thus, combat support today represents nine companies of the best trained, most experienced, and most versatile infantry in the Army. The existence of these infantry companies is also one of the primary reasons the infantry has been able to sustain the burdens of peace support operations (PSO), NCO taskings, and domestic operations. Finally, the vehicle heavy components of combat support (mortars, pioneers, and anti-armour) also permitted internal ship-to-shore rotations that allowed soldiers to heal when hurt and served to prevent burnout against the extreme physical activity demanded in the rifle company.

To say that mechanization has affected the infantry is an understatement. Advances in technology have imposed a tremendous training burden on the infantry. At the same time, armoured personnel carriers (APCs) have provided incredible capabilities, including surveillance, firepower, mobility, and sustainability. Conceived during the Second World War, but not widely used until the Cold War, the successive generations of APCs, culminating in the LAV III, permit the infantry heavy combat team or battle group to defeat an overwhelming, mechanized enemy in a short and

brutal combat scenario. Surprisingly, perhaps, these same vehicles provide a superb capability in PSO, offering mobility, force protection, rapid reaction, and a credible enforcement capability. Even in certain types of complex terrain (urban, for example), there is still significant utility offered by the LAV III. However, in most View 1 scenarios, separating infantrymen from these vehicles results in a dramatic decrease in effectiveness, since with the vehicle comes protection (NBC and indirect fire), mobility, logistics support, ammunition re-supply, surveillance capabilities, communications, and a variety of heavy support weapons. Hence, regardless of how it is crewed (and there may be options), I believe the APC must be imbedded in any future infantry battalion structure.

Unfortunately, many of the technical advances integral to these vehicles cannot be dismounted. Thus, our concentration on vehicle-based mechanization and technological upgrades has resulted in a situation where, in complex terrain, the infantry is blown almost back to the Second World War. There is limited room and scope for armoured vehicles in urban or mountain operations; their mobility is significantly reduced and their vulnerability dramatically increased, requiring dismounted infantry protection. In these scenarios, much of the technological advantage disappears, and the infantry is again dependent on rucksacks and man portable and integral infantry capabilities. A combat team in urban operations, for example, may well be composed of an infantry company supported by an APC platoon, a troop of tanks, and a dismounted engineer troop. In mountainous terrain, there may be no vehicle support, with indirect fire and aviation as the only supporting arms.

Thus, we are caught in a dichotomy and the need to strike a balance to ensure that the infantry can fight and win across the spectrum of tasks. Given the Future Security Environment, the Future Army Capability Requirement and the decreasing risk of a rapid



Over the hills and far away. Despite technological advance, there is still a need for difficult dismounted work in a variety of difficult environments. (Photo by Cpl Lou Penney, 3 PPCLI Battalion Group)

deployment to View 1 mid to high-end operations, perhaps infantry combat support has become far too vehicle dependent. At the same time, there is a continuing need to maintain our medium-weight combat capability and to achieve the required balance between dismounted and mounted infantry capabilities. This situation is compounded by our need to create sufficient similar units in our small force to facilitate training and permit sustained deployments across a wide variety of operational scenarios. What are our options? Some ideas follow.

The rifle companies are torn between light and mechanized roles, but I still believe it is possible to achieve balance. Even to mechanized infantry, the vehicle is primarily a taxi and an armoury. Whether the rifle section is riding in an M113, AVGP, BV206 or LAV III, their real job does not begin until the ramp goes down. This is not meant to downplay the role of the Zulu vehicles and crew. From the AVGP forward, the Zulu vehicle has had an integral role to play in the infantry fight, a role that has increased exponentially with the capabilities of the vehicle. However, mounted combat team attacks actually form only a small part of the training year for an infantry battalion. Section commanders and platoon commanders are grown and trained in patrolling exercises, dismounted quick attack scenarios, and by training on a variety of terrain (mountain, urban, forest, winter, helicopter insertion). At the same time, I do acknowledge that there is still a

heavy training bill and a great deal of effort spent on the mechanized aspect of infantry to ensure that we get the best out of the tools that we transport, support, and sustain the infantry in the close fight. To provide the necessary balance in a rule-of-three army, I recommend an organization of two LAV companies and one light company with some assigned battalion Centres of Excellence (CoE) to ensure a broad range of skills are developed across the entire Corps.

- A Company: mounted in LAV III with an integral echelon (capable of dismounting its headquarters, Eryx/AGL [automatic grenade launcher]/84/MMGs [medium machine-gun]). Battalion CoE for ALEA (assistance to law enforcement agencies), non lethal weapons, and winter warfare.
- B Company: mounted in LAV III with an integral echelon (capable of dismounting its headquarters, Eryx/AGL/84/MMGs). Battalion CoE for PSO and NBC operations.
- C Company: dismounted with some light patrol vehicles (LPVs) and light over snow vehicles (LOSVs). Battalion CoE for complex terrain (urban and mountain) and air-mobile. Equipped with Eryx/AGL/84/MMGs.

This structure would ensure we have enough similar units for sustained overseas deployment, without the need to continually convert units from one

equipment suite to another in order to deploy. It has the added advantage of ensuring that at least one-third of the Corps is focussed on light or dismounted operations. It also offers the ability to assemble a light battalion for specific missions (national evacuation operations, special operating forces), as required. However, under the Land Force Reserve Restructure, I would also add a fourth reserve rifle company tasking to the mix, as follows:

- D Company (reserve tasking): dismounted with some LPVs and LOSVs. Equipped with Eryx/AGL/84/MMGs. Concentration on PSO and complex terrain. This would permit excellent co-operative training between regular and reserve infantry and would provide the basis for continual reserve augmentation to overseas operations.

These three (or four) companies and the battalion headquarters are the core of the infantry battalion. However, this does not yet adequately address the combat support issue. First, we must look at combat support company headquarters. This headquarters has always been the jack-of-all-trades. During PSO, in addition to its primary role of commanding the support platoons, it commands many of the external attachments (armour, electronic warfare, air defence, engineers, national rear link, etc.). This headquarters also performs the roles of civil military operations centre, coordinates the battalion's civil military co-operation, and, more recently, has taken on an increasing role in coordinating the battalion level ISTAR (intelligence, surveillance, target acquisition, and reconnaissance) battle. In domestic operations, it is the basis of a fourth rifle company or has given the battalion the capability of establishing a second joint headquarters, when required. In garrison, it coordinates the centralized training of the support platoons, provides essential personnel for taskings, and provides the training of the battalion (safety staff). In essence, this company is the command support element that enables the battalion to function effectively, and it must remain.

Reconnaissance. Since the acquisition of the Coyote, successive war games and exercises have demonstrated, time and again, that it is not a close reconnaissance vehicle and does not meet the infantry requirement across the full spectrum of terrain and missions. There is a need to refocus infantry reconnaissance on dismounted operations and/or provide them with a stealth vehicle capability. Experiments with all terrain vehicles (ATVs), in 1 Canadian Mechanized Brigade Group, demonstrated there are vehicles available today that can provide an incredible capability across a broad range of complex terrain and that support both the close reconnaissance and sniper capabilities. Properly equipped (night vision equipment, PLGR [precise, lightweight global positioning system receiver], TCCCS [tactical command, control, and communications system], dismounted surveillance and sensor suites, target designation capability), we can retain many of the technological advantages, without making infantry reconnaissance terrain dependent. However, in addition to this essential dismounted or light capability, an infantry battalion or battle group does require a wide area surveillance or observation capability, like that provided by the Coyote, in at least troop size, over a broad range of medium combat, PSO, and domestic operations missions. But, although it is clear that this capability could be integral to the battalion, it is not essential it be owned or operated by infantry. Hence, this capability could be an external add-on from the armoured regiment.

Signals. The success of the infantry battalion is only possible with a functioning command and control system. The signals platoon, composed of both hard signals trades and infantrymen, has always met this challenge and will continue to do so even as we proceed farther down the road of digitization. However, it is critical to remember that this platoon must retain a dismounted capability and that our C2 technologies must cater to this eventuality, without significantly degrading the command and control capabilities.

Anti-Armour. By virtue of its equipment, this platoon has lost the capability for dismounted action. This

loss is unfortunate and adversely affects the infantry in a wide range of current and future terrain. Perhaps it is time to centralize (and even reduce) our heavy anti-armour weapons at the brigade level, as another step towards the eventual adoption of a medium multiple-effect vehicle. However, this does not mean that the infantry should get out of the dedicated anti-armour game. The infantry requirement is for a multi-task capable, man-portable or ATV-carried system, such as Javelin, Milan, AT 4, or some other future system (preferably, fire and forget at ranges out to 2500 metres). These weapons have application across the entire spectrum of operations (less perhaps for certain domestic operations) and are far easier to deploy than vehicle-mounted anti-armour systems, from both a political and operational perspective. At issue is whether or not these capabilities should be imbedded in each company or centralized under battalion control. The answer is in fact both. The personnel and equipment need to be centralized for training and to permit the commanding officer to weigh his anti-armour capability in certain circumstances. As well, if properly equipped (ATV, thermal-defeating blankets, surveillance and dismounted sensor suites, target designation, etc.), this platoon could still perform its force

protection (flank security) role for the battalion across a broad range of missions. However, I would also expect that in many circumstances, particularly in complex terrain, the detachments would be decentralized to rifle companies. Whether imbedded or stand-alone, the infantry must retain a robust, medium range, anti-armour capability that can be dismounted and used in complex terrain. In View 1 high-end scenarios, this integral capability would have to be supplemented by existing, or future, longer range anti-armour or multiple-effect weapons (brigade anti-armour company perhaps).

Pioneers. Equipping the infantry pioneer platoon with the same vehicles as an engineer troop has detracted dramatically from their traditional role and created a sense of duplication in the army structure. What do pioneers need to be able to do? First, pioneers need to perform dismounted infantry gap crossing in all terrain (mountain, water, urban canyons, foot lanes through wire and minefields), provide individual decontamination expertise and capability for the battalion, conduct wire and obstacle assault breaches, and construct field protection for company and battalion headquarters. Yes, there is still duplication with some dismounted



Landing craft, helicopters, aircraft, vehicles or by foot. There is more than one way to get there. (Courtesy DND)

engineer roles; however, all complex operations have proven there are never enough engineers to do all the work required. Eliminating pioneer platoons from the battalion and passing the pioneer role to the engineers, without a transfer of personnel, merely compounds the problem for one of the most operationally tasked MOCs in the army. In so doing, the available infantry would be reduced by the equivalent of nearly three companies across the army.

I contend there is an enduring pioneer requirement in the army and that many battle groups deploying overseas need this capability (at least early in the life of a mission and during most View 1 scenarios). Therefore, in accordance with Canadian doctrine that dictates a requirement for five units to maintain a single unit indefinitely out of the country, I recommend a minimum of five pioneer platoons be retained in the army in order to have enough to keep one platoon indefinitely overseas on PSO and three to support the MCF (main contingency force) in an emergency. Given that this number still requires a necessary reduction, where should this capability reside? First, there is no question that engineer and pioneer training in the army should be centralized within the Combat Training Centre (CTC). Second, with the reduced number of platoons, pioneers will become a brigade resource and should be resident in the combat engineer regiment. It is also a reality that combat engineers are highly sought after on the civilian market, and maintaining their numbers is always difficult. By passing them the pioneer task, we must be sure that we are not just increasing their staffing problems

The infantry battalion is still not capable of fighting alone.

and deleting a capability due to personnel shortages. I believe that giving this task to combat engineers along with the necessary infantrymen to do their job should eliminate this concern. Therefore, given their tasks and likely employment, I believe the majority of these platoons should remain as infantry. This would also

ensure at least a latent emergency capability for pioneer tasks within the battle group. This latent capability would result from the cross posting of infantry between rifle companies and pioneers (engineer regiments), throughout their careers. It must also be recognized that this change does represent a considerable loss of force protection within the infantry battalion (NBC decontamination, bunker building, and mine awareness) and, consequently, increases risk.

Mortars. The issue of indirect fire is the most complex of all. Every battle group requires a fire support coordination centre (FSCC) and the ability to plan for and control fire on the ground. To date, the traditional artillery battery structure has not been sufficient to guarantee the full range of support (primarily a lack of forward observation officers [FOOs] and command posts). However, this lack is clearly a personnel and organizational issue that could be solved by increasing the number of FOO parties and the size of the artillery FSCC that come to a battle group headquarters. The reality is that with longer ranges and better target designation, indirect fire can be delivered accurately by a wide range of systems. As well, restrictions on the use of any indirect fire system that lacks a precision capability are increasing, particularly in View 2 Operations. Plus, in the future, multiple-effect vehicles are likely to cover part of the gap normally filled by indirect fire. Hence, the need for integral indirect fire in the infantry is waning. Direct fire weapons (for example, the M203 grenade launcher), perform part of the role currently filled by the 60-millimetre mortar, and this system is particularly useful in complex terrain. Smoke dischargers and better smoke grenades also fill at least part of the covering role that used to be filled by the 60-millimetre and 81-millimetre mortar. Night vision equipment has reduced the dependence on illumination provided by indirect fire weapons. That is not to



We've done this before. For the first time since the end of the Korean War, Canadians relieve Americans in a combat zone. (Photo by Sgt David Snashall, DGPA/J5PA Combat Camera)

say that there are not additional requirements. The inclusion of lightweight 40-millimetre AGLs at the company level would go a long way towards eliminating the need for indirect fire mortars at the company and battalion levels. This weapon offers an exponential jump in capability across a broad range of missions, particularly in complex terrain. Hence, with heavy heart and fond memories, I recommend the elimination of mortar platoons from the infantry battalion. Whether this capability should be eliminated completely from the army order of battle is an issue that is under detailed study. I offer the thought that perhaps the complete elimination of this capability now, coupled with the centralization of our heavy anti-armour weapons, could be another springboard towards rapidly adopting a terminally-guided multiple-effect capability.

In the end, what does an infantry battalion do, and what does it look like? The infantry role remains to close with and destroy the enemy. Each battalion must maintain enough of a general-purpose capability to perform this role

across a broad spectrum of operations, extending from medium weight combat through to domestic operations. The core components of the infantry battalion must be capable of operating dismounted or partially mechanized in complex terrain, as well as fighting against a mounted mechanized threat. Battalions must all be organized and equipped alike and be capable of rotating through assigned missions under the Army Training and Operational Framework plan. Finally, there must be an effective and sustainable MOC structure. To do this, I recommend the following organization:

- A mechanized battalion headquarters with a dismounted capability (perhaps step-up should be the basis of a dismounted headquarters).
- Three or four rifle companies, as described earlier.
- Combat support company headquarters: battalion CoE for command support, ISTAR, range and training safety, simulation, and civil military co-operation.
- Signals Platoon: battle group headquarters C², crypto, frequency management, CoE for communications training and operations, radio repair.
- Intelligence Section: intelligence, information operations, ISTAR, public affairs, and unit history.
- Recce Platoon: Command Post; Platoon Commander; four recce sections each of three or four ATVs; sniper section mounted on ATVs; CQ with a support vehicle and an ATV carrier; equipment to include unattended ground sensor and surveillance system, target designation system, NBC recce capability; battalion CoE for dismounted recce, marksmanship (sniping), and surveillance.
- Anti-Armour Platoon: Command Post; four sections each of two detachments; mounted on ATVs and armed with 2500-metre man

portable AT [anti-tank] system and unattended ground sensor and surveillance system; roles - dismounted AT capability, flank protection; battalion CoE for dismounted AT operations.

With this proposed structure, the infantry battalion is still not capable of fighting alone, and in addition to these integral close fighting capabilities, the battalion group or battle group will still require a significant range of external capabilities, in a mix that will depend upon the assigned mission.

For View 2 operations, an infantry battalion requires the following augmentation:

- FSCC, BC and FOO parties (coupled with assigned indirect fire assets);
 - troop to squadron of Coyote surveillance vehicles;
 - mounted or dismounted engineer troop, pioneer platoon, and support troop heavy equipment assets, as required;
 - ISTAR assets (national intelligence link, UAVs [unmanned aerial vehicles], target acquisition, human intelligence, electronic warfare, and special operations forces);
 - aviation support;
 - man-portable or vehicle-mounted TACP [tactical air control party] (situation dependent); and
 - national command and control systems (rear link, area communications, and satellite access).
- In most View 1 scenarios, an infantry battalion requires all the resources necessary to conduct View 2, plus the following:
- tanks (troop through to squadron, depending upon the mission);
 - vehicle mounted and/or man portable air defence;

- mounted long range anti-armour capability; and
- additional indirect fire assets.

In discussing this model and seeking input from a variety of sources, I have already been inundated with questions and arguments concerning the training and employment of such an organization. I do not have all the answers, and some of these issues would have to be addressed in time. However, I will comment on three issues:

The Army Training and Operational Framework (ATOF) and the Canadian Manoeuvre Training Centre (CMTC). This proposed structure definitely meets the ATOF rotation and high readiness requirements and makes highly versatile units available to meet a broad range of missions. It will also meet the CMTC requirement as long as there is some flexibility in how the CMTC is set up. At the moment, the CMTC will be fighting the View 1 mechanized battle on the West German plains (a function of terrain). I acknowledge that this may, and must, change over time. Therefore, the mechanized component will consist of a battle group with two LAV companies and a tank squadron (whatever number of tanks that turns out to be); thus, the rule-of-three mechanized requirement will be met. The battle group will include combat support, a light company, an administration company, as well as additional external assets assigned. The CMTC offers a variety of training venues for light infantry (just like the American National Training Center and the Joint Readiness Training Center). They can be used with aviation to cross obstacles (another reason to get 1 Wing involved in the CMTC), do blocking tasks, conduct AT tasks, conduct patrolling, fight in built-up areas, defend a location, perform rear area security tasks, etc. The only limit to the employment of the light company will be imagination. In other scenarios, the battle group trained may be on light scales, like the Immediate Reaction Force (Land). I do not believe a variety of unit structures will be any impediment to CMTC training.

Future Infantry MOC Structure.

I believe that the current structure is both supportable and will meet our future requirements. The infantry system of progression is a reasonable balance of experience and training and offers sufficient career paths to challenge every member of the Corps.

- Soldiers come from the area training centres as dismounted infantry. They should go directly into the dismounted company for at least one year to round out their infantry skills and to get some of the basic QL4 courses (Machine Gun, Communications, Driver Wheel, Eryx, AGL, and Winter Warfare). The dismounted company should also have the highest staffing priority in the battalion. Where this proves impossible, due to high numbers of new soldiers, the remaining new soldiers could go into the two LAV companies as infantry section members and take the same range of basic courses.
- Senior privates and corporals should move to combat support platoons or to LAV companies to start specialist MOC training (dismounted recce, sniper, dismounted AT, driver LAV, pioneer, LAV gunner). It is at this point that some will be cross-posted to combat engineer regiments to fill pioneer platoons. This point of their career also marks the beginning of real exposure to many of the technological capabilities resident within the infantry. They also start gaining leadership experience, acting as section third in command, detachment commanders, section second in command leading to the Junior Leader Course/Infantry Section Commander's Course.
- Master corporals are the first official level of leadership. They act as section second in command or detachment commanders and need to attend the Small Arms Instructors Course. The best can

also start being selected for advanced courses (dismounted recce, anti-armour, sniper, LAV crew commander, pioneer, or communications).

- Sergeants are section commanders and should have an advanced sub-speciality (dismounted recce, anti-armour, LAV crew commander, sniper, pioneer, or communications).
- Warrant officers are employed as rifle platoon warrant officers, operations warrant officers, specialist platoon warrant officers, or as company quartermaster sergeants (CQMS).
- There are also specialist skills that must be retained within the battalion in sufficient numbers to ensure operational missions can be met. These skills include mountain operations instructor, urban operations instructor, winter warfare instructor, and rappel master.

Centralized training versus centralized employment. I have long recognized that there are efficiencies to be had in the army training system by centralizing certain types of army training. There is no requirement for both the CF School of Military Engineering and the Infantry School to teach engineering. We need one school staffed by both engineers and infantry soldiers. There is no need for two indirect fire schools (artillery and infantry). There is no need for two recce schools (infantry and armoured), although there is a need for the CTC recce school to teach mounted recce, dismounted recce, and specialist recce. The list could go on. However, support for centralized schools does not automatically equal support for centralized employment. The fact that the Armoured School is undoubtedly the best place to teach crew gunnery and crew command does not automatically translate into the fact

that every LAV in the army must be crewed by the Armoured Corps. This is not a simple leap of logic and requires far more intellectual debate to determine how some of these ideas will actually improve both our combat capability and our ability to train, while generating efficient and cohesive combat units.

In the future, we cannot predict where we might have to fight, and we must avoid trying to oversimplify the world. Because of rapid advances in technology, combat is becoming more intense and more complex. Across the entire world, there is a higher need for versatile and multi-skilled personnel. Armies are not any different. We need to spend time resolving how we can deliver training and new capabilities to our soldiers throughout their careers, rather than trying to use specialization as a means of resolving training issues and saving training dollars. We must avoid letting technology force us into compartmentalizing our soldiers and capabilities to the point that we can no longer form independent and cohesive units, capable of carrying out their assigned tasks. Our soldiers today are intelligent and adaptable. They can absorb new ideas and new technologies and are capable of performing well, across a broad range of complex situations. The army needs units that work.

To make the infantry and the entire Army more effective, it is also clear that we must spend more research and development effort to provide tech-

We must avoid letting technology force us into compartmentalizing our soldiers and capabilities.

nologies applicable to both mounted and dismounted operations. Conversely, we must ensure vehicle-mounted technologies can be dismounted or adapted for dismounted use. To meet the Future Security Environment, there is also a requirement to ensure that new technologies are developed or purchased specifically to improve our capabilities in complex terrain. To do this, we must break our fixation and

preference for armoured-vehicle-mounted technology. Areas for study include robotic sensors, small UAVs, attended and unattended ground surveillance and sensing, portable target designation, thermal imaging, threat warning, communications, and communications relay.

The infantry, as a corps, has a real role in the future. At the same time, I know that there are others out there

with different, and equally valid, arguments for both infantry and army restructuring. For example, I have heard arguments from some that, in the future, the Infantry and Armour Corps should be combined. Given the infantry requirement to operate on complex terrain, I have severe reservations about this construct, but would welcome some concrete proposals on this issue that we can then debate. I hope that this article

provides food for thought and generates some discussion. So, let the debate begin...



ENDNOTE

1. With grateful acknowledgement to Sir Winston Churchill. *Managing Editor.*

ABOUT THE AUTHOR...

Brigadier-General Nordick enrolled in the Canadian Forces in 1973. He attended Royal Roads Military College in Victoria and graduated from The Royal Military College of Canada in 1977 with a baccalaureate in English. His service included various appointments with the 1st and 3rd Battalions, Princess Patricia's Canadian Light Infantry, Headquarters 4 Canadian Mechanized Brigade Group and National Defence Headquarters. He also served briefly as a staff officer in Headquarters Canadian Forces Middle East, Manama, Bahrain during the Gulf War. He is a graduate of the US Army War College. Brigadier-General Nordick has served two tours in Cyprus and with the United Nations Protection Force in Croatia, where he commanded the 3rd Battalion, Princess Patricia's Canadian Light Infantry Battalion Group. He was awarded the Meritorious Service Cross for his outstanding leadership during this deployment. Between 1999 and 2001, Brigadier-General Nordick commanded 1 Canadian Mechanized Brigade Group. He is currently the Deputy Commander, Land Force Doctrine and Training System and the Commandant of the Canadian Land Force Command and Staff College.



The first Coyote reconnaissance vehicle from Lord Strathcona's Horse (Royal Canadians) (LdSH[RC]) drives off the ramp of a U.S. Air Force C-17 Globemaster at Kandahar on 3 February 2002. The LdSH(RC) Reconnaissance Squadron is part of the 3rd Battalion, Princess Patricia's Canadian Light Infantry Battalion Group, which is in Afghanistan on Operation "Apollo." (DGPA/J5PA Combat Camera photo by Capt Dale MacEachern)

From the Managing Editor Happy Anniversary!

by Major John R. Grodzinski, CD

This year marks the fifth year of publication of *The Army Doctrine and Training Bulletin*. Judging from comments from the field, the “ADTB,” as some call it, is providing a useful professional tool for the Army. The Bulletin has achieved the mandate of providing a mechanism for professional discussion and debate. The debate has gone far beyond our pages and into unit lines, messes and other places. While the title of this journal is a mouthful and often said incorrectly—it’s “Training” not “Tactics”!—the ADTB is clearly part of our professional culture.

This anniversary provides an opportunity to briefly outline the origins of *The Army Doctrine and Training Bulletin* and how it has evolved.

Since the 1850s, the Army has published a number of professional publications, of varying quality. These include, *The Canadian Volunteer Review*, *The Canadian Army Journal*, *The Junior Officer Journal*, and the *Canadian Army Doctrine Bulletin*. The best of these was the original *Canadian Defence Quarterly*, published from 1923 to 1939. The end of the *Canadian Army Doctrine Bulletin* in 1993 left the Army without a professional journal, while several commercial publications simply did not meet Army needs.

Through the late 1990s, the need for a new journal received considerable debate, but the actual impetus did not occur until 1996 when the newly created Directorate of Army Doctrine (DAD) was assigned the task of developing a professional army journal. Institutionally, the Army leadership was divided over the utility of a professional journal, but the work went on. Your humble Managing Editor entered the picture in early 1998. As a staff officer at

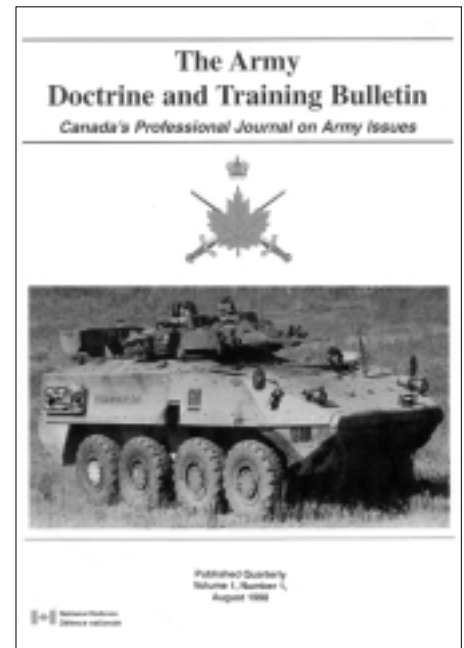
DAD, I became responsible for further developing the concept and taking that through to publication.

One hurdle at the time was the fear that serving personnel would use the “Canadian Army Journal” (as was the working title) to vent their frustrations. This lack of faith by some in the professional conduct of our personnel was surprising. These concerns have proven false, and no submission to the *Bulletin* has ever been of this nature. Potential authors voiced worry that their published opinions might bring repercussions by career action. These concerns were countered with promises that it would not, and there is no evidence that it ever has.

The relationship between the *Bulletin* and existing publications was then developed. These publications included the corps and branch journals and the yet to be launched Canadian Forces journal, which eventually became *Canadian Military Journal*. It was important that these publications complement and not copy each other. Excellent working relationships exist with all these journals.

By 16 April 1998, the concept was complete and was ready for approval. This came from Lieutenant General Bill Leach, then Chief of the Land Staff, who approved the scope, content and format of *The Army Doctrine and Training Bulletin*. He clearly saw its importance in exchanging ideas and held a very dark view of those who might take institutional sanctions against authors. The Bulletin was for ideas and debate—the more, the better.

Given the legal status of the Canadian Forces, “Canadian Army” could not appear in the title and use of



***The Army Doctrine and Training Bulletin*, Vol. 1, No. 1, August 1998. A true collector's item.**

the word “journal”, which was used for another publication, might create confusion. It was finally decided to use the title *The Army Doctrine and Training Bulletin*, with the sub-title “Canada’s Professional Journal on Army Issues” being slipped in later by a party not to be named here.

The editorial policy was clearly established. The fundamental rule remains that, while the editorial staff may make minor changes to a submission for grammatical or like reasons, it will never undertake the revision of any submission. If major structural or other flaws are discovered, the author will be notified and asked to undertake any revisions.

Another early principle was that each issue of the *Bulletin* would include articles on various subjects and not on a “single topic.” It was felt that single

theme issues would result in the Bulletin driving discussion instead of the readership doing so. Furthermore, reading six to eight articles on the same subject is not exciting for everyone. Certain special features have focussed on special issues. Readers may recall the telephone book like Volume 2, No. 2, which had a feature on the combined arms team on top of the regular selection of articles.

As the title was the result of compromise and suggests content, it must be understood that the scope of *The Army Doctrine and Training Bulletin* was never limited to doctrinal and training matters. It includes subjects such as leadership, technology, history, ethics or any other topic of professional interest to the Army.

Once armed with approval to publish, articles had to be collected. In order to get the publication off the ground, articles were commissioned for the first two issues. Since then, most of

the articles have come from the initiative of our readership or unit professional development programmes.

The scope of *The Army Doctrine and Training Bulletin* has been extended to sponsoring book launches and hosting the annual Army Symposium in Kingston, Ontario (see elsewhere in this issue for details of the next one in May 2002).

While the cover design and layout have evolved over the last five years, the *Bulletin's* importance has always rested on its content. The directorate updates, guest editorials, articles, stand-up table commentaries, tactical problems, book reviews and other features are what count. Articles have dealt with operational deployments, historical events and technological issues. Non-commissioned members have played an important role, and it mystifies me that they are quite comfortable discussing operational and strategic issues in our pages, while senior officers are not. Pre-deployment issues, the development of

the post-Second World War Army and doctrinal pitfalls have also been presented. The future of the Armour Corps has also caught particular interest. From the many articles dealing with armour, it is clear that the word "tank" is indeed a four-letter word.

The last five years have seen some interesting concepts and ideas put forward. Many of the articles have been used as background reading for working groups, strategic planning sessions, courses and at Army Council. Best of all, they have provided our soldiers with a professional journal to share and debate ideas. The future only looks brighter.



The Managing Editor extends thanks to the many editors, proofreaders, layout designers and most especially to the contributors to The Army Doctrine and Training Bulletin for making this a great professional journal.

We regret to announce that the winners of *The Army Doctrine and Training Bulletin* Warfighting Essay Contest cannot be announced in this issue as other demands have delayed judging. The winners will be announced in the Summer 2002 issue of the *Bulletin*.

From the Directorate of Army Training

THE ARMY TRAINING COUNCIL –
3-4 NOVEMBER 2001

The second annual Land Force Doctrine and Training System (LFDTS) Army Training Council (ATC) was held in Kingston, 3-4 November 2001. The conference was a great success with excellent presentations, frank discussions and clear paths charted for many Army training issues. The conference was chaired by Major-General Arp, Commander LFDTS, and attended by senior leaders from across the Army. Deputy Commander LFDTS, Brigadier-General Nordick, area or deputy area commanders of each area, brigade commanders from both the Regular and Reserve brigades, the Commander Combat Training Centre, and the Land Force Command Inspector were in attendance to name a few of the 118 attendees. There was also good representation from non-commissioned members with many command, area and brigade CWOs as well as many area training centre and school commandants and their RSMs.

The topics covered at the ATC ranged from an update on the new professional development models for officers and non-commissioned members to an overview of the challenges resulting from the transfer of responsibility for certain military occupation classifications from the Canadian Forces Recruiting, Education and Training System to the Army. The ATC also saw the first presentations of the new B-GL 300-008/FP-001 *Training Canada's Army* by Comd LFDTS to the area commanders or their deputies. The presentations from the ATC are available on the DIN at: http://lfdts.army.mil.ca/web_temp/DAT/Army%20Training%20Council%20Presentations/

The record of decisions is available at: http://lfdts.army.mil.ca/web_temp/DAT/Army%20Training%20Council%20Record%20of%20Decisions/

In conclusion, the second annual ATC was a most worthwhile endeavour. It saw the meeting of not only the majority of the Army senior leadership but also the senior trainers from across the Army. It will continue as an annual event, and ideas for improvement are always welcome.

RECENTLY REVISED DAT LAND FORCE COMMAND ORDERS (LFCO)

Over the last year, the Directorate of Army Training (DAT) has embarked on an ambitious rewrite of two out-of-date Land Force Command Orders (LFCOs). The two LFCOs in question are LFCO 24-8 Individual Training and Education Policies and Procedures and LFCO 24-20 Training Equivalencies and Qualification Reinstatement Policy and Procedures.

LFCO 24-8 INDIVIDUAL TRAINING AND EDUCATION POLICIES AND PROCEDURES

The policies and procedures outlined in LFCO 24-8 have their roots in the Canadian Forces Individual Training and Education System (CFITES). The aim of CF individual training and education (IT&E) is to provide the necessary training and education at the right time and in the most efficient and effective manner to ensure that the required qualified personnel are ready and able to satisfy operational requirements and departmental objectives and goals. The CFITES governs the training and education for all Regular and Reserve CF members and guides the development and management of all IT&E activities and its key concepts of performance oriented training, systems approach, and optimum efficiency. The CFITES is a management system composed of a quality control system and a quantity control process. Each of these components incorporates resource management mechanisms.

CFITES is referred to in the Army as the IT&E component of the Army Systems Approach to Training (ASAT). Containing the same quality control components as CFITES—analysis, design, development, conduct, evaluation, and validation—the objective of ASAT is to aid in the preparation of Army personnel for operations. ASAT is used to plan and conduct all Army IT&E, and it supports the development of standards by which the Army unifies the approach to training for operations. ASAT is used to describe the operations of war in terms of training objectives for both individuals and groups, and it provides clear criteria such as time and accuracy standards by which to measure success.

The aim of LFCO 24-8 is to set forth the policies and procedures for the quality and quantity control of individual training within the Land Force. The order specifies the quality and quantity control mechanisms for all Army individual training and education. More specifically, it provides the following:

- a description of the quality control process of the IT&E component of ASAT;
- a description of the control documents that support IT&E;
- a description of the responsibilities of key organizations tasked with IT&E;
- the policy on liaison between:
 - the Land Force Doctrine and Training System (LFDTS);
 - the Combat Training Centre (CTC);
 - area headquarters;
 - area training centres; and
 - centres of excellence (CoE);

- the policy on liaison with Canadian Forces Recruiting and Education System (CFRETS)/ Canadian Forces Support Training Group (CFSTG) and its schools;
- a description and function of the Army Professional Development Senior Review Board (Army PD SRB);
- a description and function of the Army Individual Training and Education Working Group (Army IT&E WG);
- a description and function of the Army Individual Training Conference (AITC);
- the role/function of the Command Chief Standards Officer (CCSO) including visit procedures and a visit reporting format;
- the Army progress review procedures;
- the validation process;
- document management control; and
- the quantity control process.

LFCO 24-20 TRAINING EQUIVALENCIES AND QUALIFICATION REINSTATEMENT POLICY AND PROCEDURES

The second LFCO recently rewritten by DAT staff was LCFO 24-20 Training Equivalencies and Qualification Reinstatement Policy and Procedures. LFCO 24-20 is applicable to all candidates for enrolment, occupation transfer (OT) or CF component transfer (CT). LFCO 245-20 also applies to personnel already serving who have or are acquiring relevant civilian training and experience or who have previous Canadian or foreign military service.

The aim of LFCO 24-20 is to provide the authority, policies, and procedures for granting equivalencies and reinstating qualifications within the Army. The LFCO provides direction on the following issues:

- equivalencies;
- qualification reinstatement;
- reinstatement requirements;
- staffing procedures; and
- driver qualifications.

Many candidates for enrolment, OT or CT have civilian and military qualifications and experience that are related to their new military career or occupation. Additionally, personnel already serving continue to acquire new qualifications and experience outside the CF. Consequently, personnel are often more qualified than expected for their MOC, rank, and seniority. In fact, they may already possess the necessary skills and knowledge required for more advanced employment and career progression. There is a requirement to recognize and take full advantage of the enhanced potential of these individuals. Higher than expected skill and knowledge levels must be identified and assessed with respect to their applicability and validity towards the granting of formal CF qualifications. The two processes to do this are the granting of equivalencies and the reinstatement of CF qualifications.

An equivalency is defined as the granting of a CF qualification in recognition of the applicability and validity of civilian, foreign military, Cadet Corps and Cadet Instructor Cadre qualifications and experience. Equivalencies are granted when it is assessed that civilian qualifications and experience or foreign military training are acceptable as alternatives to CF training. The reinstatement of qualifications recognizes that a previously held CF qualification is still valid. Both these processes aim at providing an incentive for trained personnel to join the CF, recognizing self-improvement, and eliminating unnecessary training.

The responsibility for equivalencies and reinstatement of CF qualifications is derived from the Individual Training and Education Managing Authority (IT&E MA) responsibility tables found in NDHQ Instruction ADM (Per) 4/94. The CF Military Equivalencies Program

(CFMEP) (DAOD 5031-1) provides CF-wide direction and delegates the authority over to awarding of equivalencies to the IT&E MAs.

In summary, the Chief of Land Staff (CLS) is responsible for Army qualifications, while the CF Recruiting, Education and Training System (CFRETS) is responsible for combat support (CS) and combat service support (CSS) qualifications. The Navy, Air Force, Health Services, and Provost Marshall have also been assigned MA responsibility for their respective areas of responsibility. CFRETS has delegated authority to the CF Support Training Group (CFSTG).

The CLS has delegated the IT&E MA responsibility to DAT, which is the only agency authorized to grant equivalencies for Army qualifications. As the Army IT&E MA, DAT is responsible for developing, promulgating, and maintaining the policies and procedures on equivalencies and reinstatement for CF qualifications assigned to the Army. A listing of all active Army qualifications can be found on the DAT DWAN site located at: <http://lfdts.army.mil.ca/dat/qual.asp>

A major focus of the new LFCO is the policy change with respect to the authorities to grant reinstatement of a previously held CF qualification. Reinstatement is the recognition that the individual is still considered qualified to perform the related duties associated with a given qualification. Within the Army, the authority to reinstate CF qualifications is now as follows:

- if the break in service is less than three years, LFAHQs have the authority to reinstate Army and Army CSS qualifications. Authority for the reinstatement of all other qualifications rests with the appropriate MA;
- if the break in service is between three and five years, LFAHQs also have the authority to reinstate primary combat function (PCF) and leadership qualifications. Authority for the reinstatement of all other qualifications rests with the appropriate MA;

- if the break in service is between five and ten years, the authority for the reinstatement of all qualifications rests with the appropriate MA; and
- if the break in service is ten years or more, no Army qualifications will be reinstated. Nevertheless, the file may be sent to CFRG, which may reinstate CF QL2.

All requests for equivalencies and the reinstatement of qualifications are to be forwarded through the chain of command to LFDTS/DAT, CFSTG/G3 Trg Pol or other appropriate MA using Annex A of the LFCO. Documentary proof of the qualifications or experience for which the equivalencies/reinstatement are being sought must be

included with the application. The unit CO should forward the application through the chain of command to the area HQ for consideration. If the area HQ does not have granting authority, the request will then be forwarded to DAT or the appropriate MA.

LFCO 24-8 and 24-20 were signed off and approved for distribution by the Director of Army Training on 11 October 01. In the near future, the LFCOs will be placed on the CLS DWAN site at: <http://army.dwan.dnd.ca/lfco/24-08.htm>

In the mean time, both LFCOs can be downloaded from the DAT DWAN site at: http://lfdts.army.mil.ca/DAT/draft_lfco.asp

Questions or comments regarding either LFCO are welcome and can be forwarded through the chain of command to DAT 6, Lieutenant-Colonel Thomson, at the Land Force Doctrine and Training System (LFDTS) Headquarters in Kingston, telephone (613) 541-5010 local



Soldiers of the 3rd Battalion, Princess Patricia's Canadian Light Infantry (3 PPCLI) Battalion Group arrive at Kandahar Airport, 3 February 2002. The 3 PPCLI Battalion Group is serving in Afghanistan on Operation "Apollo," Canada's military contribution to the international campaign against terrorism. (DGPA/J5PA Combat Camera photo by Capt Dale MacEachern)

From the Directorate of Land Strategic Concepts

PREFACE

The Future Army Development Plan of 08 March 1999 highlighted the need for war-gaming experimentation to validate future army concepts. June of 2001 saw the first of these experiments. While much work remains to be done to analyze all of the findings, and even as a detailed report on the conduct of the experiment is being completed for issue in the near future, some early conclusions of interest to a wider audience merit publication now. The aim of this report is to disseminate to the Army at large the insights gained from the Director Land Strategic Concepts (DLSC) Experiment 01. It must be understood that it is still early in the experimentation process and these insights remain to be tested under other conditions.

With Army Council approval, it was determined that this first experiment should look at operations in a general war scenario in the open, expanded battlespace, circa 2020, and should compare and contrast two different sets of capabilities. The year 2020 fits within the DLSC mandate of examining issues in the 11 to 25 year time frame. The *Future Security Environment* (August 1999) and *Future Army Capability Requirements* (January 2001), coupled with the recent combat function audit on indirect fire, provided much of the background information.

Two experimental forces, EXFORs A and B, were examined. EXFOR A represented an evolutionary development of the Army, while EXFOR B represented the acquisition of capabilities sufficiently advanced to facilitate a different concept of operations. In essence, the evolutionary EXFOR A model would continue the current trend of using firepower to support manoeuvre. The EXFOR B model, which featured

enhanced, extended-range capabilities coupled with a corresponding reduction in manoeuvre elements, demanded that manoeuvre support firepower.

The experiment was conducted in a seminar format of action, reaction, counter-reaction, and discussion. To assist in the war-game deliberations, the work of the Army Experimentation Centre in developing appropriate simulation was used.

The results derived from this experiment represent but one small piece of a larger future force structuring process. Over the next year, DLSC will be conducting a similar experiment to explore high-end View 2 operations in the urban environment. Taken together, this series of experiments—which will later include an examination of domestic operations—will provide the background for developing a model for the future Army.

BACKGROUND

In order to increase the cogency of the findings, every effort was made to use validated data from previous experiments and analyses. Of particular value was the recent combat function audit on indirect fire assets.

A second source of import was the baseline data on weapons capabilities provided by the Army Experimentation Centre. This data was especially important for those capabilities for which research and development are only just beginning. For example, one of the EXFOR vehicles was a multi-mission effects vehicle (MMEV) armed with a high-energy missile (HeMi) postulated to reach speeds of mach 7 within 400 meters. Modelling was done using the current air-defence anti-tank system (ADATS), which is slower and bigger than the HeMi; however, the ability of the ADATS to kill T80 tanks at

5 km provided a minimal baseline from which results during the experiment could be projected.

Additional background information was drawn from related experiments conducted by the US and Australian armies. Data from those experiments was consolidated to form a baseline picture representing the situational awareness (SA) that might be enjoyed and how it might be degraded over time. As well, data from these experiments was used as a start point to set the kill ratios and to determine the general effects of extended-range capabilities.

OBJECTIVES OF THE EXPERIMENT

The objective of the experiment was to compare and contrast the capabilities of two different forces operating in an expanded battlespace. The focus was on answering two major questions: what are the significant multipliers, and what are the major vulnerabilities? Utilizing two different force structures allowed a broader examination of both capabilities and vulnerabilities. The following list of subordinate questions was developed to address selected aspects of each of the operational functions:

Sense

- How should information for the force be managed, co-ordinated, and distributed?
- Will Sense capabilities be able to provide the assurance of targeting needed to exploit extremely long-range weapons?

Command

- What degree of confidence is required by (or acceptable to) a force commander to identify and automatically attack mobile high payoff targets?

- What is the most appropriate command structure within and between headquarters to satisfy the time restrictions posed by attacking mobile high payoff targets?
- What are the potential command support functions that could be satisfied through a reachback capability at battle group (BG) /EXFOR level?
- How will a network-centric capability affect mission command?

Act

- How much integral firepower does the force need, and can the force receive timely and effective supporting fire through reachback?
- What are the possible implications of automatic sensor-shooter links and the implications for target acquisition, target assessment, munitions selection, and morality?
- Do EXFOR A and B have the correct balance of firepower and manoeuvre resources to support their respective concepts of operation (CONOPS)? In other words, does EXFOR A have the firepower to support manoeuvre and EXFOR B the ability to manoeuvre to support firepower?

Shield

- Does the increased lethality and mobility of EXFOR compensate for traditional passive protection? In other words, will it be possible to achieve the protection afforded by a 70-ton vehicle in a 20-ton package?
- What redundancy and protection does EXFOR require for its information systems?
- To what degree will EXFOR rely on deception for protection?

Sustain

- Will it be possible to configure a force for mission sufficiency, thus negating a regular/linear resupply system?

- Will mission sufficiency create a mobility problem?
- What is the best method for the care and evacuation of casualties?

EXERCISE HYPOTHESES

To be effective in the 2020 expanded battlespace, the Army will require new capabilities, which are defined as a combination of doctrine, structure, and systems.

The experiment was designed to explore both new capabilities and what balance of capabilities would best enable the Army to fight and win in open terrain in an expanded battlespace. The central hypothesis was that to be successful, EXFOR would have to achieve operational shock through manoeuvre, firepower, and offensive information operations against the enemy in depth. This would include conducting high tempo, simultaneous, tactical manoeuvres of limited duration with the ability to rapidly aggregate effects from dispersed assets. In this regard, the following additional hypotheses were explored:

- burst engagements plus dispersion enhance force survivability;
- improvements to sense and extended-range assets facilitate a decrease in close-range forces;
- improvements to lethality allow close-range forces to defeat much larger enemy forces;
- extended-range forces gain in exploiting burst engagement tactics, dispersion, precision, and lethality overmatch; and
- sense facilitates precision that in turn allows formations to engage and destroy enemy forces well above the currently accepted ratios of 3:1.

CONDUCT OF THE EXPERIMENT

Scenario and RED CONOPS

The scenario involved fighting a conventional battle in open terrain, but within a greatly expanded battlespace and with an unfavourable force ratio. The

area of operations allocated to EXFOR A and B was comparable to that which would currently be allocated to a division or higher formation (150 X 200 km). The size of the area of operations (AO) and the disadvantageous correlation of forces dictated that manoeuvre and firepower had to be carefully co-ordinated to achieve the ability to shape and defeat the enemy while retaining the combat capability for exploitation.

Both EXFOR A and B faced two divisions of RED forces. Both had four motor rifle regiments (MRRs) in the first tactical echelon oriented on immediate objectives and two MRRs and two tank regiments in the second tactical echelon focussed on the subsequent objectives. RED possessed the full suite of modern conventional capabilities, being particularly strong in armoured forces and indirect fire assets. RED's attack helicopters were of high quality but limited in numbers. The correlation of forces lay significantly in RED's favour, with an advantage of 7:1 and 10:1 in manoeuvre against EXFOR A and B respectively and 7:1 in firepower. The initiative for the initial attack lay with RED.

Although numerically superior, RED was constrained by the relative backwardness of its intelligence, surveillance, and target acquisition (ISTAR) system, which resulted in significant vulnerabilities, the most significant of which were its comparatively deficient SA and command and control systems. This resulted in vulnerability to BLUE reconnaissance and attack aviation capabilities. RED was also unable to fix and engage BLUE forces in close battle, where RED's superior numbers would have been advantageous.

BLUE (EXFOR) Forces

The two EXFORs were structured to provide capabilities across the five operational functions. Both EXFORs were relative in size to a current brigade group with a strength of about 5000 personnel. A summary of each operational function follows.

EXFOR A - Act

The Act capabilities assigned to EXFOR A comprised tube artillery, mortars, armed aviation, offensive oper-

ations capability, and three future armoured vehicle (FAV) battle groups. For modelling purposes, the tube artillery was based on 155 mm with precision-guided munitions (PGM) and a range of 40 km. The mortars were based on a 120 mm calibre mortar with PGM and a range of 15 km. Aviation resources were modelled on the Griffon helicopter with an electro-optical, reconnaissance, surveillance, and target acquisition (ERSTA) suite and a weapons load of 8-16 Hellfire missiles with a range of 8 km and 38 laser guided CRV 7 rockets with a range of 7km.

EXFOR B - Act

The primary difference between EXFOR A and B was the addition to EXFOR B of improved extended-range assets. To supplement tube artillery and mortars, EXFOR B was given artillery rocket systems and attack aviation.

The rocket system was based on the US Army high mobility artillery rocket system (HIMARS); however, the range was extended to 100 km—a realistic expectation for 2020. The armed, ERSTA equipped Griffon helicopters were upgraded to the US Army RAH-66 Comanche. The stealth profile of the Comanche (radar cross section 1/30th of an Apache) combined with the ability to acquire, process, and hand-off up to 200 targets gave EXFOR B a considerable extended-range capability.

FAV Battle Groups

Close combat assets were organized into BGs, each of which contained capabilities across the five operational functions. In order to better explore the trade-off between close- and extended-range assets and their relationship to manoeuvre, EXFOR A was allocated three BGs and EXFOR B two.

COMMON CAPABILITIES

In order to keep the number of variables to a manageable level, capabilities within the individual BGs and across the other operational functions were identical for EXFOR A and B.

The BG indirect fire assets were allocated from EXFOR. The main combat power of the BG was contained within the multi-mission effects vehicle (MMEV) and close effects vehicle (CEV) sub-units. The MMEV sub-unit consisted of three sub-sub units of MMEV and one sub-sub unit equipped with a ground-mounted missile based on Hellfire capabilities. The CEV sub-unit consisted of three sub-sub units. The MMEV represented the evolution of the current direct fire capability of the tank, and the CEV represented the evolution of the light armoured vehicle (LAV) III. The CEV represented a conventional evolution of the LAV III manned by a crew of three and carrying a section of six soldiers. Each CEV was armed with a 25 mm cannon and a general purpose machine-gun (GPMG). Two vehicles per sub-sub unit were equipped with an Mk 19 automatic grenade launcher, and one vehicle per sub-sub unit was equipped with a very short-range air defence (VSHORAD) pod of four missiles.

The Multi-Mission Effects Vehicle

The MMEV was slightly more revolutionary in capability. In consultation with the research and development community, the vehicle was modelled on the capabilities inherent in the FAV project. Armament consisted of a 105 mm electro-thermal-chemical gun with a basic load of 40 rounds and a pod mounted missile system for both anti-tank and VSHORAD tasks.

High Energy Missile (HeMi)

The MMEV missile was based on the current ADATS missile but with improvements projected to occur in the next 10 or so years. It is expected that such a missile will be approximately one meter in length, weigh 20 kg, and reach a speed of mach 7 within 400 m of launch. Given the speed of the missile, it is expected that it will be a laser beam rider.

Command—Effects Coordination Cell (ECC)

Command support was organized on the basis of a command support battalion relying heavily on technology with

knowledge as the driving feature. The routine collection, analysis and synthesis of data was considered to be automated. The headquarters of both EXFOR A and B comprised two “effects co-ordination” cells that provided redundancy and the capability to split planning and execution between the two cells.

One of the more important projected capabilities was centralized control of weapon effects embodied in the concept of an ECC linking sensors and effects providers. In order to do this effectively, the ECC requires visibility over all potential sensors and attack resources, including joint assets, in order to maximize responsiveness.

The ECC was capable of establishing, altering, and terminating direct sensor-to-effects links. Connectivity permitted a reduction in the layers of fire support and fire direction nodes. These functions and organizations were consolidated into fewer and more capable ECCs, which were located at those levels that could plan, coordinate, prioritize, de-conflict, and execute the fire support plan.

Sense

In order to make effective use of the capabilities inherent within each EXFOR, it was necessary to make some projections about the sensing systems that will be available circa 2015. In particular, it is expected that the sensing system will be an integrated one, enabling commanders at all levels to access information from a wide variety of sources at the strategic to tactical levels. This capability was given to both EXFOR A and B. Degradation of this capability was not exercised.

The Sense features common to both EXFOR A and B included sensor links and computer systems immune to interruption and destruction. The sensor mix provided 24/7 coverage and, through connectivity with resources from higher levels, facilitated long-range target identification and engagement. The common operating picture (COP) was well developed out to a distance of 120 km.

Shield

There were no structural differences in the Shield capabilities assigned to EXFOR A and B. Field engineer, air defence, and NBCD capabilities were available at both the EXFOR and BG level. Engineers were able to provide both mobility and counter-mobility support; however, this aspect was not fully explored in this particular experiment. Regarding air defence, EXFOR established an umbrella to counter low to medium threats, and the BGs handled very low-level threats with the VSHORAD missile on the MMEV.

Sustain

Sustain capabilities for both EXFOR A and B were based on a modular approach wherein sub and sub-sub unit capabilities were added or deleted depending on the mission analysis. Replenishment was provided through a distribution-based system emphasizing precision. Sufficient integral support was provided to enable the completion of a range of potential missions with resupply on an emergency basis only. The medical support system concentrated on stabilization and evacuation. The size of the AO, in most cases, dictated the need for a dedicated air evacuation capability.

BLUE Concepts of Operations

The operating concepts for both EXFOR A and B were based on a cyclical process of shaping, defeating, and then exploiting. The way in which this was achieved differed based on the availability of extended-range assets. In addition, the entire cycle was examined using a construct based on the operational functions of Command, Sense, Act, Shield, and Sustain.

EXFOR A CONOPS

The concept of operations for EXFOR A was based on the tactics of "Find-Fix-Strike." Find was based on the integration of higher and integral sense assets. Of note was the ability of the sense systems to identify enemy actions well beyond the ability of EXFOR A to take action with integral Act resources. Using this high degree of

SA, the enemy was fixed using medium-range assets and, where possible, the extended-range assets from coalition. The enemy was then defeated using traditional close combat tactics, which were executed only after significantly reducing the enemy's combat power. Where possible, EXFOR A shaped the battle, thus forcing the enemy to break out and allowing EXFOR A to use the advantage of defensive power. EXFOR A sought security through dispersion. The manoeuvre elements were dispersed throughout the battlespace down to sub-sub unit level with a high level of SA. Each sub-unit contained the integral capabilities, both direct fire and VSHORAD, to facilitate the creation of a protective envelope within which any threats could be destroyed by integral firepower. Indirect assets were dispersed as well with the ability to mass effects provided through the ECC.

EXFOR B CONOPS

The extended-range assets of EXFOR B allowed it to employ a concept of operations best described as "Find-Kill-Finish." As with EXFOR A, the Find function was accomplished through the integration of both higher and integral sense assets. A high degree of SA was achieved with a common operating picture at all levels. The advantage of EXFOR B lay in its ability to use extended-range assets, specifically the Commanche helicopter and rocket systems, to kill at distance.

In the initial stages of the battle, the manoeuvre elements were used to provide security for the extended-range assets. Security was further enhanced through the physical dispersion of assets and the use of the ECC to mass effects. EXFOR B used its long-range assets to set favourable conditions for the close battle, which could best be described as "mopping up." In fact, the 1st tactical echelon motor rifle regiment was so decimated through extended-range fire that it was defeated without engaging in a close battle at all.

JUDGEMENTS AND INSIGHTS

As many analytical and assessment tools as possible were used in order to determine the greatest possible

breadth of insights and judgements. The tools ranged from the mathematically based operational research analysis to collective, subjective insights based on professional opinion. The insights and judgements from this experiment must be combined with other scenarios in order to draw valid conclusions about desired force development. The computer modelling was based on using existing, or about to be fielded, capabilities with a margin of capability added for what might occur in the next few years.

EXFOR B was particularly successful in degrading RED's capability during the break in battle. Extended-range capabilities were used to attack RED reserves in their assembly area once the border was breached. Most importantly, extended-range assets allowed EXFOR B to shape the conditions under which the close battle was eventually fought. This ability to shape essentially deprived RED of the ability to close with and decisively engage EXFOR B, with a concomitant reduction in BLUE casualties.

The experiment modelled a high level of SA which, when coupled with extended-range assets, gave EXFOR B considerable latitude in both the composition and timing of establishing a reserve. This same SA facilitated dispersion down to the sub-sub unit level for manoeuvre forces and down to individual systems for indirect assets. This dispersion enhanced security and survivability through negating counter-fire while still allowing the massing of effects through the ECC. Although the multiple launch rocket systems (MLRS) were initially dispersed individually, it was determined through exercise play that resupply would be more effective if they were sited in pairs. Siting in pairs allowed the reload vehicles to establish a fairly good rate of turnaround.

The battlespace in which EXFOR A and B operated was far different from the current norm, in particular, in terms of physical size and concentration of enemy forces. It was subjectively assessed that this dispersion could create feelings of isolation that could impact on cohesion, morale, and trust. As the battlespace increases in size,

training and education must prepare all ranks to use this dispersion to advantage. It was further opined that the size of the AO, combined with the lack of friendly forces on the flanks, would place additional stress on the command support system as well as on the commander. SA and a common operating picture would help to alleviate this situation; however, it was the opinion of the exercise participants that some degradation in SA was to be expected. While functional, this high level of awareness presented the opportunity for directive command, the impact of which requires further examination. The size of the AO and the enemy forces created the need for synergy of effort both within the formation and with external sources. Battlespace management was problematic and relied very much on the maintenance of a common operating picture and understanding of the commander's intent at each level of command.

Sense assets were essential to realize the potential of the extended-range capabilities. High resolution was required, and it was considered that given the complexity of the battlespace and targeting issues, it was essential that formation-level resources have the capability to integrate with higher levels.

It was further considered that the reliance on Sense creates a critical vulnerability. The system must be protected and must have built in redundancies. The vulnerability to deception must be carefully assessed and guarded against. The ability of EXFOR to "act" like a current division is based on the effective use of all its capabilities, and any significant degradation of the sensing capability would cause a reassessment of the task.

EXFOR A and B contained different ratios of manoeuvre-to-firepower capabilities, with EXFOR A having one additional manoeuvre BG and EXFOR B have significantly more lethal extended-range assets. This difference became pronounced when the mission changed and EXFOR was given an exploitation task. EXFOR A suffered far more casualties than B and required some reconstitution, whereas the combat power of EXFOR B was essentially intact.

At the same time, during discussion about engaging in tasks with a high manpower requirement, it was clear that EXFOR B would lack flexibility. The balance between firepower and manoeuvre must be carefully considered in force structure and must take into account the requirements of more than any one mission setting.

The experiment provided ample evidence of the need to integrate the capabilities inherent in each of the five operational functions. The vulnerabilities of EXFOR—in particular, information—demand that the Shield function be given a high priority. The proliferation of sensing systems throughout the world gave rise to discussion about whether or not deception is still possible. It is clear that given the proliferation of information, the advantage will lie with the force that can process and act on this information in a timely fashion. Direct shooter to sensor links and autonomous burst engagements are two possibilities in this regard.

Sustainment issues were considered during the exercise, and controls were placed on missile availability. A "mission sufficiency" approach meant a larger "tail" than normal; however, the trade-off was a reduction in the requirement for secure lines of communication. During the experiment, it was determined that this approach would work for the majority of supplies; however, the provision of artillery ammunition became problematic due to the quantities involved. Resupply based on "battle rhythm" was more achievable than was "mission sufficiency." This fact dictated the establishment of temporary resupply corridors on an as-required basis. The experiment did show that the use of precision munitions can reduce the quantity of munitions expended and thus reduce the resupply problem. For example, EXFOR B only expended 1000 missiles.

Medical support to a fast moving formation in an expanded battlespace was discussed. Although casualties were relatively low (approx 100 per day for a total of 400/450 total), it was clear that the effort in the future must be on stabilization and evacuation. The distances and possible lack of

secure lines of communication will likely dictate dedicated air evacuation resources.

QUESTIONS NOT ANSWERED

Although the experiment provided the opportunity to examine issues related to operations in an open, expanded battlespace, there were a number of issues that could not be examined due to experimental limitations.

As the experimentation process matures, it is intended to examine these issues in both open and restricted terrain. The mobility support issue is of particular importance given the projection of being a wheeled force.

RECOMMENDATIONS

Although further analysis is required, this experiment clearly showed the value of extended-range assets in an open, expanded battlespace. The HIMARS was very effective and, in combination with mortars and tube artillery, greatly increased the lethality of indirect fire. It is a system well worth further investigation.

The integration of Sense systems was considered essential for EXFOR success, and the ISTAR project should be pursued as part of this requirement. In view of the obvious need for synergy and a systems approach, an integrated, digitized command system is essential to facilitate the required connectivity.

Armed helicopters provided both EXFORs with a considerable capability. The Comanche was particularly effective; nevertheless, the Griffon helicopter equipped with ERSTA, CRV 7 rockets, and Hellfire missiles provided a formidable capability.

The experiment results serve to endorse the current alignment of 1 Wing and S&T force development. An evolutionary process is recommended, moving from ERSTA through armed ERSTA Griffon to a dedicated armed reconnaissance helicopter.

Notwithstanding the proliferation of Sense systems, deception is still considered to be an important factor,

and work needs to be done in this area to determine what is possible, in particular, in the electronic cloaking of forces.

Although EXFOR B was a formidable force at extended range, the close battle was still necessary. As well, there are tasks for which dismounted soldiers are required. A balance of manoeuvre and firepower assets is essential.

Future areas for S&T involvement are many and varied but must include continued work with the US Army on

their FCS, the alignment of ISTAR to meet operational requirements, and continued research into lethality and communications, including information security.

CONCLUSION

The experiment provided valuable insights into the use of extended-range indirect fire assets in open terrain. The expanded battlespace presents complex problems that can only be dealt with by balancing capabilities, in particular, manoeuvre and firepower. The results derived from

this experiment represent but one small piece of a larger future force structuring process. In the near future, DLSC will be conducting a similar experiment to explore operations in the urban environment. This will be followed by an examination of domestic operations. Taken together, this series of experiments will provide the background for developing a model for future Army force development.



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Warfighting

The Way Ahead for the Canadian Land Force Command and Staff College

by Brigadier General Glenn A. Nordick, OMM, MSC, CD

The Canadian Land Force Command and Staff College (CLFCSC) is and remains an institution focussed on warfighting, with the mission of developing in army officers the ability to perform command and staff functions in war. Our vision contains two powerful elements. First, to provide the Army with an institution that will embody and project its ethos and professional attributes and, second, to provide a centre of study, thought and doctrinal development that will ensure the intellectual and professional vibrancy of the Army. This College has a proud 62-year history. It is a flexible, innovative and professional institution that can change and adapt and can help the army move to the future.

It is important to understand that the CLFCSC does not just teach regular army captains and majors. The College is also responsible for the Militia Officers Staff Course (MOSC) for Reserve captains, the Militia Command and Staff Course (MCSC) for Reserve majors and the Commanding Officers Course (COC) for incumbent Regular Force commanding officers. In addition, under the auspices of the Military Assistance Training Programme (MTAP), a residency course for selected foreign officers is offered once a year before their attendance on the Command and Staff Course.

As a basis, consider recent events that lead to changes in the Command and Staff Course. In 1996, the army approved a two-course model for CLFCSC. Army staff training comprised 37 weeks divided between the Land Force Staff Course (LFSC) and the Land Force Command and Staff Course (LFCSC). Although a credible teaching model, this change did not meet army requirements. The courses could not meet the expected officer throughput

and were found to fall short of the new army Officer General Specification (OGS). Therefore, in 2000 a hybrid course called the Transition Command and Staff College course (TCSC) was created and mandated to run 10 serials in order to ensure some 400 officers awaiting training were staff qualified. However, the TCSC was never designed as an end state. It was a measured step towards building a new course structure that would better meet the new OGS.

The College recently launched work on this new structure that will result in a new course entitled the Army Operations Course (AOC). This AOC will replace the current Transitional Command and Staff Course (TCSC) and the pilot course will commence in May 2003. What should the army expect from this new course?

First, the technical details. The CF has adopted a four-stage model for Officer Professional Development. Development Period 1 (DP1) corresponds to basic training as an officer cadet. DP2 represents the time period spent as a lieutenant and captain. DP3 starts with promotion to major, ends with promotion to colonel and incorporates operational-level army and joint training. Finally, DP4 covers colonels and general officers. The AOC is intended for army officers early in DP2, and the formal parts of the course will be open to selected captains with three years or more in rank. In accordance with the revised OGS, it is intended that all army officers should receive this course.

Initially CLFCSC will run three AOCs per year, with a total throughput of 216 students, which includes 18 air force and 12 MTAP officers. With the existing infrastructure (residence space and staff), the College will only be able to meet 80 percent of the total annual army demand. However, in the future, it

is possible the College could expand by one syndicate per course or/and offer a complete non-residency package for some officers. Given that not all officers or MOCs follow the same career paths, not every captain will attend at the three-year point and the course will remain open to captains and selected majors regardless of years of service. This will provide maximum career flexibility. The AOC is a key element in development of the army officer and will be a prerequisite for attendance on DP3 courses at the CFC in Toronto.

Although not completely developed or approved, it is expected the AOC will be delivered in four separate parts that will be a hybrid of individual, distance and residential studies:

Part 1 will be a Guided Individual Study self-paced package, and includes several of the new Officer Professional Military Education (OPME) system courses. In addition to completion of selected OPME courses, officers will be expected to complete certain web-based, self-paced modules of study. These modules will culminate with computer-based testing. Successful completion of each will be mandatory for eligibility for AOC selection. Although geared for newly promoted captains, army officers can start this part of the courses at any time after completing DP1 Basic Training. It is estimated that the three OPME courses would take half a year and the army topics a similar period. This part will take, more or less, a year to complete.

Part 2. On completion of Part 1 and being loaded by your career manager for Part 2 of the AOC, officers will follow a structured Distributed Learning Course of seven weeks in the home garrison location. This package will be delivered using the current Royal Military College of Canada hosted Web Course Tools (Web CT) and will eventually migrate to

the new Defence Learning Network (DLN). This section of the AOC will also be web-based and will introduce officers to a variety of innovative and modern educational techniques such as computer-based learning, virtual syndicate discussions, and video-conferencing. Evaluation will be a combination of computer-based testing, informal written email submissions, formal written products, participation in on-line discussions, and subjective evaluation of individual participation in syndicate or other activities. There will be a confirmation threshold exam to confirm an officer is ready to proceed to Part 3 of the course. Part 2 will take place over 7 weeks.

Part 3. This will be an 11-week residency at CLFCSC. This section of the course will be a combination of Tactical Exercises Without Troops, Computer-Assisted Exercises (battle-group, brigade and divisional level), Self Study, Syndicate Discussions, College Lectures, Guest Lectures, Peace Support and Domestic Operations Seminars, a Field Trip, and a number of written products including Formal Estimates and papers demonstrating Critical Thought. This is obviously the most important part of the course and provides ample opportunity for subjective evaluation of the command and staff potential of army officers.

Part 4. The final tutorial will be a second self-paced study package that must be completed before officers attend the Canadian Forces Command and Staff College in Toronto. It includes the remaining OPME exams and several independent computer-based study modules. It will cover 16 weeks of OPME and 7 weeks of self-study

There will also be a number of tactical and doctrinal changes to the College curriculum that will occur at the same time the AOC is introduced:

- Currently the CLFCSC is using 4 (CA) Canadian Division as its primary teaching vehicle. This formation, the last vestige of Corp 86 and Corp 96 doctrine, is a heavy division, numbering 34,168 personnel, with 2772 major vehicle and weapons systems. 4 (CA) Division is arguably the largest such formation in the world, and does not exist in any

Canadian army mobilisation planning, nor is it representative of recent or historical Canadian divisional structures. With the AOC, the College will adopt a US- or UK-led division-sized task force construct as the primary teaching vehicle. The Field Standard Operation Procedures used will be those Canada has approved in the NATO and America, Britain, Canada, Australia (ABCA) fora. This will also allow us to realistically explore doctrine, equipment and tactics not found in the CF but which do exist in virtually all coalition operations. Imbedded in this Task Force will be the Canadian Major Contingency Force (MCF) Brigade Group, structured as approved in our operational planning. For accurate portrayal of the National Command and Control, a National Command Element (NCE) will be introduced into all exercises to teach officers to deal simultaneously with national and coalition chains of command. This structure will be an excellent and realistic training vehicle, but will still allow the College and the army to maintain expertise in the design and operation of higher Formation level Headquarters.

- The MCF Brigade, the MCF vanguard battalion, and the Immediate Reaction Force (Land) (IRF[L]) battalion structure will be used to teach and study brigade and battle group doctrine and tactics. In accordance with current Canadian doctrine, we will employ the rule of three versus the rule of four in all organizations. This will improve realism in the Estimates, the Operational Planning Process, and in College exercises. In addition, we will only employ existing equipment in any unit organization table. These army officers will learn the art of warfighting in a realistically constrained environment. This not to say that the College is not prepared to experiment with new doctrine, tactics and equipment, but such experimentation will be done in a controlled manner. Certainly, the College would also willingly introduce and use any national mobilisation structures, as these are approved.

- The College has introduced Deep Operations into the TCSC and this will continue in the AOC. The planning and understanding of Deep Operations is critical to shaping the battlefield and

taking full advantage of our air superiority and information dominance. This is also key to the full implementation of Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) concept, another area of critical interest to the army. Current and future College exercises will also be conducted jointly (air - land), as no divisional or task force operation can be conducted solely from a land perspective. This will be done by maintaining close association with 1 Wing and 1 Canadian Air Division (1 CAD) to ensure that air operations are properly represented at the College. The College will continue to request teaching and technical support from our US Allies to properly teach and exercise Deep Operations and the use of attack helicopters.

- In addition to the traditional Division Support Group (DISGP) construct, we will introduce other realistic logistic features into the course including Close Support Battalions, General Support Battalions, National Support Elements, Joint Support Groups, Host Nation Logistics, civilian contractor support, and coalition logistics agreements. This will ensure that army officers become familiar with the range of logistics support options that exist in actual operations. This construct should also greatly assist with the development of army and national logistics doctrine, tactics and procedures.

- CLFCSC has an important role to play in the digitisation of the army. Although it is expected that all army officers will be familiar with Tactical Command, Control and Communications Systems (TCCCS) during phase training and their first unit deployments, the AOC will likely mark their first encounter with Land Force Command and Control Information System (LFC2IS). In order to permit realism in training, the College will be required to both teach and use a simulated version of LFC2IS in all brigade-level and above exercises. Computer-based training on the Athene Tactical Software (ATS) and Situational Awareness Software (SAS) will take place during both Parts 1 (Self Study) and 2 (DL), culminating in full use of LFC2IS during Part 3 (Residency). It is expected this digital environment will be in place for the first AOC.

- Today, the primary exercise vehicle used by the College is a battlefield remarkably similar to that found on the West German Plain. In future we will introduce a range of operations into our major exercises to include complex terrain (urban and mountain), asymmetric attack, and transition operations (Peace Support to Warfighting, and Post Conflict Operations) in order to better prepare army officers for the future; and
- The College is also taking a close look at the enemy (opposing force - OPFOR) organization. With the assistance of the Directorate of Army Doctrine (DAD) and the Army Simulation Centre (ASC), we will introduce a more flexible, realistic opponent into the curriculum. This OPFOR will include View 2 and asymmetric options that will permit students to study a variety of opponents. Of course, close coordination will be required between the College, DAD and the ASC to achieve this result.

To promote greater unity and cohesion in the army and across the CF, CLFCSC also intends to leverage centres of expertise, rather than maintain College-unique methods and structures. Some examples follow:

- DAD will be responsible for the Staff Officer's Handbook and all organizational structures used by CLFCSC;
- The CF Leadership Institute, in conjunction with the CLS responsible agency, will be used to write and maintain the leadership doctrine to be taught at the College;
- RMC will be asked to write and maintain any history packages taught by the College.
- We will remain closely linked to the new Defence Learning Network (DLN) and, in fact, because of the maturity of the TCSC on the existing RMC hosted Web CT system the AOC will be one of the trial courses to be delivered over the new DLN. We are committed to being innovative and flexible in how we deliver our training;
- The CF Management School (CFMS) will be asked to write and maintain a package on "Chairing a Meeting." As well negotiation has begun for the CFMS

to write and maintain an army business planning package;

- After the initial package is written, the Land Force Technical School (LFTS) will be asked to maintain the science and technical package used by CLFCSC;
- As approved by DAD and the Combat Development Board, NATO and ABCA manuals will be used for all non-Canadian Doctrine and SOPs;
- The ASC will write and run all Computer-Assisted Exercises used by the College, which has already reduced significantly the external-tasking load required for College exercises. This will also ensure commonality between formation-level CST exercises across the army. We are also exploring options that could see a regular brigade head-quarters introduced into College exercises for training purposes;
- Closer ties are being established between CLFCSC, DAD and the Directorate of Land Strategic Concepts (DLSC). The College regularly runs excellent Formation level exercises that can be used to validate or modify existing Canadian Doctrine. We will conduct a trial this year where TCSC 05 students will be tasked to man formation headquarters in support of DLSC Army Future Experiment Number 2 (Exercise Urban Challenge). The College will also re-institute processes to ensure that the brainpower and experience resident in the College Directing Staff is harnessed to help update army doctrine;
- The AOC will be harmonised with the Militia Command and Staff Course (MCSC). In fact, many of the Distributed Learning techniques already featured in the MCSC are being used by the TCSC and will be refined for the AOC. This provides the platform that may eventually result in a complete Distributed Learning AOC that could be made available to some officers. This approach will also closely harmonise the Regular and Reserve courses;
- Close contact will be maintained by the College with the CFCSC to ensure there is a seamless transition from the AOC to the operational-level joint structures taught in Toronto;

- We intend to make our instructional tools available to the army at large, through our website. This should provide a range of tools to assist unit commanding officers and formation commanders run their unit professional development programmes, refresher training, and even operational preparations. On occasion, the College has also been able to help the army with mentoring and with support to major army experiments or exercises. This type of support will continue; and
- CLFCSC is also responsible for managing equivalencies to the AOC. The Directorate of Army Training (DAT) and the Deputy Commandant have devised a workable system that permits the College to evaluate foreign courses for content using the existing Course Performance and Education Objectives. We have used our major course exercise (Final Drive) as an evaluation tool, to permit the College to validate an officer's abilities. Following a review that there are significant equivalencies in content, officers seeking equivalency are loaded on Final Drive in command and staff appointments, alongside their CLFCSC peers. This has proven very successful and will continue in future.

As you can see this is a vibrant and viable institution. Our product is the next generation of army leaders and staff officers and we are here to serve the army in any way that we can. I am personally very excited about the prospects for the AOC, the future of army professional development, and the way ahead for the College. At the same time, I acknowledge that there are many good ideas across the army that may help shape how this institution should operate in the 21st Century. Your ideas and comments are always welcome and should be forwarded to the Deputy Commandant, Lieutenant-Colonel Dennis Hartnett or myself.



For more information, visit the CLFCSC website at: <http://armyapp.dnd.ca/clfcsc-ccftc/main.asp>

Missed Opportunity

Operation BROADSWORD, 4 Canadian Mechanized Brigade and the Gulf War, 1990-1991

by Sean M. Maloney, Ph.D.

Missed Opportunity was written in the summer of 1993 as 4 Canadian Mechanized Brigade was closing down in Lahr, Germany. Originally intended as an appendix to War Without Battles: Canada's NATO Brigade in Germany 1951-1993, it was subsequently deleted. I published it two years later in Canadian Military History. At the time and over the years, there was a lot of internal speculation as to the dimensions of the planned operation and the reasons for its cancellation. Since its original publication, I have developed more information, which has not seriously altered my original discussion of the events of 1990.

I wrote Missed Opportunity for a number of reasons. First, it was part of 4 Brigade's historical experience. My other concern at the time was that we learn from the series of errors and misperceptions that combined to prevent Canada from participating effectively in an operation designed to stand up to blatant aggression, stabilize a vital region that affects Canada's economy, and prevent a dangerous totalitarian state from acquiring weapons of mass destruction. In those days, the J-Staff was an embryonic and arguably temporary phenomenon designed to get us through two simultaneous crises: the Gulf and Oka. There was no lessons learned cell at the time. There were even those who thought Op BROADSWORD should just disappear down the Orwellian memory hole since it was embarrassing. My belief then, as it is now, is that there were valuable lessons to be learned from the BROADSWORD experience and, as a historian, it was my job to ensure that those lessons are passed on. We are now entering a new era of history, with a new global crisis. Have our staffing procedures improved

since 1990? Has the interface between the elected civilian leadership, senior bureaucrats, and the senior uniformed leadership improved? Do we have the strategic lift at hand? Will Canada participate effectively in this new campaign or will Canada sit back and let others do the job once again?

The decision not to deploy 4 Canadian Mechanized Brigade¹ (CMB) to participate in the Gulf War may eventually be of interest to students of Canadian defence policy. The current lack of available material on this subject will no doubt attenuate such efforts. The purpose of this article is to provide a brief and very tentative discussion of relevant factors contributing to the decision not to go. In essence, the following should be considered a "toe in the water" rather than a "headlong dive."

On 2 August 1990, Iraq overran and occupied its smaller neighbour Kuwait. This act not only threatened the delicate balance of power in the Middle East but also posed a direct threat to the economic well-being of the Western world, of which Canada was a part. If Saudi Arabia and other Gulf states were invaded in turn by Iraq, the flow of Persian Gulf oil would be shut off, adversely affecting other parts of the world. Additionally, the morally repugnant and brutal occupation of Kuwait, coupled with the seizure of Western embassies and citizens (including Canadians), were indications that Saddam Hussein could not be negotiated with. The United Nations, with unprecedented

haste, passed Resolutions 660 and 661 demanding that Iraq vacate Kuwait immediately or face imposition of economic sanctions.

In the wake of the conflict, a great deal of criticism was leveled at the apparent inability of Canada's Army to deploy and sustain a brigade-sized force in a regional conflict. Much of this criticism arose from inter-service disputes and defence budgetary matters. Such criticism could well be ignored except that the alleged inability of Canada's Army to conduct such a deployment was used by some to call into question the viability of Canada's land force commitment to NATO's Central Region since 1951. Such an analogy between a regional conflict and



What about combat troops? Lieutenant-General Kent Foster, Commander of Force Mobile Command, inspecting members of Service Battalion in the Persian Gulf, February 1991. (Courtesy CFPU)



Associate Minister of National Defence Mary Collins visiting C Company, 1st Battalion, Royal 22^e Régiment at "Canada Dry 1" at Qatar, 1991. (Courtesy CFPU)

Canada's land force commitment to NATO's Central Region thus deserves examination.

Responding to the UN's request for forces to enforce the economic sanctions, Prime Minister Mulroney announced the deployment of a Canadian naval task group to the Persian Gulf on 10 August. Operation FRICTION had started. Other commands within the Canadian Forces were anticipating further action on the part of the Canadian Government and used their initiative to prepare a number of contingency plans in case the senior military leadership had to provide options to the political leadership. By 13 August, seven contingency plans were proposed even though no detailed staff work on them had been done. In order of priority these plans included:

1. evacuation of Canadian nationals from the Gulf region;
2. the deployment of CF-18s to Turkey;
3. resupply and sustainment of the Op FRICTION task group;
4. replace vessels involved in Op FRICTION;
5. in-theatre airlift support to pan-Arab forces;
6. logistical support to multi-national forces in the Gulf region; and
7. the deployment of ground combat forces.

As the Canadian naval task group departed on 24 August for its "Persian Excursion," the first U.S. pre-positioning ships from Diego Garcia disgorged enough equipment for two U.S. Marine Corps divisions. By 25 August, the UN passed Resolution 665, which permitted the use of military force to back up the economic sanctions against Iraq.

Around this time, Canadian Forces Europe had prepared a contingency plan to deploy a CF-18 squadron and an Army protection unit to an undesignated location in the Persian Gulf. This was a logical contingency to the planners who felt that the ships would require air cover and the aircraft would require protection from hostile ground forces. This contingency was quickly adopted by the Government and Operation SCIMITAR was announced on 14 September. The first CF-18s from CFB Baden left on 6 October for their base in Qatar, which had been secured by "M" Company 3rd Battalion, The Royal Canadian Regiment (3 RCR), from Baden-Soellingen.

The Air Force planners had to be convinced to take a security company with them. Later on, "C" Company, 1^{er} bataillon Royal 22^e Régiment (1R22^eR) took over as Security Company for the

Op SCIMITAR bases Canada Dry 1 and Canada Dry 2. The in-theatre security threat was rated as high. Saddam Hussein publicly announced that terrorist groups sympathetic to Iraq would wreak havoc within those nations arrayed against him.

The Americans had already committed a marine division, an airborne division, an airmobile division, and a mechanized division to Saudi Arabia for Operation DESERT SHIELD. In addition to this, the United Kingdom announced Operation GRANBY on 14 September, which deployed the 7th Armoured Brigade from the British Army of the Rhine (BAOR). At the same time, France implemented Operation DAGUET, which deposited the 6th Light Armoured Division into the desert sands of Saudi Arabia. The British wanted to bring in an entire three-brigade division to Saudi Arabia but could only provide 7th Armoured Brigade initially, followed by 4th Armoured Brigade on 22 November. Sometime around 14 September, Canadian officers at higher-level NATO headquarters were informally contacted by British officers from BAOR. Could Canada provide a brigade under British control to form a Commonwealth Division along the same lines as the Korea conflict in 1951?

This was a tempting request. It was, however, fraught with problems. The political dimensions went well beyond command and control on the

The last Canadian option was to deploy ground troops to Saudi Arabia.

battlefield. Some Canadian officers believed that the British wanted "more flags" on the battlefield to balance out American influence. In the British mind, a Commonwealth partner might be easier to influence than, say, the French. This would be important in the post-war resolution of the conflict. In Canada, however, there were the issues of national pride and the old colonial relationship. For this and other reasons, the British proposal was put on hold.

Canadian military staff planners at all levels knew that force would ultimately be needed to evict Iraqi forces from Kuwait. They also knew

WORD. The Chief of the Defence Staff (CDS), General de Chastelain, ordered a staff check with the aim of analyzing the factors influencing the deployment and

days to produce the plan, 45 days to assemble the force, 55 days to move the force, and 35 days to train and acclimatize the force in theatre.

Some general shortfalls needed to be made up, however. The long-standing problems in Canada's

Canadian troops had not been in combat since Korea.

from the list of planning priorities generated in August that the last Canadian option was to deploy ground troops to Saudi Arabia. Canadian initiative operated at new heights. Force Mobile Command Headquarters (FMC HQ), with input from 1st Canadian Division, conducted a quick staff check on 26 October on the feasibility of providing a brigade-sized formation to Saudi Arabia. The assumptions in this staff check formed the basis for what would eventually be called Operation BROADSWORD.

FMC HQ determined that any Canadian formation sent to Saudi Arabia would have to fight in a high-intensity battlefield environment, a battlefield that would probably include the use of chemical and biological weapons. The headquarters also assumed that Canadian units in Europe could be released by SACEUR for operations. Furthermore, the planners knew that such a formation would have to work within the framework of a higher formation like an allied division or corps. More importantly, any Canadian contribution less than a brigade group was unacceptable for "visibility reasons."

After surveying the existing formations in the Canadian Army, FMC HQ logically determined that the formation best suited for operations in the Middle East was 4 CMB. It was at 75% of war establishment strength, while the other brigades in Canada ranged from 70% to 45% of their establishments. Only 4 CMB had main battle tanks. Notably, the FMC planners did not think that enough lift could be acquired to move a brigade group to Saudi Arabia immediately; they did estimate that it would take 8 to 10 weeks to fully deploy the formation.

These assumptions were critical in the creation of the more detailed contingency plan Operation BROADS-

employment of a viable brigade group to support UN coalition action against Iraq. This CDS staff check was prepared by 13 November and added more detail to the FMC HQ staff check. The CDS check assumed that a Middle East deployment would receive first priority over existing Army operations and that resources could be drawn from anywhere. Again, it was assumed that the force would be integrated into a higher formation (division or corps). Most importantly, the CDS check assumed that the force would be based on 4 CMB after augmentation with Operation PENDANT (the unit was re-titled for this operation) adding a third infantry battalion with armoured personnel carriers (APCs) and a fourth tank squadron. 4 CMB also had to have enough supplies for 30 days of operations, and it had to have time to acclimatize. The CDS check further assumed that 2 PPCLI would be the third infantry battalion.

The timings for the deployment of 4 CMB to Saudi Arabia in the CDS staff check assumed that it would take seven

logistics and medical structures—problems that had been identified in the 1970s—had not been corrected even though major attempts at overhaul had taken place in the mid-1980s. The other critical area was combat sustainment. The problems inherent in reinforcing 4 CMB in Germany had never been solved either, though attempts had been made to improve the state of Canada's reserve forces. If Canada wanted to sustain a brigade group in theatre for a period longer than six months, reserve forces would have to be employed, and there was no job protection legislation to guarantee Militia soldiers their livelihood once they returned from the Gulf.

While the CDS staff check was undergoing review, External Affairs Minister Joe Clark met with his American counterpart, James Baker, in Bermuda on 13 November. The effect of this meeting on the CDS tasking instruction for 14 November is unclear, but the media speculated that the Americans sounded out Clark on



In 1991, army troops in Germany included 4 Canadian Mechanized Brigade and Headquarters 1 Canadian Division Forward. (Courtesy CFPU)

sending land forces to Saudi Arabia. Whatever the impact, 1st Canadian Division Headquarters was tasked to prepare a plan to deploy a mechanized brigade group to Saudi Arabia, and this plan was to be called Operation BROADSWORD. For all intents and purposes, this tasking instruction used the same assumptions as the CDS staff check. It should be noted here that no decision was made by the Canadian Government in November 1990 to deploy ground forces to Saudi Arabia; this was a military contingency plan in case the Canadian Government was asked to do so and committed itself to such a course of action.

Over the next fifteen days, the Division and FMC HQ planning staffs in Lahr, Kingston, and St Hubert laboured to produce a concrete concept that would keep the Canadian Government's options open. As a result, the BROADSWORD plan was an amalgamation of several elements that included a concept of operation, a risk assessment, a movement estimate and a casualty estimate.

The concept of operations for BROADSWORD, as in the earlier estimates, postulated that 4 CMB would operate as part of an allied division within the framework of an allied corps. The threat environment in which 4 CMB would be operating was a heavily armoured one, with the enemy in prepared defensive positions in the desert. Iraqi chemical capability was as diverse as it was prolific: known enemy chemical weapons included mustard

The real problem was that the Canadian Army was still playing catch up from the 1970s.

blistering agents, phosgene choking agents, as well as Sarin and Tabun nerve agents. The Iraqis were also credited with producing BZ, a psychochemical similar to LSD. Finally, the enemy had combat experience from the long Iran-Iraq war; Canadian troops had not been in combat since Korea.

As to tactical employment, 4 CMB was incapable of participating in an advance to contact based on the

equipment that it possessed in Germany. Leopard 1s and M-113s advancing in the open desert were vulnerable to direct fire from long range. The planners reasoned that 4 CMB could, however, participate as the reserve formation within an armoured division. Once the other armoured brigades bypassed strong points and took on the enemy's armoured reserve, 4 CMB could be used to assault

bypassed Iraqi units. If the situation worsened, and allied forces were forced onto the defensive, 4 CMB was already attuned and equipped for defensive operations in an armoured-heavy environment. Other 4 CMB missions could include flank or screen operations on a flank, or corps rear area security.

With regards to assigning 4 CMB to a division or corps, there were a number of possibilities. 4 CMB could go as part of the multi-national Gulf Cooperation Council Corps. This option was rejected immediately. The choice then came down to placing 4 CMB under the British division or under a U.S. division operating within a U.S. Corps. As noted earlier, a bias had developed against placing 4 CMB under British command. This emotional bias was, however, backed up with undeniable facts. 4 CMB had not operated with the British since 1970 but had operated with the Americans, with

all of their faults, since 1971. When the list of advantages and disadvantages was compiled, the situation favoured placing 4 CMB with VII(US) Corps, preferably with 1st (US) Armored Division. Interoperability issues, including liaison officers, training, and equipment compatibility no longer existed between the British and the Canadians. Standardization did exist in the form of the usual NATO agreements, but Britain no longer had anything comparable with

the Canada-U.S. integrated logistics system. As a result, placing 4 CMB with the British armoured division was no longer an option.

The organization of 4 CMB for a Middle East deployment was not radically different from having 4 CMB augmented in Europe by Operation PENDANT (a reinforcement plan). 4 CMB would have a four-squadron tank regiment (8th

Casualty estimates, which were driven by extremely pessimistic threat assessments emanating from American sources...

Canadian Hussars [Princess Louise's] plus a recce squadron, while the infantry battalions (3 RCR, 2 PPCLI, 1 R22eR) would be augmented to include three four-company battalion structures. 444 Tactical Helicopter Squadron was having problems with the aging Kiowas and wanted to create a composite squadron with Kiowas and Twin Huey light transports. The other arms and services required little modification, at least initially. Some planners called for the deployment of a complete Canadian Support Group and a Canadian Medical Group. This would have increased the number of troops in theatre from the 7,000 to 9,000 originally envisioned to 12,000.

Once the planning process was underway, units were solicited to provide materiel and organizational improvements that they deemed necessary for a Middle East deployment. Planners at the several headquarters involved in BROADSWORD also added changes and suggestions. An attitude developed in many places simultaneously, which can best be described as the "We can't go without _____" syndrome. This was an understandable phenomenon since some equipment programmes that had been put off in 1989 could now be implemented. Some (but not all) of these organizational "grafts" included the deployment of the new ADATS (air defence antitank system) anti-aircraft system, an artillery target acquisition battery, an entire intelligence company, a forward replacement holding unit, all of 2 (Electronic Warfare) Squadron, a decontamination unit, an evacuation

company, and a 400-bed field hospital. Personal equipment necessary for fighting in desert environment was required as well as improved NBCD detection and protective gear. This latter requirement was not a problem, since Canada led NATO in the development of NBCD protective equipment. Other larger pieces of equipment would, however, delay the deployment and increase costs if the decision was made to obtain them.

It would be easy to call this situation "gold plating" and to blame inter-arm rivalry. The real problem was that the Canadian Army was still playing catch up from the 1970s deficiencies and the heightened expectations of the 1980s. Many of these materiel improvements had been identified by 4 CMB back in 1985, but had not been solved by 1990.

The movement estimate for BROADSWORD was not encouraging. There was no sealift capability organic to the Canadian Forces. This fact forced the logistics planners to look to commercial shipping. Unfortunately, the Americans had already hired much of Canada's commercial sea and airlift to support their own deployment operations. Even the United Kingdom was chartering Eastern Bloc shipping to move the balance of their division to Saudi Arabia! The use of the large Roll-On/Roll-Off (RO/RO) ferries from Newfoundland was contemplated, but this was not feasible for political reasons. Moving manpower was less of a problem; agreements between the Canadian Government and commercial air carriers in Canada ensured Canada's ability to move troops and some light equipment. The apparent lack of heavy lift would probably have imposed a significant time delay on the deployment of 4 CMB if BROADSWORD was authorized and implemented.

Another problem that the BROADSWORD planners had to deal with was conflicting casualty estimates, which were driven by extremely pessimistic threat assessments emanating from American sources. Medical specialists involved in BROADSWORD planning calculated that, given 30 days of combat, the entire brigade group

would need replacement. They estimated that, out of a 9000 pers force, there would be 1,971 killed and 7,434 wounded. Other BROADSWORD planners developed a smaller estimate in which 3,000 killed and wounded pers would need replacement after thirty days. Another DND agency put the rates at 1,000 killed and 3,472 wounded. It appears as if these estimates were based on the Iran-Iraq War, which was a First World War attrition-type of conflict. They also failed to take into account the fact that the allied coalition being formed was in every way a far superior military machine than what Iraq could muster in terms of overwhelming air support, initiative, and manoeuvreability.

By 20 November the window on deployment was closing fast. On 29 November, the UN Security Council passed Resolution 678, which set a 15 January 1991 deadline for Saddam Hussein to move his forces out of Kuwait. When asked on 7 December 1990 about the feasibility of BROADSWORD in light of this development, 1st Canadian Division planners replied, "there are no show stoppers per se but one issue, the composition and availability of battle casualties replacement could impose limitations on the employment of 4 CMB(G) plus."

BROADSWORD hung on the wall for the next month. On 12 January 1991, an anonymous military source recently returned from Germany leaked significant aspects of BROADSWORD to the media, including the size, composition, and the possibility that the brigade might come under British

the event the Government wished to select a ground force option. It was not designed to circumvent the democratic process. Naturally, parliamentary critics of the Government's handling of the Gulf situation pounced on the issue without having the facts and roundly criticized the government. By 14 January, Minister of National Defence Bill McKnight told the media that the Government had no intention of sending a brigade to the Gulf. Two days later, the air assault started, and the land portion of the campaign was completed by 28 February.

It is easy to say that 4 CMB was not needed in Saudi Arabia, that it could not have arrived in time to do anything, and that it was not sustainable. Comments such as this can only be made in retrospect, however, since we only know now how short the war would actually be. At the time, many planners believed that the ground war would last several weeks to many months. There was no indication that it would last only 100 hours. If it had been a longer war, Canadian land forces would have been a valuable contribution.

Why was Operation BROADSWORD not implemented? The answer to this question is multi-faceted, and the reasons are found at many levels. It is unclear at this point which level of command made the decision not to go. There are four possibilities. The first is that the politicians wanted to go with ground troops but were convinced by the highest military level that BROADSWORD was not a feasible undertaking. The second possibility is that the politicians did not want to go and told the military no.

The Americans unofficially offered enough M-60A3s, M-2s, and M-109A2s.

command. The source was motivated by a belief that BROADSWORD planning was being done behind the backs of the Canadian people under instructions of the Mulroney Government, and that the Canadian people were not being given a say in the deployment of troops overseas. The source was mistaken in his assertions. BROADSWORD planning was anticipatory on the part of the military in

There could have been a combination of these possibilities, whereby the political level did not want to go and the highest military level did not encourage them to implement BROADSWORD. Fourthly, the highest military level might not have passed on or recommended to the political level the existence and advanced nature of BROADSWORD beyond the list of options created in August.

Some were not convinced of BROADSWORD's feasibility. Let us briefly explore some reasons why BROADSWORD was not considered to be a viable operation:

1. BROADSWORD was not logistically feasible. We could not get enough lift in time, and existing lift was dominated by the Americans.
2. If we had gotten to Saudi Arabia, our equipment (particularly tanks) was not capable of matching Iraqi equipment on the battlefield. There was simply not enough equipment.
3. BROADSWORD was not sustainable from a personnel and equipment battle casualty replacement point of view.
4. There was not enough time to get to the theatre, train, and acclimatize before the ground war started.
5. The Canadian people would not have supported the ground war or we didn't need to deploy ground forces.
6. BROADSWORD was a fundamentally flawed concept because it was based on a mechanized brigade group.
7. BROADSWORD would have cost too much.
8. BROADSWORD demonstrates that the NATO Central Region commitment was not workable either.

The lift, deployment time and equipment questions can be discussed together. The assumption that 4 CMB would be operating with VII (US) Corps (and probably with 1st (US) Armored Division) was based on the close relationship 4 CMB had developed with the Americans since 1971. 4 CMB already had liaison officers with VII (US) Corps and 1st (US) Armored Division—two of them, Major K.D. Mohr and Lieutenant-Colonel N.H. Connally were invited to go and were given permission

to do so, with Major Mohr seeing action with 1st (US) Armored Division—and the Americans respected Canadian capabilities on the battlefield. The U.S. did sound out Canada on the ground forces issue while they were deciding if and when to send VII (US) Corps. If Canada had decided to go at that time or even late in November, arrangements would have been made to deploy 4 CMB to Saudi Arabia using the ILOC agreement. The Americans constantly pushed for “more flags” and, if Canada seriously demonstrated it was interested, American support would have been there. In terms of time, the British were able to deploy their 4th Armoured Brigade (similar in composition to 4 CMB) from BAOR making the decision on 22 November with the first units arriving on 10 December. The Americans had a constant flow of forces throughout the period.

There is no doubt that some of Canada's equipment was in poor shape not only for the Gulf but for Germany as well. The Leopards were showing their age, particularly when one compares their protection and firepower to the T-72. In terms of interoperability, some equipment could receive spare parts through the U.S. system since an M-113 is an M-113, an M-109 is an M-109, and a C-7 is similar to an M-16A2. Other non-standard equipment like the Leopard, the Iltis, and the MLVW (medium logistic vehicle wheeled) would have posed logistical problems. The solution here was to acquire equipment from the Americans. In fact, the Americans unofficially offered enough M-60A3s, M-2s, and M-109A2s to equip and sustain a Canadian brigade group in the same

have been relatively easy to deploy Canadian troops and small equipment by air. It takes less than two weeks to retrain on a new tank, and this retraining would have been done concurrently in the operational desert environment.

There have been arguments made that too many bells and whistles were added to the existing brigade structure, that this drove up the cost of deployment, and that the refitting increased the deployment time. This argument does have some merit, but there were numerous cases where BROADSWORD planners “just said no.” On the other hand, if 4 CMB were operating as part of VII (US) Corps, why did it need its own decontamination capability, target acquisition battery, an electronic warfare squadron, its own field hospital, and the brand new ADATS? Could these resources have been provided by division or corps? Exercises in Germany demonstrated time and again that 4 CMB was capable of assimilating non-Canadian units into its organization and planning structure or utilizing support provided by a higher headquarters. Canada had a free ride with these resources in Germany since the 1970s. Why change now?

The sustainability question is important, for it shows a weakness that has existed in the Canadian Army since the Diefenbaker Government decided that sustainability forces were no longer required. The degradation of the Militia in the early 1960s was so profound that attempts to remedy the problem still baffle defence planners today in 1994. The four-brigade group army concept such as it existed in 1953 was designed to

The sustainability question is important, for it shows a weakness that has existed in the Army since the Diefenbaker Government decided that sustainability forces were no longer required.

way the Americans helped some of the gulf Cooperation Council countries (the M-60A3 offer was apparently changed to M-1 Abrams tanks later). These vehicles were already in theatre, and it would

fight two wars—one in Germany and one in Korea—with sustainability coming from the two Militia division equivalents. The decrease in Army strength in 1970 ensured that there were



Soldiers of The Royal Canadian Regiment guarding Iraqi prisoners of war at al-Qaysumah, 2 March 1991. (Courtesy CFPU)

four partially manned brigade groups. The events in 1990 show that the wisdom of this decrease in strength was more than flawed. The Oka Crisis in 1990 occupied an entire brigade group (Canada even had to approach SACEUR to explain why half of 1st Canadian Division was tied up in an internal security situation), and this stretched Army resources thin. Since the Militia was untrained and unequipped for the internal security missions, regular forces had to be used and flexibility was lost.

The political problems with calling out the Militia to sustain BROADSWORD were insurmountable. No job protection legislation existed. Problems with neglected training and a lack of equipment meant that Militia personnel would have to undergo a significant period of training before they were ready to fight in a Middle East environment. Despite the limited steps taken in the late 1980s to correct this (e.g., the Total Force concept), the Militia's ability to provide battle casualty replacements was an unknown factor in BROADSWORD planning. The politicians feared an Opposition backlash and thus would probably not have supported such measures early on in the deployment.

The most open-ended argument made against BROADSWORD was the belief by some that the Canadian

people would not have supported such a deployment and would have become disillusioned when it started to take casualties. The Canadian public was overwhelmingly in favour of military operations within the context of the UN resolutions. There was only a minuscule peace movement consisting of a few students. Naturally, the media made this movement out to be more than it was and the Opposition parties played this for all it was worth to embarrass the Mulroney government as much as possible. If the Prime Minister chose to deploy ground forces to Saudi Arabia, he would have done so after explaining the reasons for his decision. These reasons would probably have focused on the need to limit existing aggression and deter future aggression and the need to provide economic stability in the West. The spectre of Saddam Hussein developing nuclear weapons only increased the reasons for DESERT STORM. Canadians are a practical people who have fought wars for lesser reasons in the past.

Suggesting that a Canadian brigade group was not needed in such a conflict is an extension of the argument against having a Canadian brigade group in Europe. Canada cannot afford to be isolationist in the world community and must act in difficult situations. The loss of prestige is not an easy thing to measure, but the deployment of low risk forces like two combat ships and a squadron of fighters to protect them certainly made Canada look cautious and minimalist. The ridiculous political debate over how defensive the FRICTION and SCIMITAR forces were supposed to be was laughable. The deployment of a Canadian field hospital to Saudi Arabia and medical personnel to U.S. ships was less laughable, particularly to the casualties that they treated, but Canada, perhaps, could have done more in other areas.

As to the financing of a Saudi Arabia deployment, it is conceivable that many of Canada's out of pocket costs would have eventually been funded by Saudi Arabia and the Japanese. Participating in a war of liberation not only carries with it a sense of moral satisfaction but also provides business opportunities for the

inevitable reconstruction effort, as discussed by the British commander, General Sir Peter De La Billiere in his book *Storm Command*.

Was a mechanized brigade group the only option for a Canadian Army deployment to the Gulf? A number of officers have questioned this basic assumption in the BROADSWORD planning process, and they have a valid point. There were other options. How many of them saw light of day in high-level planning discussions is unknown. The CDS believed that only an independent brigade group-sized commitment would be a viable one for political purposes within a coalition. One possible option was a light infantry brigade group of three infantry battalions operating with, say, the 101st (US) Airborne Division (Airmobile) or the 82nd (US) Airborne Division. Units from the Special Service Force based in Canada had good working relationships with these formations. Such a brigade group could have been delivered by air in a timely manner.

If the viability of a Canadian mechanized brigade group operating in the Middle East is in question, one should examine the forces deployed by the British and the French. The British 4th Armoured Brigade was deployed in less than a month from its bases in Northern Germany. It consisted of an armoured regiment, two mechanized infantry battalions, and an artillery regiment. In other words, it was almost identical to 4 CMB in Germany but with better equipment. Its performance in the Gulf War, though overshadowed by 7th Brigade, was particularly effective in reducing bypassed Iraqi strong points.

The French 66 DBL (6th Light Armoured Division) had three mechanized infantry battalions mounted in VAB (front armoured vehicle) wheeled APCs, three armoured regiments (one tank and two heavy armoured car), an artillery regiment, and two attack helicopter regiments with 60 anti-tank helicopters. This formation was unsuited to a frontal assault role against the enemy's main defensive positions. As a result, it was relegated to the very important role of flank guard on the left flank of the main effort. 6e DBL



did not sit out the war; it operated in an aggressive fashion within the limits of its capabilities.

Unlike the British and French forces, a Canadian mechanized brigade deploying to the Gulf would not have been sustainable over a long period without a radical change in Canadian mobilization policy. This dictated that the operational employment of the brigade in the Gulf would have to be considered carefully. These employment options were considered by a planning cell in Ottawa and this cell concluded that a brigade based on the existing European commitment could have fulfilled a number of roles in the Coalition plan: flank guard/ screening, counter-penetration, and blocking. These employment options were based on the assumption that the brigade would not be sustainable for a long period, the same assumption that had been used in Central Region planning for twenty years. However, these employment options as developed by this planning cell do not appear to have been disseminated widely, and there is little discussion of them in the BROADSWORD plan.

Though many shortcomings (specifically equipment and lift) would have been overcome if the effort and initiative had been made in November, the casualty estimates and the sustainability problem gave the higher-level military and political leadership cold feet. One BROADSWORD planner thought that this was the primary reason for not deploying to the Gulf:

I honestly believe the reason that it got handicapped or turned off was that people realized there would be casualties. There was DEATH involved! It was pretty easy to continue to sit offshore, embargo shipping, fly some airplanes, come back to a relatively secure environment... The government could see that we were talking 30 casualties a day, half of them being deaths. That was startling to the politicians...

Another planner had a similar point of view:

We may have been too pessimistic. The casualty estimates were up there and the shopping lists too big. That was the straw that broke the camel's back. When all was accumulated, with the high-risk assessment and a long shopping list, the thing became intolerable and it was cancelled. I wonder what would have happened if we had gone with a less grandiose shopping list.... The Chief [of the Defence Staff ultimately] did not recommend it to the political level.

The operational commanders for BROADSWORD certainly believed that the plan was a good one and that it was capable of being executed. Many logisticians also believed that the movement problem could have been overcome and that the equipment could have been acquired quickly. What was lacking was the will to do these things.

The most important question here is, does the failure to execute BROADSWORD prove that the NATO

brigade commitment was not a viable one? (At least one Canadian Admiral has made this assertion). Many well-informed people believe that the answer is no. To redeploy a brigade group to an entirely new and unfamiliar theatre of operations against a new enemy cannot be compared to having a brigade in theatre with intimate knowledge of the ground, its allies, and its enemy. There is no doubt that the sustainment and logistical problems were significant and would have posed problems in NATO's Central Region. This ignores the fact that Canadian planners knew what the problems were and were not given the guidance and political support necessary to fix them prior to 1985. The Canadian soldier's ability to improvise and make things happen should never be underestimated. A NATO war would have been more important than a Gulf deployment, and the entire national effort would have been directed to supporting the Central Region.

In sum, Operation BROADSWORD represents possibly one of the biggest "what if's" in Canadian military history. It was not only a missed opportunity. BROADSWORD also highlighted some of the structural weaknesses that have existed in the Canadian Army since 1970 and should provide guidance for future defence policy makers and military planners.



ABOUT THE AUTHOR...

Dr. Sean Maloney received his BA and MA from the University of New Brunswick and his Ph.D. from Temple University in Philadelphia. His military service included duty with the 8th Canadian Hussars (Princess Louise's) as a troop officer and an appointment as the official historian to 4 Canadian Mechanized Brigade Group. His writing and research focuses on Canadian national security policy. Dr. Maloney's publications include *War Without Battles: Canada's NATO Brigade in Germany, 1951 - 1993 (1997)*, numerous articles, and the forthcoming book *Learning to Love the Bomb: Canada's Cold War Strategy and Nuclear Weapons, 1951 - 1968*. He is currently the Social Sciences Humanities Research Council of Canada Post-Doctoral Fellow at The Royal Military College of Canada, where he also teaches in the War Studies Department. Dr. Maloney is the Academic Advisor to *The Army Doctrine and Training Bulletin* and regularly contributes articles and commentaries.

ENDNOTE

1. With the realignment of Canada's NATO ground contribution to the central front, the two brigades assigned to 1st Canadian Division changed their titles from brigade groups to brigades.

Manoeuvre Warfare and Mission Command in Peace Support Operations

A Practical Application

By Major Cliff Trollope, CD

INTRODUCTION

Since the Canadian Army adopted the doctrine of manoeuvre warfare, and the accompanying command philosophy of mission command, there has been a great deal of debate surrounding its implementation. There has been a plethora of articles written on the subject and many questions regarding what we are doing on a daily basis, and if we are actually implementing our doctrine. Most would agree that the manoeuvrist approach is the best way to conduct operations. With this approach comes the imperative of mission command. It is not my intent to explain the value of tempo, attacking centres of gravity or disrupting the enemy etc., as this has been proven many times. The problem we, in the Canadian Army, seem to be having is getting past the theory, buzzwords and fictitious or historical examples and onto the actual application. It is one thing to recite the various fundamentals, tenets, and tools of the manoeuvrist approach and mission command and quite another to actually use it on a daily basis.

One of the most attractive aspects of manoeuvre warfare is that it applies equally across the full spectrum of conflict. Peace support operations demand mission command and the manoeuvrist approach is really the only viable option commanders have to deal with the complexities and pace of these missions. Perhaps some of our slow progress regarding the implementation of our doctrine is due to the fact that commanders, at all levels, have not fully embraced manoeuvre warfare or experimented with its use. It is, as we all know,

a way of thinking more than anything else and therefore it should be applied and permeate everything we do in garrison, on training, in headquarters, during peace support operations and when at war. The basics of manoeuvre warfare can be applied every day and used to solve every problem that professional soldiers face in our day-to-day work. When a concerted effort is made to apply our doctrine, most will find that implementing manoeuvre warfare and mission command is not an overly complex endeavor. In this paper I will demonstrate, using practical examples from Operation Palladium, Roto 7, that by applying the *tools of manoeuvre warfare* the stage is set for mission command to thrive. Manoeuvre warfare fundamentals can then be used,

One of the most attractive aspects of manoeuvre warfare is that it applies equally across the full spectrum of conflict.

as fundamentals should, to guide the conduct of operations and to assist in planning and decision making. The tools of manoeuvre warfare referred to are: mission analysis, commander's intent, selection and maintenance of the aim, main effort, and unity of effort.¹ Each of these will be dealt with in more detail later.

For purposes of illustration, the author's personal experience as a rifle company commander in Drvar, Bosnia during Operation Palladium, Roto 7 will be utilized. This is definitely not to imply that everything done on that tour was perfect or that the manner in which manoeuvre warfare and mission com-

mand were applied should be a prescription for similar peace support operations. It is not an exercise in self-grandeur. The aim is simply to give practical examples of how our doctrine can be applied, how it does not have to be overly complex and the huge benefits that can be reaped, when the manoeuvrist approach is used. The intent is to show that applying the tools of manoeuvre warfare allows the entire process to move from the theoretical to the real world.

PROBLEM: THE NATURE OF PEACE SUPPORT OPERATIONS

Peace support operations, by their very nature, can be extremely complex endeavors that come with their own built-in friction. There are many different issues and dynamics at play that force commanders and soldiers to consider factors well outside of conventional warfighting. Sub-units in isolated Areas of Operations (AORs) are forced to plan and think at the operational, and even strategic, levels. The problem is exacerbated by the fact that peace support missions are long in duration and success cannot be achieved by conducting a series of unrelated actions. The decision/action cycle is continuous and every action must contribute to the overall mission. To complicate the issue further, the essentials of such things as attacking a centre of gravity, mission focus, sound and rapid decision-making, and unity of effort still apply in peace support operations as they do in war. Cohesion, both our own and that of the forces/people bent on obstructing the peace process, is still the key. The problem is multi-faceted. How should we go about the operation? How do we

apply and focus our military resources on a daily basis? How does the commander sift through the complexities of the situation, ensure a rapid decision/action cycle and, most importantly, clearly articulate his intent to his subordinates? The answer is found in applying the tools of manoeuvre warfare that in turn allow mission command to successfully be exercised.

THE SOLUTION: TOOLS OF MANOEUVRE WARFARE AND MISSION COMMAND

Understanding fully that manoeuvre warfare is a way of thinking and not a set-piece process, there still has to be some procedures or actions that can be undertaken that foster the manoeuvrist approach and allow mission command to flourish. If our doctrine has one failing it is that there is not enough emphasis placed on the application of manoeuvre warfare. There is much written on the fundamentals of the manoeuvrist approach and mission command but very little on what can be done to get the process going. The best start point for practical application is with the tools of manoeuvre warfare. The tools are as follows:

- Mission Analysis
- Commander's Intent
- Selection and Maintenance of the Aim (Mission Focus)²
- Main Effort
- Unity of Effort

Personal experience reveals that these five aspects of manoeuvre warfare are aptly called tools as they are procedures, or concepts, that commanders at all levels can use. They are mutually supporting, do not have to be sequential, can be used on a continuous basis, and

If our doctrine has one failing it is that there is not enough emphasis placed on the application of manoeuvre warfare

by using one tool you are setting the stage or building the framework for the others to be put into action. They should be considered as instruments that are used to solve or fix the military problem

(achieve the mission) at hand. However, like all tools, they are of no use if they sit in a box and are not used. Now it is time to get to work and give examples of how the tools can be used to solve "the problem" which in this case is a peace support operation. However, before we do that, each tool needs to be looked at briefly from a sub-unit commander's perspective to emphasize how they support each other and set the conditions for mission command.

Mission Analysis. Mission analysis is the start point for every plan and action that takes place and, one could argue, the most important tool. It is the start of the decision action cycle. It is spoken of often and taught, along with the estimate process, in our various schools. However, it is my experience that junior officers and NCOs do not fully understand what it means. Perhaps some of the confusion is related to the actual term mission analysis. Maybe task analysis would be a better term. My job was made much easier by the fact that the first thing I do in the development of junior officers is to teach them mission analysis. It does not need to be a complex procedure that follows a strict format. It is merely a logical thought process that ties into and overlaps with the estimate, and arrives at plans and actions that need to take place. You can never go wrong by "so whating" an issue until you get to a concrete action. It is the foundation of applying the manoeuvrist approach and the only process that, when done at all levels, will allow decentralized command and ensure sound, rapid decision making. Mission-type orders, that stress

the commander's intent, concept of operations, main effort and end state will only be effective if subordinate commanders can conduct effective mission analysis.³



A Bison armoured vehicle belonging to the 3rd Battalion Princess Patricia's Canadian Light Infantry Battalion Group (3PPCLI BG), patrols the village of Ramici, September 2001. (Courtesy CFPU)

Commander's Intent. Proper mission analysis cannot occur unless the commander clearly articulates his purpose (intent), method (concept of operations to include main effort) and end state. Every plan, order, directive or instruction must be structured in this manner. The problem with commander's intent is often not with the intent itself but how it, and his concept of operations, is articulated to his subordinates. The more complex the task or mission the more difficult it is.

Selection and Maintenance of the Aim. Also a principle of war, selection and maintenance of the aim really means staying focused on the mission. The aim should be evident in the mission statement as well as in the commander's intent. It may seem like a motherhood statement but, as I will explain later, it is essential on long complex missions and in peace support operations to stay focused on what really matters. Without a clear and directed focus, mission analysis is difficult and becomes less effective. Subordinates cannot be continually asking themselves why they are doing specific tasks. The "why" of an operation can never be in doubt.

Main Effort. Even with clear articulation of the commander's intent and concept of operations, subordinates still

need to know the one element of the operation that is the most important. Designating a main effort, and making it clear why the main effort is what it is, pushes mission command to the next level. Through their own mission analysis, subordinate commanders will use their initiative to find ways to support the main effort.

Unity of Effort. Unity of effort is as much a byproduct of using the other tools as it is a tool itself. By maintaining mission focus, clear articulation of commander's intent and main effort, and continuous mission analysis, unity of effort will logically follow on. As a tool, it is almost always used to measure the effectiveness of the other tools. If there is no unity of effort, it is most likely a result of the other tools not being applied properly.

Mission Command. Mission command is based on trust and trust is a topic that we should not even need to discuss. If a commander does not trust his subordinates, he needs to either replace them or find a new profession himself. Our junior officers and NCOs are top-notch people and worthy of our complete trust. The issue at hand is setting the conditions that allow them to operate independently, use their initiative, and make sound and timely decisions. They need to know why they are tasked to do certain things. Applying the tools of manoeuvre warfare sets these conditions.

PRACTICAL APPLICATION ON A PEACE SUPPORT OPERATION

Throughout the tour, mission analysis as a tool received a great deal of use. I should stress that by mission analysis I do not simply mean the process one goes through to arrive at a mission statement. It is much more than that. Where mission analysis ends and the estimate begins is not clear nor does it matter. The key word is analysis. A logical study of available information and assigned tasks and simply "so what?" each element until a deduction is made and action can be taken. Considering the complexities of the situation we were faced with in Bosnia, mission analysis was a powerful tool.

As was mentioned previously, peace support operations can be very complex. The logical and thorough process that is mission analysis makes it the perfect tool. It was found to be useful to start mission analysis as early as possible. The detailed information that I received on the tactical recce, combined with a study of the AORs history and any other information available, allowed me to have my mission analysis completed prior to the confirmatory exercise. I understood the intents of the Commander of Stabilization Force (SFOR) and Commander Multi-National Division (South-West) (MND[SW]), as well as what my battle group commander expected of me and my company. I also had a good understanding of the current mission and the key issues and factors at play. As complex as the situation was, by taking the time to conduct a detailed mission analysis, my understanding of what needed to be done was enhanced. However, my understanding of the situation was nearly useless unless I could find a way to articulate the complexities of the mission and my intent to my subordinates. This is a separate issue that I will deal with when discussing the other tools. The main point here is to gather as much information from as many sources as early as possible and start with mission analysis.

What became abundantly clear from the tactical recce and throughout the tour was that the situation on the ground was evolving very fast. The

result was continuous mission analysis and reassessing the way we were conducting day-to-day operations. Mission analysis was needed both at the macro level (i.e. looking at the entire operation and related issues) and with specific aspects of the mission (i.e. humanitarian assistance operations and psychological operations or "Psy Ops") as well as with daily patrols. There are

The commander's intent is vitally important.

two key points to be drawn from this as they relate to peace support operations and mission analysis. The first relates to that last question one asks at the end of the mission analysis process: Has the situation changed? When it has, mission analysis is required. For Roto 7, I needed to conduct three large-scale looks at the overall mission. The end result of each was the initial intent and concept of operations, a mid-tour situation report and adjustments and the end of tour handover. These were not scheduled events but rather times when it became clear that the mission had evolved and things had occurred on the ground that forced us to look at the big picture.

The second key point relates to mission analysis being done at all levels. The two hours I spent teaching platoon commanders the basics of mission analysis, and having them in turn teaching section commanders, paid huge dividends. I found that all of my subordinate commanders would analyze each task to see how it fit into the overall mission. As a result, they would either question the effectiveness of what they were doing or more often ask me for clarification of the "why". As soon as our patrol reports appeared to be drying up or getting stale we knew it was time to re-look at what we were directing the troops to do. The company second in command, the Operations Master-Corporal, or the patrol commanders themselves often brought this fact to my attention and was a result of them conducting mission analysis. This in turn drove me to look at specific aspects of the mission, conduct mission analysis and issue an operations directive (with my intent, concept of operations and main



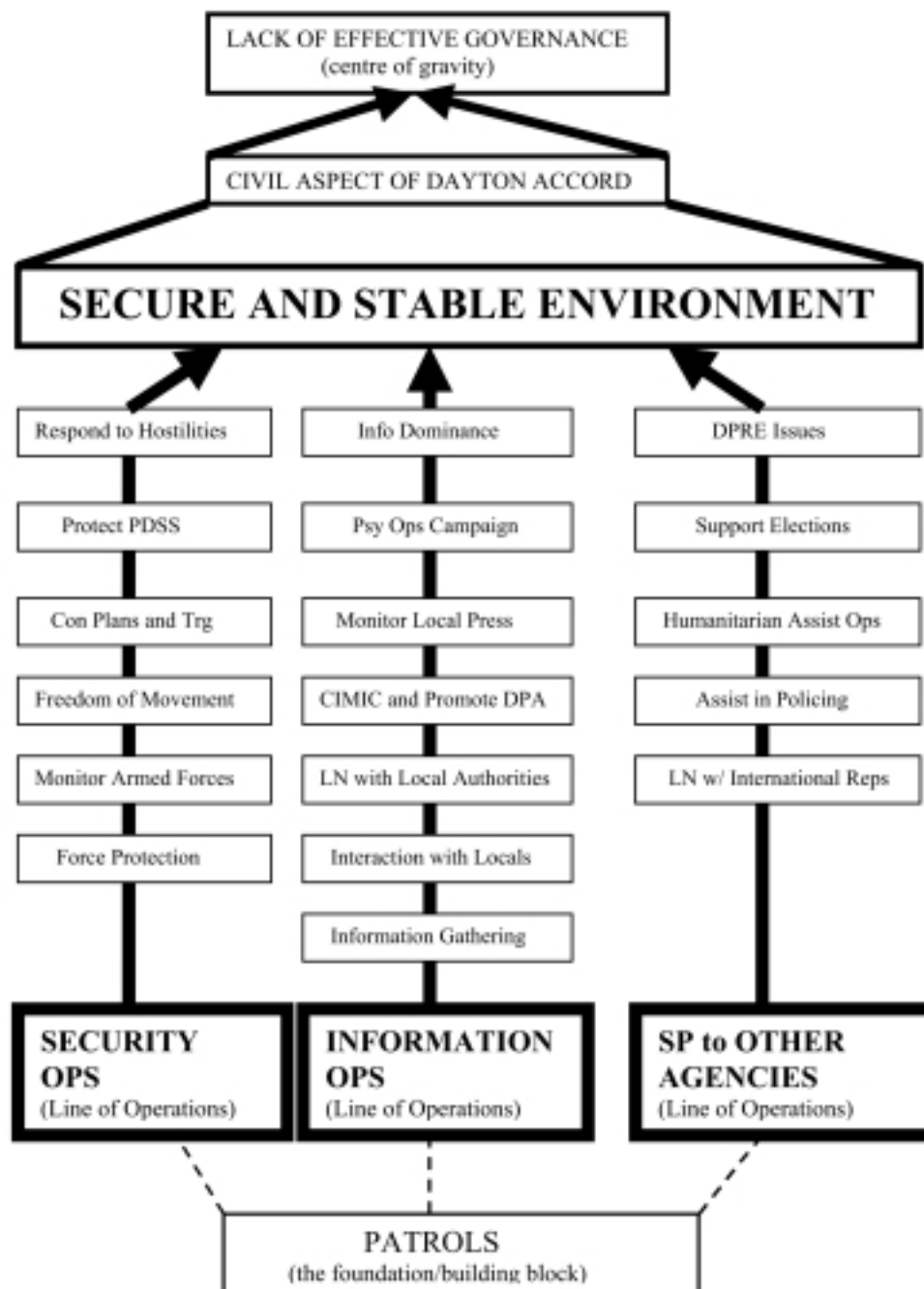
The Bosnia-Herzegovina theatre of operations. (Courtesy DND)

effort) that would refocus the patrols and my subordinate commanders. They would then take this operations directive, conduct their own mission analysis and the entire operation would continue to progress.

Commander's Intent is a tool that takes mission analysis and starts to transform it into actions taken to fulfill the mission. An extremely effective mission analysis loses its value if the commander cannot successfully link it to his intent. The commander's intent is vitally important as not only does it drive his subordinate's mission analysis but it also is what allows mission command to flourish. While deployed in Bosnia, I discovered two very important aspects with respect to commander's intent. The first was that if I clearly expressed my intent, in absolutely everything the company did, the officers, NCOs and soldiers found ways to get results that exceeded what I thought was possible every time. In order for this to happen, commander's intent had to be obvious in all aspects of the operation. My subordinate commanders seemed to thrive on this, especially the NCOs. The important thing was giving the direction (intent) and some guidelines (concept of operations). Then, with the "how" left largely up to them, they could get on with things and I would move to the next task. With some of the more complex tasks, I expressed this in writing as well as verbally; however, the most effective means appeared to be when I gathered all section commanders and attachments and expressed my intent verbally with the aid of a flip chart. We used this for operational tasks, visits, the leave plan, and the sports program. Everything had an intent and I became convinced that if an activity had not unfolded as I had envisioned, it was not the fault of the troops but rather mine for not clearly articulating my intent. The second aspect of the commander's intent, and the more difficult, was finding ways to clearly articulate it so that my troops understood what I was thinking.

For complex and on-going peace support operations, I found that merely stating my intent was often not enough. It worked for various tasks throughout the tour, but for the mission itself, it was not enough. By showing the overall operation diagrammatically, the complexities of the situation could be explained with one page or chart. This diagram, which I called the concept of operations, but really in essence was the intent tied in with the mission and concept of operations, was an extremely useful tool. It allowed me to take the big picture and draw it down to what the soldiers did on a day-to-day basis.⁴

Our mission was clear. *A Company will ensure a secure stable environment in order to facilitate the full implementation of the General Framework Agreement for Peace/Dayton Accords (GFAP).* This was all well and good, but it did not help the troops understand what needed to be done apart from the fact that we needed to keep the situation secure and stable. My intent was as follows: *To conduct a focused, well-coordinated and unpredictable patrol program that will gain and maintain information dominance in the AOR. Information dominance will allow us to pre-empt or disrupt any*



elements striving to obstruct the peace process thereby ensuring a secure and stable environment. This statement was useful in that it emphasized the importance of the patrols and information gathering; however, it still was not enough to get the process going. It was the concept of operations diagram that wrapped everything together.

In general terms, the concept of operations was based on three mutually supporting lines of operations that were to be viewed as three legs to a tripod. These lines of operations, or legs of the tripod, all supported the mission, a secure and stable environment. More specifically, the diagram worked as follows. At the top is what I identified as the centre of gravity at the time in our AOR and that was a lack of effective governance. The single factor that was most holding back the peace process was the fact that there were no organizations or structures in place that could lead Bosnia to the point where international assistance was no longer required. The main task for getting to this centre of gravity fell largely to the other international agencies entrusted to implement the civil aspects of the Dayton Accords, and the local population themselves. However they could not do their jobs and the process could not move forward unless there was a secure and stable environment, and that was our mission. Now we had to take our military resources and apply them in such a way as to ensure a secure and stable environment. Maintaining a secure and stable environment itself was not a simple task given the various elements and issues at play. This is where we look at the bottom of the diagram to the patrols as the building block. On any given day the patrols were given tasks that fit into the three lines of operations. The small blocks along the lines of operations were simply things that we did. They were not sequential and all were mutually supporting. For example, something that we did on the information operations line supported the other international agencies and so on. It was then by conducting a series of 24-hour rotations, that began with a morning operations conference, that we ensured

that the patrols were properly focused. The key was that every single thing we did had to go towards supporting a secure and stable environment. The *main effort* was the information operations line of operations as it was the one that most influenced the other lines and the overall mission. If we did the little things right on a daily basis, not only would we have information dominance, but also all three legs of the tripod would be strong and the secure and stable environment maintained. If one leg became too weak, the tripod would topple and the secure and stable environment would fall.

This diagram was the one way that I could articulate my intent and the overall mission to my subordinates. A company-level operations order for the mission was not required as long as my subordinates understood the diagram and how the mission was meant to unfold. We would revisit this diagram many times throughout the mission to check our progress. It was also an effective tool to explain to the soldiers the big picture “why” of the operation. It linked our day-to-day activities to the overall situation. I knew my subordinate

The most important aspect of main effort was ensuring that one was designated and clearly understood.

commanders understood my intent early in the mission when they began to question me on various aspects of the diagram. The first such question was related to humanitarian assistance operations and how they were linked to a secure and stable environment. This was a trigger to me to flush out that aspect of the mission with an operations directive. All this entailed was my doing a mission analysis related to that specific element of the operation and issuing a one or two page directive that gave my subordinates the guidance they needed. Throughout the tour, I issued six operations directives dealing with everything from humanitarian assistance operations, civil disorder and cooperation and confidence building measures. Essentially these directives were mission-type orders that had an aim/mission, intent, concept of operations

and main effort that tied to the overall mission of maintaining a secure and stable environment and gave my subordinates the direction they needed.

Selection and Maintenance of the Aim or mission focus acted as both the glue that held the operation together and the tool to assess if an activity was worth doing. Everything had to somehow relate to maintaining a secure and stable environment and the operation itself. If we found ourselves being pulled in a different direction the question asked was, “How does this relate to maintaining a secure and stable environment?” If it did not, we did not do it. This was also useful in fighting mission creep. Maintaining an operational focus was not difficult but had to be re-enforced by commanders at all levels on a continuous basis. It was the essence of the command climate. We were in Bosnia to conduct a peace support operation and everything we did had to support this. The food, the leave plan, how visits were handled, and how we conducted day-to-day business were all related to the mission. Once this seed was planted, the troops ran with it. The standard response in the company when one was asked what he or she was doing at any particular time was, “Conducting peace support operations in the Former Republic of Yugoslavia.” When asked to elaborate the company mission statement was quoted. Although these statements were made in jest they did go a long way in keeping the company focused on what was truly important. With specific tasks there were obviously more specific aims but the key was that operations prevailed and everything related back to the mission.

Main Effort for the entire operation remained the information line of operations. However, on a daily or weekly basis the main effort shifted as required. The most important aspect of main effort was ensuring that one was designated and clearly understood. This may seem like a motherhood statement but I found it to be a very powerful tool. Subordinates liked knowing what was the most important aspect and why. Once this was understood not only would those tasked launch with focus, but others

within the company group would come up with ways to help. As a commander this made my job extremely easy.

Unity of Effort on a peace support operation, regardless of complexity, is not overly difficult to achieve. One of the most important things is to ensure that everyone working in the AOR, regardless of command relationship, is working to support your mission. What was highly successful for us was to include all attachments in every operations conference. This ensured that they understood what the issues of the day were and gave them the opportunity to find ways to contribute to the mission. The other key aspect to ensure unity of effort was simply applying the other tools. If everyone is situationally aware, understands the intent and main effort and can conduct mission analysis, then unity of effort will be inevitable. In our particular case, the Civil-Military Cooperation liaison officers, with their contact with the local population, made great contributions by simply directing their efforts to support my intent and mission. Many were small actions, like organizing a Halloween party for local Bosnian-Croat children at a time when the operation needed us to build better relations with that portion of the population. I did not direct them to do this. They simply pounced on an

opportunity that arose during the course of their duties and in the end we reaped huge benefits from this one small initiative.

Finally, it was by applying the tools of manoeuvre warfare that allowed *mission command* to be exercised. It was really quite simple. Our junior officers and our NCOs fully embraced mission command and the tools of manoeuvre set the conditions for them to succeed. The start point was their being comfortable and relatively proficient with mission analysis. If I then clearly articulated my intent and main effort and ensured that the aim was maintained, they would then be in a position to not only make the right decisions but also to find the best “how” to meet my “why”. When all of these elements came together and were reinforced on a daily basis, unity of effort logically followed. The end result was that the company virtually ran itself. Without having to worry about every detail and coordinating every activity, my time was free to focus on the important issues. The essential thing for me as the commander was to get my mission analysis as close to right as possible, and to clearly articulate my intent and main effort. After that, my subordinates filled in the cracks and produced outstanding results on a daily basis.

CONCLUSION

Our struggle to implement the manoeuvrist approach and mission command has to end. We, as an army, must get past the theory and start to apply our doctrine in all we do, on operations and in garrison. The best way to do this is by using the tools of manoeuvre warfare. Regardless of task, if commanders maintain the aim, clearly articulate intent, concept of operations and main effort, then subordinates will know the “why”. If we train our subordinate commanders in mission analysis and demand it from them, they will arrive at the proper “how”. When these things are combined, unity of effort is not only inevitable but also synergistic. With this done, the stage is set for mission command, mission type orders, and use of the fundamentals of manoeuvre warfare as they apply to any given situation. The application of the tools is especially effective when dealing with peace support operations. In the end, most will find that not only is it relatively easy but it is also the most effective and efficient way to do anything in the Army.



ABOUT THE AUTHOR...

Major Cliff Trollope holds a BA in History from The Royal Military College of Canada and is a graduate of the Canadian Land Force Command and Staff College (CLFCSC). Since gaining his commission in 1988 he has served exclusively in infantry units or infantry related positions. Major Trollope served as a junior officer with 1st Battalion Princess Patricia's Canadian Light Infantry (PPCLI) and accompanied that unit on United Nation duty in Cyprus. From 1991 to 1995 he was employed at The Infantry School in Gagetown and has spent the last six years with 2 PPCLI. While serving with 2 PPCLI, he has twice deployed to Bosnia; once as company second in command with the first SFOR deployment into the area in 1997, and on the second, as a company commander on Operation Palladium, Roto 7. He is presently a company commander in 2 PPCLI in Winnipeg, Manitoba.

ENDNOTES

1. The tools of manoeuvre warfare are from the works of Lieutenant Colonel (ret'd) C.S. Oliviero. They are the synthesis of many works and

have been presented, amongst other places, to students at the Canadian Land Force Command and Staff College in Kingston, Ontario. The author first came in contact with the tools as a student at CLFCSC in 1997.

2. The term “mission focus” as it relates to selection and maintenance of the aim is the author's doing. The intent is to emphasize what this particular tool of manoeuvre warfare meant to the author and his sub-unit.

3. William S. Lind, *Maneuver Warfare Handbook*, Boulder CO, 1985, p. 15. Although mentioned in many publications and manuals, Lind's description of mission-type orders gives a very clear explanation.

4. The idea to show the mission in a diagram was initiated based on the experience of using a “campaign plan” during my first SFOR deployment in Drvar in 1997. Major (now Lieutenant-Colonel) Ian Hope, had designed a campaign diagram that suited the mission at the time and it was highly effective. Following my initial mission analysis, I started out with a similar intent using B-GL-300-001/FP-000 as a guide. However, I got considerably bogged down when it was clear that the mission had evolved so much, had a different centre of gravity, and was no longer as linear in fashion. It was following a discussion with Major Hope, who was at the time a SAMs student at the U.S. Army Command and General Staff College in Fort Leavenworth, Kansas, that the idea of a tripod emerged. Major Hope's advice was not to be concerned if the mission was no longer linear and to think in three dimensions for the model. It was with this information that I devised the tripod. I was later to learn while giving briefings in Bosnia that the three-legged stool is a concept or method of explanation used at the U.S. Army War College.

Fighting the Good Fight

A Comparative Study of Military Ethics in Operations other than War

by Catherine Sheridan-Demers

It is curious that physical courage should be so common in the world and moral courage so rare.

— Mark Twain (1835 - 1910)

Military culture and form are vastly distinct from society at large. The profession of arms, which by definition is the controlled application of violence, sets military professionals—officers and soldiers alike—apart from the bulk of society vis-à-vis terms of professional responsibility. The military professionals' stock and trade is often human life spent at the cost of furthering government policy—whether in defence of state, international security or humanity. Military professionals are trained and purportedly prepared to deal with the dissimilar situations that range along the spectrum of conflict and to cope with the attendant ethical dilemmas inherent in those situations. Traditional "warfighting" constitutes only a slender portion of the spectrum of conflict. The majority of operations along the

Military culture and form are vastly distinct from society at large.

spectrum are categorized as operations other than war (OOTW), which encompass a diverse collection of functions, including disaster relief, search and rescue, peacekeeping, and peacemaking.¹

It is interesting to note that, although the majority of operations along the spectrum of conflict are those other than war, the ethics of such situations remain a murky realm for the

majority of military professionals. In traditional warfighting the situation is clear—military professionals are given an un-ambivalent enemy, which they will engage and defeat at the behest of their superiors and ultimately the governing powers of the state. In this uncomplicated "black and white" situation, military professionals confront few ethical dilemmas in the prosecution of a war for the furtherance of the state or for the good of humanity as a whole. The enemy is typically demonized, and military professionals enjoy the support of their society and the belief—founded or not—that the cause of the state is just and therefore justified.

If there are few ethical dilemmas in what a recent article in the *Canadian Military Journal* described as "appropriate circumstances" (the examples given were a trench at Passchendale or on the gun deck of a ship of the line at Trafalgar), perhaps we should heed the terse advice of John Arquilla and David Ronfeldt, who charge, "Look around. No good old-fashioned war is in sight."² The clear cut areas of conflict are few and far between, the military professional must regularly deal with the "grey areas" of the spectrum of conflict, which constitute the majority of military operations.

If there is no overarching ethical framework in place apropos OOTW, then what is to guide the professional soldier? Realistically, considering the diversity of OOTW, it is impractical that a single ethical framework could be developed to deal with all possible situations. But the question still remains, what guides the military professional through the labyrinth of these OOTW? How will the professional soldier or

officer execute his or her duty within the often blurred and incomplete ethical framework that military organizations

The military professional must regularly deal with the "grey areas" of the spectrum of conflict.

have provided for such situations? The answer can only be, with a great deal of personal fortitude and a reliance on military ethical values.

Historically, the reliance on these ethical values has led to situations of conflict within the chain of command. These grey areas of operations often find a soldier far from home, isolated, without a clear enemy to fight, and in the midst of a complex situation that can evolve abruptly, unpredictably, and violently. Add to this situation the strain of communications between those within the theatre of operations and those without. One often finds in-theatre commanders in conflict with those out of theatre. The majority of responsibility, both militarily and ethically, is placed upon the in-theatre commanding officer, who must make effective and ethical decisions. With the increasing public demand for transparency, intolerance of unethical acts, firm international policy of personal accountability, and the commanders' own humanity and sense of duty, such responsibilities can be devastating to the only human military professional.

The tale of General Charles Gordon, an officer of imperial Britain who blatantly rejected his orders to abandon the city of Khartoum in 1884, and the account of Lieutenant-General Romeo Dallaire, who turned in disgust



The death of Gordon at Khartoum on 26 January 1885. The Nile Expeditionary Force, which included Canadian Voyageurs, arrived too late to save him. (Courtesy Canadian War Museum)

from an order to withdraw his international peacekeeping force from Rwanda in 1994, chronicle the disparate experiences of dissimilar commanders. Interesting parallels can be drawn, however, between Gordon and Dallaire. Even though Gordon and Dallaire came from two different eras, they were the products of similar yet diverse military cultures that were both rooted in British military tradition, and they were both captive of their own personalities and temperaments. The underlying principles of their respective missions were diametrically opposed, yet both men navigated the more precarious grey areas within the spectrum of conflict and demonstrated how military ethics grounded in personal morals and convictions could and did mold the eventual outcome of their situations.³

In 1885, General Charles Gordon was a well-known maverick of the British army, darling of the public and a Royal Engineer famed for his contribution in China during the Taiping Rebellion. The pinnacle of Gordon's career was

spent as the governor of the Sudan. During his time as Governor, Gordon worked diligently to eliminate the slave trade, bolster the economy, establish communications and develop a niche for the Sudan in international relations.⁴ Gordon's relationship with the Sudanese people was somewhat ambivalent as Gordon often viewed the Sudanese as children who needed to be watched over, and even displayed some doubt as to whether the Sudanese would not be better off as well-cared for slaves rather than left to their own devices. Nonetheless, Gordon's concern for the well-being of the Sudanese was genuine, and the people, like the country itself, held a special place in Gordon's affections.⁵

Gordon had retired and was residing in England in 1883 when word of rebellious forces led by Muhammad Ahmed, known as the *Mahdi*, reached England. The *Mahdi* was believed by Islamic people to be the "Expected One"—a forerunner to the end of the world and a prophet of Allah. Militarily, the *Mahdi* enjoyed considerable success, and, ironically, Gordon at first supported the rebellion, seeing it as God guiding the Sudanese to their freedom. Soon though, events began to sweep out of the grasp of British power, as British and Egyptian forces were destroyed wholesale by the *Mahdi* and his followers and power increased exponentially with each victory.⁶

For the British government the only feasible course of action was the evacuation of the Sudan. The government had no wish to further involve the British Empire in this tumultuous region, and wanted only to forestall additional military involvement and subsequent entanglements. The British public, however, was of a different mind, and the press began to clamour for British intervention. British pride had suffered at the hands of the *Mahdi*, Dervishes

were overrunning the colony of a British protectorate, and, therefore, something had to be done. The British government decided upon a compromise to avoid further embarrassment or entanglement. The Sudan would be evacuated, but Gordon would be sent to supervise the evacuation and lend an appropriate air of British control to the circumstances.⁷

Gordon was to survey the situation and decide the best course to evacuate the Sudan. It was falsely believed that Gordon had extensive knowledge of the Sudan; he was, in fact, viewed by the British government and public as the expert on the Sudan. In truth, Gordon spoke virtually no Arabic and his actual knowledge of the Sudan was very limited and dated. Furthermore, his orders were extremely vague and allowed liberal interpretation of what specifically were to be Gordon's duties. Before Gordon had even left for the Sudan, he had already decided that the whole situation had been blown out of proportion by panic artists and believed that the evacuation would be a simple logistical matter.⁸

Many questions have been raised as to why Gordon transformed a mission to evacuate the Sudan into an all-out defence of Khartoum. A few clues may be found in the thoughts and character of Gordon himself. As Valentine Baker, a British general in the Egyptian service, noted, "As soon as I heard Gordon was going to the Sudan, I knew there would



Brigadier-General Romeo Dallaire, Commander of the United Nations mission in Rwanda (left) and an Argentinian officer speaking with a rebel brigade commander, Rwanda, August 1994. (Courtesy CFPD)

be a fight.” Baker’s observation seems to be corroborated by Gordon himself, who held that “There is no earthly success except in war when you beat your enemy.” Such sentiments, perhaps, indicate a dangerous mind-set with which to approach the situation in the Sudan, especially considering Gordon’s emotional ties with the African country.⁹

Upon his arrival in Khartoum, Gordon did manage to evacuate some 2300 civilians, mostly women and children. But there remained an Egyptian garrison of 6000 men, countless Egyptian government officials, and a handful of European citizens, whom he had no realistic means of evacuating. Although it was possible for him to slip away and avoid facing the oncoming onslaught of the *Mahdi*, Gordon was unwilling to abandon these people to their fate.¹⁰ Although Gordon’s enthusiasm for battle surely contributed to his decision to stay, his ethics were the deciding factor in his decision that he must defend Khartoum. Gordon believed that the *Mahdi* would simply slaughter the Egyptian and European occupants of the city. He thus demanded that a relief force be sent from Britain and began to fortify Khartoum against attack. It is clear from Gordon’s journal entries that he believed that his continued presence was vital to the defence of Khartoum: if he were to leave, it was certain that there would never be a relief force expedition to Khartoum and he could not hope to save eight to ten thousand lives.¹¹

Thus did Gordon face his ethical dilemma: sent to simply advise on the best means that could be employed in the evacuation of the Sudan and Khartoum, and after extricating those few he was able to evacuate, he realized that thousands would not escape the onrush of the *Mahdi* unless he did more than his orders allowed. The situation on the ground was much different from what the British politicians had envisioned. Gordon risked and would ultimately lose his life striving to provide protection for the Egyptian and European citizens stranded in Khartoum. Gordon could have easily removed himself from the path of the *Mahdi*, but his professional military ethics prevented him from



Tutsi Militiamen celebrate their victory over Hutus. (Courtesy Esprit de Corps)

doing so. Britain’s reluctance to send the forces he was desperately calling for cost him his life: the relief force arrived two days after the fall of Khartoum and Gordon’s death. Gordon followed his ethics and paid for that decision with his life.

Another man intimately familiar with being placed in such a tenuous situation is General Romeo Dallaire. Dallaire was sent to Rwanda on what was to be a simple peacekeeping mission to implement a ceasefire agreement and oversee the installment of a coalition government in 1994. Dallaire and his staff, however, were unaware that the ceasefire was little more than a guise. Among many other reports and indicators, in mid April 1993, Mr. Nidiaye, a Special Rapporteur of the UN, observed first hand in Rwanda the questionable viability of the ceasefire, as countless human rights violations and massacres continued to target the Tutsi population. Nidiaye identified a serious risk of genocide and was ignored by the principal powers of the Security Council, who received his report with little interest.¹² By this time the powers of the Security Council had received word through their own intelligence reports that there was indeed serious trouble brewing. Unfortunately, Africa, and more specifically the poor state of Rwanda, was of little or no strategic interest to the powers, and the information was ignored. Dallaire arrived in Rwanda on the 22nd of October 1993, uninformed of this disturbing information and believing that the United Nations Assistance Mission in Rwanda (UNAMIR) was to be a simple mission.¹³

After a short time in Rwanda, however, it became clear that there were undercurrents that had been overlooked in the establishment of the mission. Tensions steadily rose, and the development of the coalition government was stalled, as sporadic violence began to increase in frequency and worsen in degree. Dallaire received reliable information from an informant, a high level member within the Rwandan *Interhamwe* (“those who attack together”), that the mass murder of the Tutsis was being planned.¹⁴ Through this informant, Dallaire was able to accurately establish the location of several significant weapons caches that were to be distributed only a short time before the massacres were to commence. Dallaire contacted UN headquarters (UNHQ) in New York and requested permission to activate a knockout force in order to seize the weapons caches and prevent their use. He was denied permission. Dallaire later contacted UNHQ to ask for permission to halt the inflammatory broadcasts that were inciting the Hutus to massacre the Tutsis. Again he was denied. There were many opportunities to halt the violence that was so obviously building, but UNHQ, specifically the Security Council, was reluctant to take the necessary steps. This reluctance was to cost the lives of hundreds of thousands of innocent civilians.¹⁵

As with Gordon in Khartoum, Dallaire helplessly watched the situation deteriorate around him as UNHQ did nothing. On April 6th the mounting tension erupted when the plane carrying the Presidents of Rwanda and Burundi was shot down while preparing to land at the Kigali airport. Almost

immediately the “brutal Presidential Guard and the paramilitary *Interhamwe* establish(ed) road blocks throughout Kigali”¹⁶ leaving General Dallaire in little doubt that the massacres the *Interhamwe* informant had warned of, were about to begin. After the loss of the Belgian and Bangladeshi contingents, Dallaire defied UNHQ and, following his own ethics, refused to withdraw the remainder of his force and completely abandon the Tutsis to their grim fate. Dallaire found himself in the middle of the most incredibly brutal and swift genocide of the 20th century with only 450 lightly armed peacekeeping troops. In the following three months of relentless slaughter, Dallaire sought to protect as many people as possible with his small peacekeeping force and succeeded in saving the lives of over thirty thousand people. This was no trivial feat considering the formidable obstacles facing the small peacekeeping team.¹⁷

At the outset of the violence, Dallaire had fashioned a plan that entailed the use of an estimated five thousand additional troops to quickly stop the violence, but the UN was not willing to listen to Dallaire. Dallaire revised his plan and requested that the mission be modified to a Chapter VII. Once again the UN rejected his plan, refusing to give any real consideration to the possibility of bringing an end to a genocide that would result in the deaths of some 800,000 Rwandans. By July 4th the Rwandan Patriotic Front (RPF) rebel army, fighting against the government for the Tutsi people, had made its way across Rwanda and declared a unilateral ceasefire, bringing a bloody end to the genocide.¹⁸

George Bernard Shaw once dryly commented that, “Hegel was right when he said that we learn from history that man can never learn anything from history.”¹⁹ The comparison of Gordon and Dallaire’s command experiences lends credence to Shaw’s comment. Even though Gordon was in Africa in 1885 for Britain on a mission that was spiced with strong imperial undertones

and Dallaire was there a century later in 1994 as an international peacekeeper helping to maintain order in a postcolonial society, the similarities of these two seemingly unlike situations are striking. In both cases, the circumstances of the situations into which the generals were to enter were not fully understood. Both Gordon and Dallaire left their native soil with the thought that their missions were to be relatively uncomplicated.

Upon arriving in theatre, both generals realized that the situation was much different from the picture that had been presented back home. In both cases, as the generals began to report back to their respective headquarters, both bodies of political authority resisted the conclusion that the actual situation was different from what had been expected and demanded that the generals fulfill their mission as given. This inflexibility of policy and mind can be said to be responsible for a large part of these unfortunate situations.

The unwillingness of the collective political unit to trust the military establishments’ commanders in theatre is both unwise and amateurish. Yet the

Hegel was right when he said that we learn from history that man can never learn anything from history.

military establishment is not free of blame in either case. In war, the old adage that “the best plan never survives the first cavalry charge” is implicitly understood; yet, the military community seems incapable of applying this knowledge to those grey areas of conflict, just as it seems incapable of trusting its own senior officers to make judgement calls in situ. In the cases of Gordon and Dallaire, the responsibility of balancing political calculation and the ethical values espoused by the military community fell to the shoulders of military commanders. Although both men have been

censured for their roles in Africa, both were eventually considered heroes not just within their own military organizations but also within society, proving that, in following the dictates of their ethics and their humanity, they did the only possible thing.

Both generals were faced with the mass slaughter of innocent civilians, both were cognizant of the danger prior to the commencement of serious violence, both tried to warn their superiors of the impending peril and risk to civilian life, and both were ignored. As the interests of the political parties involved did not allow for sending additional forces to Africa, it was expediently decided that the military commanders were merely exaggerating; Gordon simply was not trying hard enough to evacuate Khartoum, and Dallaire had misjudged completely, or was greatly overestimating, the risk of violence in Rwanda.

After the initialization of hostilities, when both men were ordered out of the area because the situation was deemed too dangerous, both refused in order to protect the lives of the people under their care. Whether struggling to protect ten thousand people as in the case of Gordon or over thirty thousand as in the case of Dallaire, the message from the commanders was the same—we will not stand by and simply watch these people die. Their military ethical values were at odds with those of the political decision makers, who were

more concerned with avoiding embarrassment and the level of involvement and expense attendant with remaining in Africa. If the military professionals’ stock and trade is human life to be spent in the furtherance of state policy, so too then does the professional of arms hold sacred the value of life and observes diligently the inherent obligation to protect it from needless expenditure. Neither Gordon nor Dallaire was willing to allow innocent people to die for lack of political interest. Both generals desperately called for reinforcements, both developed plans through which countless lives could have been saved,

and both were forced to struggle on alone as reinforcements were withheld. Tragically, though honour is black and white, policy is generally grey, particularly in OOTW.

Although Gordon would not have recognized the term “human security,” both Dallaire and Gordon fought to protect humanity, without thought to race or nationality. The price that these men paid was staggering. Gordon was killed. Dallaire suffers from post-traumatic stress disorder. One paid with his life; the other with his mental health. General Dallaire himself recognized the haunting reflection of his own dilemma in that of Gordon’s as he said, “I felt the ghost of Gordon of Khartoum watching over me. Dying in Rwanda without a sign or a sight of relief was a reality we faced on a daily basis.”²⁰

One thing is decidedly clear: these outcomes could have been prevented. If the commanders in theatre had been listened to, if high command had been more flexible, if the reinforcements that were requested had been sent—the list of failings on the part of the military community is daunting; those of the political establishment abhorrent.

In the final analysis, these men delved willingly into the grey areas on that spectrum of conflict, confident of the support of the political bodies involved. In the end, their situations dictated that they would ignore and countermand orders because their military ethics were at odds with the political focus of their superiors. How have we come so far, yet failed to realize

Though honour is black and white, policy is generally grey.

that the disparity between military and political objectives is a perpetual hurdle that the military establishment must surmount? Failure to do so comes at a high cost to commanders in theatre who possess the ethical values that are so esteemed in our military culture. The situations of Gordon and Dallaire starkly portray the ethical dilemmas of these foggy grey areas of OOTW, and show how with alarming ease - then and now—the military professional finds himself dislocated from an unfeeling command and faced with making decisions that will affect the lives of thousands. Very little can ever prepare a commander for this

situation, and it raises frightening questions concerning the ethical values of those high-level officials who guide military and governmental policy and action. Gordon and Dallaire are examples of two men who “fought the good fight,” only to find that, in the end, they had been abandoned. There was no longer a continuous unit—from the political body, to the military high-level leadership, to the commander in theatre—to carry out the collective will of society. There was only one man, forsaken by the political authority, alone, facing a situation of unprecedented consequence. This lone individual had to decide whether to retreat as his superiors wished, or to risk his own life and those of his men to save innocent people. One man was forced into the vacuum left by a political community that did not want to know or help, and this single being had to find the courage to make a decision where higher authorities would not.



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Facing the Threat

The Future Security Environment and the Need for Ground-Based Air Defence

by Lieutenant-Colonel Christopher Kilford, CD

In a letter dated April 2000, from the Chief of the Defence Staff (CDS) to the Minister of National Defence (MND), General Maurice Baril wrote:

The financial situation facing the Department is well known to you. Even with the funding provided by the recent budget, not all our current capabilities can be considered affordable. Our staff have recently assessed the affordability of the ADATS missile-based air defence system. A summary of the results of that study are [sic] provided in the attached Briefing Note.¹

The attached briefing note was clear: ADATS (air defence anti-tank system) had to go because the Army operating budget would be short about \$100 million a year and not having the ADATS would go a long way to help alleviate the problem.² From now on, the Skyguard/35 millimetre gun combination and the Javelin would be used for ground-based air defence in the Canadian Forces. However, the Army's real intent was to do away with the Skyguard/35 millimetre gun system as well and then reduce the Javelin contingent down to 93 Regular Force personnel only. In another army restructure option, even this tiny group went missing.³ Thus, while the CDS was advising the MND not to worry about the ADATS capability, because a significant air defence expertise would remain, the army had other plans.

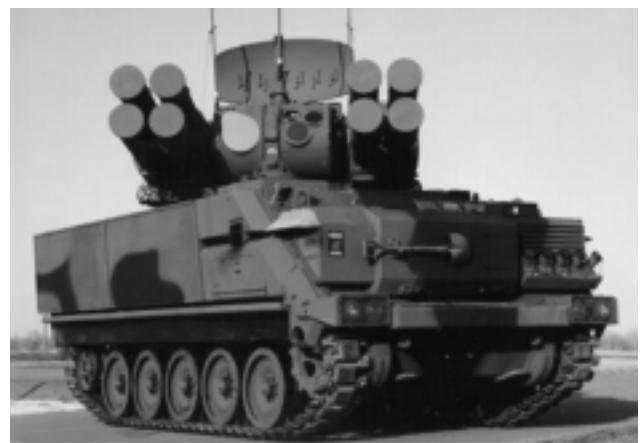
The decisions being made by the Army staff with regard to air defence also had considerable foreign policy ramifications, tying the hands of the government if a deployment was ordered to a theatre of conflict with a serious air threat. Even Major-General Jeffries, the Assistant Chief of the Land

Staff at the time, had to admit that participation in any future mission would depend on a specific air threat analysis and if the situation proved unacceptable, might "well prompt a decision not to deploy Canadian troops."⁴ Most important in this matter was the lack of any genuine study of what might constitute a future air threat. Certainly the air defence experts in the field were not given any opportunity to contribute. Instead, lack of funds and little to no support for air defence within the Land Staff Headquarters led the Army, in 2000, to make the very same decision taken in 1959—the eventual elimination of a combat capability. Of course, the question has always remained for those outside the air defence community: Why have an air defence capability at all when much of our current force development planning was, and continues to be, predicated on being part of a coalition led by the United States (undoubtedly the case in a war-fighting scenario)? Wouldn't they guarantee our protection from air attack?

Colonel (retired) Sean Henry certainly had something to say on this subject. In a letter to the Ottawa Citizen on 10 December 1999, he attacked what he called a "mantra" then making the rounds of National Defence Headquarters.⁵ This "mantra," he explained, was based on the theory that if one had not used a piece of military equipment on operations in the last ten years, then one really did not need it. As all of Canada's air defence

assets fell into this category, the mantra he described helped clarify why systems like ADATS were likely viewed as unnecessary by the Army at large.⁶ More important, though, was Colonel Henry's incisive comment that military resources are like insurance policies whose payouts are not required every day but can come in handy when needed.⁷ But is a SHORAD (short-range air defence) insurance policy really necessary today and in the future? To determine the answer to this question, we must delve into the past, present, and future.

The decision in 1986 to acquire new ground-based air defence weapons was made in order to defend the air bases at Baden-Soellingen and Lahr, 4th Canadian Mechanized Brigade Group in Germany, and the Canadian Air Sea Transportable Brigade that would deploy to Norway in an emergency. The threat at the time was considered to be from fast, low-flying fighter aircraft using electronic warfare that would attack both airfields (at



The ADATS missile system is made in Canada. It has a search radar with a range of 25 km and uses a passive infrared system for target tracking. There are eight on-board missiles. Missile range is 10 km. The system is effective against all types of targets, including cruise missiles. (DND photo)



The Skyguard and 35 mm gun. The Skyguard has a search radar range of 25 km and uses a tracking radar to carry out engagements. Each Skyguard is normally connected to two 35 mm guns (which can be up to 500 m away) that are remotely controlled from within the Skyguard itself. The guns fire 1,100 rounds per minute and can be used against all types of aircraft plus cruise missiles. (DND Photo)

Baden-Soellingen and Lahr). For the brigades, the threat was considered to be from aircraft, supplemented by attack helicopters, armed with long-range anti-armour weapons. However, as the first ADATS were appearing in Germany, a United States' American Division air defence study had already determined that the threat from fixed wing fighters was no longer the main risk for ground forces. Instead, the analysis determined that unmanned aerial vehicles (UAVs), helicopters, and cruise missiles (CMs) now posed the greatest danger.⁸

More recently, Lieutenant-General John Costello, then Chief of the United States Army's Space and Missile Defense Command, indicated that the threat of cheap, conventional CMs hitting American troops was high on the list of the Army's 21st century problems.⁹ Indeed, according to the United States' *Fiscal Year 99 Air and Missile Defense Master Plan*:

The evolving threat will take on new, stressing characteristics in the 21st century. Adversaries will closely observe emerging U.S. capabilities in an effort to identify and exploit weaknesses using asymmetric approaches. An asymmetric approach seeks to negate U.S. capabilities by simple counters and avoids a direct match with U.S. strengths.¹⁰

training, maintenance, and infrastructure inherent with a traditional air force. So, what will the threat look like between now and 2020? To begin this discussion, it is worthwhile looking at what might be called the traditional threats of fixed wing aircraft and helicopters.

A well-employed fixed wing aircraft is a remarkable force multiplier that can strike terror, as we saw during the Gulf War, into an army on the move, no matter what direction it happens to be going in. Modern fighters can carry out air interdiction, strategic attack, close air support, reconnaissance, and electronic warfare while employing a wide variety of munitions in all-weather conditions. Aircraft technology has also improved with better aerodynamics, power plants, and on-board passive and active jamming systems. Survivability has also been enhanced with the use of low observable materials, creating very small

radar cross-sections that make newer aircraft virtually invisible to air defence radar. However, such technological improvements come at a cost—a point already well understood in the early 1970s, when Norman Augustine, CEO of Martin Marietta, predicted:

In essence, this passage ultimately tells any potential opponent of the United States and its allies to invest their defence dollars in anything but fighter aircraft and helicopters. Instead, defence dollars would be better invested in non-traditional airpower means, as significant numbers of UAVs and CMs can be obtained today for the price of one single aircraft. Such a package would also come without the added costs of

A well-employed fixed wing aircraft is a remarkable force multiplier.

traditional air force, as there are still plenty of aircraft to be had. But should we really expect a serious fixed-wing threat against Canadians in a NATO or United States led coalition on par with that envisioned during the LLAD (low-level air defence) project? The answer

In the year 2054, the entire defence budget will purchase just one tactical aircraft. This aircraft will have to be shared by the air force, and navy, three and a half days per week, except for the leap year, when it will be made available to the Marines for the extra day.¹¹

The above quote, at first glance, is quite comical. However, it becomes less so when one considers one F-22 fighter, with weapons and support needs, is expected to cost \$50 million each (all amounts Canadian). For countries like Canada, the cost is simply out of reach. Even the 1998 announcement that the present fleet of CF-18s would receive a \$1.2 billion upgrade was tempered by the fact that this money would be spread over a decade, and only 80 fighters would be affected. As Dr. Paul Mitchell noted in a paper delivered at the Canadian Institute of Strategic Studies, Spring 1999 seminar: "If funds are hard to find to simply keep existing aircraft flying, how much harder will it be to fund the procurement of future classes of fighter aircraft?"¹² Further evidence of future fighter costs is also available from the United Kingdom, which plans on acquiring 150 joint strike fighter (JSF) aircraft between 2012-2015. So far, to replace Harrier GR7s and Navy Sea Harriers, the British government has committed \$4.2 billion toward the JSF development, but the total bill will likely be \$15.4 billion.¹³ If we were to replace the planned fleet of 80 CF-18s with 80 JSFs, one can imagine the cost.

Consequently, how will countries like Canada and, more importantly, potential adversaries afford a modern fixed-wing air force by 2020? The clear-cut answer is that we, and they, will not. That is not to say that some countries will not try and cling to what passes as a

to this question is no. The fixed-wing air threat will steadily fade away by 2020 simply because new top-of-the-line fighters will be unaffordable for most, if not all, countries. Only the United States and a few European nations will maintain the desire and resolve to pay for fighters. Anyone else that insists on having their own fighter force will have

No doubt, in more recent times, General Herrmann could easily have been describing Argentine, Iraqi, or Yugoslavian pilots.

With regard to helicopters, the situation is somewhat different. Many countries have them, but it is attack helicopters that pose the greatest threat

thing operating below 500 metres above ground level. Also, there is a distinct possibility that without overlapping AWACS aided by a long-range ground-based air defence radar coverage, a short-range lookdown capability will not be available. Finally, AWACS aircraft are very vulnerable and prime targets for attack. Thus they are deployed well back from the forward edge of the battle area, increasing the likelihood that very low-level targets will get through.¹⁷

Attack helicopters that pose the greatest threat to ground forces and a challenge for air defenders.

to settle for second-class or second-hand airplanes and weaponry. They will be no match in the air (if they even get in the air) against the United States. But this viewpoint should not come as a surprise, as it is the view held by NATO itself:

For future operations, when any NATO alliance is involved, we can assume friendly air superiority. This implies that fixed-wing aircraft are no longer considered to be the primary threat to SHORAD. The future threat to SHORAD will consist of the following: the attack helicopter—utilizing covered approaches and pop-up or hull down attacks; UAVs; Cruise Missiles; and Fixed Wing ‘Leakers’.¹⁴

Also, anyone contemplating a war against the United States or NATO in which they intend to fly fixed-wing fighters would be better studying their history first. For example, the hell German fighter pilots faced in October 1944, is best told by General Hugo Herrmann who described in his book *Eagle’s Wings* how he and his companions would spend their time in late October evenings:

... in front of a tiled stove or an open fire drinking Tokay, bitching, swearing, telling stories, exchanging views, in an attempt to discover if there was anything we could reasonably hope to do, even though the means at our disposal were insufficient. It was complete nonsense to throw highly decorated, experienced, mature fighter leaders in with a bunch of brave beginners and send them into the jaws of 1,000 escort fighters ready to consume all and sundry, irrespective of rank and training.¹⁵

to ground forces and a challenge for air defenders. However, new attack helicopters are also very costly, and the trend has been to retrofit all manner of helicopters with modular weapon upgrades and sensor packages. Such helicopters, taking full advantage of terrain, electro-optic sensors, and improved fire control systems are a significant threat.

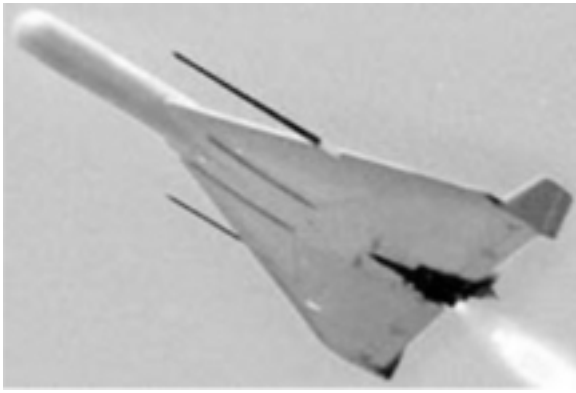
What makes a helicopter target such a challenge, is its ability to fly at very low altitudes, thus avoiding detection by airborne and long-range ground sensors. Even in the most advantageous terrain for a defender, the mean unmask range for a helicopter flying at 100 metres above ground level is about 15 kilometres. In rolling terrain, this can drop to 11 kilometres and in rough terrain, down to 4 kilometres.¹⁶ A helicopter operating at tree-top level reduces the unmask range to 1 kilometre. Surprise is key, and without air defence protection, ground troops can be hit with cannon or unguided/guided missiles before they know what is happening. It is against helicopters that SHORAD protection remains relevant.

There is some misconception that an elevated sensor, such as an AWACS (airborne warning and control system) platform, will solve the terrain-masking problem. While elevating a sensor will provide an increase in radar coverage, ground clutter often prevents an AWACS, or any elevated sensor, from seeing any

Of course, it will still require the potential enemy to be somewhat organized to get several helicopters in the air at once, and all working together, be they armed helicopters or a close approximation thereof. Only a few countries can boast of an effectual armed helicopter fleet, as the logistics of simply showing up anywhere on time and organized are tremendous. And then one needs something to fire. Fortunately, anyone with really effective armed helicopters is mostly an ally of ours with effective means to get more than a handful of helicopters in the air at anytime. Therefore, like the fixed wing threat, by 2020, we should expect the helicopter threat to be nothing more than a general nuisance, easily dealt with by the full combination of air defence means at our disposal, including SHORAD. And, certainly, if we are able to deal with some of the non-traditional air threats, tackling fixed-wing “leakers” and helicopters should be comparatively easy.



While the Javelin system is effective against helicopters and some UAVs in daylight and fair weather conditions, it is not at all effective against the growing CM threat.



Already in service with Israel, the Harpy UCAV hovers over the battlefield looking for enemy radar transmissions. When it finds one, ground controllers activate the UCAV's homing capability, and Harpy becomes an on-site anti-radiation missile.

With regard to the non-traditional threats, UAVs have in fact been around for about three decades, and hence a good deal is known about them. Today, they are steadily gaining in prominence and capability. It was the Israeli Air Force who first used UAVs in combat, forming a single squadron in 1971. This squadron was key in the spoofing and follow-on destruction of Syrian air defences in Lebanon's Bekaa Valley, in 1982. American Navy and Marine Corps units have used the Pioneer UAV in combat since 1991, and UAVs certainly came into prominence during the 1999 NATO military campaign in Kosovo. The United States' Predator UAV became the first UAV to designate a target for laser-guided bombs launched from an A-10 ground-attack aircraft, while German and French CL-289 UAVs with British Phoenix UAVs conducted target-acquisition and battle-damage assessment missions. In all, 20 to 30 UAVs were shot down by the Yugoslav air defences.

Generally, UAVs come in two types: drones, characterized by having pre-programmed flight paths, and remotely piloted vehicles, controlled by a ground-based operator. Depending upon configuration, range, and payload, they can all provide valuable intelligence to their owner. Also, low radar cross-section and the generally small size of tactical UAVs make them difficult to detect and engage. But not impossible, as demonstrated by the Yugoslav military, which became adept at using helicopters to fly alongside UAVs. They used door-mounted machine

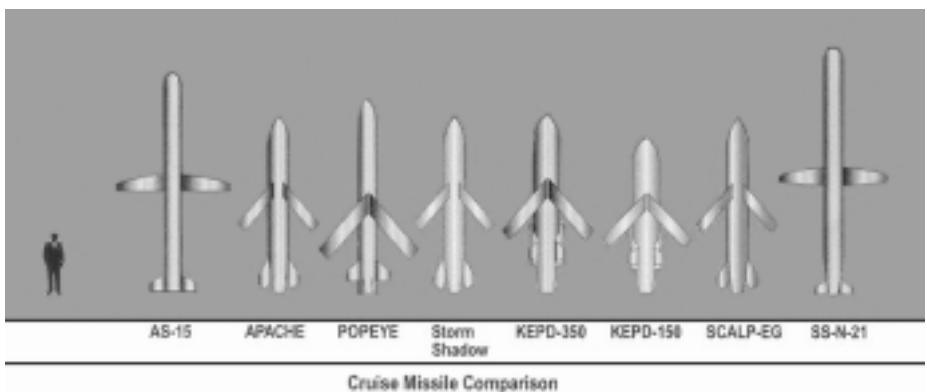
guns to blast the UAVs out of the air. In the end though, the question of how valuable a UAV really is to one's operations is not based on type, size, or payloads, but on whether one is able to control their use and provide real-time intelligence to the commander.

Today, we should expect UAVs to continue to use daylight television or infrared cameras to provide intelligence. The trend will also be toward UAVs equipped with laser designators, providing immediate targeting of assets by smart munitions. Others will be linked directly to indirect fire assets and provide information so that surface-to-surface artillery or rockets can engage targets. UAVs are also becoming smaller all the time, and scientists expect that a new generation of micro air vehicles (MAVs), no bigger than a hand or even a paperclip, will replace UAVs in the post 2020 period.¹⁸ Certainly, UAVs will continue to proliferate, and while their use may not, in the foreseeable future, present a sophisticated threat, it only seems reasonable that we have an inherent capability to know when an enemy is using such a platform to gather intelligence on us. Indeed, it is often amusing to see some Canadian officers expound upon the importance of having our own ISTAR (intelligence, surveillance, target acquisition, and

reconnaissance) capability with nary a consideration given to the enemy, who likely have their own ISTAR plan.

Today, and in the years to come, we are entering into a world that will be dominated by UCAV (unmanned combat air vehicle) development, which, in the United States, has been centered on the dangerous job of suppression of enemy air defence(s) (SEAD) and knocking out battlefield computers. Much of the work has been centred on fitting UCAVs with directed energy weapons, like high-powered microwave emitters designed to erase computer memory. Within the Pentagon, the debate is whether UCAVs should remain passive in nature, gathering intelligence and using directed energy weapons or take on a more traditional role of attacking targets with conventional munitions, such as anti-radiation missiles.¹⁹ UCAVs could hover over an area for long periods, ready to respond to threats almost immediately. Mobile SCUD launchers or air defence weapons could be detected by satellite and then attacked. More importantly, if the UCAV was shot down, no pilot would be lost in the process—an important factor for any military as human casualties are always a predicament, no matter how much resolve a government has in waging a war. Either way, the intent of the United States, according to *Aviation Week and Space Technology*, is “a substantial shift to unmanned air and ground vehicles by 2010-20.”²⁰

Having discussed UAVs and UCAVs, we have to now realize that most, if not all, of the technological



As this picture shows, CMs are not exactly small. The latest American CM, still under development at this time, is the JASSM (Joint Air-to-Surface Stand-off Missile). A stealthy CM, it is 4.26 metres long with a 432-kilogram penetrating warhead.

developments mentioned are only available to a few countries, most of whom happen to be our allies. It takes an inordinate amount of effort and coordination, even for NATO, to sort out how to handle UAVs, disseminate the intelligence gathered, and react accordingly. If NATO is viewed as the pre-eminent military alliance (the fellows with their stuff together, so to speak) how difficult must it be for other, less advanced militaries to utilize UAV technology effectively? Doctrine, concept of operations, command and control, and the distribution of imagery were the biggest lessons to emerge from the Kosovo conflict with regard to UAVs.

If NATO is still in the process of sorting itself out, what will we likely encounter in the future? Generally, we should expect a less sophisticated enemy using much less advanced UAVs, but with similar aims to our own. It would not be out of the ordinary to expect enemy UAVs over air and sea ports or major logistics bases gathering information for air strikes or other more clandestine attacks. Would a limited, real-time intelligence gathering capability provide an enemy with information on our troop concentrations and headquarters?

Certainly, UAVs can be used in any type of conflict, and their use will proliferate. China, Finland, Japan, South Africa, Sweden, Switzerland, Taiwan, and Russia (which operated its *Pchela*, or Bumblebee, UAV over Chechnya) all have independent, advanced UAV programs. In operations, any side or group having built or purchased UAVs could easily go about the business of gathering information without the knowledge of a war-fighting or peacekeeping force—if that force lacks the means to control the airspace. In any conflict, a UAV would allow an adversary one of only a few means to accurately deliver long-range artillery or missile fire on a target and then carry out battle damage assessment.

Of course, the argument has been made above that synchronizing everything to produce effective results is no easy task, even for NATO. Also,

our existing Canadian SHORAD systems are, in general, quite capable of dealing with threat UAVs below 20,000 feet, now and in the future. Our coalition partners would take care of any high-flying strategic UAV assets. No doubt, our SHORAD radar would likely detect high-flying UAVs, but could not attack them due to missile and projectile range limitations. But let us be clear: not having any SHORAD

capability would leave Canadian ground forces without any means to control the airspace above them or coordinate the surrounding airspace with adjacent formations. When all is considered, UAVs are not and will not be the most dangerous threat to make an appearance in the very near future. Instead, we would be better to spend our time considering the arrival of numerous fast, lethal, and accurate CMs.

Like UAVs, CMs are not at all new to the battlefield. The concept of a CM was first suggested prior to 1914, and by 1918, the United States Navy had developed the Sperry Aerial Torpedo, an N-9 biplane with gyroscopic guidance and a 70-mile range.²¹ In England, as early as 1921, trials took place on a CM that culminated in the development of a small monoplane with a 300-mile range and a 112-kilogram warhead. Twelve monoplanes were eventually built, “four of which were tested with live warheads—ironically in what is now Iraq.”²²

In late 1944, Hitler tried to re-stage the Blitz on London. Now, “revenge and terror were to be the order of the day and the weapons used were dubbed the V1 and V2_[SH2].”²³ The V1 was a true CM, while the V2 was more a ballistic missile. In either case, the “V” stood for *Vergeltungswaffen* or “vengeance weapons.”²⁴ Between 12 June and 5 September 1944, 6,725 V1s were launched against England, although 3,463 were destroyed by anti-aircraft



British gunners prepare a Phoenix during the Kosovo conflict.

gunfire, fighters, and barrage balloons before they could reach their intended targets.²⁵ By the end of September, 8,564 V1s had been fired at London, 53 at Southampton, and another 21 at continental cities such as Paris, Brussels, and Liège.²⁶ In the first two weeks of the V1 Blitz, the casualty rates were as high as the original Blitz as the V1s often struck by day when the streets were filled. In total 5,475 people were killed in London alone.

In all, about 60 percent of the casualties attributed to the V1 occurred in the first six weeks of the campaign. After that, the anti-aircraft defences were improved, notably with the addition of new radar-directed anti-aircraft guns firing proximity-fused shells. However, the V1 campaign was successful, as noted in a 1944 British Air Ministry report, which remarked that defending against the V1 cost about £48 million. Over 130,000 homes were destroyed, more than 750,000 others damaged, and in excess of one million people evacuated. It is thought that each V1 cost £150 to produce, or £2,500 at today's prices.²⁷

Another example of the effectiveness that a “flying bomb” can have when conventional air attack is just not possible given overwhelming numerical or technological odds also originated during World War II. During the Leyte Gulf naval battles, which occurred in October 1944, Japanese air power was out-gunned and out-classed. Without adequate air cover, Japanese carriers

and ships were vulnerable to air attack. Between January and October 1944, the Japanese Navy alone had lost 5,209 pilots, or 42 percent of the total number available.²⁸ Drastic tactics were needed. As a result, Admiral Takijiro Ohnishi, in the lead up to the Leyte Gulf, proposed to his staff that the only way to defeat the American fleet carriers was “by crash-diving on the carrier flight decks with *Zero* fighters carrying 250 kilogram bombs.”²⁹ His words were to translate into *kamikaze* fighter groups—suicide fighters—the Japanese version of *Vergeltungswaffen*.

The Japanese were successful. While *kamikaze* missions did not change the course of the war, they did accomplish a good deal. In one example, on 25 October 1944, nine planes attacked two American Naval Task Forces. By the time the strike was over, the Japanese had sunk one escort carrier, badly damaged another, and left others needing extensive repairs.³⁰ The strike was not enough to prevent the final outcome of the Pacific War, but it was enough to give Japanese senior officers pause for thought about how they might continue to use their own revenge weapons to better effect in the months ahead.³¹

Generally, the possibilities that revenge weapons can offer an enemy have not been overlooked. Around the world, many countries such as Iran, Iraq, Libya, North Korea, and Syria continue to put significant effort into fielding both ballistic and CMs. Within the North American Aerospace Defense Command (NORAD), responsibility for defeating CM attacks falls to the 1st Air Force, an Air National Guard unit. In June 2001, the 1st Air Force deployed on the coast of Florida in an exercise designed to demonstrate their capability to shoot down incoming CMs. The exercise was a success, although no live missiles were fired. Instead, radar lock-on of incoming “threat” Raytheon MQM-107 drones and BD5-J UAVs was used to indicate a kill. The army’s participation was limited to a National Guard Avenger (Stinger) Battery. Perhaps one of the most interesting observations about the

exercise was from the Commander of the 1st Air Force, Major General Larry Arnold, who said, “the probability of a cruise missile attack against the United States is greater than the probability of ballistic missile attack.”³²

Air defence cannot and should not be taken for granted any longer.

There are differing views as to when the CM threat will actually materialize. So far, CM proliferation in smaller military powers has been limited to British and French sales to the United Arab Emirates and Russian offers of CMs to India. According to *Aviation Week and Space Technology*, “land attack cruise missile proliferation has been remarkably slow compared to ballistic missile proliferation.”³³ On the other hand, *Global Trends 2015*, a recent American report, summed up the situation quite differently:

Theater-range ballistic and cruise missiles proliferation will continue. Most proliferation will involve systems a generation or two behind state of the art, but they will be substantially new capabilities for the states that acquire them. Such missiles will be capable of delivering WMD or conventional payloads inter-regionally against fixed targets. Major air and seaports, logistics bases and facilities, troop concentrations, and fixed communications nodes increasingly will be at risk.

Further to this, Robert Wall, in *Aviation Week and Space Technology*, added that today, enemy ballistic missiles and cruise missiles are “supplanting surface-to-air missile systems as the targets U.S. Air Force planners would strike first during the opening phases of a conflict.”³⁴

In general terms, both *Aviation Week and Space Technology* and *Global Trends 2015* have it right. CM proliferation has been slow. However, the sight of the United States Navy’s Tomahawk CMs flying over downtown Baghdad, seemingly immune to any countermeasures, was awe-inspiring during the Gulf War. Certainly, if one

thinks for one moment that one’s own conventional air force will not get off the ground in a major air battle, then a Tomahawk-like CM is the answer to one’s prayers. Also, CMs are not as obtrusive or as inaccurate as the present generation of SCUD missiles, so one might actually get to deploy them and fire a few with devastating results. As most NATO nations (less Canada)

do not have the means to detect and shoot down CMs, the results could very well indeed exceed expectations. In essence, there would be no more rogue missiles landing in the empty deserts of Saudi Arabia or in empty lots in Israel. However, since the Gulf War, CM technology has not made a grand appearance amongst what are regarded as rogue states. How long this will last cannot be predicted too easily, but there is little doubt that defending against CMs between now and 2020 will likely be one of the more difficult tasks for air defenders.

Today we can look upon our present ground-based air defence systems as the first example of a “focused revolution” of a particular capability as described in *The Future Security Environment*. We have in place a system capable of dealing with any threat, both traditional and non-traditional. But what we really need in the Canadian Forces (the Army and Air Force, in particular) is a full appreciation that an air threat does actually exist and this threat to our operations will continue to grow. As a result, air defence cannot and should not be taken for granted any longer. However, if anything at all, we need the confidence that our leadership will never agree to cut any type of equipment as a cost saving measure before the full implications of such a decision are fully understood.



ABOUT THE AUTHOR...

Lieutenant-Colonel Christopher Kilford was born in England and immigrated to Canada in his youth. Following graduation from high school, he joined the Regular Force. After training as a radio technician, he served with the 8th Canadian Hussars in Petawawa, Ontario. In 1981, Lieutenant-Colonel Kilford applied for officer training and was accepted as an artillery officer. He has served with the 3rd Regiment Royal Canadian Horse Artillery, 128th Airfield Air Defence Battery (in Germany), the Air Defence Artillery School, Land Force Command Headquarters, 18th Air Defence Regiment, and Land Force Central Area Headquarters. Lieutenant-Colonel Kilford was commanding officer of the 4th Air Defence Regiment in Moncton, New Brunswick until August 2001, when he became a member of the National Securities Staff at the Canadian Forces College in Toronto. He is a graduate of the Canadian Land Forces Command and Staff College. In October 1992, he successfully completed a Bachelor of Arts Degree from the University of Manitoba. He is currently completing a Masters Degree in the War Studies Program. Lieutenant-Colonel Kilford's first book, *Lethbridge at War*, was published in 1996 and in 2000 he won first prize in the Royal Canadian Artillery's Colonel Geoffrey Brooks Memorial Essay Competition. He is currently Senior Staff Officer 1 National Security Studies in the Department of National Security Studies at the Canadian Forces College in Toronto, Ontario.

LIST OF ABBREVIATIONS

ADATS (air defence anti-tank system)
 AWACS (airborne warning and control system)
 CM (cruise missile)
 ISTAR (intelligence, surveillance, target acquisition, and reconnaissance)
 JSF (joint strike fighter)
 LLAD (low level air defence)
 MAV (micro air vehicle)
 SEAD (suppression of enemy air defence(s))
 SHORAD (short-range air defence)
 UAV (unmanned aerial vehicle)
 UCAV (unmanned combat air vehicle)

ENDNOTES

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The Operation Abacus Planning Process: A Study

by Major Daniel Villeneuve, CD, BA

The purpose of the Op ABACUS contingency plan was to prepare the Department of National Defence (DND) and the Canadian Forces (CF) should it had been called upon to assist federal, provincial and territorial authorities in mitigating the impact of Year 2000 problems on essential services, while continuing to fulfil its essential national and international tasks.¹

We now know that the millenium rollover was very peaceful, and the Y2K bug was no cause for fear. But that was not the case at the beginning of 1998. In fact, even up to the very last minute, nobody could predict with precision what the arrival of the year 2000 would bring. Therefore, confronted with a situation where the arrival of the year 2000 could be a risk for Canada, the federal government asked the CF in 1998 to be ready should the year 2000 become something other

“The most important characteristic of this threat is unpredictability. Unlike a traditional threat, the year 2000 or Y2K, had no established doctrine or tactics against which one could train. Even worse, history did not provide a guide since there have been no previous manifestations of this type of phenomenon.”² Despite being different, COP ABACUS involved the potential use of military forces and was therefore a traditional military operation. To prepare for it, the CF had no reason to change the planning process methodology it was already using for planning more conventional military operations.

For Operation ABACUS, four distinct levels of command were involved.³ There was a military strategic level at NDHQ in Ottawa. Two operational levels were created: the first had a national focus and was based on the 1st Canadian Division Headquarters in Kingston, Ontario, known as

and executes his mission.”⁴ It is a process that can be used at all levels of command (from tactical to strategic) and across the entire spectrum of operations (from war-fighting to operations other than war and normal routine activities). Battle procedure is a fully integrated process that occurs simultaneously at all levels of the chain of command and in joint and combined settings. The process is composed of four stages: Direction, Consideration, Decision, and Execution.

Direction. During this stage, a unit or formation receives a mission or task. An initial analysis of the requirements is done in order to determine the time by which a decision must be made (the decision point) and the priorities for staff work (staff planning guidance).

Consideration. Before a decision is made, it is necessary to consider all the factors that could influence the mission and determine possible options (courses of action). The larger the unit or formation involved, the more complex the problem becomes. Therefore, this stage could involve the participation of a large number of personnel and is usually further broken down into additional steps.

Decision. This stage includes the completion of the work done during the consideration stage. The commander makes a decision to adopt a particular course of action and develops an expression of his intent and broad concept of operations. The decision is then translated into orders and disseminated.

Execution. Although a decision has been made, battle procedure is not complete until troops have been committed, and the mission achieved.⁵

Unlike a traditional threat, the year 2000 ... had no established doctrine or tactics against which one could train.

than a time for celebration. The CF response became known as Contingency Operations Plan (COP) ABACUS.

The aim of this article is to study the planning and preparation process taken by the CF to prepare for COP ABACUS. It will look at how the planning process was done at the strategic and operational level. In other words, how did the CF develop a contingency operation plan like ABACUS?

THE PLANNING PROCESS

From the beginning, it quickly became apparent that the CF were facing an entirely new type of challenge.

Joint Task Force Headquarters (JTFHQ), while the second had a provincial focus and was composed of the four Land Force Area Headquarters with the addition of CF Northern Area. Finally, the tactical level was organized at the brigade headquarters (both Regular and Reserve) across Canada. All levels were involved in detailed planning in order to meet the deadline of 31 December 1999.

BATTLE PROCEDURE

Battle procedure is defined as “the entire military process by which a commander receives his orders, makes his reconnaissance and plan, issues his orders, prepares and deploys his troops

COP ABACUS planning involved the first three stages of the battle procedure. Since the deployment of troops never materialized, the execution stage was never implemented.

To further understand how battle procedure works, it is necessary to realize that the process varies depending on the level of command involved. At the tactical level, with small units, the process is normally referred to as a drill and can be carried out by a commander alone since the time for planning is relatively short. The process is a series of steps that ensures the stages of direction, consideration, and decision are done to come up with a workable plan. With larger size units or formations, mainly at the operational level (division), the planning is far more complex, and the effort of a large staff is required. The process is not referred to as a drill anymore, but as the operation planning process (OPP). The OPP can also be referred to sometimes as the Force Employment Planning Process (FEPP). The OPP is defined as "the process by which a Commander, assisted by his staff, carries out the analysis of a given situation, decides on a plan of action, issues orders to his subordinates, controls the execution of his plan and prepares for further contingencies and actions."⁶ The OPP is simply a collective estimate of the situation that synchronizes the efforts of the staff. It is a logical sequence of collective reasoning leading to the best solution within the available planning time.

The OPP occurs within the first three stages of battle procedure: Direction, Consideration, and Decision. It has been organized into a series of six steps in order to facilitate its execution:

- Step 1. Receipt of tasks
- Step 2. Orientation
- Step 3. Development of courses of action
- Step 4. Decision
- Step 5. Plan Development
- Step 6. Plan Review

To better illustrate how the process works, let us take the planning done in preparation of the strategic level COP as an example. The JTFHQ⁷ began its OPP with the reception of a warning

order from the CDS on 17 August 1998.⁸ That warning order was *Step 1, Receipt of tasks*. From there, a planning guide was sent on 26 August 1998 to all JTFHQ members.⁹ The guide was *Step 2, Orientation*. Step 3 took place between 26 August 1998 and 21 September 1998.¹⁰ It involved an information brief, on 02 September 1998, in order to coordinate and better refine the development of courses of action. Step 4 was on 21 September 1998, when a decision brief was presented to the Deputy Chief of the Defence Staff.¹¹ From the different possible options, a course of action was chosen. Step 5, the preparation of the strategic level COP draft 1, was done by 23 September 1998.¹² The last step, *Plan Review*, involved presentation of the draft COP to a national seminar on 29 and 30 September 1998. Following this, comments were received from the different elements of the CF involved in the operation. The draft COP was reviewed in the last two weeks of October, and the first version of the Strategic COP was issued on 13 November 1998. This was not, however, the end of the review. A series of week-long exercises took place in 1999.¹³ In addition, a series of seminars and conferences with the task forces and/or NDHQ also provided feedback on the COP. Before the final version of the Strategic COP 201/99 was published on 22 November 1999, at least two more draft versions had been prepared.¹⁴ This is only one of many examples of the planning sequence that took place at different levels and in different areas of Canada in preparation for the COP ABACUS. The dates and the details may change, but the process remains the same.

The overall planning sequence was led at the strategic level, followed closely by the national operational level. Both had their first version of their COP produced by the end of 1998. The regional level initial COP versions were finalized in the first quarter of 1999. This planning phase was then followed by an exercise and validation phase, from March to September 1999. From the lessons learned from these exercises, each individual COP, at all levels, was reviewed and modified. The final versions of the COPs were done in

November 1999, the same time as the forces completed their readiness preparation. The forces were then ready to meet the challenges of the Y2K bug with the planning, training, and pre-deployment completed.

For the planning of COP ABACUS, the OPP was the planning tool most used by the organizations involved. The planning for COP ABACUS was a complex issue, but it demonstrated that the battle procedure, in general, and the OPP, in particular, were flexible tools for the military to prepare for any type of contingency and operation. The planning process was the method used. Let us now examine what resulted from that method at the strategic and national operational level.

THE STRATEGIC LEVEL CONCEPT AND PLANNING

For the CF, planning at the strategic level focussed on the employment of the country's military resources "to achieve political objectives which are critical to the national interest."¹⁵ With Operation ABACUS, the political objectives of the Canadian government were "to continue to provide programs and services vital to the health, safety, security and economic well-being of Canadians, with minimum disruption as the century turned."¹⁶ From these objectives, it was the responsibility at the strategic level to establish "national military aims, provide direction, craft strategy, allocate national resources, and impose conditions and limitations on the military actions to be undertaken."¹⁷

Although some work was done prior to August 1998, it was during that month that the preparation for meeting the potential problems that the arrival of 2000 could cause was launched in earnest. The preparation began during August when the Prime Minister of Canada sent a letter to four federal ministers assigning responsibilities for contingency preparations.¹⁸ The Minister of National Defence was the lead minister, responsible for facilitating and coordinating the development of national contingency plans with particular focus on Canada's critical infrastructure.

To meet the challenge imposed by the Y2K bug, DND was confronted on three dimensions attached with the arrival of the year 2000.¹⁹ First, the CF had to maintain its support to essential national and international tasks. Although it was impossible for the CF to cease all operations in order to concentrate only on the Y2K bug issue, it was possible to reduce routine operations. Second, DND had to make sure that its equipment would not be affected by the Y2K bug itself. The CF could not afford to become part of the problem. Being affected by the Y2K bug would have seriously limited the ability of the CF to provide support, and would have affected its credibility. That dimension was known as business continuity planning (BCP) and involved a significant amount of effort to prepare the CF for the arrival of the year 2000. Finally, the last dimension was the potential for the CF to receive a large number of requests for assistance by civil authorities to help mitigate the effect of the Y2K bug.

To prepare for its mandate of being ready, DND launched two major initiatives: one proactive and one reactive. First, the National Contingency Planning Group (NCPG) was created. Despite being the lead federal agency in developing contingency planning, DND could not work in isolation. The NCPG was there to coordinate all national efforts at the federal ministerial and departmental levels. This was a proactive initiative. The second initiative, which was reactive, was for the CF to start their planning procedures for Operation ABACUS in order to be ready to respond to requests from civil authorities. As stated, the planning process was launched in August 1998, when NDHQ sent a warning order on August 17th to the CF. The warning order provided the information required for the subordinate formations to start their own planning process. In addition, further guidance was given on August 31st when a document called Strategic Direction to the Department of National Defence and the Canadian Forces – Operation ABACUS was published.²⁰

Operation ABACUS was conducted in five phases, which are standard practices for all operations: Warning,

Preparation, Deployment, Employment and Redeployment. These phases were the same for all levels of command.

Phase 1 – Warning. This phase took place in July and August 1998. It was launched by the preparation of the CDS Warning Order that was sent throughout the CF. Subsequent to this, each level of command prepared their own warning order for their subordinates' formations or units.

Phase 2 – Preparation. This phase was done during the period August 1998 to November 1999. It is during this phase that the planning for Operation ABACUS took place. The plan that was developed had to be supported by the requisite training plans, logistics preparations, intelligence databases preparation, command and control structures, and public affairs programs in order to reach the required degree of operational readiness across the CF. At the conclusion of this phase, each element and formation of the CF had to declare their respective troops and equipment operationally ready to the CDS.

Phase 3 – Deployment. This phase was done from 30 November 1999 to 31 December 1999. Upon receipt of the DCDS Implementation Order, transfer of command authority occurred, placing the task forces, Air Component Headquarters, and other designated units and personnel under the operational command of the JTFHQ. It involved, among other things, the deployment of the JTFHQ to Ottawa. At the end of this phase, the Joint Task Force Commander, Major-General Jeffery, declared his force operationally ready to the CDS.

Phase 4 – Employment. This phase was to be executed on order if a request from civil authorities was received. The intent was for the conduct of operations to be decentralized in nature, using established regional procedures and doctrine pertinent to dealing with civil emergencies; most emergency situations were to be dealt with at

the lowest possible level. The main concern was the rapid collection and analysis of situational information to develop a pan-Canadian picture of Y2K. With this information, the CF would have been in a good position to establish priorities of support.

Phase 5 – Redeployment. This phase was also to be executed on order. If it would have determined that some forces were no longer required, the CDS was the authority to order the redeployment of those forces. In a similar fashion, the CDS was also the final authority for the JTFHQ to stand down. That decision was to be taken when the requirement for a national operational level command and control structure was no longer required; as it turned out, it was the only decision required by the CDS.²¹

From the start of the planning process, the CF worked under a series of assumptions. The following summarizes some of the key factors considered:

The CF expected disruptions to occur and their support to be needed. But as the threat remained vague and fluid, the CF had to deal with the unpredictability of the contingency plan. A large amount of flexibility had to be integrated into their ability to respond.

It was also made very clear that the CF were not there to replace the civil authorities, but would assist when the latter had exhausted their ability to mitigate a problem. Provincial and territorial authorities would retain the lead responsibilities in responding to problematic situations. The CF were there to support.

All CF resources would be made available for employment for Operation ABACUS, except for those supporting essential national and international missions and tasks. In addition to the full-time military personnel, it was expected that 50 percent of reservists would be available for employment. Therefore, a total of about 35,000 military personnel were expected to be available.

Due to Y2K's global impact, supplies and services from outside Canada may not have been available. Canadian suppliers may also have experienced supply difficulties or have treated the CF requests with reduced priority. National capability to assist may have been limited to supplies on hand.²²

Based on these assumptions, it was determined that the centre of gravity for the success of Operation ABACUS, at the strategic level, was maintenance of "the public confidence in the government's ability to manage and provide leadership in dealing with the Y2000 problem."²³ In this regard, the CF were expected to play a key role:

It has been proven in the recent past that the most potent set of capabilities that the CF bring to a domestic crisis is the inherent ability to command, control, plan and react efficiently and coherently in difficult situations. If the general public knows what is happening, if government at all levels know how to handle the situation, and if government can relay timely and accurate information to the public, then public confidence in government at all levels and public composure will be fostered and maintained throughout the crisis.²⁴

The strategic mission statement for the operation was that "[t]he CF/DND will be prepared to assist federal and provincial authorities in mitigating the impact of the Year 2000 problem on essential services, while continuing to fulfill essential national and international defense tasks."²⁵ Finally, the end state for Operation ABACUS would be reached "when the civil authorities are capable of providing essential services, setting the conditions for a return to the normal CF posture."²⁶

The course of action chosen was for the CF to adopt a poised deployment.²⁷ The intent was for the deployment posture to strike a prudent balance between the risks associated with appearing to over-react to the problem and wasting CF resources, and the risks associated with appearing to

be too little prepared for the operation. A poised deployment meant that the command, control, and communications facilities (NDHQ, JTFHQ, and the areas' headquarters) were fully ready and pre-deployed. (This involved mainly the JTFHQ, which moved from Kingston to Ottawa.) The remainder of the forces available (including the reservists) would remain located in their normal geographic locations and be on call, ready to be deployed only if required. Finally, logistics preparations took place to ensure requisite quantities of sustainment stocks, critical stores, personal equipment and infrastructure were available. Sustainment planning was based on the deployment of Operation ABACUS command, control, and communications for 100 days, mobile forces (up to 9,600 personnel) for 30 days, and static forces (up to 16,000 personnel) for 30 days.

To support that course of action, the CF adopted a modified command and control structure.²⁸ At the national level, the DCDS was responsible for coordinating all strategic and national aspects of the operation. It was responsible for maintaining the interface between the CF and the NCPG, the federal government, and the other government agencies (i.e., RCMP, CSIS, and CSE). A JTFHQ based on the 1st Canadian Division Headquarters was established to command all CF elements deployed in support of Operation ABACUS. At the regional

Planning done at the strategic level determined the global approach that the CF would adopt to prepare for the arrival of the Year 2000. The strategic level looked at the Y2K bug in relation to everything else that the CF has to do. From that perspective, it then set the objectives and concept of operations as well as the limitations under which the CF would operate.

THE OPERATIONAL LEVEL CONCEPT AND PLANNING

The challenge for the JTFHQ was to take the concept of operations and the plan developed at the strategic level and translate them into an operational plan that covered the entire territory of Canada. JTFHQ also needed to detail how the forces available were to be used. Planning at the JTFHQ involved deciding when, where, and under what conditions military forces would be employed to meet the problems caused by the Y2K bug. It was also at the JTFHQ level that the issue of training in preparation for Operation ABACUS was planned, coordinated, and supervised.

The operational level was the bridge between the decision taken at NDHQ and the operations undertaken at the area level. From the work done at the JTFHQ, the area headquarters would in turn develop their own plan adapted to their regional particularities. The JTFHQ did not

The course of action chosen was for the CF to adopt a poised deployment.

level, the command structure was composed of the four existing Land Force areas with the addition of the Northern Area. Finally, 1st Canadian Air Division was to provide an air coordination capability to the JTFHQ to be responsible for the employment of air force assets assigned in support of the COP. This decision was required given the extensive nature of the operation in terms of planning, training, and potential deployment requirements.

work in isolation, and their planning mirrored closely what was done at the strategic level. In fact, the JTFHQ planning cycle was only one step behind NDHQ. For example, the JTFHQ COP Version 1 was published on 27 November 1998, only two weeks after the Strategic COP. The final version of the JTFHQ COP was published on 12 November 1999, after three draft versions had been done. The review that the JTFHQ COP underwent was similar to the one done

for the strategic level. In fact, it was impossible to review one plan without having repercussions on the work done by the other levels of command.

JTFHQ worked with the same assumptions and constraints as did NDHQ and had to maintain consistency with the strategic concept. The difference was the focus applied to the planning. The JTFHQ concentrated on how the forces would be actually employed to mitigate Y2K effects. This is what is reflected in the JTFHQ mission statement: "On order, against the threat of Y2K problems, JTF ABACUS will provide assistance throughout CANADA to the civil authorities in order to maintain services and infrastructure that are essential to life and public order."²⁹

The JTFHQ Commander's intent, as describe in the final version of the COP, was to capitalize on the CF command organization, with its formal chain of command that spans the entire nation, to collect and analyze country-wide information in order to build one common picture of the situation.³⁰ From this picture, a unified response could be developed to provide support where it was deemed to be most necessary. It was also expected that, naturally, other agencies were likely to turn to the CF to provide them with unbiased information on the situation. To support this intent, there was a requirement for three areas of responsibilities:

Situational Awareness. First, there was need for the rapid development and maintenance of an up-to-date and accurate level of situational awareness of the national threat picture. This was assessed as a key element of the national operational plan.

Allocation of Resources. From the national common picture, allocation of military resources would take place to mitigate the impact of Y2K. It could have been necessary to reallocate personnel and material among task force areas to react to the developing national situation, concentrating forces where they would actually be required. In the

event of widespread national difficulties, a main effort would be identified based on regional situation reports and consultations with the Government of Canada. This main effort would be designed to concentrate resources to achieve the greatest overall national impact.

Information Operations. The final aspect involved the requirement to communicate continuously, at all levels and to wide audiences, the knowledge of Y2K related incidents, and the authorities' intentions to deal with them. The aim was to inform both the public and the appropriate civilian agencies of the extent of Y2K problems. This communication would help maintain public confidence in the ability of authorities to deal with Y2K difficulties.³¹

From this intent, it was determined that the centre of gravity at the national operational level was as follows:

... the successful implementation and maintenance of the JTF Command, Control, Communications and Intelligence (C3I) plan, ensuring unity of command and furnishing a degree of JTF wide situational awareness that will provide commanders and staffs at all levels with real time, relevant and fused operational data.³²

To maintain situational awareness, a classified network, establishing a link between the different headquarters located across Canada, was developed and deployed.³³ The system, called the National Infrastructure Database (NIDB), was essentially a shared computer program that provided a national view of the situation in Canada. As soon as it was available, data was to be entered and kept up-to-date by every member of the network (i.e., NDHQ, JTFHQ, and the areas' headquarters). The information needed to be entered only once, as the database was regularly updated for everyone else (up to every four to six hours, as required). This system, which was developed only in support of ABACUS, was created and deployed with the support of a civilian, contracted

company, CGI. It provided a common, accurate, and detailed account of the impact caused by the Y2K bug.

The CF have a limited number of military resources available. These resources were dispersed across Canada and varied from regular fully equipped units to reserve static organizations. Also involved was the entire military infrastructure located throughout the country, from bases to militia armory. To facilitate their employment, JTFHQ divided personnel and resources under its command into four groups, as follows:

Specialists. Units or individuals primarily involved in activities that match their normal military tasks (e.g., C3I, flight operations, engineering, military police, security, medical, stores control and distribution, and transport). These resources, used in conjunction with the permanent CF infrastructure, were to provide Task Force Headquarters with the ability to deploy, command, administer, and maintain general-purpose forces in tasks within their areas.

Category A. General-purpose units with organic sustainment capability, capable of being deployed and operating throughout Canada. (These were the Regular Forces infantry, armored and artillery battalions.)

Category B. General-purpose units without organic sustainment, capable of being deployed for short periods within the immediate vicinity of their base location. (These were the Reserve Forces units.)

Residual. Personnel and resources resident in Canada but not allocated to the operational or tactical conduct of Operation ABACUS. They were deemed to be a residual capability. They could be tasked by the CDS to Operation ABACUS at any stage, if additional resources were available. (These were the military staff of the CF training facilities, recruiting centres, base personnel, and other static organizations.)³⁴

To provide local area flexibility while maintaining a national reserve capacity, JTFHQ developed specific employment guidelines.³⁵ Before looking at the details of those guidelines, it is important to understand a few aspects attached with the CF involvement in domestic operations. Essentially, domestic operations can be divided into two categories: humanitarian assistance and assistance to law enforcement agencies (ALEA). The first category is defined as any action taken to save lives, prevent human suffering, or mitigate property damage.³⁶ It implies that the CF could provide support ranging from equipment (e.g., tent, camp, cots) to facilities (armories) to troops being deployed on the ground. An important feature of this type of support is that the troops deployed are unarmed. Prime examples of this type of operation are the Winnipeg floods of 1996 and the Ice Storm of 1998. The second category, ALEA, requires the deployment of armed troops in support of a crisis involving violence or potential use of violence. This type of deployment implies very specific rules of engagement, and the decision to provide troops has to be authorized by the Minister of Defence in agreement with the Canadian government. This type of deployment is a federal responsibility and must be done in response to a provincial request for support. In other words, the Canadian government cannot deploy armed soldiers on its own without a valid reason. A prime example of this situation is the Oka crisis of 1990. For Operation ABACUS, the employment guidelines for ALEA were that only Category A units could be deployed. The decision to do so rested at the strategic level and was not delegated to JTF or regional headquarters.

For humanitarian assistance, the guidelines were as follows:

Each area's headquarters were delegated the authority to employ one Category A battalion (not including Task Force Northern Area) and its

local Category B units, without the requirement for higher-level endorsement. However, any movement of the Category A unit across provincial boundaries was to be coordinated through the chain-of-command. Employment of any other Category A battalion within an area would require approval from higher authority. Each area's headquarters (not including Task Force Northern Area) were required to maintain the remainder of Category A units prepared to deploy for extended periods, outside of their own areas. These forces were designated as either operational or strategic reserves and were to be held at designated notices to move (NTM).

***Preparation for Operation ABACUS
also implied that it was vital for
a comprehensive training plan
to be developed.***

Changes to NTM, for operational and strategic reserve units, remained at the discretion of the JTFHQ commander. JTFHQ had the authority to employ three Category A battalions as its operational reserve: one Category A battalion each for Task Force Western Area, Task Force Central Area, and Task Force Quebec Area. The remaining Category A units across the country were designated as strategic reserve and were to be released by the CDS, only for employment. Included was the provision of a Category A company size unit for use, if required, in Task Force Northern Area.

The JTFHQ COP³⁷ also allocated a maritime component (MC) under a maritime component commander (MCC) to Task Force Atlantic Area and Task Force Western Area. NDHQ were prepared to allocate a similar organization to Task Force Quebec Area, if required, at any time.

The preparation for Operation ABACUS also implied that it was vital for a comprehensive training plan to be developed. It was at the national

operational level of the JTFHQ that the planning, preparation, and coordination of the training took place. The training needed to balance the requirements to conduct strategic and operational level, collective and individual training with the need to continue, as much as possible, the normal CF training cycle focussed on the general purpose combat capability. To accomplish this balance, a series of week long Command Post Exercises (CPX) were planned and conducted to train the command, control, and communications aspects of the operation. The training phase took place between March and September 1999. The first exercise involved only the JTFHQ in March. Two more exercises, involving the JTFHQ and the five regional task force headquarters, took place in June and September. The first subsequent exercise was called Vigilance 2000 and focussed on training at the regional level to respond to Y2K simulated problems. The second was called ABACUS 2000 and focussed this time on the JTFHQ decision-making process. In addition, each regional headquarters had their own exercises in order to validate their COP and practice their own internal methods of operation.

The training focussed on practicing information flow, the decision-making process (approval of requests for support), situational awareness, public affairs, and responses to requests for support (force generation). The scenario depicted hypothetical situations that were designed to simulate potential Y2K problems with the aim of practicing a wide range of options for the CF.

For the troops available, the normal training associated with a general-purpose combat capability continued. To meet some specific requirements presented by Operation ABACUS, however, it was necessary to add some items to the training plan. For example, the troop that could be engaged in ALEA had to be informed of the rules of engagement aspects attached with providing such a

support. This type of training was done mainly in the fall of 1999, in the final stages of preparation for COP ABACUS.

One of the provisions to support a poised deployment of the CF was the move of the JTFHQ, from Kingston to Ottawa, for the millennium rollover. The headquarters' new location was the Federal Study Centre, south of Ottawa. The reasons for the move were the establishment of unity of command and the concentration of resources in a centralized location. With this approach, if the Y2K bug affected communications, close proximity of the JTFHQ to the centre of decision-making in Ottawa would help mitigate the impact caused by the loss of connectivity. The JTFHQ first deployed to Ottawa in March 1999, for Exercise JOINT START II. The exercise was an opportunity for the JTFHQ, by itself, for a shake out of its organization and procedures. This led to two other deployments to Ottawa in support of CF-wide exercises, Exercise VIGILANCE 2000 and Exercise ABACUS 2000. The final move of the JTFHQ to Ottawa took place in December 1999, in preparation for the arrival of the year 2000. The JTFHQ was manned and ready to take action when the new millennium arrived.

Following the national operational level, the next level of command was Regional Headquarters.

The planning done at that level was similar to what was done at the JTFHQ, but instead of having a national focus, the planning was concentrated on the specific aspects of the region, under the control of each region's headquarters.

CONCLUSION

COP ABACUS was the CF contingency plan, prepared in response to potential Y2K problems. A careful level of planning and preparation was done in case Y2K turned out to be the cause of major infrastructure failures or

***Up until the very last minute,
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other related incidents. COP ABACUS was the CF response to the request of the Canadian government to be ready to mitigate Y2K-related problems, if required.

Since the millenium rollover was peaceful, with no significant incidents, support from the CF was not required. Nevertheless, COP ABACUS was the largest domestic operation done by the CF. From mid-1998 to January 2000, every member of the CF was involved, at one point or another, in preparation for COP ABACUS.

COP ABACUS provided an entirely new environment for the CF. Never before had such an elusive and unknown enemy been faced. Up until the very last minute, nobody could predict what would happen with the millenium rollover. By using its existing structure, the CF adopted a command and control posture based on NDHQ in Ottawa as the Strategic level looking out for the overall CF and the relationship with the other departments of the Canadian government. The operational level was based on the headquarters of the 1st Canadian Division, with responsibility for the employment of CF resources across Canada and the four land force area headquarters with CF Northern Area, as the regional focus. By the end of 1999, the CF had its command and control structures in place, ready, and manned. The troops and units were on stand by, each one remaining in its geographic area, ready to be employed, if required.

COP ABACUS was a balanced response between doing too much (thereby giving the impression of over-reacting and appearing to waste resources and effort) and doing too little (and appearing to be negligent). The CF were asked to be ready, and be ready was what the CF did.



ABOUT THE AUTHOR...

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LIST OF ABBREVIATIONS

- ALEA (Assistance to Law Enforcement Agencies)
- BCP (Business Continuity Planning)
- C³I (Command, Control, Communications and Intelligence)

- COP (Contingency Operations Plan)
- CPX (Command Post Exercises)
- CSE (Communications Security Establishment)
- FEPP (Force Employment Planning Process)
- JTFHQ (Joint Task Force Headquarters)
- MC (Maritime Component)
- MCC (Maritime Component Commander)
- NCPG (National Contingency Planning Group)
- NIDB (National Infrastructure Database)
- NTM (Notices to Move)
- OPP (Operation Planning Process)
- OPRED (Operationally Ready)
- RCMP (Royal Canadian Mounted Police)

ENDNOTES

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2. DND, *COP 201/99 - OP ABACUS FINAL VERSION*, 22 November 1999, p. 3. [publication online], accessed November 1999, available from the DND intranet at <http://jtfhq.abacus.dwan.dnd.ca/registry>.
3. DND, NDHQ, *OP Abacus Warning Order*, DM/CDS 001 dated 171530Z, August 1998, [publication online], accessed August 1998, available from the DND intranet at <http://jtfhq.abacus.dwan.dnd.ca/registry>.
4. DND, *B-GL-300-003/FP-000 Land Force, Volume 3, - Command. Ch. 6, Army Lessons Learned Information Warehouse*, version 10 [CD Rom].
5. *Ibid.* The description of the four stages is a summary of the information provided in Chapter 6. The battle procedure can be a very complex situation and, for the intent of this study, I chose to summarize the stages in order to retain only the essential information.
6. *Ibid.*, Ch. 6.
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14. DND, NDHQ, *Operation Abacus, COP 201/99, Final Version*, 22 November 1999, [document online], accessed November 1998, available from the DND intranet at <http://jtfhq.abacus.dwan.dnd.ca/registry>.
15. DND, *Canada's Army: We Stand on Guard for Thee*, Ottawa: DGPA, 1998, p. 79.
16. DND, NDHQ, *OP Abacus Warning Order*.
17. DND, *Canada's Army: We Stand on Guard for Thee*, p. 79.
18. Briefing on *National Contingency Planning Group* (NCPG) given by Major General Forand to a seminar held in Kingston in January 1999. An electronic copy of the briefing is archived on the LFAA HQ server.
19. *Ibid.*
20. DND, NDHQ, *Strategic Direction to the Department of National Defense and the Canadian Forces Operation ABACUS*, 31 August 1998, [document online], accessed August 1998, available from the DND intranet at <http://jtfhq.abacus.dwan.dnd.ca/registry>.
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22. *Ibid.*
23. *Ibid.*, p. 3.
24. DND, NDHQ, *Operation Abacus, COP 201/99, Final Version*.
25. DND, NDHQ, *Strategic Direction to the Department of National Defense and the Canadian Forces Operation ABACUS*, p. 3.
26. *Ibid.*
27. DND, NDHQ, *Operation Abacus, COP 201/99, Final Version*, pp. 7-9.
28. DND, NDHQ, *Strategic Direction to the Department of National Defense and the Canadian Forces Operation ABACUS*, p. 4.
29. DND, NDHQ, *COP 01, HQ JTF Abacus*, 12 November 1999 p. 3, [document online], accessed November 1999, available from the DND intranet at <http://jtfhq.abacus.dwan.dnd.ca/registry>.
30. *Ibid.*, p. 4.
31. *Ibid.*
32. *Ibid.*, p. 5.
33. This information is taken from the author's personal experience with the project.
34. DND, NDHQ, *COP 01, HQ JTF Abacus*, p. 5.
35. *Ibid.*, p. 6.
36. This definition is taken from a briefing presented by LFAA HQ during a seminar given on the Use of Force. 1-2 September 1999. Slide 6 of 48. An electronic copy of the briefing is archived on the LFAA HQ server.
37. *Ibid.*, p. 7/25.



A member of the 3rd Battalion, Princess Patricia's Canadian Light Infantry (3 PPCLI) Battalion Group familiarizes himself with Kandahar Airport, where he will be based during his tour in Afghanistan. (DGPA/J5PA Combat Camera photo by Sgt David Snashall)

Getting There Was the Challenge! The Red River Expedition of 1870

by Major Gary Campbell, CD

The year 1870 would be full of challenges for the one hundred and fourteen officers and men of the Commissariat Department, Commissariat Staff Corps, Purveyors Department, Military Store Department, and Barrack Department who were stationed in Canada.¹ The first challenge was their reorganization under the Royal Warrants of 1869. The officers were formed into the Control Department while the other ranks were formed into the first Army Service Corps (ASC). The officers would perform Supply, Transport and Pay functions while the men were grouped into Transport and Supply Companies.² The second challenge was the redeployment of all the British Forces from Canada with the exception of the Imperial Garrison at Halifax, Nova Scotia. The withdrawal was to be completed before the end of the shipping season in October. There was a great deal of work to be done to accomplish this. Stores and equipment had to be returned to Britain or disposed of locally. The workload would be immense.³

To further add to their burden, the Fenians were threatening to invade Canada from the United States. The Fenians were an organization of Irish immigrants who dreamed of capturing parts of Canada and using this as a bargaining tool to free Ireland from British rule. They had many Irish veterans of the American Civil War in their ranks. The Fenian's previous invasions in 1866 had failed and by the spring of 1870, they were ready to try again. There was an invasion scare in April and then two small invasions of the Province of Quebec, south of Montreal, took place in May 1870. The Canadian Militia, reinforced by the British Regulars, was called out to defend the Canadian border from Windsor, Ontario to the Eastern Townships of Quebec during the period

from 11 April to 3 June 1870.⁴ Supporting this force would be the third challenge for the Control Department and the Army Service Corps.

The fourth challenge was the suppression of the rebellion that had occurred in the Red River district of present day Manitoba. A vast area, consisting of Western Canada, the North West Territories, and the northern parts of Ontario and Quebec, had been under the control of the Hudson's Bay Company (HBC) since it received its Charter in 1670. There was concern that this tract of land, known as Rupert's Land, could fall under American domination as Americans continued to follow their policy of "Manifest Destiny" and expanded westwards. The solution was to promote British settlement of the West, which could best be done under Canadian sponsorship. Thus the Canadian government, with the support of the British government, agreed to purchase Rupert's Land from the HBC for £300,000. The transfer was to take effect on 19 November 1869.⁵

The Red River area, centered on Winnipeg and Fort Garry, was the major centre of population in Rupert's Land. The inhabitants were the descendents of Scottish and English settlers, native Indians and Métis, who were the offspring of unions between the French fur traders and the Indian women. While the British settlers generally welcomed the coming of the Canadian government, the Indians and Métis were distrustful of the change. They had received no assurances that they would be able to retain their French language, their Roman Catholic religion, and their land rights. These fears were reinforced as Canadian surveyors laid their survey chains without regard to existing property boundaries. The result of this was a rebellion, which led to the formation of



Bring in the Canadian. Assistant Controller Matthew Bell Irvine was a Canadian brought from London and made responsible for moving the force from Thunder Bay to Fort Garry.

the Provisional Government of Red River, under Louis Riel. Significantly, one of Riel's deputies was William O'Donoghue, an Irish Fenian. The rebellion could have ended peacefully when the Métis sent a delegation to Ottawa to negotiate for their rights. This led to the passage of the Manitoba Act on 12 May 1870, which granted them most of their demands. Unfortunately, the heavy-handed way in which Riel dealt with the loyal British elements within the Red River settlement led to the "judicial" murder of Thomas Scott, a native of Ontario. The resulting uproar in Ontario sealed the political need for a military expedition to put down the rebellion and firmly establish the legitimate control of the Canadian government.⁶

A period of interesting "horse trading" ensued. The Canadian government wanted Britain to send a force of Regular troops while the British, who were trying to withdraw the troops from Canada, did not want to commit them, as they feared they could be delayed in the West and forced to



Alternate service delivery is not new. The American canal at Sault Ste. Marie showing the rented steamer *Chicora* passing through the canal.

winter over. Cost sharing was also a hotly debated issue, with the British and the Canadians finally agreeing to a 1:3 split. A compromise on the force composition was reached, by which Britain would prove the nucleus of the expedition with support from the Canadian Militia. The British troops had to be back in Central Canada before the shipping season closed in late October. The Canadian Militia would remain in the Red River as a garrison after the campaign was successfully concluded.⁷ The force finally agreed to consisted of:

- Royal Artillery – 20 personnel with four 7-pounder bronze mountain guns
- Royal Engineers – 20
- 1st Battalion 60th Rifles – 377
- Army Service Corps – 12
- Army Medical Corps – 8
- 1st Battalion Ontario Rifles – 378
- 1st Battalion Quebec Rifles – 378
- Staff – 21

Total – 1214 All Ranks⁸

Speed was critical, as this had to be a quick campaign. Selecting a route was the first priority. Civilians travelled to the Red River by rail, through the United States, and then north by road from St. Paul, Minnesota. This was not a suitable route for a military expedition. The other traditional route had been used by the 6th (Warwickshire) Regiment in 1846 and by the Royal Canadian Rifle Regiment in 1857. This was to go by ship into

Hudson's Bay and then south by boat along the Hayes River, across Lake Winnipeg and then up the Red River to Fort Garry. This route was not acceptable because of the late break-up of the ice in the Bay. The route selected was the old fur trading one that followed a series of lakes and rivers westward from Fort William (Thunder Bay) on Lake Superior to Lake Winnipeg. It would be a hard route, as many portages around rapids and waterfalls would be necessary, but it was the best one available.⁹

As the route was so critical to the success of the expedition, a description of it is in order. From the assembly base in Toronto, the force would go by rail to Collingwood where they would board steamships for the 544 mile journey to Thunder Bay where they would form a camp at a location named Prince Albert's Landing. The critical part of the voyage was the passage of the American canal and locks at Sault Ste. Marie. It was not known if the Americans would allow vessels carrying "war-like" stores to pass through the canal. From Prince Albert's Landing, they would carry the stores, equipment and boats 48 miles overland to Lake Shebandowan. From there, they would row, sail, pole and portage 532 miles over a series of lakes and rivers to Fort Garry.¹⁰ Then they would deal with Riel and his rebellion!

Plans were made to defend against the ever-present threat of Fenian interference with the expedition. A temporary garrison of four companies of the 1st Ontario Rifles was placed at Sault Ste. Marie until the expedition had passed through. A redoubt was built at Prince Arthur's Landing, which was garrisoned throughout the expedition by a company of the 1st Quebec Rifles and a detachment of Royal Artillery with two guns. A company of the 1st Ontario Rifles was temporarily garrisoned at Fort Francis, which was also established as an advance depot.¹¹ In addition, at least one Canadian gunboat patrolled Lake Huron to guard against any Fenian incursions.¹² As the expedition moved farther westwards, there was increased concern that Riel would stir up the local Indians against the force. Colonel Wolseley made great efforts to gain and keep the good will of these tribes.¹³

The Control Department was first officially advised on 5 April that they would be required to support this expedition. Colonel Garnet Wolseley was given command of the expedition on the same day. A period of intense planning followed as decisions about rations, stores and equipment had to be made and tenders for their provision made. This process was completed by the end of April. Lieutenant-Colonel Martindale, the Acting Deputy-Controller in Canada, coordinated this part of the expedition. He drew upon Control Department officers and the

Speed was critical, as this had to be a quick campaign.

Army Service Corps men stationed in Ontario and Quebec to do this. Deputy Commissary Wilkinson was placed in charge of the control arrangements at Toronto. The men and stores began arriving there during the second week of May. The sub-charge of the Control Department between Thunder Bay and Fort Garry was assigned to Assistant Controller Matthew Bell Irvine, a Canadian born officer who had been brought out from London especially for this purpose. Irvine had previously

served in Canada and he was familiar with its people and geography. He had ten Control officers plus the ASC (Army Service Corps) and AHC (Army Hospital Corps) detachments under his command.¹⁴ The ASC contingent mustered in Montreal on 10 May and reported to Toronto on the 11th.¹⁵

Some preparatory work had begun as early as January. Mr. S.J. Dawson, of the Canadian Public Works Department, had built a portion of a road across the 48 miles between

The expedition did not have a good start.

Thunder Bay and Lake Shebandowan the previous year. He was directed to try to have the road open before the start of the navigation season in early May. In addition, he appears to have let contracts for the construction of the 140 light boats that the expedition would need regardless of which route was chosen. He was also responsible for the purchase of the wagons that would be used to carry the stores and equipment over the Dawson Road, and the hiring of the teamsters, road workmen and voyageurs—some 800 men in total.¹⁶ The steamers *Chicora* and *Algoma* were chartered for the season and it was intended that they would run between Collingwood and Thunder Bay on a regular schedule.¹⁷

Meanwhile, the troops were training in Toronto and the stores were arriving daily. The rations would consist of biscuit, salt pork, sugar, tea, beans, preserved potatoes and pepper that would be augmented with fresh bread, vegetables and beef when available. Because the rations and other supplies would have to be man-packed over many portages and receive hard use, every effort was made to have them packaged in small, sturdy containers that could be easily carried. This was not entirely successful and the barrels of salt pork, for example, required constant re-coopering and re-brining. Minimal quantities of camp stores were taken in order to reduce the bulk and weight that had to be carried. The planning was quite exact and before leaving Toronto,

all stores and equipment were marked with an “X” (to be left at Prince Arthur’s Landing), a “Y” (to be left at Fort Francis), or a “Z” (to be taken to Fort Garry).¹⁸

Six Aldershot pattern field ovens were taken on the expedition and seven of the ASC men were bakers. Three of the ovens were used at Prince Albert’s Landing and two along the Dawson Road, with the sixth one being carried to Fort Francis. A very high quality of bread was produced which was a pleasant change for the troops from the usual biscuit.¹⁹ Small-tented hospitals were established at Prince Albert’s Landing and at Fort Francis. As it turned out, the health of the men was excellent and there were no serious injuries. The Control Officers performed the paymaster duties.²⁰ The HBC was contracted to provide the mail, using Indian couriers.²¹ With the logistics arrangements completed and the troops trained, the expedition was ready to depart by late May. As with most good planning, concurrent activity had occurred, and the civilian element of the force was already underway as soon as the ice had cleared and the Great Lakes were open for navigation.

The expedition did not have a good start. Wrangling over whether the military or civil authorities should charter the ships resulted in a week’s delay.²² The first ship to sail was the *Algoma*, which left Collingwood on 3 May. She carried a mixed load of stores plus voyageurs and workmen. She dropped off a work crew to improve the portage road at Sault Ste. Marie, passed through the American locks without difficulty, and arrived safely at Thunder Bay.

The *Chicora* sailed on 7 May with a load of boats, stores and more voyageurs and workmen. The anticipated problems with the American authorities arose when they denied the *Chicora* the use of the canal at Sault Ste. Marie. There were many reasons for the American position. One problem was the pro-Fenian sympathies amongst some politicians and officials. It was also an opportunity for the Americans to bring diplomatic pressure to bear on Britain. The negotiations for the compensation that Britain would pay the United States for the losses caused by the British-built Confederate commerce raiders during the Civil War, were reaching a critical stage.²³ It did not help that the *Chicora* had been a Confederate blockade runner during the war. Fortunately, this eventuality had been considered. The *Chicora*’s cargo was unloaded on the Canadian side, moved over the three-mile portage road and reloaded on the *Algoma*, which had been directed to remain in Lake Superior.

A small Land Transport Corps was formed that used civilian teamsters and wagons under the direction of Captain Nagle, a Control Department Transport Officer. Other Control Department officers and ASC men oversaw the



The Canada General Service Medal, obverse and reverse. After petition by veterans of the Fenian Raids and the Red River Expedition, this medal was awarded to those who took part in the events of 1866 and 1870. A total of 17,635 medals were awarded with three different bars indicating service. The rarest bar was “Red River 1870”.



The Route of the Red River Expedition in 1870.

movement of the stores and accounted for them. A considerable quantity of stores was lost during the portaging due to exposure to weather, rough handling and weak packaging. This procedure of off-loading and re-loading the ships would continue for the duration of the deployment. By 21 May, the American authorities had relaxed their position and ships were allowed through the canal as long as they were not carrying troops or military stores.²⁴ The hiring of five more ships, including an American owned one, alleviated the potential delay that this extra work could have caused. A "propeller" steamship, the *Shickluna*, was chartered to tow the schooners *Pandora* and *Orion* with loads of boats from Lake Ontario to Thunder Bay.²⁵ As they passed through the locks at Sault Ste. Marie, they picked up an escort of a company of the 1st Ontario Rifles.

The advance guard of the expedition began departing Toronto on 21 May and arrived at Prince Arthur's Landing on 25 May. The last part of the force did not arrive until 27 June. A large camp for the troops and a depot for the stores were quickly established. Due to the depth of water, the ships had to anchor a fair distance offshore. They were off-loaded using a scow named *Tiger Lilly*, which was under the command of Commissary

Mellish. The scow was moved to and from the ships by means of a tow rope or, when they were too far out, a small steam launch was used. The next step was to move the men, stores, equipment and boats over the 48 miles to Lake Shebandowan. The plan was to use the Dawson Road. A Land Transport Corps of 110 civilians with 150 horses, 36 oxen, 50 wagons and 30 carts was formed for this purpose. They would be under the direction on the Control Department Transport Officers. Interestingly, 65 horses from "K" Battery, 4th Brigade, Royal Artillery (RA) were seconded to this task as the battery was under orders to return to England and no longer needed their animals.²⁶

The expedition's difficulties continued. Just prior to their arrival, a large forest fire had swept through the area and destroyed some road culverts as well as a quantity of timber intended for bridge construction. There were the normal swarms of black flies and mosquitoes with which they had to contend! Then it began to rain and continued to do so for most of the time the force was moving over the Dawson Road. Instead of being completed, only the first 28 miles of the road, up to the Matawan Bridge, was open to wagons. The next nine miles, to the Oskondagee, was passable only by ox-carts and the remaining eleven miles

had not been started. A serious difference of opinion arose between Mr. Dawson, the senior Canadian Government official in the area, and Colonel Wolseley, about how to proceed. Dawson wanted to concentrate his civilian workforce, augmented by soldiers of the 1/60th, on road construction. Wolseley wanted to explore other options as well.²⁷ While this was happening, boats, stores and equipment began moving over the road up to the Matawan Bridge. It was difficult work due to the soft roadbed. Despite the corduroying, the horses often worked in mud up

to their bellies and they began to break down under the strain.²⁸ Wolseley was aware that the Kaministikwia River ran west from Prince Albert's Landing to the Kaministikwia Bridge (mile 22 on the road) where it met with the Matawan River. He conceived of the idea of relieving the burden on the land transport by trying to force boats up this river network as far as the Matawan Bridge. He was told that it could not be done and that the attempt would cause unnecessary damage to the lightly built boats. Not to be dissuaded, he assigned the task to Captain Young of the 1/60th and he succeeded! Subsequent efforts showed that the boats could be moved even farther up the Matawan. In its final form, the water and land routes met at the Oskondagee River (mile 38) where everything had to be moved by ox-cart to Ward's Landing and then by water for three miles to M'Neill's Bay on Lake Shebandowan.²⁹

As June progressed, the force made slow progress westwards. More wagons with drivers were brought in from Ontario to augment the Land Transport Corps. The Dawson road was extended and improved. The Control Department established depots at the various transfer points along the road in order to regulate and account for the movement of stores and equipment. The troops were spread out all along

the road and “much care and trouble were necessary to keep them well and fully supplied”.³⁰ Colonel Wolseley was appreciative of these efforts as he is quoted by Huyshe as saying “I have never before been with any force in the field so well fed as this one has been up to the present time”.³¹ A special relationship seems to have developed between Colonel Wolseley and Assistant Controller Irvine during this time. The first notice of this was on 6/7 June when Colonel Wolseley had Irvine accompany him on an inspection of the damage that another forest fire had caused at the western end of the road. Irvine became a trusted advisor and stayed close to Colonel Wolseley throughout the expedition.³² Meanwhile, the force was arriving at M’Neill’s Bay. Wolseley’s criterion for beginning the next stage of the trip was the stockpiling of 60 days of provisions there. This was achieved on 16 July when the first group left by boat.

Deputy Commissary Meyer was the Control Officer there and he was responsible for superintending the shipment of stores, the loading of boats, and the issuing of rations and stores.³³

The force was organized into 21 brigades numbered from “A” to “X”, less “J”, “U” and “W”.

There were usually six boats in a brigade, each with a crew of 10-12 soldiers of all ranks, plus 12 voyageurs and a pilot. Each boat carried each man’s personal kit, 60 days of provisions, an arms chest containing the Snider short rifles they had been issued, cooking utensils, blankets, and waterproof sheets. All told, each boat carried a load of over 7,000 pounds.

With each brigade was a carpenter’s toolbox for making repairs en route to the boats. There was also a “gig” for the staff and three birch-bark canoes. On a typical day, reveille sounded at 3 a.m. and they started soon afterwards. The stop for breakfast was at 8 a.m. with the one for dinner at 1 p.m. About one hour before dusk, they stopped for supper and made camp.³⁴

The 1/60th took the lead, followed by the two militia battalions with the boats of the other units interspersed amongst them. The first leg of the route would be across Lake Shebandowan, over the watershed at Height of Land portage, and then down a series of lakes and rivers to Fort Francis, 208 miles away. Colonel Wolseley, with Assistant Controller Irvine, Wolseley’s personal servant, and eight voyageurs ranged along the route in a canoe, often in the lead blazing the way.³⁵ Commissary Mellish, who



Tracking and poling up the Kaministikwia River.

was to be the Control Officer at Fort Francis, had the ASC and AHC men in his boat along with the tents for the field hospital, the field oven, and the medical comforts and stores. They formed part of “G” brigade and departed M’Neill’s Bay on 19 July.³⁶ Once the troops had departed M’Neill’s Bay, the remaining voyageurs were employed in moving a reserve stock of provisions to Fort Francis. Because they were under less time pressure, they moved a small steam launch onto Lake Shebandowan to tow the boats across it and used ox-carts at some of the portages to carry the stores.³⁷

The work they had done along the Dawson Road had put the soldiers in good shape for the portaging. The drill at each portage was fairly routine. The brigade would land and off-load the boats. The lead brigade would cut out the portage road, if it had not already been done, and lay rollers for the boats to go over. They would then move the stores and equipment across the portage.³⁸ The idea of carrying the barrels and crates on a pole between two men was soon abandoned in favour of the Indian “tumpline.” This strap went around the forehead and supported the weight of the load on the shoulders. The normal load was about 200 pounds although many carried more. Captain Redvers Buller “always took at least 200 pounds and sometimes 300 pounds at a trip.”³⁹ One voyageur could carry up to 530 pounds in a single load! Once this had been done, the boats would be manhandled, using only ropes and sheer muscle power, up the steep slopes, over rocks and any other obstacles to the end of the portage. All told, there were more than 42 portages to be made before they reached Fort Garry.⁴⁰



All Sir Garnet. Colonel Garnet Joseph Wolseley, commander of the expedition. Admiration for Wolseley was so great that he inspired popular culture. At the time, if things were going well, it was “All Sir Garnet”. He also inspired Sir Arthur Sullivan’s famous ditty “I am the Very Model of a Modern Major General” and the character Major General Stanley from “the Pirates of Pensance.” (Courtesy National Archives of Canada)

Colonel Wolseley arrived at Fort Francis early on 4 August. He planned to give his force a short rest and do any necessary reorganization before they began the final leg of their journey. They could stock up on fresh bread from the ASC oven and perhaps obtain a few vegetables from the HBC post. It also allowed Colonel Wolseley to hold a “palaver” with the local Indians in order to ensure their co-operation.⁴¹ He also met with Captain W.F. Butler who Wolseley had sent to the Red River settlement on an intelligence mission. Butler was quite bold in his scouting and had actually spoken with Riel. Colonel Wolseley welcomed the information as it allowed him to complete his campaign plan.⁴² There was some discussion about using the partially completed “Snow Road”, which ran across the North West Angle from Lake of the Woods to Fort Garry. Colonel Wolseley had had quite enough of unproven roads and he elected to continue with the water route.⁴³

The expedition left Fort Francis on 10 August. Their route would take them 280 miles across the Lake of the Woods, down the Winnipeg River to Fort Alexander, then across the tip of Lake Winnipeg and up the Red River to Fort Garry. More portages awaited them along the Winnipeg River and in places they could run the boats through the rapids. When Colonel Wolseley arrived at Fort Alexander, all of the 1/60th plus the gunners and engineers were already there waiting for him.⁴⁴ Conscious of the coming fall, and of the need for a quick conclusion of the campaign, he set out on 21 August for Fort Garry, which was only 80 miles away. After an overnight stop, the flotilla of 50 boats started up the Red River in battle order. Capt Butler and Assistant Controller Irvine, in Colonel Wolseley’s canoe, took the lead and had orders to report anything unusual or suspicious. The rest of the boats were drawn up in two lines behind them, with a mountain gun mounted in the first boat of each column. On the 23rd, they appropriated some horses and an advanced guard of Mounted Infantry

was deployed on each bank of the river. They camped that night in the rain and advanced on Fort Garry on the 24th.⁴⁵ Riel and his cohorts were aware of the approaching troops but were not certain of their location. Their entry into Fort Garry caught Riel by surprise. He quickly fled with his associates, leaving their breakfast behind on the table to be claimed by some officers of the 1/60th, including Capt Buller.⁴⁶

Colonel Wolseley quickly consolidated his control of the settlement. Lieutenant-Governor Archibald arrived on 2 September to assume civilian control of the area. The two militia battalions remained until 1874 as a garrison to ensure the peace until the newly formed North West Mounted Police replaced them. The regular troops began their return to Central Canada on 29 August with the last ones leaving on 3 September. Colonel Wolseley left on 10 September and by 18 October all of the force was safely back in Central Canada.⁴⁷ The weather on the return trip was good and the mosquitoes and blackflies had disappeared. Capt Buller’s company pioneered the “Snow Road” from Fort Garry to Lake of the Woods. They used carts to traverse the prairie and then switched to pack horses to cross the

The Red River Expedition is a largely forgotten campaign.

remaining 33 miles of swamp. At the lake, they met the company of the 1st Ontario Rifles, which had formed the garrison at Fort Francis. They exchanged packhorses for boats and each group continued on their way. Assistant Controller Irvine also returned via this road.⁴⁸ The troops were met by baggage wagons at M’Neill’s Bay, as the road had been completed, greatly easing their passage to Prince Albert’s Landing and onwards.⁴⁹ The control work continued during the redeployment. They had to dispose of the reserve stocks at Fort Francis—most were sold to the HBC. The stores and ammunition at Prince

Albert’s Landing had to be returned to Central Canada.⁵⁰ All of this was completed in good order.

The Red River Expedition is a largely forgotten campaign. It occurred in a remote area, with a small force, when the attention of Europe was on the Franco-Prussian War of 1870. Yet this campaign firmly secured Rupert’s Land for Canada and blocked any possible American expansion into the area. The recently formed Control Department and the Army Service Corps ably supported the expedition. To quote Irvine’s official report, “I believe the Control system has proved itself on this occasion to be a sound one; the Officers of the old Departments worked together under one head with the greatest unanimity, and undoubtedly there was much saving of time and trouble throughout in there being one Department instead of several”.⁵¹ This could well be said to have been the first operational test of an organizational concept that eventually developed into the logistics services of the British and Commonwealth armies, including Canada’s.

Colonel Wolseley was certainly influenced by this campaign. His experiences with the Canadian voyageurs led him to ask for a detachment of them to assist him during the Gordon Relief Expedition of 1884/5.⁵² Assistant Controller Irvine, who was awarded the Companion of St. Michael and St. George (C.M.G.) for his services, became a member of the “Garnet Ring” and was Wolseley’s chief Control Officer during the Ashantee Campaign of 1873.⁵³ As a veteran of the Crimea and the China War of 1860, Wolseley was certainly cognizant of the importance of a well functioning logistics system, as he was well aware of the consequences of having one that did not work properly!⁵⁴



ABOUT THE AUTHOR...

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22. Lehman, p. 140.
23. Dawson, pp. 11 to 14. The Treaty of Washington, which finally settled the reparations question, was signed in 1871.
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25. Huyshe, p. 44.
26. Law, p. 15.
27. Dawson, p. 17.
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36. Huyshe, p. 259; Law, pp. 37 and 38.
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46. Stanley, p. 11.
47. Law, p. 73.
48. Huyshe, p. 201.
49. Dawson, pp. 33 and 34.
50. Irvine, pp. 8 and 10.
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52. Stanley, p. 252.
53. Matthew Bell Irvine was born in Quebec City in 1832, served with the British Commissariat in a variety of locations and retired to Quebec City with the honorary rank of Commissary General (Major General equivalent) in 1881. His link to the Garnet Ring continued and he was instrumental in organizing the Nile Voyageurs in the late summer of 1884. He died in 1893. In addition to the Companion of St. Michael and St. George (C.M.G.), he was made a Companion of the Bath (CB) for his services during the Ashantee Campaign. Many of his personal papers, including his *Journal of the Red River Expedition*, are in the National Archives of Canada in Ottawa.
54. The dreadful state of the British logistics services at the start of the Crimean War resulted in a massive overhaul of these services. It also started a programme of improvement and reorganization that continued until the 1890s. The Second China War of 1860 was not well supported logistically. Wolseley served in both these campaigns and suffered the effects of poor support.

Manoeuvre Warfare Doctrine for Urban Operations

by Major A.R. Jayne, CD

[The] future of warfare lies in the streets, sewers, high-rise buildings, industrial parks, and the sprawl of houses, shacks, and shelters that form the broken cities of our world.¹

The projection of the future of warfare provided above by Ralph Peters supports a growing realization that current trends will change the security environment that has driven Canadian policy and doctrine over the past few decades. As a result, the Canadian Army, specifically the Directorate of Land Strategic Concepts, has published a report on the future security environment,² which serves as the foundation for the identification, development, and refinement of the capabilities and doctrine needed by the future Army. Fighting effectively in an urban battlespace is one of the critical capabilities that must be developed within the Canadian Army to meet the demands of the future security environment. Our current tactical doctrine is based on Second World War experience and does not adequately address the exigencies of the urban battlespace or the principles of manoeuvre warfare currently practised by the Canadian Army. The aim of this article is to argue that the application of the tenets of manoeuvre warfare to the conduct of urban operations is possible.

In order to achieve the aim of this article, new doctrine for the future urban battlespace, based on the tenets of manoeuvre warfare, will be proposed. To adequately set the stage, it is necessary to first define the battlespace within the future security environment and then compare the current tactical doctrine against it to demonstrate why a new doctrine is

required. The tenets of manoeuvre warfare will then be presented and applied to the urban battlespace to derive new doctrine.

The Future Security Environment recognizes that globalization continues to accelerate and has integrated Canada into the world community to such an extent that global concerns will become Canadian concerns more rapidly than ever before.³ Population pressure, mismanagement, over-consumption, the uncontrolled growth of cities, environmental deterioration and climatic changes are leading to the depletion of food production capability, potable water and natural resources, which will widen the gap between the “have” and the “have not” countries, which, in turn, could

Fighting effectively in an urban battlespace is one of the critical capabilities that must be developed.

threaten Western interests.⁴ Population migration and urbanization are leading to more and bigger cities, which will impose great burdens on national infrastructures, especially in developing nations. If demographers and political strategists are correct, many, if not most of the conflicts of the future will be conducted in or around large urban areas. Cities and their outlying urban sprawls will increasingly be the political, economic, social, and cultural centres of gravity of the world. In future conflicts, the control of large urban areas will be critical to the successful attainment of strategic, operational, and tactical objectives. The operational and strategic goals of opponents who choose to fight in urban areas will mean that military operations in those urban centres may have far-reaching con-

sequences: “Military actions in some cities, such as Hong Kong, New York, Frankfurt, Seoul and Singapore, would endanger the very economic stability of the nation—and the planet. Consequently, the operational commander will probably be constrained by various political dictates, limitations and rules of engagement.”⁵ Canada will be obligated to commit forces to these conflicts to protect its interests. Therefore, we must be prepared to conduct operations against an enemy that has decided to conduct operations centred in and around large urban areas.⁶

Advances in technology are also increasing the likelihood of urban warfare. The advances in precision weapons and surveillance that favour Western military forces will threaten operational and tactical manoeuvre of potential enemies in open terrain. Opponents who wish to capitalize on political situations and restrictive rules of engagement and mitigate the technology available to Western forces will likely find cities appealing. This will be increasingly likely if they know the terrain better than their opponents and can gain the support of the urban resources and populations.⁷

The projection that conflicts will most likely be fought in and around urban centres is not useful to the examination of doctrine without an analysis of how an enemy could use such terrain to fight. Western alliances could possibly be challenged regionally by China, India, or by one or more major competitors, but the most likely threat is from asymmetric attacks by state and non-state powers.⁸ Future opponents will likely employ asymmetric attacks in an attempt to succeed

against stronger, technologically superior Western allies. This form of attack avoids strengths and exploits

in a manner would be given the authority to lay siege to the city and starve out the enemy due to consideration for the

Current tactical doctrine is inadequate to guide future commanders.

vulnerabilities. It may include exploiting the fears and beliefs of a population, undermining political support for a government or its actions, exploiting Western sensitivity to casualties, or attempting to disrupt complex economies. Such attacks can take the form of terrorism, psychological operations, misinformation, the use of weapons of mass destruction, and information systems disruption or destruction.⁹

Given the nature of the projected future security environment and the likely threats to Canadian interests, current tactical doctrine is inadequate to guide future commanders. Current doctrine does not sufficiently address operations in a large urban environment with possible political limitations and constraints against an opponent who is technologically inferior but who enjoys the relative protection of complex terrain and the ability to affect the international balance of power. Current Land Force tactical doctrine states that the attack on a built-up area may be conducted as any other: the built-up area is first “isolated”; the attacker then advances to the perimeter of the area and seizes a foothold, thus achieving a “break-in”; then the enemy is cleared during the “fighting through” stage of the operation.¹⁰

Although the isolation of a city can doctrinally mean the securing of positions outside the area to support the point of entry and the conduct of raids to disrupt and capture key positions, this term generally refers to the encirclement and cut-off of all approaches to the city.¹¹ The rapid growth of modern cities compounds the difficulty of this task, and one can imagine the difficulty of and the size of force involved in isolating a city such as Toronto. Shanghai and its surrounding areas, for example, contains over 125 million people and covers 2,383 square miles.¹² If it were possible to isolate such a city, it is unlikely that a com-

mander would be given the authority to lay siege to the city and starve out the enemy due to consideration for the

civilian populace. Thus, the freedom of action of the enemy, who desires to achieve his aims within the city itself, would not have been affected. The conduct of the break-in consists of an advance to the perimeter of the area and the seizure of a foothold. This stage of the operation is normally accompanied by artillery fire to suppress enemy fire and observation of the approaching troops. The political limitations on collateral damage and civilian casualties will likely make this practice unacceptable in future urban conflicts. As well, it is unlikely that the enemy would have sufficient force to defend the entire perimeter of the city; therefore, break-in would not be necessary. During the first Chechen War, the Russians were allowed to penetrate deep into Grozny before the Chechen opposition attacked and destroyed them.¹³

The traditional approach to fighting through the urban area is to conduct a systematic sweep of the city. This method consumes inordinately high quantities of manpower, time, and logistical support.¹⁴ It is unlikely that a Western force would be able to conduct this type of warfare due to sensitivity to casualties. The enemy could engage in a wide variety of asymmetric methods to slow the tempo of operations, cause large numbers of friendly casualties and attempt (through various means including terrorism) to break the will of the Western people to continue the fight.¹⁵ In the ensuing long, costly battle, the enemy would only need to avoid defeat rather than achieve success.

The traditional approach to urban combat will not serve to achieve political or strategic victory for Western forces in the future security environment. Cities will undoubtedly be the centres of gravity for enemy forces, but the restraints necessitated by economic, social, cultural, and political considerations and the likely forces available will require a new method of defeating the enemy. This new method can be found in the application of the tenets of manoeuvre warfare.

Manoeuvre warfare focuses on the enemy’s centre of gravity, the source of his freedom of action, and his physical strength or will to fight and determines how best to attack, neutralize, or destroy these factors. The emphasis is on the defeat of the enemy rather than attempting to hold or take ground for its own sake. In attempting to defeat the enemy, a commander seeks to apply his strength against the enemy’s vulnerabilities. Inevitably, manoeuvre warfare will include elements of movement, application of firepower, and positional defence in order to find, fix, and strike the enemy on the moral and physical planes. Finally, operations based on manoeuvre warfare will most likely be joint in nature and practically all will be combined.¹⁶

In order to set the stage for the presentation of new tactical doctrine, a number of premises should be articulated. Any friendly force (most



Urbanization may make operations in cities more likely in the future. Concern over the growth of the “urban battlespace” is not new and was examined by NATO in the 1970s and 1980s. Is it that we must hold cities to fight in the countryside or vice versa?

	PHYSICAL PLANE			MORAL PLANE		
	Find	Fix	Strike	Find	Fix	Strike
Winning the Information Battle	X			X		
Securing the Environment *					X	
Shaping the Environment	X					X
Exploiting the Environment		X	X			X

* May include combat operations that involve fixing and striking the enemy on the physical plane.

likely a coalition) involved in such future urban combat would likely have the capabilities of at least a division. This division would also be functioning within a corps and hence have access to a full range of capabilities such as psychological and information operations. The enemy would likely be an armed force that has some technological equivalency with Western powers but could not hope to achieve its aims in conventional warfare in open terrain against Western coalition forces. Such an enemy would likely have decided, therefore, to pursue its objectives by fighting in the cities where it enjoys a detailed knowledge of the terrain and some public support. In order to protect Western interests in the region, the friendly forces would have to defeat the enemy without creating corollary problems such as mass civilian casualties, massive infrastructure damage, and a hardening of the political opinion against the coalition forces and powers. The friendly forces would also have to simultaneously protect themselves against attack by the enemy and incur “acceptable” levels of casualties.

In order to be successful in the situation that has been presented, the coalition force will have to employ doctrine different from what currently exists. It is proposed that this doctrine, firmly based in manoeuvre warfare theory, will involve four equally important and concurrent activities to achieve success: winning the information battle, securing the environment, shaping the environment, and exploiting the environment. These activities must not be confused with the widely known Find-Fix-Strike cycle; they are categories of concurrent, complimentary operations that each contains an element or elements of the Find-Fix-Strike cycle that intersect to allow the defeat of the enemy. The prosecution of the information battle provides the basis of the other three categories and allows the commander to find the enemy on

the moral and physical planes. The other three categories involve fixing and striking on both the moral and physical planes as well as finding on the physical plane. The following matrix succinctly groups the operations inherent to each category and should provide focus for the detailed explanation of each.

Winning the information battle will be key to achieving success in an urban environment.¹⁷ Not only will it be necessary to have detailed information on the city but, perhaps more critically, information on the enemy will be required. In order to define the enemy’s centres of gravity, his sources of freedom of action, and his will and cohesion, extensive use of all facets of information operations will be required. A commander will have to understand why the enemy has chosen to fight in the city and what he hopes to accomplish. Much like any coalition force, the enemy will unlikely be able to control all portions of the city simultaneously. The enemy will have to focus his centre of gravity and be forced to choose targets that further his aims and enable him to achieve his goals. These targets may be designed to control economically or politically important areas, or they may be focussed on control of the civilian populace. These targets are referred to as “nodes” and can be defined as areas within the city that hold tactical, operational, or strategic value to either the enemy or coalition forces who control them.¹⁸ It is possible that a node, such as public opinion or political support, may relate to the moral plane and have no physical location per se.

The identification of nodes within the city will allow the commander to focus the activities of the force to defeat the enemy without clearing the entire

city block-by-block. The use of communications, signal and human intelligence sources, psychological operations, civil-military cooperation, and public affairs will be crucial to success. If the commander can gain detailed information of the enemy, he can then decide how best to defeat the enemy. Technology will play a role in winning the information battle. The extensive communications infrastructure in a modern city will allow the enemy various means of communicating including local telephones, cell phones, the Internet, and radio. The commander does not necessarily have to deny these means of communication to the enemy if he can exploit them for his own purposes. The commander must also conduct defensive information operations to shield his forces, intentions, and capabilities from the enemy. Such operations will be especially important in an environment where all or part of the population supports the enemy.

The information battle will be fought throughout the operation within the urban environment. It will serve as the underlying catalyst that enables the commander to define the enemy intentions, strengths, weaknesses, and centres of gravity. The

A commander will have to understand why the enemy has chosen to fight in the city.

identification of nodes allows the commander to find the enemy on the moral plane and determines the overall intentions and aims of the enemy. The identification of nodes may also allow the commander to find the enemy on the physical plane. This is especially true if the enemy has been in the city for a sufficient period of time to occupy and control nodes within the city.

As the information battle is being fought, the commander will start to gain information that will enable him to start the process of securing the environment. Securing the environment is designed to deprive the enemy of his freedom of action and wrest the initiative from him. As has been stated,

neither the coalition force nor the enemy can hope to control the entire city. Therefore, the commander must focus on controlling those nodes that are important to the enemy and to his forces. It is important to note that the nodes important to the friendly forces and the enemy may or may not overlap. In order to achieve success, the commander must focus on the effects to be achieved rather than the terrain.¹⁹ If the enemy intends to install himself as the de facto government of the area, the presidential palace may prove to be a critical node that would help the enemy solidify his claim to power. Denying that area to the enemy will then limit some of the options open to him. It is important to realize here that the enemy may or may not already control this node, and combat operations may be necessary to take it, but it is the node itself that holds the importance, not the physical forces of the enemy. As the commander recognizes and gains control of the key nodes within the city, the enemy will be faced with fewer and fewer options that will enable him to achieve his aims. The overall effect is that the enemy will be fixed on the moral plane. This is very important in the overall concept of manoeuvre warfare in the urban environment. The freedom of physical manoeuvre that is available to the enemy will not have been appreciably degraded at this time, but the commander has been successful in wresting initiative from the enemy.

Securing the environment may also include the use of wider ranging techniques to fix the enemy on the moral plane. For example, if the enemy is intent on exploiting the

As is readily apparent, it is not possible to determine exactly when and where the force commander would have to act to secure the environment. As manoeuvre warfare theory states, we

Traditional methods of finding the enemy with reconnaissance assets and aerial and space surveillance will not be sufficient.

civilian populace, the protection and provision for that populace could become a critical factor in the battle. The maintenance of the supply and infrastructure necessary to sustain the civilian population, coupled with protection and an aggressive public affairs campaign, would limit the enemy's ability to impact the population and thereby achieve his aims.²⁰ In this example, it can easily be seen how securing the environment would require the effective conduct of information operations. As the presence of the coalition force started to nullify the efforts of the enemy and public opinion turns in favour of the coalition, the ability to use the population as a source of information would increase. While the coalition force could not observe the entire city at once, the civilian populace could accurately and quickly provide information on the enemy that would be useful to the force commander.

must focus on the enemy. No two cities or situations would be exactly the same; therefore, it is impossible to list the nodes or methods that will always be effective in fixing the enemy on the moral plane. It is, however, possible to recognize the merit of denying the enemy the nodes and opportunities that are essential to achieving his goals. As this is accomplished, the environment will become more secure. The enemy will have fewer and fewer options available and the initiative will pass to the friendly forces.

As the initiative passes to the force commander, he can now start to shape the environment to his advantage. The enemy is struggling to maintain the upper hand in the information battle and has been, or is in the process of being, fixed on the moral plane through the loss of nodes critical to achieving his goals. Shaping the environment is intended to create an environment where the commander has greater control over the city as a whole and can start to find the enemy on the physical plane. This process must start from the outset of the battle with psychological operations, civil-military cooperation, public affairs, and intelligence and counter-intelligence operations, but these are initially focussed on winning the information battle. Once the enemy has been fixed on the moral plane and the force commander has secured the environment, it is now possible to use these tools to shape the environment to his advantage. The intent is to physically find the enemy. Traditional methods of finding the enemy with reconnaissance assets and aerial and space surveillance will not be sufficient to determine the exact locations and centres of gravity of the enemy. However, if the enemy has



New technologies and methodologies, such as UAVs, may aid urban combat.



Special lightweight vehicles with ascent systems may be required for urban areas.

lost the initiative and is fixed on the moral plane, he will have to take measures to try to regain the initiative and achieve his goals. The force commander can use this knowledge to anticipate how and where the enemy is likely to act and position assets to confirm or deny his intelligence.

The force commander has now created the conditions whereby he can use the environment to find the enemy. He controls the critical nodes that the enemy requires to achieve his aims and has secured the environment while winning the information battle. Aggressive use of psychological operations, civil-military cooperation, and public affairs has continued to weaken the enemies' resolve and swing public support in favour of the coalition. The enemy still retains the ability to physically move within the city but not without fear of being located. It is within this context that shaping the environment includes striking the enemy on the moral plane. Faced with deteriorating public support, the enemy must act or admit defeat, and, in doing so, he either moves to ground chosen by the force commander or reveals his location and intentions, which can subsequently be exploited. This situation, coupled with offensive information operations, will assist in defeating the will and cohesion of the enemy.

The force commander may now take direct actions against the enemy's vulnerabilities to ensure his defeat on the physical plane. This is accomplished through exploiting the urban environment. It is here that the force commander can employ the elements of manoeuvre, application of firepower, and positional defence to fix and strike the enemy. Whether the enemy is trying to regain control of a critical node, consolidating his forces in a specific area of the city, or trying to maintain an effective

logistical chain, the force commander is in a position to choose when and where to disrupt or defeat the enemy. The force commander must protect the nodes that he has secured and be willing and prepared to act decisively and counter-attack when the enemy attempts to regain them.

Once again, exploiting the environment can be conducted concurrently with the other steps of this proposed urban doctrine. Commanders must seize every opportunity to fix and strike the enemy. These opportunities may require widely varied responses such as a ground attack against an enemy safe haven, the precision bombing of a certain building, or harassment by sniper fire. In any event, these operations will have the net effect of disrupting the enemy, attacking his physical strength and cohesion, and contributing to the defeat of his will to continue the fight.

The doctrine proposed above does not attempt to provide a specific checklist for the prosecution of a battle in an urban environment or to define the technology, training, or tactics required to successfully prosecute such a battle. The doctrine is formulated to provide overall guidance to a commander within a set of general principles that will allow him to make sense of the complex

terrain and the possible threat in order to achieve victory. The defeat of an enemy in an urban environment has been described as similar to the modern treatment of cancer. The doctor must analyze the body to determine which system or systems the cancer is trying to infect. Once this is known, he can use drugs to protect the unaffected systems and precision laser surgery to eradicate the cancerous cells from the body. Overall, the doctor tries to defeat the cancer while preserving the body and mind of the patient.²¹

The future security environment and the emerging threats to Western interests present a problem to commanders of the future that the current doctrine for fighting in the urban environment is not capable of addressing. The current doctrine does not consider the limitations that are likely to be placed on Western forces or embody the tenets of manoeuvre warfare. This article has proposed a new doctrine that is based on the tenets of manoeuvre warfare and is specifically designed for the urban environment. This doctrine is based on the activities of winning the information battle and securing, shaping, and exploiting the environment. These activities can and will happen concurrently and compliment each other. Winning the information battle will provide the catalyst for all the other steps to take place. Seizing key nodes within the city to secure the environment will fix the enemy on the moral plane and wrest the initiative from him. Operations designed to shape the environment will turn the urban terrain to the advantage of the commander, and the enemy will be forced to admit defeat or try to regain the initiative. With this achieved, the commander will be in a position to fix and strike the enemy vulnerabilities by exploiting the environment. The end state will be the eradication of the cancer that may threaten the cities of tomorrow.



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20. Grau and Kipp.
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The Canadian Rangers

The Canadian Rangers are reservists who provide a military presence in remote, isolated and coast communities of Canada. Established in 1947, the Canadian Rangers are responsible for protecting Canadian sovereignty by reporting unusual activities or sightings, collecting local data of significance and conducting surveillance or sovereignty patrols as required.

There are currently 3,500 Canadian Rangers located in 144 communities across Canada. They are organized into five Canadian Ranger Patrol Groups (CRPG), numbered one through five, under the command of Canadian Forces Northern Area and the four Land Force Areas.



Planning exercise activity with Army personnel.



Two Canadian Rangers with Her Excellency the Right Honourable Adrienne Clarkson, following an investiture ceremony in Ottawa where 17 Canadian Rangers from across Canada were awarded the Ranger Bar to the Special Service Medal.

The Challenges of Military Operations in Humanitarian Action Operations

by Major Vic Sattler, CD

...We learned that when you use a land combat power in the peacekeeping or peace building role, you can't achieve an end state of long term peace—of stability and prosperity in the area. In general, a military element can only bring about an absence of war.

Major-General W.I. Nash,
Commanding General
1 Armoured Division,
Task Force EAGLE, 1996

INTRODUCTION

In recent humanitarian actions,¹ military forces have been deployed to theatres of operation to simultaneously keep the peace, take military action, and help the humanitarian organizations. Northern Iraq (1991), Somalia (1993), Goma and Zaire (1994), Rwanda (1994), and the former Republic of Yugoslavia (1993-95) are examples of such theatres. These complex humanitarian emergencies have seen the military with a blurred, if not at times confused, role between traditional and non-traditional military tasks. Striking the balance between the two is not necessarily easy. In fact, the division is often blurred by the operations orders themselves. The implementation of the Dayton Agreement has created some interesting military challenges in terms of strategic mandated support for humanitarian emergencies. At the tactical level, the principal concern is the ease with which the soldier can become involved in humanitarian assistance. "The military, although it can render invaluable humanitarian services (i.e., civil engineering, logistics) can not by definition and by its very nature transform itself into a humanitarian enterprise" (translation).² A basic principle of humanitarian action is that

only impartiality makes it possible to help all victims without discrimination. Using weapons to force one's way to deliver aid is a military measure. Humanitarian actions conducted by the military are political decisions. They necessitate identifying victims and belligerents. The post-Cold War world has challenged not only military forces but also United Nations (UN) agencies and numerous non-governmental agencies (NGOs). The challenge for all is to know what one is expected to do in a coordinated effort. The military challenge is to work, within capabilities, to accomplish all the traditional as well as the non-traditional tasks in the right balance.

The aim of this article is to examine, using the example of Bosnia-Herzegovina, the mandate challenges faced by, and the finite capabilities of, military forces involved in complex

The principal concern is the ease with which the soldier can become involved in humanitarian assistance.

humanitarian actions. Identified here-under are some strategic coordination issues that create grey areas among the mandates of various organizations and agencies of the international community (IC). Mission objectives will be suggested that enable measurement of mission success and thus make an exit strategy realizable.

What were the conditions that led to the digression from conducting purely military mandates? What are the problems associated with performing both military and humanitarian actions? The blurring of traditional and non-traditional military roles starts at

the strategic level. Are our own mission statements ambiguous? Do they have no tangible objectives? Where is the middle ground from which the military can continue to aid a society that needs to be reconstructed during and after hostilities have ceased? What are the tangible objectives that could indicate mission success so that an exit strategy is even conceivable?

DISAPPEARANCE OF THE BIPOLAR SYSTEM OF THE COLD WAR

The end of the Cold War witnessed the end of understanding the world in terms of a simple, bipolar geopolitical framework. This has particularly affected the developing countries, even in the very heart of Europe. "Endowed with obsolete political systems and economies too weak to accommodate their sudden change, the countries of Eastern Europe had to start the difficult path towards the Western model. Some perhaps more fragile than others, such as Yugoslavia, disintegrated into violence" (translation).³ The state and its institutions became weaker as they dedicated resources to dealing with the conflict. The state could no longer ensure the safety and dignity of its people. Thus the local population fled the indignities and atrocities to find safety, food, and shelter. A humanitarian emergency was created.

It was the atrocities and the refusal to recognize people as human beings that forced the IC to take humanitarian action. The Geneva Convention of 1949 and the two Additional Protocols of 1977 outline what is accepted as International Humanitarian Law. Intervention came in the form of military troops, UN agencies, and

numerous NGOs that forced humanitarian action, monitored procedures, and established institutions with a view to re-establishing humanitarian law and creating a secure, stable environment. Unfortunately, such intervention merely exacerbated the situation:

But rather than taking the political measures needed to stop the atrocities ... the IC rushed to provide humanitarian aid. Instead of trying to put an end to the war, States sent in troops and volunteers to protect and assist the victims ... In pursuing this policy, the IC never stopped vaunting the virtues of humanitarian activity to mask its political impotence ... Political circles thus set about lavishing care and assistance, not only creating unhealthy and spendthrift humanitarian competition but also prolonging the conflict" (translation).⁴

In addition to tasks of physical security, military forces in this situation were faced with numerous non-traditional tasks in support of non-combat objectives. The traditional bipolar conflict, the "winner and losers," had been replaced with numerous actors, only one of which was the military, who would conduct humanitarian interventions.

From a military perspective, intervention in a conflict on humanitarian grounds solves nothing. There has never been a victor in the latest of conflicts that have rocked the Balkans for centuries. Intervention is not synonymous with resolution. Classic

Intervention in a conflict on humanitarian grounds solves nothing.

resolution is achieved when one side wins through political resolution or armed conflict. Militarily, what happened in Bosnia was the war was stopped mid-stride. This stoppage denied victory to the winners and allowed the losers to escape the rationalization that they were defeated. Politically, a comprehensive housecleaning was not done except to

note who the belligerents were at the highest levels. Institutional corruption remains a problem even today. Economically, there was no Marshall Plan or economic reconstruction; there was only humanitarian aid. In Bosnia, two entities and three ethnicities (which are, in fact, further splintered into numerous political factions within ethnicities, each of which is also seeking resolution) remain that still have not had a resolution to their disputes. Instead, what happened was intervention on humanitarian grounds. The last armed conflict in Bosnia was in 1995. To this day, Stabilization Force (SFOR) cannot disengage itself for fear of hostilities resuming. This is echoed today, even in the most stable areas, by locals who admit that war would resume in a very short time without SFOR.

STRATEGY AND COORDINATION CHALLENGES

"The absence of comprehensive strategies for dealing with complex humanitarian emergencies is one reason that the international response to them has been so troubled and so often frustrated."⁵ The problem of strategy starts with the large number of independent actors: the military, UN agencies, NGOs, International Committee of the Red Cross (ICRC), and donor aid agencies. Each of these actors has its own agenda and each controls a piece of the strategic pie. Individually, each has created its own mandate and operational plan. However, a coordinated strategy needs careful deliberation and execution. Anyone in the group can undermine a coordinated strategy simply by stopping

or even slowing operations. Worse yet, anyone can force endless compromise resulting in a plan of the lowest common denominator rather than addressing the real issues. There is a requirement of all organizations to surrender some autonomy in order to rationalize the planning and conduct the work in complex emergencies. In

military parlance, only once you know the commander's intent can you then make your own plan.

Many of the NGOs have little experience in theatres where physical security is an issue (ICRC is the exception). Most of the NGOs previously focused on natural disaster-type, short-term relief emergencies. Hence, their internal administrative issues and campaign plans required deliberation not previously done. Interoperability in a complex humanitarian emergency is in its infancy for many of these organizations.

Coordinated and clearly defined strategic mandates are necessary before sending in organizations to deal with complex humanitarian emergencies. Coordination is built incrementally on experience and practice. Unfortunately, all IC organizations have the inherent problem of transient leadership and minimal corporate knowledge. This problem alone is one of the leading causes of success in complex humanitarian actions being incremental at best. Strategic shortsightedness stems from six-month missions. Nevertheless, shared and integrated objectives are the products of necessity in a region that views politics, security, and assistance as inextricably linked. At the tactical level, mission statements and operational plans are essential to differentiate respective tasks. If that is not done, when military troops support humanitarian organizations, the respective roles of the organizations become blurred in their conduct as well as in the perception of the belligerents and victims. Conversely, "stove piped" solutions, where the organizations work autonomously, are inefficient, even dysfunctional, and have previously seen catastrophic results in Rwanda and Somalia.

The Dayton Accords is a comprehensive settlement. The strategy is defined in the articles. While the parlance of the agreement is in universal statements, the detail of the execution of the tasks is found in the respective organizations' operational plans. It is through continual coordination at every level that the intervention plan is executed.

Having established that there must be a strategy and all the actors must understand their own role, it is also essential to understand what everyone else does in this complex emergency response system, from the strategic to the tactical level:

NATO was dispatched to Bosnia-Herzegovina to ensure, by military means if necessary, that the guns remain silent, while humanitarian matters were delegated to the competent organizations: the return of refugees and displaced persons to the UNHCR [United Nations High Commissioner for Refugees], the release of detainees and the tracing of missing persons to the ICRC. [Only] when the mandate of each agency is clearly defined according to its specific functions does the IC gain in efficiency (translation).⁶

However, the tasks assigned by the Dayton Accords were unconventional for military forces. In fact, in some cases (as in “Assist the UNHCR”[7]) they were specifically humanitarian tasks. The military force must know what the diplomat, the humanitarian relief worker, and the developmental economist do in addition to its own role. It is through knowing what others do and what you specifically don’t have to do that you can plan, operationally coordinate, and ultimately solve central problems in the most efficient and economical manner.

THE PROBLEM EMERGES: BLURRED MISSIONS FOR THE MILITARY

There are some inherent problems with doing military and humanitarian actions at the same time. Humanitarian action, by definition, is impartial for all those who require it. Take, for example, the humanitarian aid convoys (impartial) that are protected by armed military (partial). The military force participation will use force to deliver the aid. When military forces are sent to theatres of operation, they remain a political tool to achieve a political end regardless of the best of intentions. Hence, military forces are not neutral. They use aid to reward compliance of belligerents and victims as part of an operational plan. Even the

UN adopts resolutions of a political nature. The UN designates belligerents and victims, makes policies, sends military troops (through the Security Council), and sends aid organizations. Once a judgement is made as to whom the belligerents are, impartiality is lost. One cannot be a judge, take sides, and then claim to be neutral. The confusion of roles between military and humanitarian actions occurs when the military conducts non-traditional military tasks. The fact is nobody is neutral in the delivery of humanitarian aid: “some NGOs have abandoned any pretence of absolute neutrality in favour of the principle of independence.”⁸

The military mission must understand the strategic mandates if it is to understand how its operation will affect the overall IC’s coordinated plan and avoid unintentional consequences. The military mission is only one small portion of the strategic response. If we understand what we are all supposed to do—that is, understand the strategic intent—then can we draw boundaries and define our tasks in the chaos of a complex humanitarian intervention. Only then can we begin to do our job. It is when “foreign ministries engage in politics, armies carry out orders of politicians with military means, and humanitarian agencies were left to get on with their work that a welcomed situation of complementarity exists, as is moreover reflected in the Peace Agreements” (translation).⁹ While everything must be coordinated, there is a point where each organization needs to get on with its own tasks. Alone, a military mission statement may not include humanitarian relief initiatives, political negotiations, or developmental interventions. Hence, it is possible to have military mission success but lose the strategic humanitarian campaign.

BALANCING FINITE MILITARY RESOURCES

Military forces are particularly adept at providing early coordination of humanitarian activities. They are a stabilizing influence on the population,

they prevent excessive loss of life, and they ensure military security of the area. The military can quickly assess situations and coordinate efforts to address requirements. While the military is

There are some inherent problems with doing military and humanitarian actions at the same time.

adept at such activities, every effort must be made to facilitate UN, NGOs, and local involvement at the earliest moment. A balance must be struck, and there is a middle ground from which the military can aid societies that need to be reconstructed during and after hostilities. The fact is military resources are finite. There is always the danger that they become inextricably involved in, and ultimately over stretched between, military and humanitarian tasks, thus detracting from the traditional tasks of the military mission. It is the military commander who is faced with balancing threats to life and security with the requirement for humanitarian aid.

The conduct of military forces and humanitarian agencies can profoundly influence the power of local government. It is critical that the local population does not become dependent on military intervention. The local population must try to meet the IC’s efforts half way. There is nothing more important in humanitarian action than to challenge the local population to solve their own problems. Local institutions and government must take the lead from aid agencies and the military at the earliest opportunity. They must not be allowed to abrogate their responsibilities to/for their people. Sometimes, a robust and callous indifference must be shown by the intervening military if dependency is to be overcome early on. Unless the situation is so desperate that further loss of life will occur without substantial military intervention, a balance must be struck between callous indifference and military intervention to encourage self-help. At the earliest opportunity, once the situation is under control, the military leadership should withdraw

from intervention to a monitoring capacity. It is up to commanders at all levels to identify this fine balance between too little or too much military intervention. Particularly, as the belligerents become compliant and the victims harder to find, the operational requirement to monitor their activities also falls off.

When traditional military operations slow, the non-traditional support to civil agencies and the local population picks up. There are always inherent risks in providing tasks for under-utilized soldiers. Soldiers may be used for humanitarian tasks only if it is in support of the mission or the higher commander's desired end state. The level at which military resources may be used for non-military tasks is a risk that the commander takes. The key to mission success is not to create dependencies but self-sustainable solutions. The IC must support and empower local government to regain its authority and legitimacy.

SETTING STRATEGIC GOALS: JUDGING MISSION SUCCESS

It is from the strategic mandates that one can identify what the mission objectives are. The objectives should allow for periodic evaluation so that resources can be re-allocated as necessary to meet those objectives. Without realizable mission objectives, there is no means by which to judge success or failure of the mission and ultimately arrive at an achievable exit strategy. In Bosnia-Herzegovina, the United States set a fixed deadline to determine when the mission would be over. While a deadline is an option to consider when deciding how long one will be committed to a mission, it undermines the very reason for which the intervention took place: it does not address current condition of the humanitarian emergency. As previously mentioned, traditional conflicts only end when there is either a military victory or a negotiated settlement between all parties. In humanitarian actions, there may be no resolution. Hence, there is the need for realizable, intermediate goals that lead to the strategic objectives. They permit, if nothing else, a phased measure on



The presence of Canadian soldiers in Mitrovica, Kosovo, in February 2000, allowed the local children to feel safe enough to come out and play. (Courtesy CFPU)

paper that allows organizations to review missions and re-allocate resources with a view to being a more efficient part of the coordinated strategy.

Each complex humanitarian action is unique. However, it may be possible to identify some general principles that can guide the development of a strategic design. The start state is likely always the same: it is setting the preconditions for displaced persons, refugees and evacuees (DPREs) to return to their home communities with a view to returning society to some degree of normalcy and self-sufficiency. When military forces are tasked with creating these conditions, the initial planned involvement is usually one of simple security and monitoring. In the case of humanitarian intervention operations, the military requirements quickly broaden to supporting the UN agencies and NGOs. The distribution of food and water, local security (police), information centres, medical cover, and re-establishment of local government all require organization and resources. Each is intertwined with the next. These functions are not military in nature but do require the security and logistic support that military forces are well suited to accommodate early on in the mission. These functions are also tangible objectives that are inextricably linked to the overall strategy of the

mission. To that end, they suggest a list of measurable objectives that have the return of society to some degree of normalcy as an end state. The following list contains suggested objectives of a humanitarian intervention:

- Restoration of Physical Security – All subsequent objectives are dependent on this first one. When a local population can live without fear of violence, administrative harassment, or unjust laws and belligerents are no longer a threat to conflict, then can there be a return to normalcy for society. True physical security is realized when the local institutions are capable of maintaining such a state without the intervention of foreign forces.
- Restoration of the Rule of Law – This is perhaps the most difficult objective. Neither the military nor NGOs really have the skill sets to re-establish the rule of law. It is usually the UNHCR that leads the IC with this challenge. While local police forces may become more professional through international police task-force-type organizations to guide them, without a judiciary that enforces the laws of the land, the best local police are for

not. Restoration of the rule of law is a component of the restoration of physical security of a society. While UN agencies can support the rule of law, a sustainable system of maintaining law and order, overcoming institutional corruption, can ultimately come only from within.

- Resettlement – DPRES should be resettled to their own homes at the earliest opportunity. In some cases, when DPRES have been displaced for long periods, they have no will to return to their former homes. The choice to stay should not interfere with the return of other DPRES. The aim is to restore community life and economic self-sufficiency. DPRES will not return home unless they believe that their physical security is assured.
- Restoration of Markets and Economy – Since humanitarian interventions seem to take place in countries where agriculture is the largest market, only when the local population can bring their produce to market does the economy become embryonic. Trade creates jobs. Jobs create stability. Stability lends to social order. There is a huge danger here with regard to relief agencies. Humanitarian relief agencies can profoundly alter the economics of a distressed society

when they introduce computers, vehicles, food aid, and pharmaceuticals. Every precaution must be taken to not upset the balance. The old market system—vice the Western, technological introductions—is often the quickest means to re-establish an economy.

- Restoration of Basic Medical Facilities – There is a requirement to have basic medical care that can provide minimum coverage of a society. Even in societies where there is an absence of government, there is very basic care. When Western agencies act in humanitarian interventions, the basic level of care helps to reduce mortality rates by providing inoculations. The ICRC is instrumental in returning DPRES to communities that have access to clean water, thus reducing risk of epidemics for the rest of the population.
- Food Security – Food security is achieved by having a secure source of affordable food to sustain life. In rural areas, this means planting crops and reconstituting animal herds. In urban areas, it means sufficient economic activity for people to live.

CONCLUSION

Military forces, UN agencies, and NGOs will continue to co-operate in humanitarian actions. The instability

that characterizes these complex emergencies will not change:

The countries of the former Yugoslavia have not yet risen to this challenge. The authorities now in power are all relics of the old Tito system of State-run, centralized economies and single-party government. Profound political and economic reforms are needed to prepare these new States to take their place among European nations. Peace will only endure with the building and proper functioning of democratic State institutions which take into account the cultural identities and political entities that emerged from the conflict (translation).¹⁰

Only the IC and SFOR working together have the ability to mould Bosnia-Herzegovina into a stable, prosperous, and secure nation.

Presented above are components of the start state and subsequent coordination difficulties that face military forces when conducting non-traditional tasks with unfamiliar partners and different mandates trying to work within the same overarching strategic mandate. Commanders need to be aware of the capabilities of their units and accept the risk of doing humanitarian aid balanced against their traditional military role.

Lastly, suggested above are realizable strategic objectives that permit one to set and measure success of a generic humanitarian action and rationalize the mission. Identification of success or failure permits one to determine where the effort of a mission rests. Only once measurable objectives are met is an exit strategy possible.

The success of occupation can only be judged fifty years from now. If the Germans (Bosnians) at that time have a stable, prosperous democracy, then we shall have succeeded.

General Dwight D. Eisenhower,
June 1945



Soldiers from the 3rd Battalion, Princess Patricia's Canadian Light Infantry Battalion Group help an elderly woman out of a truck at Grako Ljani, Croatia, October 1992. The refugees were brought to their village to retrieve some personal effects left behind due to the war. (Courtesy CFPU)



ABOUT THE AUTHOR...

Major C. Victor Sattler enrolled in the Canadian Forces in 1988 and completed infantry officer classification training in 1990. He has served with Princess Patricia's Canadian Light Infantry in Calgary and Winnipeg and on exchange with both battalions of The Royal Green Jackets in Dover, England and Dhekalia, Cyprus. He has served in a number of staff positions including Infantry Doctrine at Land Force Command Headquarters in St. Hubert and at the Directorate of Army Training and the Canadian Land Force Command and Staff College in Kingston. Major Sattler's operational duty includes a tour with the United Nations forces in Cyprus and deployment throughout Europe as part of the UK's Infantry commitment to Allied Command Europe Mobile Force (Land) and NATO Stabilization Force in Bosnia-Herzegovina. Major Sattler is a political science graduate of Queen's University at Kingston, The Canadian Land Force Command and Staff College, and The Combined Arms Tactics Course at Warminster, UK. He is currently serving as an Arms Control Inspector at J3 Arms Control Verification in Ottawa.

ENDNOTES

1. "Humanitarian action" is a term that refers to the forcible intervention in domestic affairs of another state by a variety of means. It can include a whole range of actions, from mild diplomatic protests to sanctions to military invasion to occupation, occurring over an indeterminate period of time. These are interventions short of war. The aim of humanitarian action is to provide conflict victims with a measure of protection, to bring them aid and to initiate a dialogue with the belligerents, to institute rehabilitative projects that have a stabilizing influence on communities, and to bring order back to people's lives. Such an aim is based on a simple realization that people's lives must return to normal before long-term stability can be achieved.
2. Christophe Girod and Angelo Gnaedinger, "Le politique, le militaire, l'humanitaire: un difficile mariage à trois," *Dernière Guerre balkanique? Ex-Yugoslavie: témoignages, analyses, perspectives* (Paris and Montréal: L'Harmattan, 1996), p. 157.
3. Girod and Gnaedinger, pp. 139-140.
4. Girod and Gnaedinger, p. 144.
5. Andres S. Natsios, *US Foreign Policy and the Four Horsemen of the Apocalypse: Humanitarian Relief in Complex Emergencies*, Westport, Ct: Praeger, 1997, p. 60.
6. Girod and Gnaedinger, p. 159.
7. Dayton Peace Agreement, Article VI, Deployment of IFOR, paragraphs two and three refer.
8. Natsios, p. 56.
9. Girod and Gnaedinger, p. 159.
10. Girod and Gnaedinger, p. 162.



Coyotes of the LdSH(RC) Recce Squadron vehicles at the Kandahar Airport, after arriving there on 3 February 2002. DGPA/J5PA Combat Camera photo by Capt Dale MacEachern

BOOK REVIEWS

Bastard Sons: An Examination of Canada's Airborne Experience 1942 - 1995

Reviewed by Major J.J. Parkinson, CD

It was with some caution that I approached *Bastard Sons*. I remember well the disbandment of The Canadian Airborne Regiment. At the time, I was shocked and angered at the sudden announcement of the Regiment's disbandment, which, in my view, represented a betrayal of the highest order. Upon limited consideration, I changed my mind. I was vindictively glad that The Canadian Airborne Regiment had been punished for the problems it had brought upon the Army. However, with greater reflection, I realized that the Army's problems were those of its own making, and that the disbandment of The Canadian Airborne Regiment was a reflection of those problems, not a solution to them.

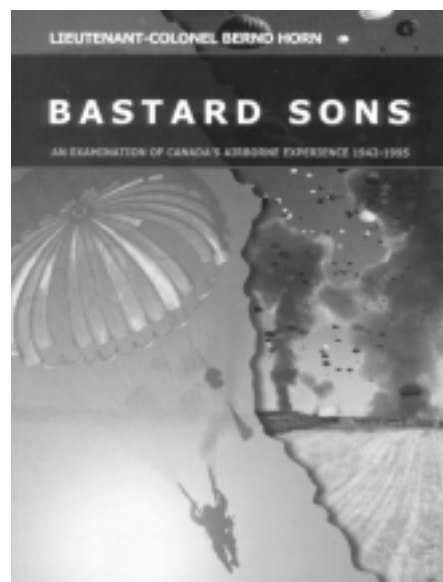
When I saw this book, I thought, "Uh-oh, this looks like a 'how badly the Airborne was treated and how nasty everyone was to us' book". The cover of the book is unimaginative, and the title seems to have macho, Hollywood overtones. The foreword by Major-General Pitts, although well written, appears somewhat self-serving, just another member of the airborne community supporting one of their own. The preface by Colonel Kenward, however, is excellent, and sets the real tone for the book. This is followed by the acknowledgements, and then listings of the Regimental Commanders, Commanding Officers and Colonels of the Regiment for The Canadian Airborne Regiment.

The book is chronologically arranged into five periods: the establishment of a parachute capability during the Second World War, the immediate postwar

period 1946-1948, the Mobile Striking Force and Defence of Canada Force 1948-1967, The Canadian Airborne Regiment 1968-1995, and the re-creation of decentralized parachute companies after the disbandment of The Canadian Airborne Regiment in 1995. At the back of the book is a list of abbreviations that will be valuable to most readers, whether they are military or civilian. The index is quite comprehensive and more than adequate for anyone wishing to use the book for research purposes.

The introduction suggests the book will be a scholarly examination of the Canadian airborne experience rather than some form of popularized history. Lieutenant-Colonel Horn clearly outlines his central thesis that Canadian airborne capability has had a bumpy ride due to a lack of strategic vision regarding airborne forces. As there was, and is, no strategic direction, how then can there be any Army, or operational, direction regarding either the requirement for, or the role of, airborne forces? Horn also raises the issue of elitism, although this is the focus of the book. I suspect this is to address the issue of The Canadian Airborne Regiment as an elite unit, something many perceived it to be. The notes at the end of the introduction are quite extensive, a number of quotes having more than one source. This is the standard for notes throughout the book, lots of them, well documented, and most often from primary sources.

Although the book is about Canada's airborne experience, in reality *Bastard Sons* goes much deeper than this, maintaining that Canadian



***Bastard Sons: An Examination of Canada's Airborne Experience 1942 - 1995*, by Lieutenant-Colonel Bernd Horn. (St. Catherines, Vanwell Publishing Limited, 2001. 288 pages).**

military strategy failed to protect Canadian sovereignty. Towards the end of Chapter Two, Lieutenant-Colonel Horn sets the stage for this argument to be developed further when he quotes defence analyst R.J. Sutherland: "Canada must not become through military weakness or otherwise a direct threat to American security. If this were to happen, Canada's right to existence as an independent nation would be placed in jeopardy." Lieutenant-Colonel Horn then goes on to clearly illustrate that on three separate occasions, the issue of airborne capability came to the forefront of Canadian strategic military thinking when there was a perceived threat to Canadian sovereignty from the United States. On all three occasions, the

Canadian government reacted to events, rather than develop a strategic plan. Changes in strategy lasted as long as the perceived threat; once the threat was gone, attention quickly wandered elsewhere. Nor does Lieutenant-Colonel Horn credit the Army with any better planning or foresight than the government that controlled it.

The most fascinating part of the book, from an army perspective, is Chapter Four, "The Winds of Change". Many of the issues and the problems identified in this chapter, covering the period of 1964 to 1968, are the very same issues and problems facing the Army today. The Minister's intent then to "restructure the military into a global and very mobile force that could meet the widest range of potential requirements in the fastest possible time" sounds very similar to the Army's rationale for a medium-weight force today. Then, as now, this concept of rapid deployment did not really exist. To that effect, Lieutenant-Colonel Horn quotes the Commander of Force Mobile Command, Lieutenant-General Allard: "We knew that the deployment of an infantry brigade overseas could take several weeks and even then only if it were already completely equipped and had received at least one month's thorough training." Has anything really changed? Nor were some of the systemic problems any different. Lieutenant-Colonel Horn does an excellent job showing how direction from a general officer, who was essentially the Commander of the Army, was ignored—a problem that exists today.

The most emotionally powerful part of the book is Chapter Eight, "On the Edge of the Abyss," dealing with The Canadian Airborne Regiment in Somalia. The Regiment's commitment to Operation Deliverance and the results of its deployment are very well described. Lieutenant-Colonel Horn presents the information in a very balanced manner, in sufficient detail relative to the length and scope of the book. He faces the problems with The Canadian Airborne Regiment in Somalia directly. More importantly, he presents a very well supported case that The Canadian Airborne Regiment's conduct of the mission in Somalia was highly successful. He documents high

praise about the Regiment and its conduct from a number of important individuals, including Jonathan T. Howe, the Special Representative to the U.N. Secretary-General; Lieutenant-General R.B. Johnston, American UNITAF commander; Robert Oakley, the Special Envoy to Somalia, and Minister of State for External Affairs, Barbara McDougall.

Despite all of the book's strengths there are a number of problems. At times, the author's writing style can be a little difficult to follow, more so at the beginning of the book as he jumps around chronologically to consider some relevant point from an earlier period. In part, this is an editing problem, and there are others such as the four missing notes for Chapter Eight. In addition, on three separate occasions, Lieutenant-Colonel Horn states that the government would rather spend money on social programs than on the military, yet he neither develops this point to substantiate it, nor does he footnote it, to credit the argument elsewhere. Is this in fact true? Or is it just another "urban legend?" This weakens what would be an otherwise balanced academic work. In addition, throughout the Canadian airborne experience, the size and organization of airborne forces has varied considerably, thus a comparison of airborne organizations and establishments from 1942 to the present would have been a nice addition to provide some context.

In the conclusion, Lieutenant-Colonel Horn provides a direct explanation for the title, and provides a strong case for the maintenance of an airborne capability. He also addresses the issue of Canadian airborne forces as an elite, stating that the 1st Canadian Parachute Battalion, the Special Air Service Company and The Canadian Airborne Regiment (from its inception until about 1977) could all be considered elite units. Where the conclusion falls short is with respect to an analytical consideration of future Canadian airborne capability. Although this may be understandable considering the emotion still surrounding the issue and the fact that this is a historically-based study, this does not make its omission any less disappointing.

But the biggest and most unforgivable problem with the book is the treatment, or its lack, of the operational experience of the 1st Canadian Parachute Battalion and the Canadian component of the First Special Service Force. Lieutenant-Colonel Horn covers this experience in less than a single page. This is a serious shortcoming for a book that is supposed to be examining airborne experience. Two whole chapters, 33 pages including notes, address the period 1935 to 1945; yet, the operational experience, the only Canadian operational airborne experience in wartime, is dealt with in a single page. This should have warranted a chapter of its own. Perhaps there is a valid reason for not including it, but at least let the reader know why something so obvious is not included.

In the end though, the good far outweighs the bad, and *Bastard Sons* is an excellent book. Lieutenant-Colonel Horn has clearly illustrated the lack of strategic thought concerning the creation and maintenance of Canada's airborne capability. He also does an excellent job dealing with the most painful period of the Canadian airborne experience, the disbandment of The Canadian Airborne Regiment. The author does not address this as an issue of whether there should be an airborne regiment, but as a matter of how the strategic decision was made and continues to be made. This book is significant for its sound academic treatment of a failure in Canadian military strategy. From an Army perspective, it clearly illustrates where we have come from, as a modern military institution, and that we still have a way to go towards achieving institutional maturity. This book is a must-read for anyone interested in modern Canadian military history and should be a part of every professional soldier's literary collection.



Major J.J. Parkinson, CD, is the G1, Land Force Doctrine and Training System, an occasional parachutist, and is working towards a Master of Arts in Military Studies from the American Military University.

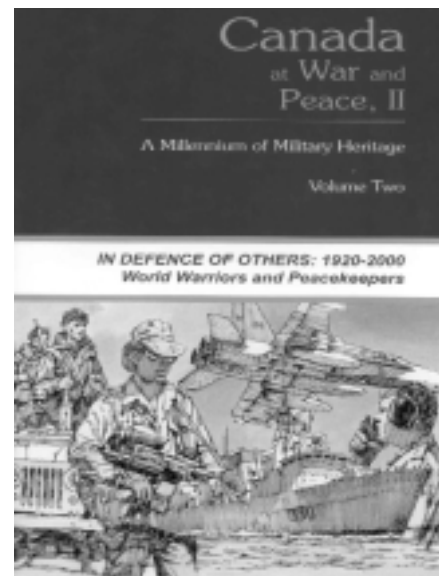
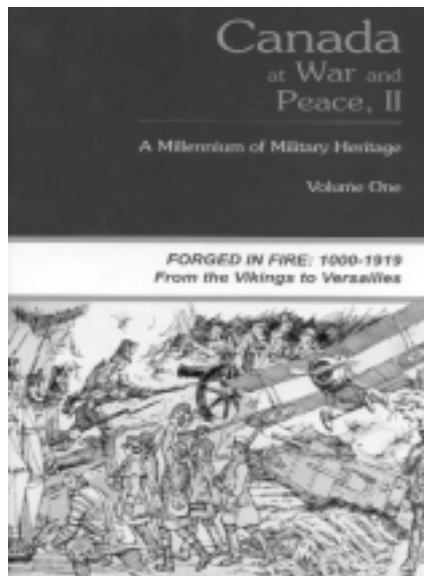
Canada at War and Peace, II: A Millenium of Military Heritage

Reviewed by Major Jim Godefroy, CD

Canada at War and Peace, II: A Millenium of Military Heritage is a two-volume collection of short articles, each two to three pages in length, which cover the history of conflict in Canada and Canadian military activity from the arrival of the Vikings and aboriginal tribal conflict to present-day events. Published by Esprit de Corps books, Editor-in-Chief Scott Taylor took on a very ambitious project in his attempt to chronicle the entire military history of what is now Canada, and the two volumes, at just under 1000 pages, took some time to plow through. No less than 44 separate contributors are listed in the frontispiece of each volume, and, as can be imagined, with such a wide variety of authors, the result is of varied quality. The books' content is a combination of articles reprinted from *Esprit de Corps Magazine* and purpose-written material. Both volumes are illustrated profusely with both familiar photographs and original art produced by Scott and Katherine Taylor. Several colour sections are included.

The jacket suggests that the books constitute a valuable research tool, given their "chronological organization and A-Z index" and their coverage of the political, social, and military aspects of the conflicts in which Canada has participated. I kept this claim in mind as I read through them and must confess that I came away less than convinced.

As a general criticism, I noted that the article length and style are aimed more at the curious than the serious student of military history, and few primary sources are cited. Many passages seem to mimic the style of popular historians like Pierre Berton, and it appears that Taylor's aim is to popularize Canadian military exploits. In this he certainly succeeds. Unfortunately, given the unsophisticated nature of the analysis offered in many of the pieces, the overall effect of the



Canada at War and Peace, II: A Millenium of Military Heritage. Scott Taylor, Editor. Two Volumes. (Ottawa, Esprit de Corps Books, 1999, 2000).

books is diminished by a lack of depth and balance and by the inevitable gaps and omissions that have occurred. While I have a broad general interest in Canadian military history and an academic background in the subject, I consider myself a layman and decided that the best way to gauge the general quality and accuracy of the articles was to cast scrutiny on those sections that held a more specialist interest for me. As a collector of campaign medals awarded to Canadians, I was drawn to one article, written by L.H. Packard, dealing with medals awarded to Canadian servicemen. I found that this article confused awards for specific military actions (denoted by clasps to the medal) with medals generally. Two of the three awards mentioned are misnamed and erroneous information is provided about the method of qualification for the Saskatchewan clasp to the North West Canada Medal, which was awarded for service in the North West Rebellion of 1885. These errors involve facts that are easily checked in standard secondary sources and cast doubt on the general quality of editing. Further on, in

the section dealing with Canadian participation in the Boer War (another personal interest), I noted that no mention is made of the large Canadian Constabulary or the second most bloody Canadian battle of the war, fought 31 March 1902 at Boschbult on the Harts River. In fact, Canadian participation in the war beyond the return of our initial contingents is ignored. Similar omissions and errors dog much of the text and lead me to dispute the claim that these volumes could be used as a valuable research tool.

As I read on, I remarked that Canada's entry into the First World War received a flippant one-page treatment from Norman Shannon, who repeated tired stereotypes about Minister of Militia and Defence Sam Hughes, dismissed the utility of the Ross rifle using an awkward turn of phrase, and ended his piece with a cryptic reference to German experiments with gas in the Ypres sector. A reader with some knowledge of the Canadian experience in the First World War will understand

the hidden meaning in all of these coy remarks, but the uninformed reader who is leaning on this “valuable research tool” will be lost and unable to grasp much of what Mr. Shannon is getting at until they read other articles and put some of the pieces of the puzzle together.

The First World War, from a Canadian perspective, is generally well covered, with articles or mention accorded to most of the major Canadian actions of the war. This section is marred by a recurring theme espoused by Mr. Shannon, which sees an unnecessary and populist lauding of Canadian fighting effectiveness in the face of incompetent British generalship. Criticism of British generals’ performance during the First World War is nothing new. The performance of Field Marshall Haig and his staff has been critically examined for over 80 years, and excellent books by Denis Winter, John Keegan, and others have explained their decisions, failures, and successes in a balanced way. The regrettable manner in which this theme is presented here—as a simple fact requiring no explanation—makes it seem trite, oversimplified and hard to swallow, and detracts from the otherwise generally factual accounts of the great Canadian achievements during the war. On the bright side, and contrasting Mr. Shannon’s style, are several well-written pieces by Mike McNorgan on the exploits of the Canadian Cavalry Brigade and articles by Colonel Strome Galloway such as his well-written account of the Canadian entry into Mons at the end of the war. These pieces suggest that Taylor’s format is not necessarily flawed but that editing, tone, and bias might be the main detractors.

The second volume begins with a short section on the inter-war years before devoting its bulk (over 200 pages) to a series of articles dealing with the Second World War. Subscribers to *Esprit de Corps* will be disappointed with this volume, as almost all of the Second World War section consists of

articles reprinted from that magazine, and a simple troll through back issues could have found them what they were after. The Second World War pieces are a combination of unit, action, and incident exposés, personal accounts and biographies. Like the First World War section, coverage of major Canadian activities is generally good, but shallow, and often tinged with recriminations about a lack of allied recognition for Canadian accomplishments. This plaintive theme grows tiring very quickly, and while it might strike a chord with some, it will generally tend to distract the reader.

A somewhat odd piece by George Orsyk deals with the Canadian Forces and the rise of the *Parti Québécois*. Orsyk argues that “many Quebecois have viewed the military as a para-military force the Federal Government keeps in readiness and reserve for a troublesome colony called Quebec.” He goes on to explain CF deployments during the 1970 October Crisis, but subsequently questions various CF decisions in 1976 and 1977, including the large number of CF personnel placed in support of the Montreal Olympics and the move of the Canadian Airborne Regiment from Edmonton to Petawawa, leading the reader to conclude that they were somehow motivated by fears of separatism. With no primary source references beyond public press announcements and no attribution of the source of various quotes, Orsyk paints a shadowy picture that smacks of conspiracy theories and casts the government and CF leadership in a questionable light.

I must confess that, given the reputation of the Editor-in-Chief, I expected the section dealing with Canada’s recent military exploits to be somewhat biased against the “brass.” I was not disappointed in this regard. The section dealing with Canada’s military involvement in the Balkans sees several familiar mantra repeated, including allegations that the Department of National Defence has systematically

covered up shooting incidents, downplayed or hushed up Canadian combat, and tried to keep the public in the dark. The “brass,” the Public Affairs and Judge Advocate General folks, senior civil servants, and their political masters are tagged as the ethically-challenged architects of this grand web of deception, and the reader is led to believe that a pervasive culture of secrecy and cover-up drives this agenda. There is little consideration of possibly less sinister reasons for some of the failings of the CF such as downsizing, under-trained personnel, bureaucratic politics, or simple individual human error. While there is little doubt that there is some truth to much of what is printed here, facts that do not support the secrecy culture thesis are ignored and the overall result is an unbalanced account.

Would I recommend these books to the reader? Regrettably, I cannot. While Taylor’s effort in bringing all of this material together is admirable, there is little that is new here and too much that is subjective, flawed, missing, or misleading. The odd article might offer some new or obscure information, but the lack of footnotes or sources makes their content suspect. For the determined reader who insists on one-stop shopping, other general Canadian military histories, such as Desmond Morton’s *A Military History of Canada*, are a better choice. While this genre will always be plagued by inevitable omissions, the latter book provides a more balanced and factual overview of our military heritage than Taylor’s work and is an easier read.



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The Path to Blitzkrieg: Doctrine and Training in the German Army, 1920-1939

Reviewed by Lieutenant-Colonel Ian Hope, CD

Casual students of history and many military professionals search for lights that illuminate the path toward military excellence. They rummage through history seeking examples of panacea tactics or technologies that have created decisive military advantage. They are susceptible to mythologies of military history; especially those wherein some "revolution in military affairs" has allowed an army to perform a rapid metamorphosis after the acquisition of a particular new capability that creates overwhelming benefit to the force.

The mythology around *Blitzkrieg* is a case in point. It has long been held that Blitzkrieg was the result of the efforts of a select few—most notably Guiderian and von Mainstein, guided by the works of Liddell Hart. These mavericks, the myth suggests, took tank and aeroplane technology and leveraged it to produce maximum effect, thus creating a doctrine that was unbeatable in its time. The myth also refers to the fierce struggle between these officers and those of the intransigent General Staff who refused to accept their ideas—a struggle that was only resolved when Hitler himself sanctioned Blitzkrieg, and the *Wehrmacht* was thereby transformed into a war-winning machine.

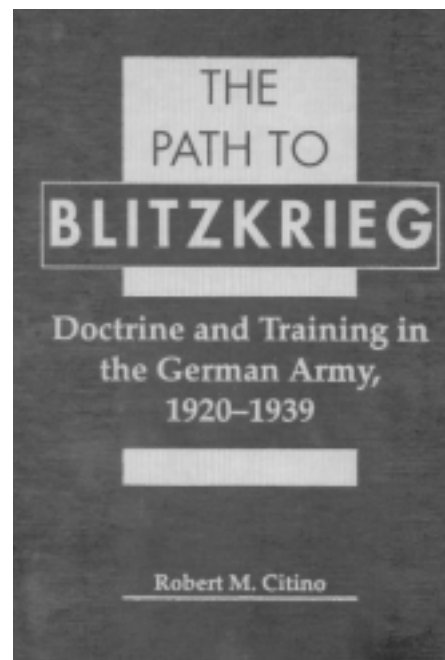
The value of Citino's work lies in his dispelling this particular myth, which in turn discredits all like it. In *The Path to Blitzkrieg - Doctrine and Training in the German Army, 1920-1939*, Citino argues convincingly that German battlefield success was not the result of any particular new tactical method, technology or weapon but of institutional excellence that came about through sustained effort for a period of decades.

Path to Blitzkrieg fills a gap in the historical research of the German Army from 1920 to 1939. Much has been written on the role of the *Reichswehr* in

the Weimar Republic and the role of the *Wehrmacht* in Nazi Germany, and there are excellent biographies of the key commanders of this period. There are also good studies on the development of the tank and aircraft. But there is no single work that discusses the developments in training and doctrine that became the foundation of Second World War German fighting excellence.

While Citino's scope stretches from 1920 to 1939, the weight of his work rests in the era of von Seeckt, 1920 to 1926. He persuasively contends that the roots of *Blitzkrieg* lie in this early period, in von Seeckt's doctrine of *Bewegungskrieg* or "war of movement." The Versailles Treaty had limited Germany to a posture of strategic defence and prohibited tank and combat plane production. Yet, despite this limitation, von Seeckt was able to instil in his small professional army a preference for tactical offensive operations using mobility provided by motorization and supported by aircraft and a continued emphasis of combined arms doctrine and small unit leadership and initiative.

Citino covers the genesis of von Seeckt's *Bewegungskrieg* from the tactics and doctrine of the 1914 German Army, through the First World War, to its articulation in the 1921 Field Service Regulations - *Combined Arms Leadership in Battle*. But because this doctrine manual was "frozen in 1921," Citino uses other source material to examine subsequent years, most remarkably the yearly "Observations of the Chief of the Army Command." From these sources, as well as reports of military attaches and contemporary military writings, Citino assesses the influence von Seeckt exerted on the Reichswehr. He informs us that every officer received copies of the "Observations," which became the rules



The Path to Blitzkrieg – Doctrine and Training in the German Army, 1920-1939, by Robert M. Citino (Boulder, Colorado: Lynne Rienner Publishers, 1999).

that guided the work of the subsequent year. Von Seeckt's mark was also evident in the weekly *Militar Wochenblatt*, which published tactical exercises by the Army Training Section. These works document the establishment of a sound doctrinal foundation for methods and tactics that were essential to German successes in the Second World War.

Citino also provides insight on the conduct of all types of training. He dedicates a chapter to describing the various tactical schools of the German Army, their scope, and their curriculae. He gives detailed descriptions of war games and paper tactical exercises. Nevertheless, his greatest attention is given to how field training exercises were conducted, their scope, length, and results. Here the reader gets a good glimpse at training methodology of the German Army, its use of umpires and controlling staffs, the participation of

commanders and visitors, and the means by which observations were transformed into doctrinal changes.

Change and progression are a part of this history. The reader senses institutional learning that was built incrementally year to year, allowing for the expansion and re-armament of the German Army after 1933 without loss of competency. The sound doctrine established by von Seeckt led training, which, in turn, informed doctrine, which again drove training in constant cycles of learning that steadily increased the German Army's ability to fight as combined arms organizations in highly mobile offensive operations.

When new doctrine was introduced in 1933—*Truppenfuhrung*—it was really only an evolution of the doctrine of the early 1920s. And this doctrine survived the largest change in the German Army in the entire period—the establishment of the *Panzer* Division in 1935-36. Citino attacks Guiderian's assertion about a long, hard fight with Beck for the establishment of *Panzer* divisions. Beck

became Chief of the *Truppenamt* in 1933; in 1935 three *Panzer* divisions were fielded. This hardly suggests a struggle. While the divisions themselves were new, *Panzer* tactics, doctrine, and training were not. A long-sustained emphasis on combined arms warfare and offensive action accommodated these new formations.

Citino concludes by describing *Case Yellow* (the offensives against the Low Countries and France in May 1940) as an example of effectiveness of "doctrine" applied. The tactical brilliance of the German Army in North West Europe in 1940 was the accumulative result of activities from 1920 to 1939 - when severe restrictions on manpower and material did not stop the German Army from being forward-thinking, innovative, and experimental.

Citino makes excellent use of unpublished sources. These include American military intelligence reports from 1919 to 1941, records of the German High Command, the papers of Generals von Seeckt and Groener, records of the German Foreign Office,

as well as secondary studies - which include all of the seminal works on this period. His footnoting instills confidence and informs. There is great detail, which is of value to the serious historian of that period, but which also serves to fully substantiate his argument.

Citino's *Path to Blitzkrieg* is an excellent companion to Harold Winton's *To Change an Army and to Doughty's Seeds of Disaster*, which describe British and French developments in doctrine and tactics in the same period. The greatest value of *Path to Blitzkrieg*, however, lies in its destruction of *Blitzkrieg* myths.



Lieutenant-Colonel Hope is a staff officer with the Directorate of Land Strategic Concepts (DLSC) in Kingston, Ontario and a knowledgeable student of military theory and history.

The Stand-Up Table

Commentary, Opinion and Rebuttal

A Commentary on The Canadian Army Reading List: A Guide to Professional Reading

About the Author...

Donald E. Graves is a military historian specializing in operational and tactical warfare. He is the author or editor of several critically-acclaimed books, including Fighting for Canada: Seven Battles, 1758-1945, and is currently Managing Director of Ensign Heritage Group, a commercial firm that provides consulting services relating to military history to Canadian and American government departments (including the Department of National Defence), museums and film companies. He lives near Ottawa, Ontario.

5BBS – (FIVE BASIC BOOKS FOR SOLDIERS)

The knowledge required does not look remarkable...

Carl Von Clausewitz, *On War*

The Canadian Army recently published *The Canadian Army Reading List: A Guide to Professional Reading*, a publication that is intended for all ranks. In the foreword we are assured that, among “the many challenges confronting soldiers are the complex warfighting, technological and social changes of our times” and that “more than ever we require a... thorough understanding of a myriad of interrelated subjects, such as doctrine, training, international relations, history and other topics to complete our duties.” This may be true but, personally, I question whether this emphasis (which we hear everyday) on the complexities of the modern world is a wise thing when considering the profession of arms. I have a little experience in military history, particularly operational and tactical military history and, in the last decade have, more and more, tried to reduce things to their utmost simplicity lest I be overwhelmed by yet another wave of experts armed with “cutting-edge” and radical new technologies that will change the universe. In fact, so

resistant have I become to the almost unceasing ranting about the complexities of the modern military profession that I have gone quite in the opposite direction and derived a philosophy of warfare—that most terrible of human endeavours—founded on Clausewitz's assertion that: “Fighting is the central military act; all other activities merely support it.” It is my belief that the “central military act” is an exercise in hot- and cold-blooded killing, and the soldier's task is to do that awful job as efficiently as possible with the minimum of casualties—anything that works toward that end is a good thing; anything that works against that end is a bad thing. This may be a simplistic belief, but it works for me.

With this rudimentary philosophy, it will come as no surprise that when I perused the more than 100 titles contained in *The Canadian Army Reading List*, I was puzzled by many of the choices. It is my feeling that too many books on this list are concerned with matters so arcane, peripheral, transitory or academic that I doubt very much whether an intelligent soldier who wishes to learn more about his or her profession would find much use for them, other than as rather expensive beer coasters.



“Fighting is the central military act; all other activities merely support it” (Clausewitz). Are we digressing from that?

Since I am basically stupid, I like to keep things as simple as possible lest I get confused. For this reason, I think that this reading list (which appears to be the work of many hands or committees) should be drastically reduced. I therefore decided to compile a list of the five books that I feel every soldier should read at some time during his or her professional career. I call them the 5BBS (Five Basic Books for Soldiers) following an example set by the Royal Canadian Air Force nearly half a century ago: when faced with lengthy and contradictory advice by numerous experts on the best way to improve the physical fitness of aircrew, the RCAF instituted five simple exercises (known as 5BX), which, along with running, constitute an effective training regimen that can be followed by anyone, anywhere.

Here, in order of importance, is my personal list of 5BBS, which I feel are essential reading for every soldier:

1. Clausewitz, *On War* (Princeton University Press, Princeton, 1984). All soldiers must read this book at some time. It is not an easy task, but it has been made much lighter by the appearance of this excellent English language edition edited by Michael Howard and Peter Paret, which contains a 70-page “Guide to Reading On War” that is worth the price of admission and a masterful summary of the most important analysis of warfare to appear in print.

2. Sun Tzu, *The Art of War* (Oxford University Press, London, 1963). The Chinese classic and a succinct appraisal of the nature of warfare notable for its emphasis on the interplay of morale, diplomacy and plain old trickery. The edition I prefer is this one translated by Samuel B. Griffith.

3. Farley Mowat, *The Regiment* (McClelland and Stewart, Toronto, 1955, and many subsequent editions). A fine piece of narrative history that verges on being literary, this is the story of a Canadian infantry battalion during the Second World War and an excellent portrayal of how a well-led military unit will perform.

So far, so good, but at this point things became difficult as there were many alternate choices. After some cogitation, I selected the following titles as numbers 4 and 5—although I have to admit that my decision is not cast in stone.

4. Richard Holmes, *Acts of War* (Macmillan, New York, 1985). The work of a member of the faculty of the Royal Military Academy at Sandhurst and a senior officer of the British Territorial Army, this investigation of the nature of warfare is grounded on solid historical research, as opposed to flights of psychological or social science fantasy.

5. Field Marshal A.P. Wavell, *Generals and Generalship* (Macmillan, Toronto, 1940). An analysis of the art of

leadership by an officer who has much to say on the subject and who says it with considerable wisdom and not a little humour.

Of course my list is subjective, and what works for me may well not work for others. I am sure that others have their own chosen 5BBS, and I

would welcome the opportunity to learn about them. The main thing is that, soldiers being busy people, I feel there must be some attempt to simplify their professional reading not complicate it.



Training for War: The Reasons Why

Lieutenant-Colonel L. Fortin writes...

IN THE ARMY...

Most of the ways things are done in the army have a good reason for being done exactly that way. However, for many of us, these reasons are misunderstood or simply just not known. Yet it is important to know these things, they are part of our culture. This culture is unique and unforgiving because we expect our soldiers to operate without flinching under conditions totally abnormal for a human being; namely to put themselves squarely in the path of a projectile intended to kill them. Even worse, we tell them the time and the place that they shall put their lives at stake. Remember that to be efficient, soldiers must have confidence in their leaders, their training and their equipment. Everything must be undertaken to build and to sustain this confidence. It is therefore not only worthwhile but also essential to explain the wisdom of these procedures. But first of all, this wisdom has to be understood. Isn't training supposed to prepare us for fighting? Let's look at some examples.

The 13 km Forced March. The present practice is to warn the platoon or troop a few days before and, if time permits, to get ready by marching in formation in the days leading up to the actual forced march. On the day of the march, the commander explains the route and insists that everybody must finish within 2 hours and 26 minutes in order to succeed and they're off. The routes out and back are run at the best pace for the majority of the platoon or troop. The usual result is that

participants are strung out over a kilometre at the finish line. The fastest will have completed the test in 90 minutes while the stragglers will arrive just in time to meet the deadline. Many of these last minute stragglers do not have their weapons or equipment and are therefore not combat effective.

Yet, this particular physical evaluation was chosen because it constitutes a classical military deployment and offers both a physical fitness evaluation and also an evaluation of combat effectiveness at the point of arrival. It is in the best interests of platoon and troop commanders to meet the objectives of the mission and they must therefore respond to the task as they have been taught. First of all, the finish line must be seen as the tactical line of departure for a mission. Commanders must do a map recce and establish timed reference points that will ensure they arrive at the finish within and certainly no later than the assigned time. What is the point in arriving at the line of departure an hour early when we know for a fact that lines of departure are targets of choice? Lines of departure may be chosen for being out of range or observation for enemy direct fire but the enemy is just as smart as we are and will have defensive fire tasks planned for the same reasons that we do. Another principle must be respected. Since the finish line is in fact line of departure, we have to be as fresh and as ready as possible with all our firepower and obviously all participants. Stack the odds in our favour!

Ultimately, why undermine these principles by unnecessarily going for speed and risking exhaustion to personnel who will then be of no further utility to the mission.

Inspections also have a purpose. Who has not questioned the purpose of rolling the socks individually and placing them in the left corner of the top drawer? This requirement and many others similar in nature really don't seem to serve a particular purpose but in fact serve to develop personal discipline and uniformity. Failure to acquire these particular attributes can lead to far greater consequences than a simple "bad chit". For instance when soldiers provide first aid to the injured on the battlefield, they don't use their own field dressing; they take the field dressing on the webbing of the casualty. They have to be able to find it without wasting time to increase the casualty's chance of survival. A place for everything and everything in its place.

Similarly, why iron the shirts before putting them away in the closet? It is really quite simple. Personal equipment must always be in perfect working order and immediately available. Ultimately, our lives depend on it; this approach must be part of every aspect of our daily routine. One final example, why are the parts of the personal weapon laid out on the bed in such a precise manner for inspection? Note that the layout must be exactly the same as in the field. These and similar practices, repeated over and over again in varying circumstances, become instinctive to the point of being a second nature. They are particularly useful when we have to strip, clean and reassemble our weapon in the dark so that it works when it has to.

Physical fitness training has always been a hot topic. Who hasn't been in a conversation where we boasted our physical prowess as recruits while today's soldiers, the so-called Nintendo generation, are soft and generally in poor physical condition? I believe we have forgotten a lot about our first days in the Army. The instructors on our qualification levels 2 and 3 courses are master-corporals and

sergeants who have an average 8 to 12 years of experience. Not only have they been around but also they have had the opportunity to explore and learn to extend their limits. Furthermore, at the average age of 30, they are at their prime in terms of strength and physical stamina. For comparison, just look at world level athletes in the strength and stamina sports. They achieve their best performances in their thirties after years and years of training. Be aware of the evidence and provide better training to our soldiers, namely progressive and interesting training that allows them to develop strength and stamina without hurting themselves. Showing them how much better we are is humiliating and counter-productive. They will respect us more for our leadership skills than for our physical prowess.

Breaks are an essential part of the learning process both in class and elsewhere. Who hasn't been frustrated by having their breaks continuously being cut short or even ignored altogether. This indicates not only a lack of preparation on the part of the

instructor but also a lack of respect for the students. It is impossible for most people to be attentive in class for extended periods of time just as it is impossible for the Coyote observation systems operator to be attentive for extended periods of time. Instructors who are always cutting short the student breaks are shooting themselves in the foot. The students just stop paying attention after a certain period of time, which cancels out the time and effort the instructors put into their preparation.

A little mental effort on your part will allow you to apply this perspective to all the other aspects of our training, such as basic drill. I encourage you to show purpose in your approach to training and to look for the tactical link; in a word, to look for the reason we do things in a certain way.



Comments on "Manstein's Counterstroke 1943" by Major Kooistra and other articles in The Army Doctrine and Training Bulletin, Vol. 4, No. 3.

Lieutenant Vincent J. Curtis of The Argyll and Sutherland Highlanders of Canada (Princess Louise's) writes...

The articles by Major S. Kooistra and Professor Rob Citino¹ certainly present a contrast in outlook. Professor Citino, writing about the intellectual culture of the interwar German army, says that nothing could be further from the German mentality than making a fetish out of a word or phrase and that "no hard and fast rules" was the rule of the German staff. Citino comments that General Hans von Seeckt warned about using catch phrases and buzzwords. In his analysis of the Battle of Kharkov, which was fought by Field Marshal von Manstein, a product of that interwar German army, Major Kooistra expounds at length on the fundamentals of manoeuvre warfare, a list of rules,

catch-phrases, and buzzwords that Manstein's victory is said to illustrate.

For all its detail, I do not believe that Major Kooistra's analysis of Manstein's victory is correct. Errors arise partly because Major Kooistra fails to consider a crucial element of the German success—the disparity in war-fighting skill between the Russians and the Germans—and because the so-called fundamentals on which the analysis is based are themselves vague and contradictory.

Kooistra asserts that the "focus on the enemy" fundamental of manoeuvre warfare is illustrated, first, in violation by the attacking Russian armies separating from each other to attack

different objectives and, second, by Manstein's withdrawal of forces to concentrate for a counterattack. Jomini would describe what the Russian armies did as a divergent attack, and a surprise withdrawal of forces followed by a counterattack against an unbalanced enemy advance is a tactic as old as the hills. There is nothing here that is specific to manoeuvre warfare, for the tactics used and mistakes made predate the conception of manoeuvre warfare.

Kooistra contrasts the command styles of the two armies: the Russian being an orders-tactics style and the German being mission-tactics style. Certainly, the flexibility of the German style of command was critical to Manstein's success and served the Germans better than the Russian's style served them. However, manoeuvre warfare recognizes two styles of command: *befehlstaktik* and *auftragstaktik*. The orders-tactics style of a generic force is every bit as effective at creating manoeuvre warfare at the operational level as mission-tactics are. Also, it was a Russian—Tukhachevsky—who conceived the beginnings of manoeuvre warfare in the 1930s. The Russians in 1943 may not have been very good at it, but the doctrine was there nevertheless. Hence, the fact that one side followed a manoeuvre warfare style of command and the other didn't was not a decisive reason for Manstein's success. Both sides followed styles of command recognized as conducive to manoeuvre warfare, but the Germans were better at their style than the Russians were at theirs.

Kooistra also alleges that the Russians were defeated because they did not focus on main effort. The Russians outnumbered the Germans by five to one, and they certainly had enough force to capture Zaporozhye, which was the focus of their main effort. One could argue, however, that they focused too much on their main effort to the neglect of their flanks. It was Manstein's attack against the flank of the advance on Zaporozhye that caused the Russian attack to collapse and resulted in the recapture of Kharkov. Manstein's counterattack was the first large-scale, non-frontal German counterattack of the war (Stalingrad was choked off, and the

relieving attacks by the Germans were all frontal against a covering army on defence). The counterstroke against Kharkov, on the other hand, was the first time the Russians, advancing rapidly and confident of victory, faced a determined German flank attack. The Russians were surprised, and they had little or no command experience to deal with the unexpected threat. Even though they outnumbered the Germans five to one, the Russians collapsed and were routed. The problem was not that the Russians failed to focus on their main effort; it was that, at that stage of the war, they were a relatively unskilled force facing a highly skilled enemy.

Both sides in the battle attempted to apply their strength against their opponent's weakness. The Russians enjoyed a large disparity in numbers and in materiel, they had the initiative, and they had the victory at Stalingrad behind them. They were not, however, skillful at military command at that stage of the war. The Germans, on the other hand, were very skillful war fighters, especially when Hitler let his generals fight their battles. This was the difference that permitted the Germans to fight the Russians effectively even at odds of five to one. F.W. von Mellenthin believes that the Russian numerical and materiel superiority could have been overcome by the superior German skill in handling armies and fighting battles had Hitler not interfered with the conduct of the war in Russia. This belief does not reflect a preference for this or that doctrine; rather, it reflects the differences between the Germans and Russians in sheer skill, in training, in education, and in quality of leadership at all levels. These differences are the crucial factor, which Manstein mentions in his own memoirs as being decisive at Kharkov. In reference to the withdrawal over the Dnieper, Manstein comments, "Only commanders and formations staff who felt superior to their counterparts on the other side, only troops who had no feeling of being beaten...." This confidence was why the Germans were able to act more quickly than the Russians could react and why they would and could take risks. In other words, the Germans could act boldly and decisively and take advantage of tactical opportunities.

German General Staff officers were trained to take risks and possessed the confidence that they could retrieve any situation. Stalin executed his General Staff in purges in the late 1930s.

Manstein's victory at Kharkov cannot be illustrative of the list of fundamentals of manoeuvre warfare. Both sides manoeuvred at the Battle of Kharkov—the Russians to seize a key rail junction; the Germans to challenge the moral courage and military skill of the Russian leadership. Manoeuvre per se is not illustrative of manoeuvre warfare, and manoeuvrists themselves have not yet said whether the essence of manoeuvre warfare lies in intent or in effect. Manstein's victory is illustrative of how great a factor institutional skill can be in winning battles, not of the superiority of this or that doctrine or this or that command style. It could be said with equal truth that Manstein's counterstroke illustrated these principles of war: maintenance of the aim, offensive action, surprise, flexibility, co-ordination, and administration.

Manstein himself called what he did "mobile operations," and it is evident from his memoirs that he considered himself a product of the German General Staff in the great tradition of Moltke and Schlieffen. The chief strategist behind Guderian's thrust in France never proposed that he was inventing anything new; he applied what he learned from the great Prussian-German teachers of the past. His was the example of the German way of war as applied at that time, over that terrain, against those enemies, and with that technology. Manoeuvrists, therefore, have a difficult time establishing that a new doctrine came into being during the Second World War, except perhaps on the *Russian* side.

I believe Major Kooistra is handicapped in his analysis because he draws his illustrations using the list of so-called fundamentals of manoeuvre warfare. There is nothing fundamental about that list: it was originally proposed to highlight the differences between manoeuvre warfare doctrine and the doctrine that was developed as a result of the Canadian experience of

the Second World War; it is not, therefore, comprised of philosophical first principles that are fundamental to a philosophy of warfighting. The next generation of Canadian war fighters will not be schooled in the old way of fighting; they will thus have nothing against which to compare when they are told to focus on the enemy not the ground and to focus on the main effort. Canadian Forces doctrine writers need to rethink and recast the list of manoeuvre warfare fundamentals as a set of philo-

sophical first principles so that the doctrine flows logically and understandably from them when the operational problems of war are considered. That doctrinal work might become the first step towards codifying a Canadian way of war and begin to address the excellent critiques of Roman Jarymowycz and Christopher Ankersen.²



ENDNOTES

1. Major S. Kooistra, "Manstein's Counterstroke 1943" and Professor Rob Citino, "*Die Gedanken sind frei*": The Intellectual Culture of the Interwar German Army." Both appear in *The Army Doctrine and Training Bulletin*, Vol. 4, No. 3, Fall 2001.
2. See Lieutenant-Colonel (Ret'd) Roman Johann Jarymowycz, "On Doctrine—A Brief Comment" and Christopher Ankersen, "'Too Many Houseboats': Why the Canadian Army Doesn't 'do' Change Well," both in *The Army Doctrine and Training Bulletin*, Vol. 4, No. 3, Fall 2001.

Flirting with Special Forces: Canada's Special Air Service Story

Major (ret'd) Roy Thomas, MSC, CD writes...

The part that military tradition plays in improving personal combat performances is hard to measure. However, if there is any possible value in the role of heritage and lineage, Canadians should consider Canada's own Special Air Service (SAS) story as talk swirls about expanding Joint Task Force Two (JTF 2), the Canadian Forces' present anti-terrorist unit. The JTF 2 had its origins in the Royal Canadian Mounted Police (RCMP) anti-terrorist response unit—definitely a non-military lineage—restricted primarily to domestic service in Canada. Almost forgotten is the fact that Canada, like Australia, New Zealand, and many other countries, did have an SAS unit. SAS was a Second World War cover name for a highly successful, unorthodox unit that operated in North Africa against that unorthodox German general, Erwin Rommel. Over 400 Axis aircraft were destroyed in the African theatre by the SAS. This was a higher total of kills than was achieved by the Royal Air Force in aerial combat in the skies overhead, by Commonwealth anti-aircraft units on the ground, or by the Royal Navy at sea. In short, the men with parachute wings not pilot's wings, were the most successful at depriving Rommel of his much needed air support from the *Luftwaffe*. This was great value for the resources expended. Ironically, in the North African campaign, the SAS was delivered into action by vehicles of the Long Range Desert Group and not by

aircraft. As an aside, it should be noted that these were initially Canadian made trucks, although they were later replaced by American jeeps made familiar to old TV buffs on "Rat Patrol."

The SAS, which at war's end was larger than a brigade, was conceived by an officer recovering from parachuting injuries. David Stirling, knowing that a mere subaltern would not manage to see the Commander in Chief Middle East, had to resort to an SAS approach to expose his ideas to Sir Claude Auchinleck. Stirling left his crutches outside the wire surrounding Auchinleck's headquarters and thus was able to confront his Deputy Commander in Chief before security staff knew of his intrusion. The SAS heresy was sold in the subsequent interviews. Stirling deliberately rejected the basis of the standard infantry battalion—a section of eight to ten men lead by a non-commissioned officer—for an organization based on modules or sub-units of four soldiers. The SAS concept did not call for a leader to emerge in this group. Rather, each soldier was trained to a high level of expertise in all SAS skills while having one individual area of special skill. In an operation, each individual exercised his own judgment. The risk that military discipline would break down was recognized.

The SAS was one example of a whole range of small highly effective specialized units created, particularly by

the British, during the Second World War. The Sea Reconnaissance Unit, the idea of a Canadian, Sub-Lieutenant Wright, is another such example. Canadians served in many of these organizations, so it was to a veteran of one of them that the Canadian Army turned in 1946 when forming the Canadian SAS company.

Captain Lionel Guy d'Artois was the first and only Officer Commanding of the Canadian SAS Company. During the war, he served with the British Special Operations Executive (SOE), whose mandate was to encourage resistance in Fascist occupied Europe and Asia by sending agents to assist in organizing and training locals in sabotage. Captain d'Artois started his Second World War experience in the Royal 22^e Régiment and deployed with it to England. He returned to North America to join the Canadian-American Special Service Force and participated in the Kiska operation in the Aleutians. In the autumn of 1943, he was recruited and trained for the SOE. In the spring 1944 he parachuted into France, where he helped create and equip two Resistance battalions. Within his area of operations, any German soldier or vehicle could expect attack. D'Artois' role was recognized for his efforts by the award of a Distinguished Service Order.

The first members of d'Artois' Canadian SAS began arriving at the Canadian Joint Air Training Centre in Rivers, Manitoba in the spring of 1947. The SAS Company was under command of the Centre for Administration, Discipline, Rationing and Quartering

but was under the operational control of Army Headquarters in Ottawa. The role of the Canadian SAS Company was never clearly enunciated. The actual role as understood by members of the unit seemed to be undertaking “Otto Skorzeny”¹¹ type German special forces’ tasks more akin to SOE operations than those of the SAS. In common with the British SAS model and indeed all specialist units, physical fitness was stressed. All were parachutists and the original members were also trained to pack their own parachutes. Airportability training was given to all. Demolition training similar to that provided the *maquis* or French Resistance was undertaken. Spanish was studied. D’Artois was said to have made the training highly imaginative and creative, perhaps due to the number of war veterans in the company. Like the present SAS, there was a strong emphasis on personal initiative and self-reliance. These attributes were necessary.

The Canadian SAS Company initially consisted of four officers, one sergeant, two corporals, four lance-corporals, and sixty privates that were eventually organized into a conventional structure of platoons and sections. This organization was a departure from Stirling’s principles and British SAS practice, probably reflecting the background of the first and only Canadian SAS commander. The unit also reflected existing regimental politics. The three platoons were drawn and organized from the three existing Regular Force infantry regiments—the Royal Canadian Regiment, Princess Patricia’s Canadian Light Infantry, and the Royal 22^e Régiment. Late in 1948 a “services” platoon was added. This SAS company had limited contact with the rest of the Canadian Army. Except for parachute demonstrations, most activity seems to have been restricted to the Rivers region. This was logical as Rivers was the base with the airlift resources, and movement was constrained due to low budget levels.

Operationally, the SAS Company was only deployed once, in the Spring of 1948, when it formed the basis of the Joint Training Centre’s contingent

fighting floods in the lower mainland of British Columbia. Captain d’Artois later earned a George Medal when he and three other members of the SAS Company were involved in the rescue of an Anglican missionary in the High Arctic in the fall of 1947. The Canadian SAS Company was disbanded in September 1949. Former SAS Company members formed the nucleus of instructors and trained parachutists within their parent Regiments for conversion of battalions to an airborne role as Mobile Strike Force units. Stirling’s organizational “module of four” never gained acceptance within the Canadian SAS company and did not appear in any renditions of specialist elements under The Canadian Airborne Regiment. Perhaps the pathfinders and the recce platoon could claim many aspects in common. The JTF2 does not have Stirling’s module among its antecedents. Today the British SAS still maintain Stirling’s basic principles dictated perhaps by bitter experience in a quarter century of special operations in Ireland as well as more conventional operations in Asia, the near East, and even in the Western Hemisphere.

The Canadian SAS story indicates that lineage did have a large part to play in how our own so-called SAS Company was trained and even organized.

Leadership and the Future

Sergeant Jim Hill of the 56 Field Regiment RCA and Manager of Old Fort Erie, Fort Erie, Ontario – National Historic Site writes...

After reading many articles in *The Army Doctrine and Training Bulletin* that were filled with “modern dichotomies” and “21st century paradigms” and after speaking with technophile extraordinaire Sergeant Arthur Majoor, I would ask your readers to consider the past. Now that we are in the 21st century, the command and leadership structure of the Forces must step out of the middle ages. The two-tier rank structure we presently have is, in fact, medieval in its origins.

In the large, professional armies of the Roman Empire there was a single chain of command. A soldier who

If Canada is really serious about expanding JTF 2 into something more akin to the SAS, then perhaps British expertise must be sought to help with spending the money wisely. Serving SAS experts may be busy at this time. However, a retired SAS member such as Sir Michael Rose, who commanded SAS units at the squadron and regimental level, in addition to his more publicized service as Commander of the United Nations Protection Force in Bosnia, would be an ideal advisor for developing a successor to the Canadian SAS Company.

Lineage does mean something in units. If we want an SAS unit, then SAS precedents and not those of some other organization should provide the heritage.



ENDNOTE

1. Otto Skorzeny (1908 – 1975) earned the accolade “the most dangerous man in Europe” after the operations he led in Italy, the Ardennes and Hungary. By 1943, the Chief of Germany’s Special Troops. His most famous operation was the “rescue” of Benito Mussolini from Gran Sasso, Italy, on 12 September 1944, using 100 glider-borne SS troopers. (Managing Editor).

joined the Roman Legion as a private could rise to the equivalent modern rank of colonel if he was the smartest, most experienced, and toughest member of his unit. This system died out immediately following the Roman period and was only revived by military reformers studying Roman tactics and strategies in the 17th century. These reformers realized they needed large, professional, national armies that possessed a uniformed standard of dress, weapons, training, and tactics. Such troops could be deployed in combined arms formations for long periods. During the Middle Ages, large standing armies were not considered

necessary, and royalty relied on mercenaries that usually consisted of local forces raised for short periods of time. These medieval forces were deployed in immobile blocks of troops—a block of archers, a block of pikemen, a block of heavy cavalry, and a block of civilian operated cannons—which were invariably armed with the same weapons. The armies of the 1600s revived old Roman methods, combined them with firearms and artillery, and established the structure we still use today. However, the reformers did not revert back to the Roman single chain of command, and we have not done so to this day.

The most common reason given over the last 400 years for maintaining an officer class was the complete lack of education and literacy in the lower-class rank and file. Another important factor in maintaining a separate corps of leadership was the belief that the officer class would place the mission or big picture ahead of everything else, while the common ranks would be too concerned about casualties. As is always the case, the army had to reflect the society it came from. The land-based wealth and political control of the Middle Ages carried on well into the 20th century. To be an officer, your family had to own land. The officer class also made the messy task of fighting wars an acceptable career for the third or fourth sons of a respectable, wealthy, land-holding family. The two-tier system of leadership is still considered a tradition with romantic, chivalrous imagery stretching back over 14 centuries and virtually all armed forces in the world continue to use this system.

Romantic traditions aside, it does not require a great deal of research to recognize the changes in society that have taken place in the last half of the 20th century. The military has been told to get in line with modern thinking, but it could be argued that the military has always been more culturally diverse than Canadian society. This diversity may not be present in the officers' mess but the rank and file has always included (particularly in war time) contingents of women, first nations, visible

minorities, and new immigrants, all of whom were denied opportunities in modern Canadian society. The present rank structure is a model of a centuries old European class structure.

The notion that soldiers could not, and for their own sake, should not try to understand the big picture has always been ludicrous. Soldiers were told throughout the First World War that they could not understand the complex, modern management and staff work that went into the planning of operations that lead to the deaths of thousands. How could it be possible that sacrificing soldiers is in the interest of the military, the government or the people of Canada? Almost a century later, we have a "Shoot to Live" manual instead of the old "Shoot to Kill" manual for dealing with an enemy, but officer candidates are often asked how they would handle giving orders that they knew would lead to the deaths of their soldiers. We cannot mention killing the enemy, but we can discuss the sacrifice of our own troops as if losing personnel were a foregone conclusion or some sort of tradition. Regardless of the rank and command structure, soldiers that have a clear picture of the plan routinely outperform troops left in the dark and can, in turn, avoid taking casualties.

The present command structure ignores the many examples of soldiers moving from the ranks to command large formations or operate complex equipment, once again, particularly during wartime. At least eight of Napoleon Bonaparte's marshals started their careers as privates. As experienced combat soldiers, they could truly lead by example when their gentrified opponents simply could not. During the Second World War, the Royal Air Force and Royal Canadian Air Force employed sergeants as pilots. When these sergeants began shooting down large numbers of enemy aircraft, they were offered commissions; when they refused to take those commissions, they were threatened with dismissal. This was an interesting punishment considering that non-commissioned members were traditionally jailed, flogged or shot for disobeying an order, while only officers were dismissed from the service.

As improvements in transportation, communications, firepower, and technology in general come on line, the tasks of commanders accelerate but so does their ability to respond and with far more options at their fingertips. The debate over formal education in the officer ranks continues to rage while many reserve units are filled with university and college graduates serving in the ranks. The Bulletin has proven that formal education and a grasp of the big picture are no longer the exclusive domain of the officer corps. The Warrior Individual Battle Task Standards have made it all too clear that the physical fitness and skill at arms standard of a soldier have little to do with rank or trade.

Today, the most repeated excuse for having a 25-year-old officer command a 35-year-old NCO or warrant officer is the example that the experienced soldier fights the battle while the officer co-ordinates the actions of his sub-unit with the actions of other sub-units and passes on the orders of higher levels of command. This example simply relegates the junior officer to the position of platoon signaller relaying information to the NCO fighting the battle. If this example holds true, why does a section commander, detachment commander or crew commander not have a junior officer to co-ordinate the actions of their sub-unit with other sub-units? What about the modern soldier as diplomat, aid worker, politician, local magistrate, day care worker, sanitation engineer, astronaut, professor, florist? Enough said! The military has reinvented itself into virtual oblivion.

One does not have to look at the Roman Empire, the Napoleonic Wars or the Second World War to find examples of a more streamlined command structure. I have recently been on exercises where, due to a lack of trained and skilled officers, the command post of an artillery battery had no officers. A regular force warrant officer used a militia sergeant, technician, signaller, and driver in his command post. Even the safety officer was a reserve sergeant. In that command post, the warrant officer was the best trained, most experienced, and

most physically fit soldier on the team. At the observation post end, the increased use of laser range finders had the technicians doing more and more of the shooting. This produced two results: a number of lieutenants and captains were not given an opportunity to learn or practice artillery skills and . . . the artillery fire came down more quickly and with a higher degree of accuracy. In this example, the most experienced and technically skilled soldiers made the decisions, commanded the troops, and could truly lead the unit into battle.

Most unsettling of all is that some of the principles of leadership cannot and do not apply in a two-tiered command system. How can a junior officer lead by example when he has always received higher pay, better accommodations, better food, education incentives, different standards of training, greater rewards, and less punishment than his subordinates? The junior officer does not take an active role in the training of soldiers. In fact, much of the junior officer's training is conducted by NCOs. How can the officer know and promote the welfare of his soldiers when he does not live, work, and take courses with the soldiers he will be around for short periods of time until the next posting, promotion, tasking within the unit, or university course becomes available? Are the principles of leadership intended for all levels of command?

One chain of command, one recruiting standard, and one training system will make for a less expensive and more effective military. Eliminate the ranks of master warrant officer, chief warrant officer, lieutenant, and captain where the greatest overlap exists and, as Sergeant Majoor suggested in his Summer 2000 article,¹ take the cream of the crop and stream them into leadership and staff officer training. If you have a university degree and are looking for a job that will pay off student loans and help you pick up your master's degree until something more meaningful and higher paying comes along, the military should not be an option for you. If you would like to be a career corporal because you can't find any other civilian work, the military should not be an option for you. One system of dedicated military

personnel can produce a more efficient fighting machine and give the flexibility of command necessary to take on the multiple roles expected of the CF today.

We want politicians to spend more money on defence, and we want young people to join the military. However, the military is viewed as non-essential and backward. Since September 11, a number of polls and articles have indicated Canadians respect their military, but virtually every other government concern still ranks higher in importance when compared to defence. This is not surprising when we parade down the streets of this nation armed with bows, arrows, pikes and the officers still carry swords. I am not referring to our weaponry itself (although some would argue our equipment is fit for museums). I am talking about the command structure we put on parade, which was built around those antiquated weapons over a dozen centuries ago during a period

of history that is not known for its enlightened thinking. If we want better equipment and better recruits, we need a system that will draw excellent personnel and make the modern weaponry most effective.

On the high tech, high-speed battlefield of the 21st century, will soldiers continue to look to the platoon warrant for confirmation when the platoon commander gives an order from the wrong page of his *aide memoire*? No, the leader of the unit will give the order, and it will be responded to immediately because the leader will be the best soldier in her platoon.



ENDNOTE

1. Sergeant Arthur Majoor, "Changing Structures for Tomorrow's Leaders", *The Army Doctrine and Training Bulletin*, Vol. 3, No. 2, Summer 2000, p. 26-30.

Commentary on The Canadian Army Reading List: A Guide to Professional Reading, Version 1, 2001 (Released with The Army Doctrine and Training Bulletin, Vol. 4, No. 4).

Jason S. Ridler of the Royal Military College of Canada writes...

The Canadian Army Reading List vs. Robert A Heinlein: A Polemic

The release of *The Canadian Army Reading List* from the Army Publishing Office this September is an encouraging step to provide the Land Forces with a primer on a number of works that address, investigate, and evaluate many related military issues for the Army of today and tomorrow. Applause is given for the final section that rounds off the topics of import: fiction. The literary and martial merit of reading Remarque's *All's Quiet on the Western Front* or Crane's *The Red Badge of Courage* seems self-evident given that they concern wars that have actually occurred and, in the former case, the book was written by a veteran.

But one book sits in the list that may raise some hackles: Robert A. Heinlein's *Starship Troopers*. A tale set

in the future, *Starship Troopers* revolves around the exploits of a soldier of the Mobile Infantry (M.I.), a group of one-man tanks engaged in a desperate war against a hive-minded (think communists in bug suits) alien race that is bent on the annihilation of earth. It is kill or be killed in a desperate war. Part recruitment drive, part military extrapolation of highly sophisticated proportions, *Troopers* has (as *The Canadian Army Reading List* mentions) been a staple of military colleges for years. It is often regarded as Heinlein's best early work, winning the 1960 Hugo award for best novel. Then why can't the work stand on its own? The blurb following the entry states that Heinlein's novel is "The first true military science fiction book. It is more than just science fiction, though, as it discusses politics, military organization and training theory."¹ The

author of the blurb is almost apologizing or, perhaps, defending the selection of the text not because of its military content but because of its label—science fiction. But the need to defend a selection rather than let its merits sell itself are both distressing and, in this particular, misleading.

The blurb could have been put this way: Heinlein's work is more than just science fiction because it deals with politics, military organization and training theory, all of which are essentially lacking in the young genre, making Heinlein rise above the rest.² Even the most casual reader of science fiction would know this statement to be untrue. It is rare to find more political novels than Zamyatin's *We* (1924), Huxley's *Brave New World* (1932) or Orwell's *Nineteen Eighty Four* (1949). And for those who think these futuristic dystopias—with advanced biological, chemical, and communications technologies—are not science fiction proper, then what of more acknowledged leaders in the field? Walter M. Miller's *A Canticle for Leibowitz* (1960) is a stunning evaluation of human nature, cold war politics, and the doctrine of Mutual Assured Destruction. Philip K. Dick's *The Man in the High Castle* (1962) provides the first "Hitler Wins" scenario by an admitted science fiction writer and details the existence of an America divided between the Axis victors that parallels and manipulates the *actual* division of Germany after the Second World War. Heinlein himself was probably the most politically didactic sci-fi writer in history. The rugged libertarian-frontiersman heroes of his novels almost always fight an intrusive government that demands all that it surveys be put under its control. It would be hard to assert, even with this small sampling, that sci-fi has not made politics one of its many targets of discussion.

So are military issues. There is a whole subset of military sci-fi whose audience shares an interest in stories with a heavy emphasis on realistic, extrapolated, future combat, tactical to strategic. The works of Korean War veteran Jerry Pournelle (touted by some as Heinlein's successor) have long been the standard for those interested in the military side of sci-fi, including organization and training. He also

wrote one non-fiction text, *The Strategy of Technology* (1970), which, like Heinlein's fiction, was used in US war colleges. But the military sci-fi novel that has garnered the most respect and attention since Heinlein's *Starship Troopers* is Joe Haldeman's *The Forever War* (1974). Haldeman studied physics and astronomy before serving for three years in Vietnam as a combat engineer. He wrote the novel as a series of short stories dealing with his experience in the war (including a deadly injury that earned him a Purple Heart) and his interests in science and politics. The *Forever War* is often seen as the antithesis to Heinlein's military novel, largely due to the cynical nature of the narrative. It is an earnest and compelling picture of one man's military experience through the devices of sci-fi. So, here are two veterans using the modes and conventions of sci-fi to investigate the interaction of men in combat. Clearly, sci-fi and military matters are not anathema to each other.

That *Starship Troopers* was the first "true" military science fiction book is debatable thanks to the subjective word in quotations. In English, at least, sci-fi could claim Sir George Chesney's *Battle of Dorking* (1871) as the starting point of military sci-fi. Chesney's work investigates the technological and military advancements made by the Germans during the Franco/Prussian war and then postulates the possible future invasion threat to Britain. It may be more accurate to argue that Heinlein's novel was the first "modern" military science fiction book, which, in any case, was likely his intent.

The apologetic statements regarding *Starship Troopers* no doubt reflect the more general perception of sci-fi in general as a poor man's genre, a ghetto literature, something spawned out of the pulp industry with no more merit to engage the intellect than an Avengers comic book. There is some truth in this perception. But the same could be said of most popular art forms. A wise man once noted that "ninety percent of everything is crap; people, things, and ideas. But that last ten percent is to die for." The quote is attributed to Theodore Sturgeon, one of sci-fi's great

writers, and he used it to describe his own literary mode. Judge the genre by its diamonds, not its coal.

It is encouraging to see that any science fiction made its way onto a "must read" list for our nation's army. I hope the next one will cover the same breadth and, hopefully, feel no compulsion to apologize for any of its professional choices.³



Managing Editor's Note: *Readers unfamiliar with Mr. Ridler may appreciate this short introduction. Jason S. Ridler is a graduate of the Royal Military College of Canada's War Studies MA program and is currently employed as an Instructor for the Officer's Professional Military Education courses in Canada. His historical publications include "Near Disaster: Hong Kong, Korea, and the Lessons of History" (available at the CDAI website) and "Intervention in the State of Confusion: Third Party Intervention and the Birth of the Latvian Nation." Praxis: The Occasional Papers of the Royal Military College of Canada (Publication in 2002). Mr. Ridler has also lectured on the merits of fantastical literature for the Queen's Institute for Life Long Learning, and his fiction has been published by the C.S. Lewis Society for Southern California's Literary Publication The Lamp Post.*

ENDNOTES

1. *The Canadian Army Reading List*, Kingston, Ontario: Army Publishing Office, Land Forces Doctrine and Training System, September 2001, p. 30.
2. While the origins of Science Fiction are still debated, the most accepted date of origin is the publishing of Mary Shelley's *Frankenstein* in 1818. See Brian Aldiss, *The Billion Year Spree: The True History of Science Fiction*, New York: Schicken Books: 1974.
3. For those with an interest on the vast impact and range of science fiction, see John Clute and Peter Nicholis, *The Encyclopedia of Science Fiction*, London: Orbit, 1999, and Thomas M. Disch, *The Dreams our Stuff is Made of: How Science Fiction Conquered the World*, New York: Touchstone Books, 2000.

Captain Steve Giberson, an armour officer employed at G3 Training 3 Area Support Group in Gagetown, New Brunswick, writes...

How Far Can You Throw a Black Beret?

The cliché has now officially been flogged to death about living in interesting or challenging times. The Royal Canadian Armour Corps is of course no exception. Over the past few years, the closing comments of any briefing on the state of affairs of the Army in general, and the Armour Corps in particular, is that the burden of success lies with the ability of junior leadership to effectively meet the challenges presented by the 21st century. As a “pre-Kingston” captain, I consider myself a member of that group. As a professional, I have some concerns with what appears to be the current disposition of the state of my chosen profession.

The Corps has recently gone through the pains of who should maintain the centre of excellence for vehicle gunnery. All this under the premise of control of 25 mm cannons; but, of course, the fight became all-inclusive in the search of standardization. I do not want to appear to be antagonistic towards the “keep it soldier simple” school of thought; however, I must admit that I find it ironic that, after the better part of a century of conducting mounted warfare, the Amour Corps managed to surrender SOPs for turret operations to the Infantry practically within hours of the announcement of the LAV III procurement. Nothing highlights this better than the dissection of the fire order process.

It is not my intention to revisit old battles and “armchair general” them with the all-powerful weapon of hindsight. However, it must be pointed out that the clinical dissection of fire orders in a classroom is a long way from the flurry of activity that comes from engaging a target on the move. The discussion quickly evolved into seemingly never-ending bickering over infantry or armour drills on machine

guns and, of course, the discussions on whether 25 mm cannon qualified as simply a big machine gun or if it should be treated as a tank gun with respect to the engagement process. The command “SABOT, BATTLE, TANK” may make logical sense in the sterile environment of a writing board, but I would suggest that BATTLE, SABOT, TANK achieves a more effective psychological impact on the gunner. It immediately clues him or her into the fact that the crew is in grave danger and they should destroy the large enemy object that fills the viewer of the Integrated Fire Control System (IFCS) when the turret stops traversing.

Using “BATTLE” as a pro-word not only goes beyond its value of range indication but also initiates the thought process and the reflexes of the tank crew, like the word “EJECT” does to a flight crew. If the pilot said “get out,” it would mean the same thing, but would not necessarily achieve the desired effect in the required time. With the healthy respect the Infantry Corps has for history, I assume that they might appreciate the idea that maybe the people who have been conducting turreted operations in the wars of the 20th century had a reason for how they engaged targets (even if they forgot exactly what those reasons were when asked to vocalize them in a classroom). As for logic, I find it hard to rationalize why the Armour Corps changed its 105 mm drills because the Infantry Corps has more 25 mm than us.

Now we have reached the point where the Land Force has been given the blueprint for the 21st century. It is that of a mechanized (or at least motorized) force that currently does not include the tank as we know it beyond 2015. The challenges of technology are affecting all corps of the Land Force. However, the unique challenge to the Armour Corps is that

an effective Leopard replacement has not been identified. The other corps all have identified equipment (admittedly, all primarily based on the LAV III) to form the basis of Canada’s approach to land warfare in the new millennium. Smart soldiers will figure out how to use that equipment effectively despite the best efforts of all the writing boards. On the other hand, the Armour Corps does not yet have a technology identified for it crews to complain about and then get on with the business of figuring out how to manoeuvre it in such a manner to cause termination with extreme prejudice. I would submit that the single largest reason for this is the Corps itself.

Speaking as someone who walked into the recruiting centre and asked to be a Dragoon, I am convinced our corps’ single largest downfall is that it does not behave as one. I must say that, as one who has followed the whole debate on whether or not we should shelve the regimental system and as a potential leader of the soldiers who will fight the next major engagement, I do not care if there is a regimental system or not. If my epaulette says RCD or 2 RCAC in 2015, it will not affect my personal professionalism or my commitment to the nation’s defence. I will not care less for, nor expect less of, soldiers of 2 RCAC than I would of Dragoons. I will state that, as a professional soldier, I am embarrassed that a corps as small as ours cannot present a single viewpoint to the Commander of the Army on what we should be doing. If the regiments are the children and the hat badges are our “toys,” we should be able to all play the same game together in the backyard. If not, can you really blame the parents for thinking about taking the toys away?

I love being a Dragoon, and I identify myself as a professional in the light of what that means. However, if being a member of that regiment means that Canada would have less of a defence, I would be the first to remove the hat badge. I do not believe that we have to destroy the regimental system to achieve an Armour Corps; I do believe that we must achieve an Armour Corps. This, of course, is truly what is at the heart of the majority of frustrations for our family of “blackhats.”

It has been my observation that there are three areas of debate that are working to destroy the Corps' concept. The first is technology: heavy armour versus air-transportable. The second is tactical intent on the battlefield: armour versus recce. The final area of debate is competing visions of the future: regular/reserve and regimental rivalries. The following proposals are my personal thoughts. They are intended to trigger a reactionary process from my superiors, peers and subordinates alike. We have to get it right, right now.

Technology. There is such a thing as too light to fight. 120 mm is the world standard for tank gunnery. Air transportable is attractive, but what's the hurry if you are not strong enough to decimate the enemy (we can't even go toe to toe). Kosovo proved that even tanks have a role to play in peace keeping. Tanks and nothing else, not even attack helicopters, provide the true dominating force of last resort. There remains no such thing as all weather flying. Tanks are the army equivalent of the aircraft carrier. Their presence on the battlefield lets the "bad guys" know that we really believe in what were doing and that we are committed to do it.

Tactical Intent. Armour is the combat arm of Decision, not the combat arm of Information. It is simply a side effect of our training that mounted reconnaissance is a skill easily adapted to by crews (a skill I support keeping inside the Corps). However, a reconnaissance corps is not an armour corps. The only point of gathering information on the enemy is to close with and destroy that enemy. I challenge any professional to argue that there is a better, more reliable single weapon system for causing destruction and havoc than the tank. Anybody ever wonder why so much effort goes into anti-armour assets?

Vision of the Future. Regiments have to move past their hat badges and decide how to aggressively defend this nation as a single body. Hopefully, we are mature enough to achieve this and maintain the proud history of our units properly displayed on our uniforms. If we are not strong enough to act as a

corps with our respective insignia, perhaps we have already failed, and we should just turn the Army over to the Infantry Corps. As for Reg/Res Force issues, the professionals need to decide what the Corps will look like and how it will achieve its mission. The hobbyists need to get in line and support the vision. I checked the records, there hasn't been a CANFORGEN published making the Corps a democracy.

With the Corps in apparent disarray and the Army moving forward without us, the infantry school has become the de facto centre of excellence for mounted warfare. The rest of the Army walks past the Armour School to train their soldiers in mounted operations on the LAV III. A whole generation of young leaders are being introduced to the mounted army of the 21st century at the infantry

school as we cling precariously to the tank trainer that is the C2 dutifully issuing fire orders the infantry has taught us.

As a footnote, I would ask why we have to give up our black berets and yellow stripe in our mess kit when we are promoted to colonel? Pilots do not give up their wings. Imagine if a paratrooper was told to take off his wings so he could properly represent the entire Land Force Command or the Canadian Forces? The black beret is to the crewman what wings are to the pilots and paratroopers. Just how far can you throw a black beret? Apparently, at least the length of bldg J-7 in Gagetown.



Commentary on "Tank: The Canadian Army's Four-Letter Word" by Major Lee J. Hammond, The Army Doctrine and Training Bulletin, Vol. 4, No. 4, Winter 2001.

Second Lieutenant Wade Peters of the 3rd Battalion, Princess Patricia's Canadian Light Infantry writes...

I have to agree with Major Hammond that the tank is still very relevant in today's army and will remain so for the foreseeable future. The LAV Low Profile Turret (LPT), which is being considered as the armoured combat vehicle (ACV), simply does not have the protection or the punch to be an effective combat vehicle. It is vulnerable to infantry hand-held anti-armour weapons such as the RPG, which are found throughout the Third World. Modern tanks, such as the Leclerc and Challenger 2, have explosive reactive armour (ERA) and Chobham armour, which protect them from hand-held anti-armour weapons.¹

The main problem, as was stated in Major Hammond's article, is the ACV lacks the firepower to deal with modern tanks. The 105 mm gun does not have the punch of the 120 mm gun. The addition of a through the barrel missile (TBM) may give the ACV the ability to deal with tanks. The problem here is that only a handful of TBMs (usually 3-5) are carried in an

armoured fighting vehicle (AFV), and TBMs usually take up more space in the ammo compartment than regular rounds. More TBMs could be carried, but at the expense of having fewer rounds available to an AFV crew.

The best solution would be to buy new tanks of some sort. Major Hammond gives a couple of options, both of which would be satisfactory. Either purchase surplus tanks like M-1s or Leopard 2s from other armies or buy a new tank like the French Leclerc. The Leclerc may be the best option because of its autoloader, which reduces the crew needed from four to three.² With the Army struggling to find and retain personnel, the reduction of the crew from four to three would free up more personnel for vehicle crews or other duties.

It seems like the Army is destined, due to political reasons, to have an ACV in its armoured regiments. Brigade groups in the near future will either have a mix of tank and ACV

squadrons in their armoured regiments or the armoured regiments will be completely composed of ACV squadrons. Because the LAV ACVs are produced by General Motors of Canada, there are major political and economical reasons to choose it as the ACV for the Army. As well, the Army uses LAV armoured personnel carriers (APCs) already, and it makes sense to have an ACV based on the same vehicle. However, there is another alternative for an ACV.

The choice for the ACV should be the Swedish Hagglands Vehicle CV 90120 Light Tank. This tracked vehicle is currently under development in Sweden and should be available soon. The CV 90120 is based on the CV 90 Infantry Fighting Vehicle that is currently being used in the Swedish Army.³

I think the CV 90120 is a better choice as the ACV than the LPT because of its firepower. The CV has a 120 mm 50 calibre smoothbore compact tank gun capable of firing sabots and high-explosive antitank (HEAT) rounds. The 120 mm has the capability to knock out

tanks like the T-80, whereas the LPT cannot perform this function without a TBM. The CV has a semi-automatic loader, with a full automatic loading system being developed. The CV, like the LPT, has a crew of three. Four troops or additional 120 mm ammunition can be carried in the rear of the CV. In addition, the CV 90120 has a 7.62 mm coax machine gun and can carry 50 rounds of 120 mm ammunition.⁴

The CV and LPT are roughly the same size. Both have the same kind of armour protection: frontal protection against 30 mm armour piercing; all around protection from 12.7 mm armour piercing. The CV has tracks and weighs 25,000kg; the wheeled LPT weighs less at around 19,000kg.⁵ However, the CV is light enough to fill the ACV role. The main advantage of the CV 90120 is that its 120 mm gun has the firepower that the LPT lacks.

While it is important that we keep tanks in the Army, it seems that an ACV will be an inevitable part of the

armoured corps. The LPT looks like it is the Army's choice for the ACV role because of its compatibility with the LAVs the Army already has in service and because it is made in Canada. The problem with the LPT is that its 105 mm main gun does not have the ability to deal with many modern tanks unless it uses a TBM. Therefore, if the Army decides to stick to the ACV concept, the Army's choice should be the CV 90120, not the LAV LPT.



ENDNOTES

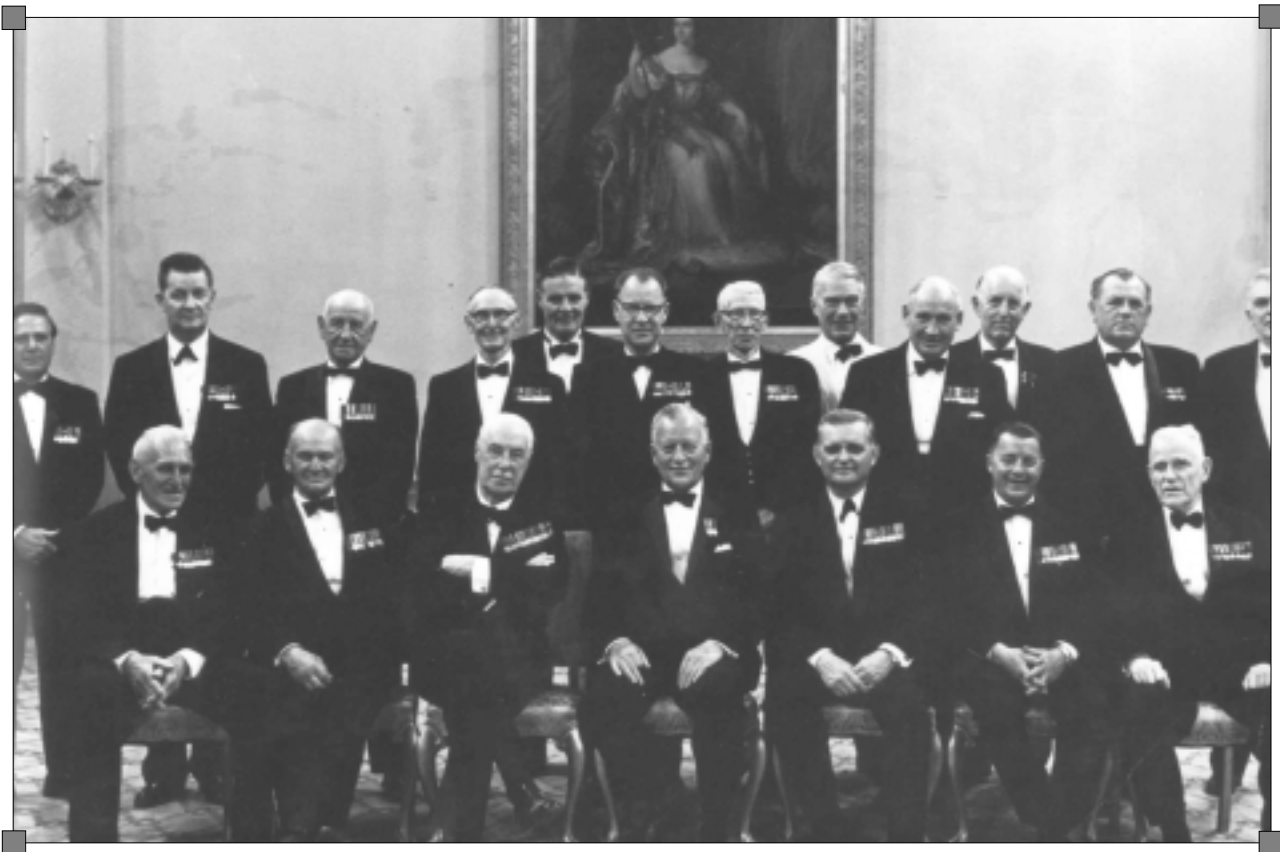
1. *Jane's Armour and Artillery 2000-2001.*
2. *Ibid.*
3. *Ibid.*
4. *Ibid.*
5. *Ibid.*

Recipients of the Victoria Cross and the George Cross

Recipients of the Victoria Cross and the George Cross with Governor-General Roland Michener following a dinner in their honour at Government House, Ottawa, 16 June 1967

Since its institution in 1856, 1,351 awards of the Victoria Crosses have been made, including three bars, or second awards made. Ninety-four awards went to Canadians or are associated with Canada. The George Cross was created in 1940 and 10 have been awarded to Canadians.

Of them, E.A. "Smoky" Smith is the sole surviving Canadian Victoria Cross recipient.



Front Row, left to right

Frederick Harvey, Raphael Zengel, the Hon. George R. Pearkes, Governor-General Michener, Paul Triquet, E.A. "Smoky" Smith, B. Handley Geary.

Rear Row, left to right

Ernest Frost, D.V. Currie, John Mahony, Norman Mitchell, F.A. Tilston, A.D. Ross, Thomas Dineson, the Rev. John Foote, J.M. Patton.

Messrs Frost, Ross and Patton are George Cross winners; the remainder are Victoria Cross recipients.