

The Canadian Army Journal

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Good Men For a Hard Job: Infantry Battalion Commanders in the Canadian Expeditionary Force

Dr. Patrick H. Brennan

Canadian Operational Art: The Siege of Boulogne and Calais

Professor Terry Copp

Transformations of War and Public Perception: Implications for 21st Century Warfare

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Manning Priorities—Does the Army Have Them Right?

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The Role of the Infantry in the War of the Snakes

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Advanced Marksmanship Training: Extending the Tactical Reach of the Section

Major-General Ed Fitch and Sergeant Kurt Grant



THE CANADIAN ARMY JOURNAL

CANADA'S PROFESSIONAL JOURNAL ON ARMY ISSUES

The Canadian Army Journal, a refereed forum of ideas and issues, is the official quarterly publication of Land Force Command. This periodical is dedicated to the expression of mature professional thought on the art and science of land warfare, the dissemination and discussion of doctrinal and training concepts, as well as ideas, concepts, and opinions by all army personnel and those civilians with an interest in such matters. Articles on related subjects such as leadership, ethics, technology, and military history are also invited and presented. The Canadian Army Journal is central to the intellectual health of the Army and the production of valid future concepts, doctrine, and training policies. It serves as a vehicle for the continuing education and professional development of all ranks and personnel in the Army, as well as members from other environments, government agencies, and academia concerned with army, defence, and security affairs.

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Unsolicited article manuscripts, research notes, book reviews, and points of interest are welcome. Articles should be 5000-7000 words exclusive of endnotes, research notes 1500-2500 words exclusive of endnotes, book review essays and reviews 500-1000 words, and points of interest 1000 words or less. Articles may be submitted in either official language. Authors must include a brief biography. Authors must supply any supporting tables, charts, maps, and images, and these should not be embedded in the article text. Articles may be submitted via email or regular mail. All submissions are peer reviewed and the Managing Editor will notify contributors on the status of their submission. Further details regarding author submission guidelines are available at <http://www.army.forces.gc.ca/caj/>.

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On the cover: Cpl Lester Budden is watching for security threats while his convoy takes a short break after returning from Gumbad, Afghanistan, approximately 70 km north of Kandahar City. The Canadian and Romanian convoy was attacked on route to Gumbad by a suicide car bomber.

Field Marshal Bernard L. Montgomery, commander of 21st Army Group and Lieutenant-General H.D.G. Crerar, commander of First Canadian Army, confer during the Northwest Europe campaign.

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A PART OF OUR HERITAGE

CANADA AND THE UNITED NATIONS EMERGENCY FORCE: 1956-1967

Mr. Robert L. Boyer, MA

Largely unnoticed by Canadians, the year 2006 will mark the 50th anniversary of the Suez Canal crisis. As this world event recedes from the collective memory of most Canadians, it is important to note that the crisis brought into being the first United Nations peacekeeping force as we understand it today, and that Canada played a major role in creating this force.



LAC PA - Courtesy of Major John Goudzinski

Major-General E.L.M. Burns, first commander UNEF and Captain A.B. Fraser-Harris, commanding officer HMCS Magnificent, Egypt 1957

Deteriorating relations within the Middle East reached a culminating point in 1956 with the announcement of the nationalization of the Suez Canal by the Egyptian government following the withdrawal by the United States of funding for the Aswan Dam project. The Canal, a vital strategic route, had until then been operated under an international agreement. France and Great Britain vehemently opposed the Egyptian “unilateral action” and tensions rose further when in late October 1956, combined French, British and Israeli forces invaded Egypt. The blooming crisis threatened to drag the superpowers into a confrontation and a rapid diplomatic solution was needed.

The crisis tested the abilities of diplomats and the nascent United Nations. Amid resolutions calling for a ceasefire and withdrawal of all forces, Lester B. Pearson, then Secretary for External Affairs of Canada, took the lead and proposed a resolution calling for the creation of

an emergency international United Nations force to help in resolving the deepening crisis. A series of “enabling resolutions” were then quickly enacted and resolution 1000 (ES-I) of 5 November 1956 established the basic recommendations that would guide the creation of the international force, which would be known as the United Nations Emergency Force (UNEF). A United Nations Command was established and placed under the command of Canadian Major-General E.L.M. Burns [then Chief of Staff of the United Nations Truce Supervision Organization (UNTSO), based in Jerusalem]. Major-General Burns was authorized “immediately to recruit, from the observer corps of UNTSO, a limited number of officers who were to be nationals of countries other than those having permanent membership in the Security Council” and “to undertake the recruitment directly, from the various Member States other than the permanent members of the Security Council, of the additional number of officers needed.”¹ Canada, of course, immediately pledged to contribute to the force.²

Canada’s first pledge was for a “battalion-size unit augmented by ordnance, army service, medical and service detachments”.³ The “battalion-size unit” was to be drawn from the Queen’s Own Rifles of Canada. The government also announced that troops would be ferried to the Middle East on RCAF aircraft, with equipment and supplies shipped aboard the aircraft carrier HMCS Magnificent. The United Nations then entered

into what would prove to be difficult negotiations with the Egyptian government on the composition of the UNEF, especially on the “suitability” of the various national contingents. The Egyptian government objected to the inclusion of the Queen’s Own Rifles on the grounds that “...Canadian soldiers were dressed just like British soldiers, they were subjects of the same Queen [and that] the ordinary Egyptian would not understand the difference, and there might be unfortunate incidents.”⁴ Negotiations led nowhere, and Canada finally deployed on 24 November 1956 only the 300 support troops initially pledged. This deployment was followed in early 1957 by a signal squadron, a RCEME infantry workshop, two transport platoons, and a RCAF communications squadron.⁵ Finally, in March 1957 followed an armoured reconnaissance squadron, manned at various times during the duration of the mission by the Royal Canadian Dragoons, Lord Strathcona’s Horse (Royal Canadians), Fort Garry Horse and the 8th Canadian Hussars. By March 1957, total Canadian participation in the UNEF exceeded 1,000 personnel.

Major-General Burns commanded the UNEF from November 1956 to December 1959. Five other commanders would succeed him. The UNEF operated from November 1956 to June 1967, supervising the ceasefire and the withdrawal of all forces initially in the Canal area and the Sinai Peninsula, and later along the Armistice Demarcation Line in Gaza and on the international frontier in the Sinai.⁶ By the time the mission ended, close to 9,000 Canadians had served alongside personnel from Brazil, Colombia, Denmark, Finland, India, Indonesia, Norway, Sweden and Yugoslavia. The mission was not without losses; the UNEF suffered 110 fatalities, of which 31 were Canadians.

Canada’s role in the crisis has been described in a contemporary report from the Directorate of History as “...a vital one and, undoubtedly, the most valuable contribution Canada has ever made to world peace.”⁷ The UNEF managed to end what could have led to a very destructive conflict but without resolving deeply rooted problems embedded in the Middle East. These issues remain to this day. However, it marked a distinct Canadian engagement as world citizen, a type of engagement that is still part of today’s Canadian defence, development and diplomacy global approach.

Endnotes

1. Background—First United Nations Emergency Force (UNEF I), United Nations web site http://www.un.org/Depts/dpko/dpko/co_mission/unef1facts.html accessed on 21 March 2006.
2. Ibid. A substantial number of nations initially indicated their willingness to participate: Colombia, Denmark, Finland, Norway, Pakistan, Sweden, Afghanistan, Brazil, Burma, Ceylon, Chile, Czechoslovakia, Ecuador, India, Indonesia, Iran, Laos, New Zealand, Peru, the Philippines, Romania, and Yugoslavia.
3. Report N° 4, *Canada and Peace-keeping Operations*, Directorate of History, Canadian Forces Headquarters, 22 October 1965, p.15.
4. Ibid., p.16.
5. Ibid., p.17.
6. Background—First United Nations Emergency Force (UNEF I), United Nations web site http://www.un.org/Depts/dpko/dpko/co_mission/unef1facts.html accessed on 21 March 2006.
7. Ibid., p.14.

EDITORIAL

Major Andrew B. Godefroy, CD, Ph.D.

Canada's Army has drawn increasing attention from the public at home since it assumed command of the Canadian-led Multi-National Brigade for the Regional Command South [MNB RC (South)] in Kandahar, Afghanistan. In noting some of the public reaction, it is as if a secret door was suddenly discovered and flung open to reveal Canadian soldiers in strange places doing strange things. Those who have largely ignored Canada's Army for the last several years are suddenly asking what happened to the blue berets, and why people are trying to kill Canadian soldiers - men and women who have inherited a legacy of professionalism, fairness, empathy, and commitment to international peace and security? More importantly perhaps, with widely scattered opinion poll results supporting or condemning Operation ARCHER it is no surprise that many Canadians are asking what exactly the Canadian Army is doing in Afghanistan.

If the Army accepts the possible post-modern future as described in *Crisis in Zefra* (also referred to by some as the Zefra paradigm) then it must be prepared to be successful in what may be an endless series of small wars, counter-insurgencies, complex peace support operations, and humanitarian missions. As well, the public needs and wants to understand not only what is happening in these missions but also what the Army's role might be.

Now, perhaps more than ever since the genesis of *The Canadian Army Journal*, it is critical that this publication take every opportunity to act as a point of reference and general education about the *Canadian Army*—its activities, ideas, history, and future development. To date we have received only a modest number of articles dealing with the Army's deployments to Afghanistan and it would serve as a great benefit to ourselves and the public who read this journal if more could be published on this subject. First and foremost, I am keen to receive more submissions from soldiers who served in Afghanistan in 2002, in particular from those who may have served on Operation VIGILANT, HARPOON, TOR II, and/ or CHEROKEE SKY. Whether a tactical study, a brief history, or even a personal memoir of your experiences, these will serve as a foundation for later and more comprehensive studies that will fully relate the Army's achievements in Afghanistan. As well, articles such as these provide points for discussion and lessons learned for those assigned to plan future missions in similar complex 3D+C (defence, diplomacy, development, and commerce) environments.

This issue contains several outstanding articles, research notes, and reviews. The lead articles, written by prominent historians Patrick Brennan and Terry Copp, provide two in-depth studies of leadership, command and control in Canada's Army during the two world wars. These are followed by a thought-provoking piece from Robert Adinall on the transformation of war and public perception. The remaining articles and notes examine several aspects of our trade from manning to mounted and dismounted roles for our combat arms today and tomorrow. Finally, another great section of reviews on the latest military publications as well as discussions of interest ends this issue. Enjoy, and let us know what you think.

DIRECTORATE OF LAND SYNTHETIC ENVIRONMENTS UPDATE—THE ARMY EXPERIMENTATION CENTRE: SUPPORTING ARMY CAPABILITY DEVELOPMENT

Captain Robert Tesselaar

The Army Experimentation Centre (AEC) was stood up in Kingston in 1999 to *provide the means of assessment, development and validation of new concepts, doctrine, requirements and structures for the Army of Today, Tomorrow and the Future*. Since then, it has been through several organizational changes, as the Army rationalized its capability requirements and resource allocation. Within a year of its creation, the AEC was merged with the Joint Command and Staff Training Centre (JCSTC) to become the Army Simulation Centre (ASC) in 2000, yet continued to operate as an independent component. More recently, the ASC has evolved into the Directorate of Land Synthetic Environments (DLSE) within Land Force Doctrine and Training System (LFDTS) (see Figure 1) and the AEC has become a branch within the directorate—DLSE 4.

Throughout these changes, the AEC mission has maintained its focus and is now to *assist in the development and validation of concepts, doctrine, requirements, structures and tactics, techniques and procedures for the Army in the conduct of operations throughout the spectrum of conflict at brigade and below*.

The evolution of the AEC has greatly increased its capability to accomplish this mission. Initially established with two military personnel (one major and one captain) supported by one civilian contractor and funded out of opportunity funds, the AEC has secured annual funding and its merger into the ASC facilitated the sharing of simulation expertise, allowing the AEC to draw upon a larger pool of talent to achieve the mission. In 2005, the Army Research War Gaming Team in Ottawa was stood down and those personnel transferred to the AEC, increasing the personnel to seven military and allowing the creation of experimentation teams organized around the five operational functions as shown in Figure 2.

In addition to receiving more personnel in 2005, the AEC also moved into state of the art facilities in the newly renovated Building A-31 at Canadian Forces Base (CFB) Kingston. These facilities provide the capability of conducting both larger simulation events, and the potential to run classified events, increasing the relevance of study results.

The AEC is an integrated part of the Capability Development process and the focal point for all Army experimentation. In order to maintain the relevance of the work conducted at the AEC, it is a sponsor driven organization. The primary sponsors of AEC conducted experiments are the directorates within Director General Land Capability Development (DGLCD), but the AEC also works with other sponsors such as Defence Research and Development Canada (DRDC) projects, the Land Force Technical Staff Programme (LFTSP) and 1 Wing HQ. Notably, the AEC also provided short notice support to the J-Staff in assessing the aerospace control options and providing some insight into tactical unmanned aerial vehicle (TUAV) employment for OP ATHENA Roto 0.

AEC staff also work with DRDC Thrust Advisory Groups (TAGs) and project teams to maintain visibility into ongoing research in fields of interest to the Army. This allows the AEC to use up to date data in simulations and to provide the best advice to event sponsors.

The experimentation method used by the AEC is divided into six main stages: Initiation; Definition; Development; Conduct; Analysis; and Reporting.

Initiation. Initiation is the process of formally recognizing that a new project exists and involves the development of the experimental questions and staffing of the Operational Research Project Definition Form (OR PDF).

Definition. Definition is the process of identifying the aim, scope and objectives of the experiment and how it will be executed. Key deliverables include the Experiment Proposal and Data Analysis Plan.

Development. Development is the process of creating the environment for the experiment, which is specified using the Synthetic Environment Statement of Requirement (SESOR) and a number of subordinate specifications. This phase also sees the development of the Data Collection Plan and the Verification and Validation (V&V) Plan.

Conduct. This stage includes training and practice scenarios as well as numerous runs to collect statistically significant data. The Experiment Directive and Administrative Instruction are released to control the execution of the experiment. When conducting events the AEC uses an “augmented team” approach whereby subject matter experts are brought in to participate and provide judgments and insights based upon their experience and knowledge.

Analysis. All the data, including judgements and insights, are collected and analyzed to validate the data and form relationships and conclusions.

Reporting. This stage is completed by the AEC and supporting Operational Research (OR) team to ensure an unbiased report is delivered to the sponsor. Additionally, a Post Experiment Report (PXR) is drafted to identify areas of process improvement for future Army Experiments.

The full *AEC Experimentation Guide and Sponsor Handbook* and Experiment Directives and Reports for previous AEC events are available on the Defence Wide Area Network (DWAN) at: <http://lfdts.army.mil.ca/dlse/>.

The main tools of the AEC are constructive simulations and 3D visualizations. As a branch of DLSE, the AEC has access to a number of simulations in order to use the most appropriate one to address the objectives of the event. The AEC is also developing a Political-Military (POLMIL) gaming methodology that is less technology dependant and makes greater use of drawing upon participant experience. This technique would be used to address more complex issues, where it is more difficult to have a computer simulation present all the facets required for a realistic scenario such as interactions with outside agencies Department of Foreign Affairs and International Trade (DFAIT), Canadian International Development Agency (CIDA), non-governmental organizations (NGOs), etc.) at all levels. While the AEC will use POLMIL gaming to support experimentation, once the methodology is approved it could also be applied in support of operations and training.

Recently, the AEC has established a connection with the Canadian Forces Experimentation Network (CFXNet). The Canadian Forces Experimentation Network is a network that supports Concept Development and Experimentation (CD&E) and Modelling and Simulation (M&S). It permits the processing and transmission of up to

Level II data. Domestically, it connects the CF and DRDC CD&E centres, and internationally, it is a component of the Combined Federated Battle Laboratory Network (CFBLNet) to exchange information with United States (US), America-Britain-Canada-Australia (ABCA) and North Atlantic Treaty Organization (NATO) partners, as well as potential future coalition countries.

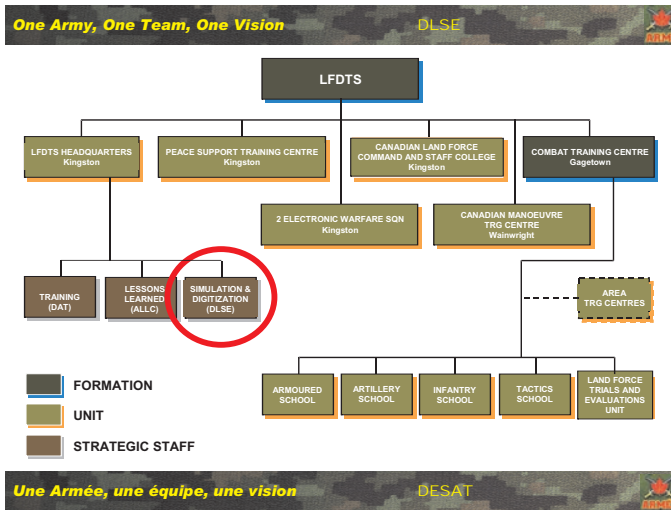


Figure 1: DLSE position within LFDTS organization.



Figure 2: DLSE 4/AEC Organization

GOOD MEN FOR A HARD JOB: INFANTRY BATTALION COMMANDERS IN THE CANADIAN EXPEDITIONARY FORCE

Dr. Patrick H. Brennan

Despite historians' resurgent interest in the Canadian Expeditionary Force, little remains known about its senior officer corps, a reflection, undoubtedly, of the traditional Currie-centric approach to the study of leadership in the Canadian Corps. Lamenting the lack of interest in Canadian generalship twenty years ago, AMJ Hyatt pointed to the dearth of information available about these individuals.¹ The situation is even truer with respect to the Lieutenant-Colonels who commanded the Corps' infantry battalions. This is perplexing, since most military historians agree that an open-minded approach to drawing lessons from the battlefield, institutionalized and universalized tactical learning, and the singling out and promotion of talent at all levels, were crucial factors in the success of Canadian arms on the Western Front,² and battalion commanders were *central* to these processes. It was they who implemented the training strategies drawn up by higher echelons. Furthermore, under the prevailing conditions of 1915-18, they, far more than their seniors, were the commanders who actually had some measure of control over the battle once the attack had been launched. And it was upon their initial collection and synthesis of their own observations and those of their soldiers that brigade, divisional and Corps headquarters depended to make the "after-battle" learning process work. Finally, the commitment to "Canadianize" the Corps' senior officers made its infantry battalion commanders the reservoir from which brigade and divisional commanding officers and, to a lesser extent, staff appointments, were drawn.³ Judged in this light, the dearth of studies of battalion commanding officers, individually⁴ or collectively, is particularly regrettable.

The following study focuses entirely on the commanders of "line" infantry battalions, who, given the structure of the Canadian Corps, made up the vast majority of officers commanding battalion-sized fighting units.⁵ Furthermore, it does not include officers, usually seconds-in-command, who temporarily assumed but did not hold command of battalions for more than a short period of time, arbitrarily set by the author at one month. Eliminating those who served for less than thirty days leaves 179 individuals who commanded an infantry battalion in France for an "extended" period of time. The data and analysis which follows is based on attestation papers and other documents found in the personnel files of these men.⁶

According to their records, 129 (or 75%)⁷ were active in the Canadian militia when they enlisted in the Canadian Expeditionary Force, with ten of them also claiming previous service in the British army, five in the Territorials (i.e. British militia) and two in the Permanent Force, Canada's small professional army. Sixteen (or 9%) were professional soldiers—four British regulars attached to the Canadian militia and twelve in the Permanent Force, one of the latter having served in both. Of the 26 not enrolled in the Canadian militia when they enlisted, four had previously served in it, and five more were either ex-Permanent Force or ex-British Army, while another six had fought in the South African War. Thus, only 11 who answered the question claimed they had no military experience of any sort. Overall, then, 94% had some military experience, however loosely defined, although only 19% had soldiered professionally. About one in seven of these men, scattered across the aforementioned categories, had served in the



Commanding Officers, 13th Battalion, Royal Highlanders of Canada

1. Lieutenant-Colonel V.C. Buchanan, DSO (05/01/16—26/09/16)
2. Lieutenant-Colonel G.E. McCuaig, CMG, DSO (27/09/16—14/09/18)
3. Lieutenant-Colonel F.O.W. Loomis, KCB, CMG, DSO (22/09/14—05/01/16)
4. Lieutenant-Colonel K.M. Perry, DSO (14/10/18—28/02/19)
5. Lieutenant-Colonel I.M.R. Sinclair, DSO, MC (28/02/19—demobilization)

South African War, three-quarters of them in one of the Canadian contingents, and presumably had seen combat, while incredibly another four had seen action in the North-West Rebellion of 1885. Kenneth Eyre's argument that "in essence the Canadian Corps was built around former officers of the Militia" is certainly as true of its battalion commanders as it was of its more senior officers.⁸ It is fair to say, then, that the great majority of battalion commanders in the Canadian Corps really were "amateur warriors" whose sources of military knowledge were their prewar militia training and blood-and-mud combat experience on the Western Front.

Canadian militia (active)	129 (i)
Canadian militia (previous)	4 (ii)
Permanent Force	12
British Army	4
No militia experience	22 (iii)
Not stated	8
Total	179
Some military experience	160
No military experience	11
South African War service	24 (iv)
North West Rebellion service	4 (iv)

(i) including two ex-Permanent Force, 10 ex-British Army and five ex-Territorials;

(ii) including one ex-Territorial;

(iii) including three ex-British Army, two ex-Permanent Force and six who had fought in the South African War;

(iv) including one who had served in both.

Information about their backgrounds helps define infantry battalion commanders as a group. Although only 51%⁹ of the men who served overseas in the Canadian Expeditionary Force were Canadian-born, among battalion commanders, the figure rises to 65%.¹⁰ Among the Canadian-born, place of birth simply reflects population distribution in the immediate post-Confederation decades and the low levels of French Canadian participation in the CEF and pre-war militia.¹¹ With regard to the latter, only four *Québécois* served as infantry battalion commanders, all of them with the Francophone 22nd Battalion. Fully 56% of the "Canadian" officers had been born in Ontario, another 20% in Quebec, 19% in the Maritimes, and 5% in the West. However, place of residence at the time of enlistment—regardless of whether the officer was Canadian-born or a British immigrant—reveals a remarkably different picture because of two factors. The first was the substantial internal migration in the two decades preceding the outbreak of war as well as large-scale British immigration, particularly to Ontario and the Canadian West, during the same period.¹² The second was the initially disproportionate contribution of British Columbia and English-speaking Quebec to the regional composition of the Corps' infantry units. Until their reinforcement barrels began to run dry during the winter of 1916-17, and some of their battalions either had to be disbanded or shifted for reinforcement purposes to other provinces,¹³ these communities between them had provided one-third of the Canadian Corps' infantry battalions. As for place of residence at the time of enlistment, Ontarians accounted for 29% of the battalion commanders, Quebeckers 20%, Westerners 41%, and Maritimers 10%, a figure inflated by the fact that the Royal Canadian Regiment, the lone Permanent Force infantry battalion, was based in Halifax. British Columbia—where not a single commanding officer had been born—provided fully 18% of the battalion commanders in the CEF.

Table 2: Battalion Commanders' Place of Birth / Place of Residence			
Place of Birth		Place of Residence at Enlistment	
Canada	113 (65%)	Canada	168 (100%)
British Columbia	0 (0%)	British Columbia	30(18%)
Alberta	1 (1%)	Alberta	12 (7%)
Saskatchewan 2	(1%)	Saskatchewan	8 (5%)
Manitoba	2 (1%)	Manitoba	18 (11%)
Ontario	63 (56%)	Ontario	50 (29%)
Quebec (i)	23 (20%)	Quebec (i)	34 (20%)
New Brunswick	6 (5%)	New Brunswick	3 (2%)
Nova Scotia	15 (13%)	Nova Scotia (ii)	13 (8%)
Prince Edward Is	1 (1%)	Prince Edward Is	0 (0%)
British Isles and Empire	59 (34%)		
England	34		
Scotland	11		
Ireland	6		
Wales	2		
Empire	6		
United States	1 (1%)	British Regulars	4
Unstated	6	Unstated	7

(i) four were francophones;

(ii) the Royal Canadian Regiment, the lone infantry battalion in the Permanent Force, was stationed in Halifax in 1914; six of its members who enlisted rose to battalion command.

Religion was an important factor in determining social and economic prospects as well as militia participation in pre-war Canada. Among the battalion commanders who claimed a religious affiliation on their attestation papers,¹⁴ 52% were Anglicans and 26% Presbyterians. No doubt, the numbers of Anglicans had been heavily skewed by British immigration, as well as socio-economic factors prevalent in the pre-war Canadian militia which, as we shall see, at least for officers, was disproportionately a “club” for young business and professional men. Among the three major Protestant sects, only Methodists were noticeably under-represented at 12%, a development which embarrassed that community during the war.¹⁵ English-speaking Canada’s Roman Catholic minority of approximately 17% contributed only six battalion commanders, or 4% of the total—and half of these were immigrants—but this merely underlines both the Protestant, middle class character of the pre-war militia’s officer ranks and the reality that proportionately fewer Catholics were found in business and professional circles. In other words, socio-economic factors were at work here as much *and probably far more* than any lesser allegiance to the Empire. In fact, among the ranks, the proportion of Roman Catholic enlistments was 23%, of whom the great majority would have been English-speaking.¹⁶

Religion	Number	Percentage
Anglican/Church of England	77	52%
Presbyterian	39	26%
Methodist	18	12%
Baptist	5	3%
Roman Catholic (i)	10	7%
Unstated	30	

(i) Four were francophones from Quebec and three were immigrants, one from England and two from Ireland.

An examination of their pre-war occupations shows that almost two-thirds of these men were engaged in eight occupations, including: farmer or rancher (11%), lawyer (10%), professional soldier (9%), merchant (8%), manufacturer (7%), engineer (6%), and manager and accountant or bookkeeper (both 5%). The broad breakdown departs somewhat from Hyatt’s findings on generals,¹⁷ probably because of the younger age group involved. For instance a much higher proportion of those involved in business seemed to have been employees. Nonetheless, business and the professions were still the dominant occupations, as befitted a disproportionately urban (and undoubtedly educated) body of men. Unlike Hyatt’s generals, however, agriculturalists were a significant group.

Given the way in which the “numbered” battalions were raised, and the strong militia links most of them had at the time of their formation, it is not surprising that fifty (or 28%) of these men started as the Lieutenant-Colonel in command of their battalion. And as the British regimental system adopted by the Canadian Expeditionary Force would have suggested, just over half were promoted from within the battalion, the standard route having been company commander to second-in-command and then commanding officer, although a few had served as battalion adjutant. Another 10% followed a similar path except they were appointed to command another battalion. The remaining appointments involved either (and it must be said, very rarely) the transfer of a commanding officer from one battalion at the front to another, or else the promotion of a staff officer or the commander of a reserve or training unit. Only four battalion commanders, all of them appointed in 1918, had enlisted as ordinary soldiers and been promoted from the ranks.¹⁸ Proven combat leadership and a record of successful administration of progressively larger fighting units seem to have been the principal requirements for the post.

Table 4: Pre-war Occupations of Battalion Commanders			
Military	22 (13%)	Agriculture	19 (11%)
Permanent Force	12	Farmer	15
British Regular	4	Rancher	
"Soldier"	6 (i)		
Professional	45 (27%)	Civil Service	13 (8%)
Lawyer	17	Professional (ii) (iii) (iv) (v)	4
Engineer (ii)	10	Manager	2
Accountant or Bookkeeper	9	Clerk	2
Architect	3	Other	5
Journalist	2	Workers / Staff	7 (4%)
Doctor	1	Secretary	3
Meteorologist (iii)	1	Steward	1
School inspector (iv)	1	Foreman	1
Teacher (v)	1	Unskilled	2
Business	62 (37%)	Other	5 (3%)
"Substantial" Entrepreneur	4	Student	2
Merchant	13	"Gentleman"	3
Manufacturer	2	Unclear/Unstated	10
Manager	9		
Stock or Insurance			
Broker	6		
Broker	5		
Agent	5		
Bank Manager	4		
Import/Export	2		
Real Estate	2		

(i) occupation/profession listed as "soldier" despite the enlistee being neither in the Permanent Force nor British Army;

(ii) includes one federal civil servant;

(iii) federal civil servant;

(iv) provincial civil servant;

(v) municipal civil servant.

The age profile of these men shows that the average battalion commander was born in 1876, but the range was very broad. The youngest, born in 1893, was promoted in 1918 just after his twenty-fifth birthday, and two other twenty-five-year-olds were appointed the same year. On the other hand, the oldest was born in 1859 and was fifty-six when he took his battalion to France. Most of the older men are found among the group of commanding officers appointed when the battalions were raised, and relatively few of these pre-war "militia colonels" lasted long in combat. The average year of birth of the original commanding officers of the fifty infantry battalions which served with the Canadian Corps was 1869. Two years later, at the outset of the Somme, the average age had dropped to forty-three, and he had been born in 1873. In comparison, the

Resumed command of his battalion (ii)	22	10%
Appointed battalion commander at time of enlistment	50	24%
Promoted from lower rank, same battalion	95	45%
Transferred from command of a different battalion	3	1%
Promoted from lower rank, different battalion	17	8%
Staff officer or commander of a reserve or training unit	23	11%
Unknown	2	1%

(i) since several of the 179 battalion commanders were appointed more than once, the total number of appointments is 212;

(ii) these men spent several months away from their commands, usually recovering from wounds or attending the three-month-long senior officers' course in England.

	First Commanding Officer (i)	All Commanding Officers
Prior to 1859	1	1
1860-64	9	10
1865-69	12	21
1870-74	13	31
1875-79	6	40
1880-84	4	37
1885-89	1	23
After 1890	0	9
Unknown	4	7
Average	1869	1876

(i) Includes the 85th and 116th Battalions added in 1917 when the 60th and 73rd were disbanded.

average age at war's end was thirty-seven, with the average year of birth having dropped eight years, a clear reflection of the physical, psychological and intellectual demands of combat command on the Western Front.

Once appointed to command a battalion, the duration of that appointment varied considerably, not the least because of the large number of casualties—a random occurrence—and the fact that the end of hostilities in 1918 constituted an arbitrary “termination” of command. Among the 212 appointments which lasted more than a month, the average tenure was 285 days, or about nine and half months. Some appointments lasted longer, but only a third spanned more than a year, and only one in eight more than eighteen months. Ten men served continuously for over two years. Such extended tenure ensured precious continuity in all aspects of a battalion's operations. When others were being replaced, it also tells us that there must have been a clear set of capabilities required of battalion commanders. At the same time, the fact that most of these long-serving, and by definition “successful”, battalion commanders

	1 July 1916	11 November 1918
55 years or older	3	0
50-54	6	2
45-49	10	3
40-44	11	13
35-39	9	8
30-34	6	10
25-29	0	7
unknown	3	0 (i)
Average age	43 years	37 years
Over 45 years of age	18	5
Under 40 years of age	15	25
Under 35 years of age	6	17

(i) at the end of hostilities, only 43 of the 48 battalions had commanding officers with a month's or more tenure.

Less than six weeks (i)	14
6-26 weeks	73
27-52 weeks	55
53-78 weeks	42
79-104 weeks	18
more than 104 weeks (ii)	10

(i) But more than 29 days.

(ii) AH Bell commanded the 31st Bn for 1061 consecutive days, while TL Tremblay commanded the 22nd for 1150 days, albeit as part of two postings. Both men were promoted to command brigades in 1918.

were not promoted further also indicates that possessing these attributes was not sufficient grounds for promotion to brigade command.

Certainly, commanding an infantry battalion was dangerous work. Just over one-quarter were wounded at least once while so serving, and of these 45 officers, 21 were wounded seriously enough to be removed from their commands for at least a month, and 14 were never able to resume command. "Stress" permanently removed five battalion commanders, while physical breakdown not the result of being wounded—and often accompanied by stress—permanently removed thirteen more. A further twenty-two—one in eight—were killed in action or subsequently died of their wounds. It would seem that battalion commanders—if they were going to command effectively—had to place themselves in harm's way. Furthermore, the strain of their work was terrific. Overall, there was slightly better than one chance in three that the commander of an infantry battalion would be removed from command because he had become seriously ill, succumbed to stress, suffered an incapacitating wound or died as a result of combat. It only slightly exaggerates the case to say they were used up almost as rapidly as their men.

Killed in action / died of wounds	22	(12%)
Serious combat-related stress / wounds	27	(15%)
Wounded, permanently removed from command (ii)	14 (iii)	
Wounded, temporarily removed from command (ii)	7	
Stress, permanently removed from command	5	
Stress, temporarily removed from command	1	
Total serious combat casualties	49	(28%)
Wounded, remained on duty (iv)	24	(14%)
Total combat casualties	73	(41%)
Illness or physical breakdown not attributable to wounds, permanently removed from command (v)	13	
Illness or physical breakdown not attributable to wounds, temporarily removed from command	4	
Total casualties	90	(51%)
No clear cause	2	

(i) Incurred while commanding a battalion, 179 officers.

(ii) Includes gas casualties.

(iii) Includes those wounded in 1918 who might have recovered sufficiently to resume command had an armistice not been declared.

(iv) This term was often liberally interpreted—a commanding officer might be recuperating from his wounds for several weeks, though no formal change in his command status would be made.

(v) Strain of command and physical conditions of trench warfare often deemed a contributing factor.

Of the men who had been appointed battalion commanders and served in that capacity for more than a month, forty-three were commanding infantry battalions at the armistice, seven more had ceased to command but remained with their battalion (usually having reverted to second-in-command), and one was attending the senior officers' course. Two were commanding divisions, and another eleven were commanding brigades. One had transferred to a cavalry command in the CEF and three more were commanding or serving with a British combat unit.

The remainder had *ceased* to command an infantry battalion, and the subsequent careers of these officers provide some insight into why they were removed. Twenty-four had been killed or died of wounds sustained in action¹⁹ and two more had died of disease. Twenty were removed because they were so badly wounded or “shell-shocked” they could not continue. Another twenty-one were deemed too physically worn out or ill (or both). One had been taken prisoner. In other words, 38% had become “casualties,” loosely defined, and their “removal” from command in most cases—some of the older men who were worn out, “shell shocked” or ill excepted—did not reflect adversely on their performance as a battalion commander.

But what can be said of the remainder? Six were appointed staff officers in France. Given the desperate shortage of staff officers and the determination to “Canadianize” staff appointments, it is likely that some effective battalion commanders who showed promise as staff officer material were slotted into this work—indeed, there is some evidence for this.²⁰ Others might have shown such promise while simultaneously proving

themselves something less than “world beaters” as battalion commanders. Regardless, their subsequent appointments showed they were still deemed to be good officers. Three more assumed senior appointments at training establishments or headquarters in France, and again, these shifts did not necessarily imply their performance at the battalion level had been poor. Two more transferred to non-combatant support arms in France. It is unlikely a superior combat leader would have been sent to command forestry troops simply because he’d been a lumber merchant in civilian life. Nevertheless, such officers, like some of those moved into staff work, may have only lacked the stamina or drive to continue commanding in the line. A further seven took up staff appointments in England and a dozen more went to various establishments there, usually to command training units. It is worth noting that there was a pattern during 1917-18 in the Canadian Corps to send able combat officers who were “worn out” to command training units in England.²¹ Staying overseas protected their “honour”, while their up-to-date frontline experience was a clear asset in training reinforcements. Only a handful of them ever made it back to command a battalion in France, however.²² In some cases, appointments to England may also have been engineered by (and for) less-than-competent officers with political connections. One other officer, Lt Col V. V. Harvey,



Lieutenant-colonel Lafayette Harry Nelles,
DSO and Bar, MC
4th Canadian Infantry Battalion

was court-martialled after he and his second-in-command were found absent from their headquarters during a period out of the line. Interestingly, three former battalion commanders ended the war as officers in the Siberian Expeditionary Force, one as a staff officer and two once again commanding battalions. Finally, there were a few other “special assignment” transfers to England, the exact significance of which are not clear.

That leaves those who “returned” to Canada. Fourteen who came back on extended or compassionate leaves remained on duty until the end of the war, while fifteen were eventually discharged. Some (but by no means all) of these men had performed well at the front, but others certainly had not. A significant number of both those who stayed on duty in Canada and those who were discharged were older officers, often the original battalion commander, and were no longer in good health. Of course, the tantalizing question is who were “sacked” by Generals Alderson, Byng or Currie for incompetence? Unfortunately, military historians can be quite flippant in handing out this assessment. In the case of some commanders who’ve been so dismissed—the 27th Battalion’s

Irvine Snider after St. Eloi, for example—there were extenuating medical circumstances—in his case, “neurasthenia”.²³ Even if they had been adequate performers earlier, a lot of battalion commanders simply wore out, physically and emotionally, or became chronically ill, and were necessarily replaced. But without studying individual cases in detail, it is simply not possible to identify precise numbers of incompetents or exactly how they proved they were incompetent. What is clear is that around two-thirds of the men who reached battalion command remained combat officers until the war ended or until they couldn’t physically or emotionally continue.

Table 10: Fate of Battalion Commanders (i)		
Serving as Battalion commanders at the armistice (ii)	43	
Ceased command, remained with their unit	7	
On training course at the armistice	1	
Commanding a Brigade or Division	13	
Commanding another CEF combat unit	1	
Commanding a British combat unit	3	
Combat officers	68	(38%)
Killed in action/died of wounds (iii)	24	
Seriously wounded (iv)	14	
Physical debility/illness	3	
Strain of service (v)	0	
Prisoner of war	1	
Casualties (vi)	42	(24%)
Staff officer, France	6	
Training establishment, France	1	
Other non-combatant military service, France	4	
Staff officer, England	7	
Training establishment, England	12	
Non-Army administrative posting, England	2	
Siberian Expeditionary Force	3	
Staff, training, administrative or other overseas military appointments	35	(20%)
Returned to Canada, remained in the Army	14	
Returned to Canada, discharged	15	
Died of illness	2	
Court-martialled	1	
Other	32	(18%)
Reason unclear	2	

(i) Only officers' careers are considered, hence the total number of officers is 179.

(ii) At the armistice, 5 of the 48 infantry battalions were commanded by officers who had held the appointment for less than a month.

(iii) Includes one officer killed while commanding a British Division and another while second-in-command of a battalion.

(iv) Includes two who severely wounded, one in a training accident and another while commanding a Brigade.

(v) "Strain of service" was a polite term for psychological stress (or "neurasthenia").

(vi) The figures for both physical debility and "strain of service" are understated here since close to half (24 of 50) of those serving in Britain or in Canada, or demobilized, had suffered either or both of these conditions at the time they were removed from command of a battalion at the front.

While Arthur Currie had a reputation for being ruthless in replacing commanding officers who made mistakes,²⁴ when one examines the fate of the 102 officers who served as infantry battalion commanders for more than a month during his tenure as Corps commander,²⁵ one is struck that *so few were removed* from their posts. Twenty-nine served continuously until the Armistice. Of the remainder, eight were promoted to command a brigade; twenty were killed or seriously wounded; nine became seriously ill or were deemed “worn out” physically and/or psychologically; seven had been appointed to replace an officer who subsequently resumed his command; eighteen were replaced while they attended the three-month-long senior officers course, were wounded, became sick or were granted extended leave, but subsequently resumed their commands; one was attending a senior officers course at war’s end; and two were pressed into service again as emergency casualty replacements in the last stages of the war, for another sixty-five. One more officer barely met the criteria of more than one month’s continuous service—in what was clearly a temporary move, he took over when his commanding officer was killed in action but was soon replaced by the commanding officer of another

battalion and reverted back to second-in-command. And another was transferred—at his own request and because of personality conflicts—to serve with the British army in a combat role. Finally, four went on to serve as staff officers in France or as commandant of the Canadian Corps School, and one was court-martialled, but not for any failure to perform his duties in action. That leaves six who took up training or administrative posts in England, two who returned to Canada, and four for whom the reasons they ceased to command their battalions are unclear—none of these former battalion commanders saw combat again. Of the eight-four changes in battalion command authored by Currie during his tenure as Corps commander, these last twelve comprise the most “suspect” group. Yet it is clear from the record that Currie did not deem all of them incompetent field officers. On the other hand, one also has to acknowledge that the performance of some of the commanding officers who were killed, became seriously wounded or ill or wore down might have ultimately been found wanting by the Corps commander had fate not intervened. Regardless, the selection process employed



Lieutenant-colonel W.R. Patterson, DSO
4th Canadian Mounted Rifles

by Currie (and Byng, too, judging by the battalion commanders Currie inherited) was such that the great majority of their appointments—well over 80% of them—soldiered on capably until either the war ended or they were replaced by the officer whom they had temporarily replaced, promoted, or couldn’t physically or emotionally continue.

The reminiscences of junior officers and enlisted men who served in the Corps give additional insights into the qualities which made the commanding officers of their battalions successful. The attributes most frequently mentioned were personal courage, thorough preparation of their battalion for battle, and a general concern for their men’s well-being. Cy Peck, short and squat with a walrus moustache, looked anything but a

Table 11: Fate of Battalion Commanders during Currie's Tenure as Corps Commander			
	Byng (i)	Currie (i)	Total
Killed in action	5	3	8
Seriously wounded	1	11	12
Serious illness	1	1	2
Medically unfit/worn out/neurasthenia (ii)	7	0	7
Promoted to command a brigade	8	0	8
Attended senior officers' course / resumed command	4	0	4
Seriously wounded / resumed command	5	3	8
Serious illness / resumed command	1	3	4
Extended leave / resumed command	2	0	2
Replaced by officer commanding another battalion (iii)	0	1	1
Replaced by former commanding officer resuming command	1	6	7
Attending senior officers' course at war's end	0	1	1
Re-appointed officer commanding a battalion	1	1	2
Transferred to a British combat unit (iv)	1	0	1
Staff training / appointment, France (v)	4	0	4
Promoted officer commanding a training unit, England	1	1	2
Extended leave to Canada / did not resume command	1	1	2
Appointed to administrative post, England	1	1	2
Attended senior officers' course / did not resume command	2	0	2
Court-martialled	1	0	1
Reason uncertain	1	3	4
Continuously in command of a battalion	9 (vi)	20	29
In command of a battalion at the Armistice	14	27	41

(i) There were 102 officers, 54 appointed by Currie and 48 inherited from Byng (of whom 6 were Hughes/Alderson appointments). Because several officers yielded their commands and then regained them, for the purposes of this tabulation the total number of "battalion commanders" is 113.

(ii) These were frequently diagnosed in combination.

(iii) This second-in-command served barely a month after his commanding officer was killed in action and apparently was not intended to take command permanently.

(iv) This was the direct result of a bitter personality conflict between Lt Col Warden (102nd Bn) and his superiors, Brig-Gen Odium and Maj-Gen Watson. Warden went on to serve with Dunsterforce in the Caucasus and then with Admiral Kolchak's White forces.

(v) Includes two officers appointed commandant of the Canadian Corps School.

(vi) Continuously in command from the time of Currie's appointment as Corps commander, 9 June 1917.



Lieutenant-colonel C.H. Rogers, OBE
20th Canadian Infantry Battalion

warrior. Nevertheless, he commanded the 16th Battalion for almost two years and won a Victoria Cross for rallying his decimated unit during the storming of the Drocourt-Quéant Line. Looking back on that day, a young officer vividly remembered Peck walking in the open, under fire, his kilt riddled and spare holster shot through, with his hands on his breeches, calmly re-organizing his men and driving them forward.²⁶ Recalling an incident in which his commanding officer was wounded leading an attack against a German machine gun nest during the Amiens attack, a soldier of the 4th Battalion offered that “Colonel Nelles was a pretty brave man.”²⁷ Along the same lines, a junior officer of the 85th Battalion remembered Lt Col Ralston, who was twice seriously wounded in action, as being “courageous beyond words. I don’t think he had a nerve in his body . . .” During particularly “hot” engagements, Ralston would steady his men by standing in the open amid bursting shells bursting and whizzing bullets, calmly talking to his officers and men

as if there was nothing to fear.²⁸ Another soldier vividly recalled the courage of Lt Col Thomas Tremblay, who finished the war a Brigadier-General after commanding the 22nd Battalion for over three years:

If we had a bombardment we would see Tremblay in the front line, every time . . . He knew what to say to the boys. He was cool, he was calm, he never was frightened. He didn’t get killed, I don’t know why . . . He was not a guy to duck . . . you would hear something and then you would try to get against the trenches here to protect yourself. He would stay right [where he was].²⁹

Frank Page, the slightly built, bespectacled commander of the 50th Battalion, was equally fearless under fire. At Amiens, one of his men recounted that they went “over the top and [had] very little artillery [support] and . . . those Heinies, everyone of them had a machine gun, and the first thing we know we jump off and Colonel Page, he is out in front of the whole gang. He don’t [sic] have to do that but he was a fine man, yes, he was a wonderful man . . .”³⁰ Another veteran of the battalion eloquently summarized the importance of Page’s demeanour in battle. He was extraordinarily brave himself and the mere fact of his personal bravery seemed to reach down into the other ranks in the battalion. I can’t believe there isn’t a tremendous amount of importance to be attached to the personal bearing of the commanding officer of a battalion.... Page, by his personal example, was able to influence the example of every man . . .³¹

Even among commanding officers who were widely disliked for their obsessive discipline or lack of humanity, courageous leadership earned their men’s grudging respect. Lt Col John A “Jimmy” Clark was only twenty-nine years old when he was appointed officer commanding the 72nd Battalion. During the war, Clark had a well-deserved reputation as a martinet, being angrily remembered for his apparent delight in parading his tired men in the rain. Nonetheless, “he would never ask a man to go anywhere he wouldn’t go himself . . . We disliked him for many things [but] he really set an example for the men . . . A man would go anywhere for Col. Clark . . .”³² Clark, who was promoted to command the 7th Brigade during the Last Hundred Days, maintained years after the war that a commanding officer had to command respect and confidence for popularity didn’t matter if you didn’t have those.³³ George Tuxford, who served from Ypres onward, first in command of a battalion and then a brigade, was a similar story,

remembered less than fondly as “selfish”, “bulldozing” and downright cruel, “but he was a courageous man, he had lots of guts.”³⁴

Soldiers realized that a commander’s competence saved their lives, and thus there are numerous respectful references for the tactical and administrative abilities of the more successful battalion commanders. Peck, one of his men remembered, was “a damn good man at tactics [who] could sense a situation,” while another veteran approvingly recalled that Lt Col W.W. Foster, the pre-war deputy minister of public works in British Columbia, who commanded the 52nd Battalion from Hill 70 through the

armistice, trained his men for every contingency, and made sure his company commanders were well briefed—so they could fully brief their own men—before every attack.³⁵ Thomas Raddall, who was killed by a burst of machine gun fire on the first day of the Amiens attack and had been an NCO in the British army before immigrating to Canada, was remembered as a strict disciplinarian whose preparation left nothing to chance. His successor, Alex Saunders, had been promoted from the ranks, and was noted for his excellent tactical judgement. Certainly Saunders’ reputation for having vigorously opposed attack plans he considered flawed was a great confidence builder among the soldiers of the 8th Battalion.³⁶ Perhaps the most illustrative example of the importance of these qualities to a successful battalion commander can be seen in Lt Col H.J. Dawson who commanded the 46th Battalion from early in the Somme onward. Before the war, Dawson had been a mathematics instructor at Royal Military College (Kingston) and, as the sobriquet “Dismal Dawson” would suggest, was humourless officer, and very, very strict.



Lieutenant-colonel J.W. Warden, CBE, DSO, 102nd Canadian Infantry Battalion

But in the line, as one of his men later noted, “there wasn’t a thing left undone [and] there were no surprises . . .” One of his company commanders remembered that when Dawson got through telling you what to do, you pretty well knew the name of the German that you were supposed to go out and shoot. He spent hours and hours, going over [things]—he would take you out in the back area and lay out tapes, you know with the distances, and the shape of the trenches, and you’d see him there hours and hours with [a] magnifying glass, studying the maps. And he was a colonel the rest of the colonels in the brigade admired, but they never liked him. He didn’t mix, you see. He wouldn’t go to their parties, and have a good time with them, and slap them on the back. He was the same with the officers of the battalion. When we sat down to lunch, instead of having a little bit of friendly conversation, he wanted to [be] told—if it was the works officer—how many shovels you had for the next show, how much ammunition you had. Always talking shop . . .³⁷

The battalion adjutant remembered his commanding officer pouring over aerial reconnaissance photographs spread over a small table in his command post:

Then he would take one and then he would grab another in the same area taken a week or ten days later—you would think he was reading a novel because he would go over it inch by inch and he would say this. Mr. Crowe . . . , there is something over here I want you to tell [me] what it is. And away we go trying to discover what it is . . .”

Such meticulous attention to detail bore results:

I can't say we liked him much . . . But we always went [into action] with a comfortable feeling, almost anything that could be foreseen and provided for was done. I don't think there was a unit on the Western Front that had more confidence in [its] leader than we had in ours . . . We knew one or two other units that didn't do well and after looking things over we decided they had the material [but] lacked in leadership. You know it's an absolute key factor, after all these men were drawn more or less at random, no battalion had specially picked men at the general level, you know the general intelligence, and any unit should have been about the same as another. It would depend entirely on how they were whipped into shape by the people who were running it.³⁸



Lieutenant-colonel Alex Ross, DSO
28th (North-West) Canadian Infantry Battalion

Although we have seen that it was not an essential attribute, a commanding officer who showed concern for his men's day-to-day welfare contributed mightily to battalion morale and certainly earned the men's respect. In a world where life expectancy was all too short, and separation from loved ones a constant source of anxiety, many of the 85th Battalion veterans recalled Ralston's practice of writing a personal letter to the next-of-kin of any of his soldiers who were killed in action.³⁹ George Pearkes, a fearless leader in action who had the decorations—and wound stripes—to prove it, was fondly remembered for his practice of scrounging a truck to carry his men's packs on route marches. Coming across the battalion on the road one night, their brigadier, within earshot of some of the men, reamed Pearkes out for "coddling" his troops. But Pearkes stood his ground—"They've had a tough time and we've [just] made it a little easier [for them]."⁴⁰ "Billy" Griesbach, the no-nonsense commander of the 49th Battalion before he got a brigade, made it a

point for all his officers that "you couldn't come out of the line without first of all seeing your men bedded down and fed before you could take your pack off and look for your own billets."⁴¹

Successful battalion commanders shared a few characteristics. They were interested in new tactical developments, and in fact were responsible for encouraging innovation from below.⁴² In this, as well as in other ways, they served as the initial and thus crucial link in the "institutionalized learning" that characterized the Canadian Corps' development under Byng and Currie.⁴³ "After Battle Reports" based on the combat experiences of company and platoon commanders and section leaders were the essential raw material of this process, and if these insights were to be valuable, battalion commanders had to summarize their unit's battle experience thoroughly and with complete objectivity. As well, battalion commanders were the last link in the process of "universalizing learning," for the implementation of learning was training, the great bulk of which occurred at the battalion level and under the battalion commander's supervision.⁴⁴ A good battalion commander was a good teacher, especially of his own officers.⁴⁵ The realities of trench warfare fighting quickly had confirmed that once battle was joined, direct control began to slip from the battalion commander's hands. The best

he could manage under most circumstances was to direct the unfolding attack by delegation, which, since the battles had to be fought and won by sections and platoons, placed a premium on the thorough training of junior officers and other ranks. Nevertheless, battalion commanders had to be warriors, for it still fell to them “fight” their battalions “from the front”, as the heavy casualties they incurred as a group—and a host of DSO citations—bear out. Particularly during the Last Hundred Days, with its

accompanying transition from static trench warfare to more fluid semi-open and open warfare conditions, the tactical demands on battalion commanders, both before and during the attack, increased dramatically. While broad directives continued to be handed down the chain of command, as the Corps’ capabilities matured, battalion commanders were allowed—and, in most cases, expected to use—leeway in implementing them. As one young staff officer recalled, a battalion commander was “given a job, how he carri[e]d it out [was] his business.”⁴⁶



Lieutenant-colonel Thomas-Louis Tremblay, CMG, DSO, 22^e Bataillon (canadien-français)

Personal courage, tactical sense and administrative ability had to be matched by an unflagging optimism. Soldiers and junior officers could sense discouragement in their superiors and it quickly infected everyone. Building and

maintaining morale and fighting élan by every means available was a primary responsibility of a battalion’s commanding officer. Of course winning battles and minimizing casualties were the keys in achieving this, but commanders had to be “cheerleaders”, too. When Lt Col R. D. Davies took over the 44th Battalion in January 1917, he replaced a middle-aged commander and inherited a demoralized battalion, both of them worn out from the Somme fighting. Davies immediately gathered his officers and informed them in no uncertain terms that henceforth the 44th would be a fighting unit—those who weren’t up to the task he would gladly transfer, no questions asked. Thereafter, as one veteran recounted, the defence line was the outpost line, and there were no more notices to withdraw to the support trench. Energized by such vigorous leadership, the battalion’s morale soared.⁴⁷ In the aftermath of Passchendaele, Currie himself had concluded that “the greatest factor of success ... was the *fighting spirit of the men*, tempered by *discipline*, developed by *training* and enhanced by the *confidence in themselves and their officers* created by a year of unbroken success [author’s emphasis].”⁴⁸ Without question, the battalion commander was a central figure in the achievement of all of these elements of success.

Building morale, of course, consisted of more than fire-breathing speeches, no matter how sincerely felt and enthusiastically rendered. Successful battalion commanders employed every imaginable stratagem to build unit cohesion—from encouraging sports and providing better billets and food, to attempting to close the “officer-man” gap and consistently being fair in all their dealings within the battalion.

What then can we say about the battalion commanders of the CEF. We don’t know which of them were “sacked”, though after 1916 we know it was a relatively small number. And while the impact of “politics” and “connections” on the formation of the senior officer ranks during Sam Hughes tenure as Minister of the Militia is quite well

documented, we don't understand the role a different regimen of politics and connections—Corps politics and Corps connections—might have subsequently played, particularly during Currie's tenure as Corps commander. The precise attributes that made a superior battalion commander and the relative weights of these attributes still need to be determined, particularly in light of the fact that there were a significant number of "career" battalion commanders—men who obviously performed well, clearly possessing the requirements for the job, and yet were never promoted. There was also more than one successful "type", and there were quite dramatic differences in command "style" among them. All of the successful ones could fight, train and sustain their soldiers' morale. Given that many commanded for a lengthy period of time, it is likely that their "personalities" became imposed on their battalions to some degree so that just as battalion commanders were not interchangeable parts, neither were their battalions.

In the November 1918 edition of *Notes for Commanding Officers*, the syllabus for the British Expeditionary Force 's(BEF) Senior Officers' School at Camberley which the great majority of the commanders of line battalions in the Canadian Corps had attended,⁴⁹ the first item of instruction dealt with "The Personal Element" in the command of a battalion. Here, the emphasis was on the link between the men's morale and their devotion to their commanding officer, and the attributes a commander required to achieve this. Courage was deemed essential, but also the most likely element officers with combat experience would already possess. The remaining elements were listed as "military knowledge", and the ability to apply same with imagination, forethought and common sense; "demeanour" (or calmness under pressure); the application of "fairness and justice" in all matters; "civility" to ones men; and, most importantly, plain "hard work". "It is far more important to win the confidence and hearts of your men," the *Notes* concluded, "than to win a thousand VCs."⁵⁰

Judging by the Corps' battlefield performance during the last two years of the war, and bearing in mind the evolving and increasingly complex tactical demands placed on infantry battalions in battle, most of the battalion commanders appear to have possessed these attributes. Once the nature of trench warfare became clear, and the Canadian Corps began the process of institutionalizing and universalizing learning, it would appear that Byng and Currie settled on a pattern of identifying junior combat officers who were proven leaders and fighters with an aptitude for organization, morale-building and training. These men were then given the demanding and dangerous role of commanding infantry battalions. Once in command, they stuck at it until, in some cases, they were found wanting, or as happened far more often, they couldn't go on, Byng or Currie found something more important for them to do, or the war ended. It seems that the great majority of the amateur warriors had become capable professionals. Their contribution to the successes achieved by the Canadian Corps has too long been understated.

About the Author ...

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Endnotes

1. A. M. J. Hyatt, "Canadian Generals of the First World War and the Popular View of Military Leadership," *Social History / Histoire Sociale*, XII, 24 (Nov. 1979), 418-30. For recent scholarship beginning to address this deficiency, see Patrick Brennan, "A Still Untold Story of the Canadian Corps: Byng's and Currie's Commanders," *Canadian Military History*, XI, 2 (Spring 2002).
2. See, for example, Patrick Brennan and Thomas Leppard, "How the Lessons Were Learned: Senior Commanders and the Moulding of the Canadian Corps after the Somme," in Yves Tremblay, ed., *Canadian Military History Since the 17th Century: Proceedings of the Canadian Military History Conference, Ottawa, 5-9 May 2000* (Ottawa: Directorate of History

and Heritage, Department of National Defence, 2001), Tim Cook, No Place to Run: *The Canadian Corps and Gas Warfare in the First World War* (Vancouver: University of British Columbia Press, 1999), Bill Rawling, *Surviving Trench Warfare: Technology and the Canadian Corps, 1914-1918* (Toronto: University of Toronto Press, 1992) and Shane Schreiber, *Shock Troops of the British Empire: The Canadian Corps in the Last 100 Days of the War* (Westport, CT: Praeger, 1997).

3. Of the twelve brigade commanders at war's end, eleven had served earlier as battalion commanders, while of the four divisional commanders, two had, rising to three if we include Macdonell who had commanded the Lord Strathcona's Horse, a cavalry regiment, prior to taking over the 7th Infantry Brigade.

4. Reginald Roy's biography of George Pearkes, *For Most Conspicuous Bravery* (Vancouver: University of British Columbia Press, 1977), is the lone biographical study of a Canadian who served as a battalion commander in World War I. Otherwise, we are left with a few pages or paragraphs in popular battalion histories, the best examples of which are e.g. Daniel Dancocks, *Gallant Canadians: The Story of the 10th Canadian Infantry Battalion, 1914-1919* (Calgary: Calgary Highlanders, 1990); James L McWilliams and R James Steele, *The Suicide Battalion* (Edmonton: Hurtig, 1978); and Kevin Shackleton, *Second to None: The Fighting 58th Battalion of the Canadian Expeditionary Force* (Toronto: Dundurn, 2002).

5. The reference to "line" battalions means those serving in one of the four divisions in France. One could include other, battalion-sized combat units, most obviously the field artillery brigades and (after February 1918) machine gun battalions attached to the infantry divisions, the artillery brigades, motor machine gun brigades and cavalry regiment attached to the Corps, and the cavalry regiments of the Canadian Cavalry Brigade operating with the BEF, but this would add a relatively small number of individuals (fifty-five) to this study while detracting from the coherence offered when only infantry battalion commanders are considered.

6. The list of battalion commanders was found in *Canada in the Great World War*, Vol. VI (Toronto: United Publishers, 1921), Appendix I. The personnel files are located in RG 150, acc. 1992-93/acc.166 [National Archives of Canada].

7. Eight of the 179 either did not fill in the "military experience" question on their attestation papers or their attestation papers do not survive.

8. Kenneth Eyre, "Staff and Command in the Canadian Corps: The Canadian Militia 1896-1914 as a Source of Senior Officers," (MA thesis: Duke, 1967), 151. Hyatt, 423.

9. Department of National Defence Papers [RG24], vol. 1843, file GAQ-10-47-E, *CEF Country of Birth*, memorandum prepared by Maj CR Scott, asst dir of records, for AM Anderson, 3 Oct 1929.

10. Six stated no place of birth, while for four, the place of residence was unclear.

11. On French Canadian militia involvement, see Desmond Morton, "French Canada and the Canadian Militia, 1868-1914," *Social History/Histoire Sociale*, III (June 1969).

12. In 1911, British-born men comprised 19% of the resident male population 21 years of age and older, a figure which would have increased measurably by 1914. *Fifth Census of Canada* [hereafter cited 1911 *Census*], Vol. II (Ottawa: King's Printer, 1912), Table XXVIII, 456 ff.

13. In April 1917, two Anglo-Quebec battalions, the 60th and 73rd, were broken up and replaced by the 116th and 85th, battalions from Ontario and Nova Scotia, respectively. As well, between April 1917 and August 1918, five battalions from British Columbia were designated "Ontario" (four) or Manitoba (one) for reinforcement purposes. Appendix D, GWL Nicholson, *Canadian Expeditionary Force, 1914-1919* (Ottawa: Queen's Printer, 1964), 550.

14. The overwhelming majority of those who failed to do so were likely church-going Protestants who simply did not fill in the information.

15. Among non-francophones, Anglicans comprised about 20% of the population, Presbyterians 22%, Methodists 21%, Baptists 7% and Roman Catholics 17%. Rough data obtained from 1911 *Census*, Vol. II, *Percentage of Population by Religion*, 7 and Table 1, 3-4. On Methodist embarrassment, see Michael Bliss, "The Methodist Church in World War I," *Canadian Historical Review*, XLIX, 3 (1968).

16. RG 24, vol. 1843, GAQ 10-47-E, undated memo attached to letter, 6 Dec 1927.

17. Hyatt, Table 7, 428.

18. They were Lt Cols WF Gilson (7th Bn), JP Girvan (15th Bn), GR Pearkes (116th Bn) and J Wise (25th Bn).

19. 22 officers were killed while commanding a battalion. However, two more who were killed in action had once commanded a battalion—Maj-Gen Louis Lipsett in early October 1918 while serving as commanding officer of the British 4th Division and Maj Ivan Ralston, the brother of the sometime commander of the 85th Battalion and Canada's World War II defence minister, JL Ralston, on 10 August 1918 while serving as second-in-command of the 87th Battalion.

20. For instance, the career of RP Clark. Clark started the war as a staff officer in Currie's 2nd Brigade, then was promoted officer commanding the 14th Battalion in March 1916, serving 8 months before being transferred to the command of the 2nd Battalion. After 4 months in that post, he was transferred to England as a staff officer, eventually serving as GSO 1 of the 5th Division. By May 1918 he been brought to Currie's headquarters as GSO 2, and in early October, he was appointed commanding officer of the 2nd Brigade, replacing Loomis who had taken over the 3rd Division.

21. See Patrick Brennan, "Completely worn out by service in France: Combat Stress and Breakdown among Senior Officers in the Canadian Corps," unpublished paper delivered at the Military History Colloquium, Waterloo University, 2002.

22. Most of these re-appointments came during the Last Hundred Days when losses among senior battalion officers were particularly heavy.

23. See Patrick Brennan, "Completely worn out by service in France."

24. CBC [RG 41], B III 1, v. 21, JA Clark interview transcript, tape 3, 5-6.

25. Currie appointed 54 battalion commanders who served for longer than a month, and inherited another 48 from General Byng, six of whom Byng had himself inherited when he had taken command of the Corps in late May 1916.

Because some of these men left their commands and subsequently were re-appointed, in one case twice, the total number

of appointments is 113.

26. RG 41 B III 1, v. 9, D Green interview transcript, tape 2, 18.
27. Ibid., v. 7, Thomas interview transcript, tape 3, 3.
28. Ibid., v. 16, JP MacIntosh interview transcript, tape 2, 4.
29. Ibid., v. 11, WR Lindsay, tape 1, p. 6.
30. Ibid., v. 15, WD Allen interview transcript, tape 1, 5.
31. Ibid., S Dyde interview transcript, tape 1, 1-2.
32. Ibid., v. 17, JH Hughes interview transcript, tape 1, 7.
33. Ibid., v. 21, JA Clark interview transcript, tape 3, 5-6.
34. Ibid., v. 8, FC Bagshaw interview transcript, tape 1, 15.
35. Ibid., v. 15, AE MacFarlane interview transcript, tape 4, 12. CBC, v. 9, D Green interview transcript, tape 2, 18.
36. Ibid., v. 8, Herbert Mowat interview transcript, tape 2, 12-13 and 1-2.
37. Ibid., v. 14, M Gosford interview transcript, tape 1, 14. Ibid., v. 14, RD Roberts interview transcript, tape 1, 16.
38. Ibid., RN Crowe interview transcript, tape 1, 9.
39. Ibid., v. 16, JP MacIntosh interview transcript, tape 2, 3.
40. Ibid., v. 17, JH Hughes interview transcript, tape 1, 8.
41. Ibid., v. 14, GD Kinnaird interview transcript, tape 1, 11.
42. RG 9 III C 3, v. 4031, folder 27, Griesbach memorandum to battalion commanders, 1st Bde, 20 May 1918.
43. Ibid., v. 4113, file 45-6, Griesbach memorandum to battalion commanding officers, 1st Bde, 30 May 1918. For an overview, see Brennan and Leppard
44. William Griesbach Papers [MG 30 E15], v. 5, file 15, Griesbach memorandum on the Battle of Amiens, 12 Aug 1918.
45. RG 9 III C 3, v. 4022, 51-2, Radcliffe memorandum *Canadian Corps Notes on Training November 1917*, 27 Nov 1917 and v. 4083, file 4-20, Griesbach memorandum on the training of battalion officers, 19 Feb 1918.
46. RG 41 B III 1, v. 7, Mason interview transcript, tape 7, 7. See also RG 9 III C 1, v. 3859, 85-8, Griesbach memorandum to 1st Div, 20 Nov 1917
47. RG 41 B III 1, v. 13, E Russenholt interview transcript, tape 1, 7.
48. RG 9 III C 1, v. 3854, 71-7, Currie memorandum to 2nd Army, 20 Nov 1917.
49. Many had taken it as company commanders or seconds in command.
50. Imperial War Museum, 79/1679, *Notes for Commanding Officers*, Senior Officers' School (Camberley, Nov 1918), 11. Ibid., 3-11.



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CANADIAN OPERATIONAL ART: THE SEIGE OF BOULOGNE AND CALAIS

Professor Terry Copp

Current Canadian Forces doctrine defines the operational level of conflict as one in which “campaigns and major operations are planned, conducted and sustained to accomplish strategic objectives within theatres or areas of operation.”¹ First Canadian Army and 2nd Canadian Corps began to function at the operational level in September and October 1944 when Lieutenant-General H.D.G. “Harry” Crerar, the Army Commander, and Lieutenant-General Guy Simonds, General Officer Commanding 2nd Canadian Corps developed plans to clear the Channel ports and open the approaches to the port of Antwerp.

Field Marshall Montgomery, who had previously micro-managed both British and Canadian operations, was so focused on his quest to cross the Rhine that First Canadian Army was for a brief period required to link tactics and strategy by establishing the operational objectives needed to carry out Allied grand strategy. Between early September and late October 1944, First Canadian Army planned and carried out seven joint operations requiring the co-ordination of land, air and naval forces.² This essay examines two of these operations: WELLHIT, the siege of Boulogne, and UNDERGO, the battle for Calais as examples of both operational art and tactical achievement.



LAC PA 176992

A flying armoured column of 79th Armoured Division being briefed before the attack on Boulogne, 16 September 1944. Visible are a Sherman tank and a Churchill Crocodile flame-throwing tank.

Montgomery had initially assigned a minor role to the Canadians, his Cinderella army, ordering Lieutenant-General Harry Crerar to simply clear the coast of France and Belgium and then “remain in the general area Bruges-Calais until the maintenance situation allows its employment further forward.”³ The rapid advance of 2nd British Army to Brussels, Antwerp and beyond persuaded Montgomery that the war could be won in 1944 if absolute priority was given to his single thrust across the Rhine. While his staff worked out the details of Operation COMET and the much larger version, MARKET

GARDEN, Montgomery signalled to Crerar asking for an estimate of the chances of an early capture of Boulogne. "I want Boulogne badly," he told Crerar. By 9 September Monty had convinced himself that "with one good Pas de Calais port,"⁴ additional transport and increased airlift he could make it to the Ruhr. Montgomery knew that the German 15th Army's withdrawal across the *Westerschelde* had begun and Ultra gave him the details of Hitler's orders to garrison the Channel ports, the Breskens Pocket and Walcheren Island as "fortresses" to be defended until the last man⁵ but he was unwilling to allow these problems to interfere with his grand scheme to advance into Germany.

First Canadian Army was a powerful, balanced force in early September 1944. Crerar commanded Lieutenant-General Sir John Crocker's 1st British Corps with 51st (Highland) and 49th (West Riding) Infantry Divisions, plus two independent armoured brigades and two Army Groups Royal Artillery (AGRAs). The 2nd Canadian Corps included two armoured divisions, 4th Canadian and 1st Polish, 2nd and 3rd Canadian Infantry Divisions as well as 2nd Canadian Armoured Brigade and 2nd Canadian AGRA. Crerar would also call upon the specialized armoured regiments of Major-General Percy Hobart's 79th Armoured Division.

Crerar did not control naval or air assets, but he and his staff had developed an excellent relationship with Air Marshal Sir Arthur Harris, Air Officer Commanding (AOC) Bomber Command, and Admiral Sir Bertram Ramsay, the Naval commander-in-chief (C-in-C), simplifying the development of joint plans. Crerar had also established an unusually close partnership with Air Vice Marshal Leslie O. Brown, AOC 84 Group of 2nd Tactical Air Force. At Crerar's headquarters, senior army and air force staff officers worked together in a joint battle room that was next door to the operations/intelligence section of Headquarters (HQ) 84 Group. Brown also agreed to establish air liaison sections at corps and at the headquarters of the armoured divisions.⁶

This co-operative attitude led Air Marshal Sir Arthur Coningham, who wished to use 2nd Tactical Air Force in a parallel campaign rather than in joint warfare, to try and replace Brown "with someone less subservient to the army."⁷ Coningham did not press the issue until the battle to clear the approaches to Antwerp was over when he replaced Brown with Air-Vice Marshal E.C. Hudleston, a more reliable supporter of an independent air campaign.⁸

Montgomery's demand for "one good Pas de Calais port" did not include le Havre because both le Havre and Rouen, two of the largest ports in France, had been allocated to the Americans. Montgomery did insist that after 1st British Corps had completed Operation ASTONIA, the capture of le Havre, the corps would be grounded with its transport used to support the thrust to the Rhine. When the Corps was brought forward in late September it was used to defend the western flank of the Nijmegen salient created by Operation MARKET GARDEN, leaving Crerar's staff to supply a corps that could not be employed in support of the very large task assigned to First Canadian Army.

Montgomery then "borrowed" the Polish Armoured Division and 2nd Canadian Armoured Brigade, less the Fort Garry Horse, to reinforce 1st British Corps' north-easterly drive, thus leaving Crerar with a one corps, three division, army to open up the Channel ports and secure the approaches to Antwerp. These large and important operations were entrusted to Lieutenant-General Guy Simonds, the General Officer Commanding 2nd Canadian Corps,⁹ who seems to have regarded the limitations on the resources available to him as a challenge to his ingenuity rather than a cause for complaint.

Simonds had little choice in the matter. He recognized that 4th Canadian Armoured Division's one under-strength infantry brigade could not clear the strongly defended Breskens Pocket. Since 2nd Canadian Infantry Division was required to take over the

Antwerp sector releasing a British Division for MARKET GARDEN, 3rd Canadian Division would have to clear the south shore of the Scheldt Estuary after it had captured Boulogne and Calais.



LAC PA 131234

A Churchill AVRE bridge-laying tank of 79th Armoured Division in Boulogne, 16 September 1944.

Simonds was initially reluctant to believe that a full-scale assault on Boulogne would be necessary, but as patrol reports, photo reconnaissance and information from the French resistance created a detailed picture of the defences, plans for a deliberate, massively supported attack were made. The operational research section, which worked closely with 3rd Division during the battle, described Boulogne as

...well-prepared for all round defence. Around the town is a ring of high ground, with Fort de la Creche, Bon Secours, St Martin de Boulogne to the north, the highest ground of all, Mont Lambert, in the centre and Herquelinque, St Etienne and Noquet to the south. Each of these features was heavily wired with mines and provided with emplacements, some heavily concreted, giving crossfire between themselves and the adjoining feature. Well to the north, centred on la Trésorerie, were more defences, while inside the main ring are further hills on which the enemy artillery is concentrated.¹⁰

More than 90 enemy guns, ranging from 75 mm to 350 mm, were available to the garrison of some 10,000 men and Lieutenant-General Heim, the overall Commander, was determined to hold the port for as long as possible.¹¹

Simonds decided to avoid the obvious approach to Boulogne along the valley of the River Liane and instead concentrated the two available brigade groups to the east of the city. He believed that if the German fortress at Mont Lambert could be neutralized, an aggressive advance astride the main east-west road might break through the defensive perimeter and allow the other fortified positions to be attacked from the rear. Simonds proposed to use columns composed of tanks and other armoured vehicles including the Kangaroos of the newly-formed 1st Canadian Armoured Personnel Carrier Regiment to

achieve a quick penetration.¹² Much would depend on the scale of artillery support and the degree of accuracy the gunners would obtain.

Simonds issued an outline plan for WELLHIT and continued to monitor preparations until the battle was joined, however, both as Corps Commander and, after September 26th, Acting Army Commander, Simonds had to concentrate on operational problems formulating plans to carry out strategic goals. Simonds focused on planning Operation SWITCHBACK, to clear the Breskens Pocket, and Operation INFATUATE, a joint naval, land and air action designed to secure "Scheldt Fortress North," the island of Walcheren. He left the details of WELLHIT to Major-General Dan Spry, the Commander Royal Artillery (CRA) Brigadier Stanley Todd and the Corps CRA (CCRA) Brigadier Bruce Matthews.

Spry's choices were limited by the uncertainty about Calais and the cross-channel guns at Cap Gris Nez. Crerar hoped to mask Calais but the navy insisted that the large gun batteries south of the city, including Cap Gris Nez, had to be captured if Boulogne was to be safely used as a port. Simonds had therefore ordered the 7th Canadian Infantry Brigade with the First Hussars under command to probe the defences, but by the eve of WELLHIT it was evident that Calais-Cap Gris Nez would have to wait until the artillery and specialized armour employed at Boulogne was available.

The artillery plan for Operation WELLHIT was a complex and sophisticated document that co-ordinated the contribution of 368 guns including "heavies" and two anti-aircraft regiments firing airbursts in a ground support role. The guns were supposed to neutralize the enemy forward positions and strong points as well as the German artillery. Over 400 targets were to be engaged by predicted fire with air observation pilots in Auster aircraft available for correction. A system of "stonks and concs on call" was created allowing forward observation officers (FOOs), or if necessary, company commanders, to ask for linear or pinpoint concentrations on pre-designated code-named targets.¹³

The plan assumed that Bomber Command would offer support and an elaborate counter-flak program was devised, but the Channel ports seemed to have a low priority until Simonds went to Versailles to plead his case at Eisenhower's headquarters. According to the corps war diary, the discussions were not going well when "Air Marshals Tedder, Harris and Leigh-Mallory arrived for another meeting." Simonds seized the opportunity and presented his air support requirements. "The Air Marshals agreed without hesitation that if Boulogne and Calais were to be captured forthwith and air support was necessary, then it should be given in full measure."¹⁴

When Air Marshal Harris returned to his headquarters in England he was briefed on reports of the destruction of large parts of le Havre and rumours of the deaths of thousands of civilians. Officers from Bomber Command were sent to investigate¹⁵ but the immediate effect was to limit the use of heavy bombers at Boulogne to clearly defined target areas around the defensive perimeter, especially Mont Lambert. For WELLHIT arrangements were made for a Royal Air Force (RAF) officer on the ground to communicate directly with the master bomber ensuring that the markers put down by the pathfinders were on target.¹⁶

Simonds was also having problems obtaining tactical air (tacair) support. 1st British Corps had first call on 84 Group until le Havre capitulated and then attacks on the ferries evacuating 15th Army across the Scheldt and several days of rain limited the tacair contribution. In all, 49 missions were flown, including two 90 plane attacks by medium bombers.¹⁷ Experience in Normandy suggested that little could be expected from this scale of attack, but 84 Group established a forward control post (FCP) at 3rd Division headquarters, promising that once the battle began, Typhoons would deliver rockets on

target “within 30 minutes of calling for them.” The problem of “friendly fire” that had plagued the army-air force relationship in Normandy was tackled directly by selecting likely targets and briefing pilots with the aid of air photographs. Targets of opportunity were only to be hit if well beyond the bomb line separating Canadian and German troops.¹⁸

The role of a divisional commander in a corps commanded by Guy Simonds was normally a limited one, but Major-General Dan Spry was determined to place his own stamp on 3rd Division. Spry, a 31-year-old Permanent Force infantry officer, had been selected to replace Major-General R.F.L. Keller, wounded in Normandy, largely because Crerar was determined to promote an infantry officer and his first choice, Brigadier Sherwood Lett, hesitated when offered the job. Brigadier Ken Blackader, a militia officer who had served as acting commander in late August, was considered to be too old.¹⁹

Spry had little opportunity to get to know his senior officers during the pursuit to the Seine, but on September 3rd he brought his staff officers, brigadiers and heads of services together to discuss problems and opportunities. Captain J.R. Martin, the historical officer assigned to 3rd Division, was present at the conference and noted that he “was most impressed with General Spry’s able advice and ready decisions.” The summary of the discussion confirms the picture of a man determined to exercise command and provide leadership. He drew upon his experience in Italy without hesitation or apology. He reminded everyone that commanders at all levels must always be in a position to read the battle and employ their resources to influence the outcome: advice that everyone would need to remember when the siege of Boulogne began. Spry also held a separate meeting with his staff officers, an exceptionally competent group of men who were also gaining a reputation for arrogance. Spry reminded them of their function to assist him and the fighting formations, and noted that, “no staff officer may refuse a request. If in his judgement it is reasonable, he can grant it, but cannot say no without first referring the matter to the divisional commander or [General Staff Officer 1st Grade] GSO 1.” This was supposed to be standard practice in the Canadian Army but evidently the staff needed a reminder.²⁰

Weather and delays in the arrival of the specialized armour led Simonds to postpone the attack on Boulogne until September 17th. This allowed time for 3rd Division to make arrangements for the many spectators who were finding reasons to visit Boulogne to witness 20th-Century siege warfare. Divisional headquarters issued an instruction, unique in the annals of the campaign, directing visitors to a spectators stand erected on high ground overlooking the battlefield. “The naval, military and air force personnel as well as press correspondents,” were reminded that 3rd Division, “accepts no responsibility for spectators.”²¹

Planning for the movement of artillery and armour resources to Boulogne was started well before the launching of ASTONIA. On September 8th Simonds met with Major-General Hobart (General Officer Commanding (GOC) 79th Armoured Division) and Brigadier Churchill Mann, the Chief of Staff of 1st Canadian Army, to discuss Boulogne. “Church” Mann described the resulting “lift of special equipment” in a memorandum dated simply September 1944:

On completion of Astonia time was at a premium in moving the special devices necessary for Wellhit. It was urgent that the limited transportation resources be utilized at maximum capacity to place the devices at the disposal of 2 Can. Corps in sufficient time.

The problem was to provide in four days a lift of 119 equipments with 63 transporters (including eight provided by 79 Armoured Division). This move entailed a distance of 200 miles.

The problem resolved itself onto the necessity of all transporters doing one turn around and covering 600 miles in four days. This could be accomplished only if the transporters drove continuously using relief drivers to enable drivers to get a maximum amount of sleep.²²

General Hobart, at least, was impressed with this effort and wrote to Crerar a letter commending the tank transport and Service Corps companies involved.



LAC PA 131235

Large numbers of German prisoners were captured by the Canadians in Boulogne.

The plan for WELLHIT required Lieutenant-Colonel J.A. Anderson's North Shore (New Brunswick) Regiment to capture the fortified area at la Trésorerie while the enemy continued to occupy the coastal gun positions a few kilometres to the north. Spry ordered 7th Brigade to actively contain the enemy there but the North Shores still faced a major challenge. The battalion moved into position on September 6th, leaving ample time for active patrolling and liaison with the French resistance. Like other battalions, the North Shores had created a Scout platoon made up of volunteers who actually seemed to enjoy probing the enemy defences. Lieutenant Victor Soucesse and his men were able to provide detailed reports, including the identification of a number of dummy

gun positions.²³ His reports also indicated that the Wimille-la Trésorerie -Wimereux sector was heavily fortified, with the defenders vastly outnumbering the New Brunswickers.

The North Shores were a well-led battalion with a full compliment of officers and men, including many experienced leaders. As with all battalion battlegroups, combat engineers, a mortar platoon from the Cameron Highlanders of Ottawa and a battery of 3rd Anti-Tank Regiment self-propelled guns, M10s, were under command. When the scout platoon reported that the village of Wacquinghen had been abandoned, Anderson ordered "D" company to occupy it. Once in the village, Major Otty Corbett "began to get worried" because a hill known as the Pas de Gay "looked high and menacing in the starlight." Corbett was unable to contact battalion headquarters but he knew that with daylight the enemy would have direct observation of the village, so he sent one of his platoons "around the north side of the ridge to see if we could obtain surprise." The enemy discovered the platoon and after a brief exchange of fire forced it to ground. Corbett was convinced the hill was a key feature and decided to gamble that his men could take it that night. Leaving one platoon in the village, he directed the third platoon to move around the left flank. The enemy focused on the original threat, "left themselves wide open to this attack," and by 0800 hours Corbett's men had captured "a beautiful observation post which gave control of the ground right to the sea-coast." The 205 mm guns of la Trésorerie, 800 metres to the south, were also in clear view.²⁴

Lieutenant-Colonel Anderson ordered the position reinforced and consolidated so it could be used to provide covering fire for a cross-country attack on the northeast side of

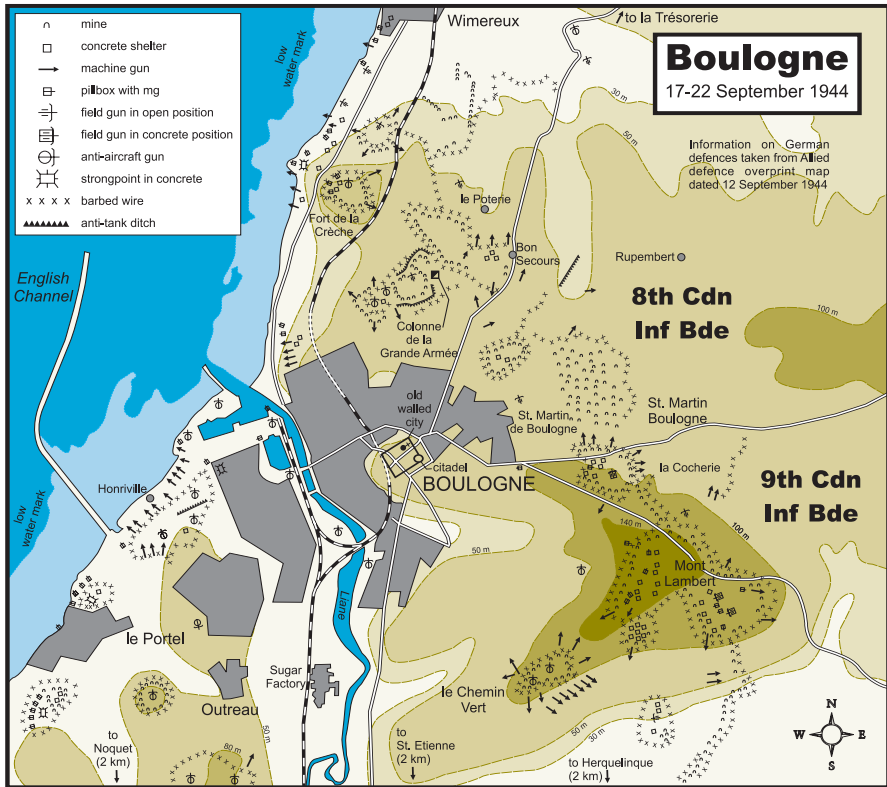
la Trésorerie. A 30-minute preliminary barrage and support from "D" Company got the two North Shore companies onto the feature despite losses suffered in a minefield. The problem now was how to break into the massive concrete gun positions. Enemy artillery and anti-aircraft guns prevented armoured support from reaching the forward companies who were dependent on hand grenades and PIAT bombs. The officer commanding the battery of M10s discovered a location where his guns could take on "the 20 mm flak pillboxes that ringed the objective" from a range of 1000 metres. This relieved the pressure on the infantry and that night "after much grenade throwing," half of the northernmost casement was captured. The next day the rest of "the treasury" was cleared with PIATs and the use of "phosphorous bombs." The War Diary notes that, "The cost had not been light. Both companies had gone into the attack at strength; at its conclusion "A" Company numbered about 70 men, "B", 60 men. They had taken around 450 prisoners of war..."²⁵

The battalion's task was far from complete, as it had been ordered to secure Wimille and the coastal town of Wimereux. Anderson decided to allow his assault companies to rest and recover while his reserve companies and the invaluable M10 battery attacked Wimille and Auvergne. Both villages were cleared on September 20th, yielding another 465 prisoners. This left Wimereux, a much larger coastal town, for the next day. Anderson feared that there were a large number of civilians in Wimereux and declined the offer of fire support from medium regiments. With one field regiment and a number of captured German 20 mm flak guns, which "made a terrific noise...without smashing the town extensively," the two company-sized battlegroups liberated Wimereux in an aggressive pincer movement. The town was thronged with civilians who "warmly greeted" their liberators.²⁶

The actions fought by the North Shore Regiment are an outstanding example of what a well-led battalion battlegroup could accomplish, even with minimal support. No doubt most of the German defenders lacked the will to resist once they were in personal danger but this required the infantry to close with an enemy able to bring large volumes of direct and indirect fire to the battlefield. The detailed accounts of the battle gathered by the regimental historian leave little doubt that the enemy provided stubborn resistance in the initial stage of each attack. The important role of M10s and, in the last phase of the battle, Crocodile flame-throwing tanks and Royal Engineer armoured vehicles (AVREs) needs to be underlined, but the battle was fought and won by a first-rate infantry battalion.

Three kilometres to the south, Le Régiment de la Chaudière, known widely as the "Chauds," were also able to build up a detailed picture of the enemy defences through active patrolling. To reach their primary objectives, the Bon Secours feature and the Marlborough strongpoint, the Chauds had to first clear the village of Rupembert with its fortified radar station. Lieutenant-Colonel Paul Mathieu decided to take the village with just one company and the battery of M10s allotted to his battalion. The key was to be on the move as soon as the medium bomber attack finished and while the artillery was still striking the defences. Although the forming up place (FUP) was under enemy fire, the attack began on time with the M10s targeting each blockhouse. The Chaudière fantassins were on top of the enemy before the defences could be manned and an intact radar station was handed over to a team of RAF and Royal Navy technicians.²⁷

The next bound to capture the high ground overlooking the route to Bon Secours proved more difficult as Captain Michel Gauvin's company ran into a minefield, losing two men from the lead platoon, before two of his lightly wounded men charged a machine gun post, allowing the rest of the company to secure the objective.²⁸ Fifty enemy soldiers surrendered, in addition to the 70 taken at the radar station. In 1944 Bon Secours was a cluster of houses on the Boulogne-Wimille road just 800 metres east of



the *Colonne de la Grande Armée*, a 54-metre-high tower topped with a statue of Napoleon that provided an “ideal observation post.”²⁹ The entire area was wired and the ground sown with land mines. Carefully sited light machine gun positions added to the defences but the really serious problem was a battery of 88s behind Napoleon’s column. Firing in a ground support role, these guns controlled the approaches to Bon Secours and the entire fortified zone.³⁰ The next morning, September 19th, the Chauds delivered a set-piece, two company attack with artillery support, but no progress could be made. That night a single platoon worked its way round the enemy’s right flank, and by dawn a Chaudière company was dug-in at le Poterie ready to provide fire support for a second assault on the position. This attack was quickly aborted when the enemy responded with even heavier fire. It was evident that neither medium bomber nor Typhoon attacks had significantly degraded the German defences and all the Canadian artillery could do was to keep heads down. On the morning of September 21st, a third attempt, using slow infiltration tactics, was launched from la Cocherie. The local garrison did not finally surrender until the evening of September 22nd when direct short range fire and the threat of flame persuaded the German marines that further resistance was likely to prove fatal. Chaudière casualties, 62 men including 11 killed in action,³¹ were light considering the nature of the battle.

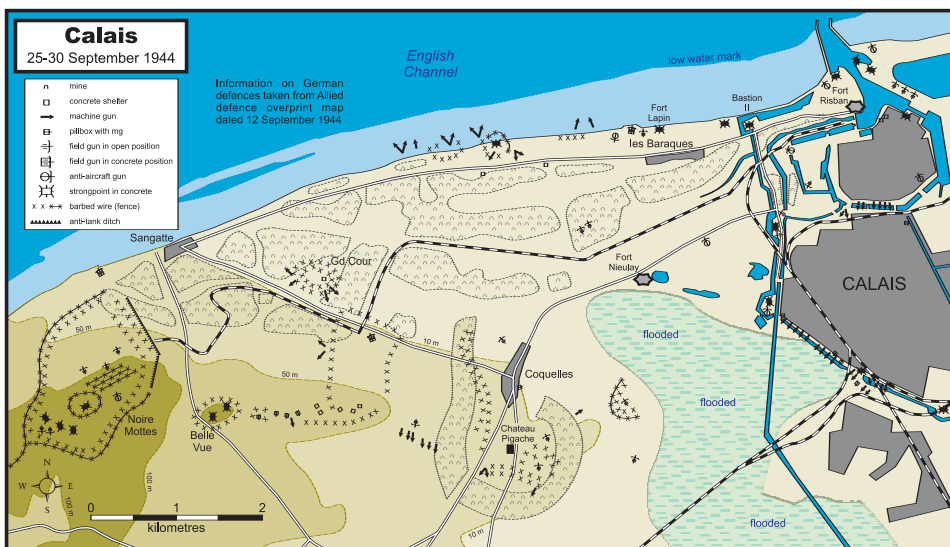
The Queen’s Own Rifles (QOR) were responsible for clearing the village of St. Martin de Boulogne then turning north to capture the enemy strong point at Fort de la Crèche. The scout platoon provided detailed reports, including the information that a minefield some 600 metres deep barred the approach route. Fortunately the QOR battlegroup included a squadron of mine clearing Flail tanks as well as a squadron of the Fort Garry Horse. St. Martin was within the zone targeted by the heavy bombers, so the

riflemen who had “had enough of being bombed by our own air force”³² stayed well back. The sight of 250 bombers passing and re-passing over the battalion area while waiting for the pathfinders to mark the targets made for a nervous 10 minutes but then the bombs dropped with good accuracy.

The Flails cleared the two narrow paths through the minefield and the Queen’s Own took their first objectives quickly. The enemy had fortified the local jail and while one of the lead companies dealt with this obstacle, a reserve company kept moving and reached the railway station in St. Martin. It took two and a half hours of close combat to subdue the enemy in the village and the street fighting was only over when the battalion 6-pounders, firing over open sights, took out the last enemy mortar and machine gun positions. The night was spent evacuating the wounded and patrolling for enemy locations.³³

After a brief orders group, two companies began an advance into the northern sector of the city. In the course of a tense, difficult day more than 100 prisoners were captured and a wide swath of the town cleared. The next morning the lead company came under fire from the Marlborough strong-point, a fortified position with six 75 mm guns and eight 20 mm flak guns.³⁴ The battalion soon reported that they could neither capture nor pass the position until the medium artillery had given it “special treatment with observed fire.”³⁵ The position finally fell on September 21st. The attack on Fort de la Crèche began that afternoon when 46 Mitchell and 16 Boston Medium Bombers achieved an accurate strike on an identifiable target. As soon as the M10s began to fire on the Fort a white flag went up and the garrison of 500 surrendered. The Queen’s Own entered the Fort and liberated a good deal of “luxury loot.”³⁶

Brigadier John Rockingham, inevitably known as “Rocky” to his troops, had assumed command of 9th Brigade in late July. A tall, handsome, seemingly fearless warrior, who was frequently well forward seeing the battle for himself, Rockingham had won the respect as well as the affection of his men. Their task in WELLHIT was to capture Mont Lambert and the city of Boulogne, including the heavily fortified zone west of the River Liane. Mont Lambert was a primary target for the heavy bombers, but since only direct hits stood any chance of destroying standard enemy pillboxes, Bomber Command’s real objective was the enemy’s morale.³⁷



Rockingham decided to try and take Mont Lambert with just one battalion, the North Nova Scotia Highlanders while the Stormont, Dundas and Glengarry Highlanders advanced directly into the city on the main road. This allowed Rockingham to keep the Highland Light Infantry in reserve for the later stages of the battle. The decision meant that the rifle companies of the North Novas would have to move quickly to take advantage of the bombing and artillery barrage or find themselves advancing up a 30 degree slope under enemy fire. Lieutenant-Colonel Don Forbes and his men had ample opportunity to consider the problem. Mont Lambert rises some 40 metres above the fields designated as the North Nova's startline. The Chateau and village of Mont Lambert, on the narrow road below the crest of the hill, were a potential obstacle and



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beyond it were numerous bunkers and pillboxes. A minefield added strength to a position that was garrisoned by more than 1,500 men.³⁸

The North Novas were the main part of a battlegroup that included a squadron of Fort Garry Shermans, mine clearing Flail tanks, AVREs, "Kangaroo" armoured personnel carriers and the usual allotment of divisional support troops. Forbes decided to attack three companies up with the mobile columns advancing some 3000 metres to capture the eastern spur, the saddle and the crest of the hill. Dog Company, headed for the spur, was carried to within a few hundred metres of its objective but could not consolidate until the high ground on either side was secure. The men dug-in using convenient bomb craters. They had no difficulty fending off tentative enemy counterattacks but their own efforts

Flooded area outside Calais, 30 September 1944.

to advance were equally fruitless. Able Company's advance was delayed by the slope and some accurate fire but by the evening of September 17th they were firm on their objective. Unfortunately Charlie Company found the minefield and well camouflaged pillboxes near the Chateau intact and suffered 17 casualties, one fifth of their strength, before a troop of Crocodiles worked their way into the village and dealt with the pillboxes. Movement during the night was restricted by mines and uncertainty about where everyone was, but Forbes was able to establish contact with his companies and coordinate a renewed advance at first light.³⁹ The final drive went in with full armoured support including Crocodiles. Enemy resistance collapsed and the prisoner of war total rose to 1,800 men. The cost to the North Novas was close to 100 casualties, including 30 men killed-in-action.⁴⁰

The North Novas paid a high price to capture Mont Lambert but they accomplished what had been hoped for, drawing fire that might otherwise have slowed the advance into the heart of Boulogne. As it was, the Glens, mounted in 30 Kangaroos with supporting armour and a section of Wasp flame-throwers from 7th Recce Regiment,

moved quickly to the edge of town before craters and mines forced them to dismount and proceed on foot. Phase I was complete by 1040 hours.⁴¹ Despite intermittent fire from Mont Lambert, and the high ground to the north, the engineers of 18th Field Company established routes through the minefield and cleared the roads, mostly by hand. Phase 2 began in the late afternoon and by dusk the two armoured-infantry columns were well into the upper city. Spry agreed to postpone a further advance until daylight.⁴²

The next morning the battalion's lead column reached the walled old city and the citadel. While "D" Company used the cover of smoke to approach the bastion gate in preparation for employing a modern equivalent of a battering ram, "a strange drama of a medieval siege mingled with modern warfare" took place. A civilian offered to show the company commander a secret entrance to the citadel. While an AVRE with a "Petard" heavy mortar was preparing to blow the gate, Major Stodhard and a platoon of eager soldiers used the secret tunnel to enter the citadel, the two groups converging in the courtyards. Some 200 prisoners, many of them very drunk, were marched back to the PW enclosures.⁴³

While the drama at the citadel was unfolding the other Glengarry companies had pressed on to the River Liane, clearing the way for the Highland Light Infantry (HLI) to cross the river and established a bridgehead. The area west of the river, including the port of Boulogne, was a key part of the Atlantic Wall with seven separate gun positions capable of all around fire.⁴⁴ In other circumstances a new set-piece attack would have been called for, but Rockingham ordered his reserve battalion to "move now" and get across the river. Rockingham went forward to organize fire support for the crossing. "He moved up every available tank, armoured vehicle, anti-tank gun, PIAT etc. as close to the river as possible...their task was to plaster the enemy in the buildings on the opposite bank whilst the infantry crossed...The artillery was used on deeper targets and counter-battery."⁴⁵

The infantry got across but without a bridge to allow supplies and armoured support to reach them, little could be accomplished. The sappers decided the best hope was to repair a bridge with scavenged timber. Unfortunately, the available engineers were an assault team equipped to blow things up and were without hammers and nails. "So being good sappers they set to work fitting the timbers together with good healthy air. At 0415 hours 19 September the first vehicle crossed the river."⁴⁶

The HLI re-organized into three battlegroups, each with armoured support including Flails. Brigadier Todd arranged for full-scale artillery support but the enemy seems to have escaped injury and countered with heavy and accurate fire. Air burst 88 mm shells were a particular hazard but both 40 mm and 20 mm anti-aircraft batteries, used as super-heavy machine guns, and a gun described as "something really big" prevented any advance. The HLI suffered 40 more casualties and four Flail tanks were destroyed before the attack was called off.⁴⁷

The siege of Boulogne, which was supposed to end quickly, was now entering its fourth day. The spectators had left and at 21 Army Group the usual complaints about the slowness of the Canadians were being heard. Montgomery's nightly report noted that "there is no definite news that Boulogne has been captured but there cannot be very much more resistance in the town and we hold most of it."⁴⁸ Montgomery had assumed that the Boulogne garrison would give up as quickly as their counterparts at le Havre and was growing impatient. In his mind the Channel ports were a minor obstacle to be overcome while the real battle was being fought in Nijmegen and Arnhem where, Montgomery believed a breakthrough to Apeldoorn was imminent.⁴⁹

The view from 3rd Canadian Division was different. Their intelligence summary for

September 19th described the resistance in Boulogne as “surprisingly tenacious” and attributed to the “thick concrete defences” that “minimize the effect of our fire power” and the “very low percentage of foreigners within the garrison.” More than 4,000 enemy soldiers had surrendered, but there were thousands more manning the remaining fortifications. Pressure from senior commanders led Spry and Rockingham to send the North Novas as well as the Glens across the river to join the battle for the coastal fortifications.

The Glens took over the left flank, allowing the HLI to concentrate on le Portel and the harbour area. When the Glens reached the foot of the hill below the Outreau position the battery of 88s was targeting the HLI advance to le Portel and failed to target the Glens or the Fort Garry tanks with them. Under the system of “concs and stonks” on call, the FOO called for target “Norway,” the codeword for the position. The men charged the hill, following the bursting fire as closely as possible and captured the first three gun batteries intact. The other battery commander had time to destroy his guns before surrendering. The Glens also cleared a chateau that yielded prisoners and a meal of chicken and French fries.⁵⁰

The North Nova objective, a strongpoint near Nigles, was intact despite the best the artillery and Typhoons could do. Its guns covered the open ground towards Outreau and Rockingham agreed to let the North Novas loop around the position and attack from the south. Fortunately, the Fort Garries had captured an enemy position at St. Etienne when a troop of tanks charged “the crest with all guns blazing.” This gave the North Novas a firm base and tank support for their circuitous advance. After a sharp fight for the radar station at Ecault they reached the coast near Noquet. Patrols established that the Nigles strongpoint was heavily wired with a wide anti-tank ditch so a set-piece attack with full artillery support was organized for the next day.

The HLI had continued to press forward in their sector, but the massive le Portel coastal guns were protected by a battery of 88s and a fortified field gun position in Honrville. Typhoons were unable to silence them, or the single 88 mm gun at the end of the breakwater, and by nightfall the enemy still held onto positions near the harbour. The next day Rockingham decided to try another form of persuasion, broadcasting an ultimatum to the fortress commander:

You have lost the battle for Boulogne. Over 7,000 prisoners have been taken and all forms of resistance have ceased except this position. You are completely surrounded by a large force of all arms.

If you surrender now no further casualties will occur on either side and you and your garrison will be treated as prisoners of war and eventually return to your families. If, however, you do not surrender with all your garrison we will attack you with every means at our disposal, during which time we will incur some casualties but there is no way of assessing how many you will incur.

You have one hour to make up your mind. Come out with a white flag flying, your hands above your heads and unarmed, within one hour. If this does not occur we will commence at once to destroy you and your garrison. You have had your warning, surrender or die from flames.⁵¹

Perhaps it was the threat of flames that worked because shortly after the ultimatum expired the enemy began to wave white flags.

The garrison commander, Lieutenant-General Heim, was one of those who gave himself up and he ordered the holdouts, including the gun crew of at the end of the mole, to surrender. By late afternoon the guns were silent and civilian refugees streamed into

the town to see what was left of their ruined city. Canadian Civil Aid detachments moved quickly to open medical facilities for civilian casualties as well as soup kitchens and water points. Within days the city was again alive and on the road to recovery.⁵² From the Allied point of view it was the port, roads and railway lines that mattered. Army engineers of a Port Construction and Repair Group began work on September 23rd, but with ships sunk across the entrance channel and mines offshore as well as in the harbours it took until October 12th to open part of the port and by the time the work was complete Antwerp was available.⁵³



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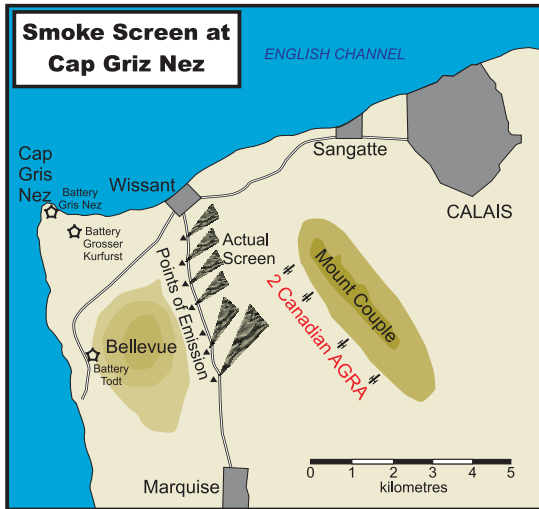
Soldiers from the North Shore (New Brunswick) Regiment advance on a German cross-channel gun position at Sangette, near Calais.

The Canadians were not involved in port reconstruction and on the morning of September 23rd, 8th Brigade began to redeploy to Calais while 9th Brigade prepared to capture the cross-channel gun batteries at Cap Gris Nez. Simonds and Spry had begun preparing for Operation UNDERGO while the fighting raged in Boulogne. Photo reconnaissance had identified 42 heavy gun batteries in the 30 kilometres coastal zone around Calais and the Corps Survey Regiment installed a five microphone sound ranging base and extensive flash spotting posts to help pinpoint locations. Two batteries of 7.2-inch howitzers and two regiments of heavy anti-aircraft guns moved into position on September 21st and began to register the enemy batteries. Since the air observation planes were committed to Boulogne, serious counter-battery work did not take place until the operation began. By then the full weight of the available artillery, eight medium regiments plus the divisional artillery were on grid ready to support the attack.⁵⁴

The approaches to Calais provided a sharp contrast to Boulogne. The hills and forests of the Boulonais region give way to flat, open countryside crisscrossed with canals and drainage ditches. In May 1940 these natural obstacles and the fortifications left over from wars of other centuries helped the Rifle Brigade to hold Calais for six precious days, aiding the evacuation from Dunkirk. By 1944, the 30 kilometre Calais-Cap Gris Nez sector of the Atlantic Wall contained six major fortified zones including a two-kilometre long sector “bristling mass of wire, guns and mines,” providing all-around protection to the Noires Mottes battery’s 40 cm, cross channel guns.⁵⁵

The final plan, issued on September 22nd, required 7th Brigade to “attack and capture or destroy” the garrison of Calais including the Bellevue Ridge and Coquelles fortified areas. Eighth Brigade was assigned the Escalles-Noire Mottes sector while 9th Brigade

was to deal with Cap Gris Nez. Spry kept the Queen's Own Rifles and Glens in divisional reserve, hoping they would not be needed.⁵⁶ Both Bomber Command and 2nd Tactical Air Force began to "soften" targets on September 20th, but the battle for Boulogne and rainy weather postponed D-Day until September 25th. This delay allowed Captain J.C. Bond, the technical staff officer at 2nd Canadian Corps, to improvise methods of creating and maintaining a three-kilometre long smokescreen to prevent the enemy on Cap Gris Nez from interfering with the medium and heavy artillery positioned on the reverse slope of



Mont Couple south of Calais. Bond, with the help of a meteorological officer and men borrowed from 3rd Light Anti-Aircraft Regiment, maintained an effective smokescreen for five days.⁵⁷

Disturbing reports about the survival of almost all the enemy gun positions targeted by the RAF at Boulogne led to a much heavier initial bombardment, with Bomber Command committing almost 900 aircraft to the attack. Unfortunately, weather conditions created such poor visibility that only a third were able to carry out their mission. Air observation for the artillery was also restricted and the visitors who assembled

at the spectators stand could see very little. The armoured-infantry battlegroups once again found that little damage had been done to the concrete defences.⁵⁸

Fortunately, the Calais garrison was largely composed of men who had no intention of dying for their Führer. The Régiment de la Chaudière secured Escalles and Cap Blanc Nez employing 3-inch mortars to create their own smoke screen. As the first pillboxes were brought under fire, white flags emerged and an officer appeared offering to surrender the entire Cap Blanc Nez position if given two hours to arrange it. The garrison seems to have spent the two hours getting drunk as well as destroying equipment, but they all appeared on schedule to follow instructions "to walk directly towards our lines, both arms in the air," without arms or helmets.⁵⁹

The North Shores relied on Flail tanks to get through the outer minefield at Noires Mottes and on Crocodiles to help them close with the enemy. They also experimented with an explosive-filled hose called a "Conger" which could be pushed forward to destroy wire obstacles. Lieutenant-Colonel Anderson had briefed the battalion using an elaborate scale model and the first phase of the attack went like clockwork. The enemy abandoned their forward slope positions but once the North Shores tried to advance over the crest accurate machine gun fire prevented any further movement. The Crocodile crews tried to move forward but bomb craters and anti-tank guns barred the way. When darkness fell no further progress had been made.

A captured German soldier, who spoke English with a Brooklyn accent, helped to secure the surrender of troops cut off by the Canadian advance and Major Bill Parker who "felt we were riding a wave" asked for volunteers from among the new prisoners to return and tell the garrison commander to surrender by first light or "face the consequences." The next morning white flags could be seen everywhere including

previously unknown positions. One of the most formidable fortified zones in the entire Atlantic Wall had yielded almost 300 prisoners. It was, a North Shore officer recalled, “a day to remember.”⁶⁰

The main attack on Calais was carried out by 7th Brigade with the support of the First Hussars, and six squadrons of specialized armour. Brigadier Jock Spragge issued his outline plan on September 19th, and there was ample time for patrols to provide ground checks to supplement the air photos and maps. Lieutenant Louis Bergeron, the



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Field Marshal Bernard L. Montgomery, commander of 21st Army Group and Lieutenant-General H.D.G. Crerar, commander of First Canadian Army

Reginas' extraordinary scout platoon leader, went all the way to Escalles reporting that the enemy had abandoned the villages withdrawing into fortified positions. The Reginas had exchanged one of their rifle companies for one from the Royal Montreal Regiment (RMR) that had been serving as First Canadian Army's Headquarters' defence company. The eager RMRs were introduced to the thrills and terror of night patrols, adding to the “full knowledge of the enemy's defence positions” that helped to build confidence for an attack on the formidable defences of Bellevue Ridge.⁶¹ The Royal Winnipeg Rifles had also developed a detailed picture of the approaches to the Vieux Coquelles strong point on the edge of the flooded zone and the formidable-looking Fort Nieulay, their second phase objective.

Both battalions, with their supporting armour, crossed the startline as the bombing ended. The Winnipeg battalion, with a squadron of Hussars, followed the Flails through the minefield and rushed the strongpoint before the enemy had fully recovered. White flags began to appear but intense fire from enemy mortars and 88s slowed



This air photo captures the bombing of Mont Lambert in progress and shows a flight of Lancasters transiting the target area. At least nine aircraft are visible.

consolidation. The Reginas found the ridge defences largely intact and the two lead companies suffered heavy casualties in overcoming resistance that lasted until “the flame-throwers got too close.” The RMRs, in their first battle, were brought forward to extend the battalion sector. Brigadier Jock Spragge decided to commit his reserve battalion to assist the Reginas. The Canadian Scottish Regiment, rode forward in Kangaroos, dismounted on the ridge and joined the Reginas in clearing the position. The next morning they advanced to Sangatte and began to move towards Calais on the coast road. The Kangaroos proved invaluable, as did the engineers who cleared the roadblocks and minefields. The enemy had to be cleared out of “every house, slit trench and strongpoint” and this was done cautiously with the full support of the artillery and armour. That night, Spragge ordered a three-pronged advance to seize Fort Lapin and Fort Nieulay while the Reginas attempted to cross the flooded fields directly to Calais.⁶²

Intense fire from the two forts and other gun positions made for a long and difficult day, but after Bomber Command attacked seven targets on the western side of Calais good progress was made. Major W.H.V. Mathews, who commanded the lead company of the Canadian Scottish, gave the divisional historical officer a detailed account of the capture of Fort Lapin and the problems encountered when they continued towards the northern bastion of the Citadel where the battalion was pinned down by fire so intense that movement was impossible. By dawn on September 28th, only one company had any freedom of movement and casualties were mounting. Mathews, in a classical understatement, admitted, "The picture was not a bright one."⁶³



Canadian Forces Joint Imagery Centre, PL 144258

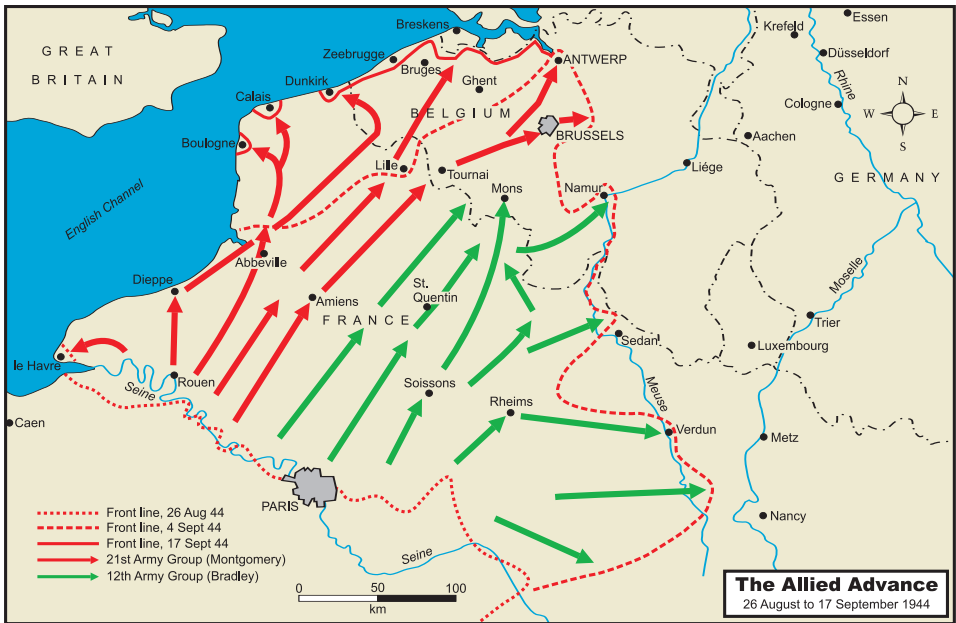
An RAF Lancaster participates in a bombing raid on Cap Gris Nez.

The other two battalions were also encountering serious difficulties. The Royal Winnipeg Rifles captured Fort Nieulay in a carefully controlled action in which "flame-throwers were again the final argument," but progress was slow the next day. The Reginas sent one company across the flooded fields but problems with "wireless interference" and the morale of cold, wet men who reported they could "use some rum rations" persuaded Lieutenant-Colonel Matheson to instruct them to stay where they were. This cautious decision seemed inspired when news arrived that the German garrison commander would cease firing at 1800 hours and talk surrender terms.⁶⁴ The next morning Major-General Spry discovered that although the garrison commander had agreed to discuss surrender, his real purpose was to stall for time. Colonel Ludwig Schroeder asked that Calais be declared an open city and when this was refused he asked for a truce to evacuate the civilian population. Spry agreed to a 24-hour truce to permit the citizens to leave the city and then met his brigade commanders to plan the final assault.⁶⁵

The Queen's Own Rifles were trucked to the east side of Calais to launch an attack from a new direction. Both 7th Recce and the Camerons of Ottawa who had been holding

the sector were to join this attack. With the support of medium bombers and Typhoons, plus the available artillery, Spry hoped the Queen's Own would divert enemy resources while 7th Brigade prepared for an all out assault on the morning of October 1st.

Shortly before the truce was due to expire, a delegation of German officers appeared claiming the garrison now wished to surrender and would so do at 1400 hours. Spry saw this as another attempt at delay and replied that "if they wished to quit they could march out with their hands up, without arms and flying white flags in the normal



manner." At 1200 hours the Canadian artillery began to fire but Lieutenant-Colonel Klaehn, Commanding Officer of the Camerons, sought permission to enter Calais and arrange the surrender.⁶⁶ While Klaehn was avoiding fire from his own artillery, the Canadian Scottish renewed their attack, seizing the Bastion. This aggressive move prompted the surrender of Fort Risban and an agreement to hand over the rest of the port defences once a Canadian officer of high enough rank to satisfy German military etiquette was available.⁶⁷

While the final stages of the seizure of Calais were played out, 9th Brigade began a classic set-piece attack on Cap Gris Nez. The four cross channel gun batteries were housed in large concrete casements which survive to this day. Each was protected by minefields, barbed wire, anti-tank ditches and pillboxes sited for all-around defence. The Floringzelle battery was able to fire inland and its 280 mm shells, known to the Canadians as "freight trains," had repeatedly tried to hit Canadian targets. Brigadier Todd's artillery resources included the cross channel guns at Dover known as "Winnie" and "Pooh," whose crews were anxious to have one last go at the enemy. With their own air observation post (OP) overhead, the British guns engaged and damaged the Floringzelle battery to the great satisfaction of the Canadians who had feared heavy losses from its guns. The ground attack began after a heavy bomber raid. The North Novas and Highland Light Infantry had little trouble in closing with an enemy that had lost all desire to continue a hopeless battle.⁶⁸

Siege warfare along the Channel coast resulted in the capture of three important ports and the surrender of almost 30,000 German soldiers. The Canadian Army employed overwhelming force at le Havre, but the attacks on Boulogne and Calais were carried out by elements of just two infantry brigades assisted by a limited number of armoured squadrons. The soldiers who fought their way into Boulogne and Calais were initially enthusiastic about the air support arrangements and the artillery fire plans, but as the battle wore on it was evident that very little damage had been done to the enemy's defences. The Canadian battlegroups were therefore forced to improvise new ways of overcoming the enemy with their own resources. This could not be accomplished without an intimate knowledge of the ground over which the action would be fought. Maps and invaluable air photographs helped, but in the end battalion scout platoons were needed to explore the complex terrain. Company commanders quickly discovered that Wasp and especially Crocodile flamethrowers were the most effective means of forcing the enemy to abandon fortified positions. The infantry learned that if they could protect flamethrowers while guiding them into position, a few bursts were usually enough to inspire an enemy surrender. Flame proved to be the ultimate psychological weapon in siege warfare.

The Canadians thought that they had accomplished miracles with the limited forces and supplies at their disposal. Montgomery and his acolytes saw it differently. Major-General H. Essame put the British view most bluntly in his book *The Battle for Germany*. Echoing Montgomery's complaint that the Canadian army was "badly handled and very slow,"⁶⁹ Essame wrote:

That the operations of First Canadian Army during September were slower than they need have been is an unavoidable conclusion. Le Havre did not fall to 1 British Corps until 12 September; Boulogne held out till the 22nd; the Calais area was not cleared until the end of the month; Dunkirk remained in enemy hands; on 1 October the Germans still held a lengthy stretch of the south bank of the Scheldt, the northern suburbs of Antwerp, Walcheren Island and the approaches to the South Beveland peninsula.⁷⁰

All of this was in contrast to the rapid progress of the British Army towards Arnhem during September.

The British official history is, of course, more cautious and Major Ellis is far more aware of logistical and administrative considerations, but even he suggests that Crerar did not "seem to have recognized any great need for haste"⁷¹ in dealing with the Channel Ports. Ellis is also critical of the length of time required to bring 1st British Corps to the Antwerp Area to relieve 2nd Army forces needed for the thrust to the Rhine. Two Canadian authors picked up on these themes and concluded that Canadian Army activities were so deficient that had Crerar been a British Army Commander he would have been sacked.⁷² Montgomery's biographer goes one step further, claiming that Crerar was dismissed by Montgomery in September of 1944 and that Crerar's ill-health was just a convenient story.⁷³

C.P. Stacey's official history of the Canadian Army, *The Victory Campaign*, critical of Canadian operations in Normandy, avoids direct censure of the conduct of the pursuit. Stacey also avoids any favourable comment and Harry Crerar was moved to suggest to Stacey that he "wondered whether the official historian had brought out sufficiently... the difficulties of the coastal terrain, from a tactical and administrative point of view. It seemed to those of us in First Canadian Army that we always had ten more rivers to cross and many, many canals."⁷⁴ Stacey did not disagree but he was reluctant to criticize

Montgomery's decisions and left the reader to draw his own conclusions about the achievements of the Canadians in September 1944. A reassessment is long overdue.

About the Author...

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Endnotes

1. Quoted in Alan English, Daniel Gosselin, Howard Coombs and Lawrence M. Hickey (eds.), *The Operational Art: Canadian Perspectives*, (Kingston: Canadian Defence Academy Press, 2005), p. 7.
2. An earlier version of this essay was presented at the Royal Military College of Canada in March 2005. It is based on Chapter 2 of *Cinderella Army: The Canadians in Northwest Europe* (Toronto: University of Toronto Press, 2006), forthcoming.
3. C. P. Stacey, *The Victory Campaign*, (Ottawa: 1966), p. 324.
4. *Ibid.*, p. 329.
5. Ralph Bennett, *Ultra in the West*, (London, 1979), pp. 142-143.
6. "Air Support Organization and Procedure in NW Europe," PRO Air 15/721.
7. The phrase is from a letter Coningham to Breen (Air Ministry), 30 August 1944, Pro Air 37/2.
8. Coningham's biographer writes, "Teddy Hudleston took over 84 Group from Leslie Brown who had never convinced the Canadians that aircraft were a support not a substitute for ground action." Vincent Orange, *Coningham*, (London, 1990), p. 220.
9. Simonds became Acting Army Commander on 26 September when Crerar entered hospital in England. Major-General Charles Foulkes became Acting Corps Commander but chiefly served as a conduit for orders from Simonds.
10. No. 2 ORS, "Report No. 16: Air and Ground Support in the Assault on Boulogne," in Copp, *Montgomery's Scientists*, p. 120.
11. Interrogation Report, Lieutenant-General Heim, 6 December 1945, LAC RG 24 Vol. 10,617.
12. Simonds to formation commanders, 2nd Canadian Corps, 12 September 1944, LAC RG 24, Vol. 10,799. The three armoured columns assault columns consisted of one troop of Crabs (mine clearing), two troops of crocodiles (flame), a half troop of AVREs and a troop of tanks as well as kangaroos. The outline plan divided the operation into four phases but once the attack was underway considerable improvisation was required.
13. The artillery plan is outlined in Captain J.W. Monahan, RCA, Canadian Military Headquarters, Historical Section, *Report No 184: Canadian Participation in North-West Europe, 1944. Part V: Clearing the Channel Ports*, DHH. This summary is based on the War Diary, HQ RCA 3rd Division and the report prepared by Captain J.R. Martin, *Operation "Wellhit"*, LAC RG24, Vol. 10,907.
14. War Diary, 2nd Canadian Corps, 15 September 1944.
15. R.F. Delderfield, *Confidential Report on the Recent Bombing of Le Havre*, PRO Air 20/5040. The report noted that while British civil affairs officers and French officials spoke of the destruction of entire residential areas and at least 5,000 casualties, the officer commanding 154th Brigade claimed that "the total was not more than 2,000" and that the bombing saved "a great number of casualties among combat troops."
16. Stacey, *Victory*, p. 339.
17. Copp, *Montgomery's Scientists*, Report No. 16, pp. 107-111.
18. Monahan, p. 40.
19. These issues are outlined in the Crerar Papers Vol. 3.
20. War Diary of J.R. Martin, Historical Officer, 3rd Canadian Infantry Division, 3 September 1944, LAC RG 24, Vol. 17,506; Interview Colonel E. Côte, October 2004.
21. War Diary, 3rd Canadian Infantry Division, 16 September 1944.
22. Attachment to letter, Hobart to Crerar, 20 September 1944, "Crerar Papers," Vol. 6.
23. Will R. Bird, *The North Shore (New Brunswick) Regiment*, p. 408.
24. Bird, pp. 409-412. Major Corbett's account of the attack on the Pas de Gay as well as other first person accounts are quoted at length.
25. The quotations in this paragraph are from the War Diary, North Shore (New Brunswick) Regiment, 17-18 September 1944.
26. Lieutenant-Colonel J.E. Anderson "Account of Operations in the Boulogne Area" *Canadian Military History*. Vol. 3 No. 2, Autumn 1994, pp. 84-87.

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27. Jacques Castonguay et Armand Ross, *Le Régiment de la Chaudière*, (Lévis, 1983), pp. 289-290.
 28. Corporal R. Richards received the Distinguished Conduct Medal for this action and Private J.P.E. Ouellet the Military Medal. *Ibid.*, p. 290.
 29. The column has an internal stairway and an observation platform. Napoleon is depicted gazing towards England. On a clear day the viewer can see the white cliffs of Dover and all the Boulonais countryside.
 30. The Operational Research Section examined the battery after the battle and concluded that one 88 mm gun was put out of action by near misses from medium bombers but the other three remained in action. Copp, *Montgomery's Scientists*, Report No. 16, p. 130.
 31. Castonguay and Ross, p. 291. *The Queen's Own Rifles* joined in the final attack.
 32. W.T.T. Barnard, *The Queen's Own Rifles*, (Toronto, 1963), p. 225.
 33. War Diary, *Queen's Own Rifles*, 17 September 1944.
 34. Copp, *Montgomery's Scientists*, Report No. 16, p. 128.
 35. Monahan, p. 58.
 36. War Diary, *Queen's Own Rifles*, 21 September 1944.
 37. Copp, *Montgomery's Scientists*, Report No. 16, p. 112.
 38. For a full description of the battlefield as it appears today see Terry Copp and Mike Bechthold, *The Canadian Battlefields in Northwest Europe: A Visitor's Guide*, (Waterloo, 2005).
 39. Will R Bird, *No Retreating Footsteps: The Story of the North Novas*, (Kentville, 1954).
 40. Bird, *North Novas*, p. 220.
 41. Lieutenant-Colonel R. Rowley, "The Attack on Boulogne," *Canadian Military History* Vol. 3, No. 2 Autumn 1994: 76-83.
 42. War Diary, 9th Canadian Infantry Brigade, 17 September 1944.
 43. Rowley, p. 79.
 44. Copp, *Montgomery's Scientists*, Report No. 16, p. 129.
 45. Monahan, p. 53.
 46. War Diary, 18th Canadian Field Company, September 1944, quoted in Monahan, pp. 53-54.
 47. Monahan, p. 57.
 48. Montgomery M.216 Personal for CIGS from Commander-in-Chief, 19 September 1944, BLMP.
 49. *Ibid.*, "once we have captured the bridge at Nijmegen the advance will proceed to Arnhem and Apeldoorn."
 50. Rowley, p. 81.
 51. Monahan, p. 65.
 52. Operation Wellhit Administrative Order, War Diary, 8th Canadian Infantry Brigade, September 1944; War Diary, 2nd Canadian Field Historical Section, September 1944.
 53. Ian Galbraith, "Operation Wellhit: The Capture of Boulogne," *After the Battle*, Vol. 86, 1944: 19-22.
 54. "Counter Battery Ops Before Calais," Appendix 1, War Diary, HQ Royal Canadian Artillery, First Canadian Army, LAC RG 24, Vol. 14,306.
 55. Monahan, p. 73.
 56. Operational Order No. 2, 7th Canadian Infantry Brigade, 23 September 1944, War Diary, 7th Canadian Infantry Brigade.
 57. James C. Bond, "The Fog of War: Large Scale Smoke Screening Operations of First Canadian Army in Northwest Europe 1944-45," *Canadian Military History*, Vol. 8, No. 1, Winter 1999: 41-58.
 58. USAAF, Evaluation Board, *Study of the Effects of the Air Effort in the Capture of Calais*, June 1945. This detailed 170 page study examines all aspects of the battle to provide a context for the analysis of the air effort. LCMSDS Archives.
 59. Castonguay and Ross, pp. 295-296. 8th Brigade Operational Instruction, 23 September 1944, War Diary, 8th Canadian Infantry Brigade.
 60. Bird, *The North Shore*, pp. 430-432. Later the day was marred by the loss of three officers and their driver killed when a mine exploded under their jeep.
 61. War Diary, Regina Rifles, September 1944.
 62. War Diary, 7th Canadian Infantry Brigade, 25 September 1944.
 63. W.H.V. Mathews, "Assault on Calais 25 September-1 October 1944," *Canadian Military History*, Vol. 3, No. 2, 1994: 88-95.
 64. War Diary, Regina Rifles, 29 September 1944.
 65. War Dairy, 3rd Canadian Infantry Division, 30 September 1944.
 66. Monahan, p. 88.
 67. Mathews, p. 95.
 68. Lieutenant-Colonel D.F. Forbes, "Actions Against the Defences of Cap Gris Nez," DHH.
 69. Stacey, *Victory*, p. 306.
 70. H. Essame, *The Battle for Germany*, (London, 1969), p.29.
 71. Ellis, p. 60.
 72. W.A.B. Douglas and B. Greenhouse, *Out of the Shadows*, (Toronto, 1977), p. 20.
 73. Nigel Hamilton, *Monty: The Field Marshal*, (London, 1980), p. 513.
 74. Crerar to Stacey, 10 March 1959, *Crerar Papers*, Vol. 3.
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TRANSFORMATIONS OF WAR AND PUBLIC PERCEPTION: IMPLICATIONS FOR 21st CENTURY WARFARE

Mr. Robert Adinall, MA

In the 23 November 2004 edition of the *National Post*, retired Canadian Major General Lewis MacKenzie wrote that: “Soldiers are not social workers with guns. Both disciplines are important, but both will suffer if combined in the same individuals.”¹ He went on to state that armies do not need to be led by “officers educated in anthropology, psychology or philosophy,”² and added that many modern political leaders muddy military mandates with nation-building tasks and other debates in order “to find a safe, no-risk way of stopping the bad guys.”³

MacKenzie’s views concern part of a debate about the strategic objectives of warfare as perceived in Western countries in the first decade of the 21st century. This debate reflects dichotomies in three areas. The first is a theoretical divide within military theory and strategic analysis concerning how “information age” technologies should be incorporated into military, and more specifically army, organization. This is linked directly to the second, which concerns how military organizations can be structured to deal with both high intensity conflict and low intensity conflict. The third is public perception uncertainty as to what the role of a military should be on the international scene.

These divisions can be understood within three lines of historical questioning. The first of these is an examination of intellectual history in military organization and doctrine in the late twentieth century to the present to see how the significance of new technologies has been interpreted. The second is a look at the nature of media and public perception in this time and how it has changed. These two themes lead to a third; accepting the arguments that history contains events of linked military, technological and cultural change, which can be described as military “revolutions,” what has been the nature of military revolution in the twentieth century and beyond? This third question will emerge at various points in the treatment of the other two themes.

Information Technology and Military Thought

In the 1990s, the US military and those armed forces and strategic communities closely influenced by it began to debate the implications of what was termed a “revolution in military affairs” or RMA. By common consensus, the RMA concept had its origins in Soviet military theories of the mid-to-late Cold War period. However, other threads of military thought also contributed to it. During the 1990s and early 2000s various works and concepts proposed adding or allying other military and historical approaches to RMA. This mixture of concepts has been carried into the “transformation” plans of a number of militaries in the first decade of the 21st century. What is presented here is an outline of different threads of thought leading up to transformation. A more detailed version of this history would be a useful study in and of itself (which this author hopes to undertake); what is presented here is an early version as part of a larger discussion.

MTR, Manoeuvre Theory and Other Trends up to 1992

The Soviets first spoke of a “revolution in military affairs” in the 1950s and 1960s, in the context of the combination of nuclear weapons with long-range delivery systems—primarily jet and rocket powered aircraft and ballistic and cruise missiles—and advances

in control and targeting systems facilitated by the emergence of computers and artificial satellites (in other words, the beginnings of the “information technology” that would emerge fully by the 1990s).⁴ By the 1970s, Soviet thought regarding the future importance of new technologies changed. The realization that the tactical use of nuclear weapons would escalate into a massive strategic nuclear exchange meant that nuclear land battle had become a conceptual stalemate.

To find a way around this impasse, the Soviets looked back at World War II and pre-World War II campaigns and “deep war” theory which encompassed elements of what in the West would be called “manoeuvre” theory. The Soviets first tried out this old/new “all-arms battle” in Exercise DNIEPER in 1967, which was followed by what some described as a “build-up of conventional strength.”⁵ However, the Soviets did not believe that this was a simple return to the past. Continuing advances in communications and computing, as well as the power of conventional munitions, would allow conventional forces to deploy enough highly accurate firepower to rival the effectiveness of nuclear ones. In a series of papers in the 1980s, Marshall Nikolai Ogarkov, then Chief of the Soviet General Staff, gave these developments the name “military technical revolution” or MTR, replacing the earlier term “revolution in military affairs.”⁶ Amongst other things, the Soviets were concerned that Western technology in these areas was advancing more quickly than their own, and would therefore give the NATO armies a decisive advantage. The Soviets were unable to put an effective catch-up program into place before their state collapsed in 1989-1991.

In the United States, Andrew Marshall’s Office of Net Assessment picked up on the Soviet MTR writing in the late 1970s. In Marshall’s view “it was the United States that was laying the groundwork for the revolution, but it was the Soviet military theorists, rather than our own, that were intellectualizing about it.”⁷ Marshall first suggested that the U.S. invest further in what the Soviets called “reconnaissance-strike complexes” in order to compound Soviet fears of the West pulling ahead.⁸ In the mid 1980s he then co-chaired the “Future Security Environment Working Group” along with Charles Wolf, as part of the Commission on Integrated Long-Term Strategy led by Fred Iklé and Albert Wohlstetter. This group suggested that the next twenty years would be a period of major change in warfare.⁹ Around 1990-91, Marshall asked Andrew Krepinevich, who had recently joined his office, to undertake a further assessment of these Soviet concepts to “decide still more clearly if we really believed that the Soviet theorists were correct.”¹⁰ Released in 1992, this assessment is frequently taken as the starting point for the RMA debates of the 1990s. Marshall and his office noted that in the current period, as during revolutionary periods in the past, major changes in military capability occurred when new technologies were accompanied by changes in tactics, doctrine and organization, as well as general socio-political changes such as globalization. As a result, by 1993 Marshall’s office declared the term “military technical revolution” to be too narrow and argued for the term “Revolution in Military Affairs” instead—effectively a return to the term first used by the Soviets decades earlier.¹¹

Although the Soviet RMA/MTR theories are the most direct precursors to 1990s Western RMA concepts, other lines of thought are also important. In the 1970s a drive for internal reform developed in the U.S. Army in the wake of the Vietnam conflict. Simultaneously, concern began to grow in the West that the Soviet buildup of conventional all-arms forces (mentioned above) would give them enough numerical superiority to win a non-nuclear battle in Europe. Thus was born “offset” or “nuclear umbrella” theory. Offset theory was to provide a way for NATO to balance superior Soviet quantity through improved quality. Simultaneously, it became part of a method in the minds of a new generation of American officers to reject the “attrition” warfare that they characterized Anglo-American forces as having used in the past. Offset strategy focused not just on better equipment, but on using Western advances in technologies

such as microelectronics to change manners of usage; command, control, communications and intelligence (C3I), and precision guidance for weapons such as rockets were all part of this approach.¹²

The other aspect of fighting more intelligently was in the Western adoption of “manoeuvre theory.” This was spearheaded in the U.S. by American defence analysts William S. Lind and Edward Luttwak as part of what Canadian Lieutenant-Colonel Ian Hope has described as a “doctrine reform debate”.¹³ It was also driven by Colonel, later General, Huba Wass de Czege of the U.S. Army, and in the U.K. by retired Brigadier Richard Simpkin. Lind described a doctrine of manoeuvre as one which would be designed “to break the spirit and will of the opposing high command by creating unexpected and unfavourable operational and strategic situations, not to kill enemy troops or destroy enemy equipment,” as opposed to attrition doctrine which seeks “the physical reduction of the opposing forces.”¹⁴ Edward Luttwak expanded on Lind’s perception. Both Lind and Luttwak viewed German Blitzkrieg as the model for manoeuvre warfare.¹⁵ As the ideas of both men were taken up through early 1980s U.S. defence reform agendas, what Hope and some others have called a German “blitzkrieg cult” developed before partially waning in more recent times.¹⁶ Lind’s theories were eventually incorporated into the U.S. Marine Corps’ doctrine in the 1989 *Fleet Marine Force Manual 1 Warfighting*.¹⁷

In 1982, Wass de Czege rewrote the U.S. Army’s doctrine manual FM-100-5 to emphasize use of agility, speed, turning movements, disrupting enemy communications and avoiding frontal attacks and unnecessary loss of life and equipment.¹⁸ Also in that year, manoeuvre warfare and offset theory approaches were tested in “AirLand” battle, the NATO equivalent of Exercise DNIEPER. In 1983, the U.S. Army Command and General Staff College created a one-year post-graduate program at the School for Advanced Military Studies at Fort Leavenworth, Kansas, under the coordination of Wass de Czege. By 1991 some of Wass de Czege’s students, who lightly referred to themselves as the “Jedi Knights”, reached important positions on General Schwarzkopf’s staff during the first Gulf War, Operation DESERT STORM.¹⁹

Simpkin’s work was also linked to late 1970s—early 1980s NATO concerns about defence reorganization, but did not attribute as much credit to the Germans. His view was that modern armies had as much to learn from Soviet Marshall Tukhachevsky’s 1930s “deep war” theories as from Heinz Guderian, Basil Liddell Hart or others. Simpkin’s work appeared in its final form in his 1985 *Race to the Swift*. It argued for the incorporation of new technology into, and reorganization of, military forces. Like Marshall’s office, Simpkin was influenced by Soviet MTR theories and by the Soviets’ own tendency to look back at the 1930s as an analogous period of change to the present. He saw the use of technological innovations to attack an enemy simultaneously throughout its operational depth as a highly important Soviet insight. He also agreed with the Soviets that: “many fire tasks which in the sixties would have required a nuclear weapon can now be tackled conventionally”.²⁰ Yet he found that the critical change is: “. . . really about not firepower but information. For it is really the acquisition, processing and dissemination of information that lies at the root of the speed and accuracy with which fire can now be applied... from the military point of view, it may be easier to consider what information technology cannot do . . .”²¹

Simpkin added that precision firepower will: “disperse mass in the form of a “net” of small detachments with the dual role of calling down fire and of local quasi-guerrilla action. Because of its low density, the elements of this net will be everywhere and will thus need only the mobility of the boot.”²² Elsewhere he writes: “Both high-density defenders and those who concentrate unduly to attack them will be pulverised . . . We are entering an era of warfare in which it is very much better not to get hit!”²³

Race to the Swift became the basis for a 1989 revision of British doctrine articulated in the *British Military Doctrine*, and in subsequent British army field manuals. Canadian doctrine manuals developed in the early 1990's used Simpkin's approaches, without using the term "manoeuvre warfare." Lind's definition of the term was eventually applied to the British approach, producing Canadian manoeuvre doctrine as it exists today.²⁴ As with Soviet MTR theory, Western 1980's theories had an inherent concern about the role of information technology in the military even while it looked back upon the 1930's military "revolution". Marshall and Krepinevich's 1992 assessment was, therefore, not simply an adoption of the Soviet concept, but also a response to similar, though less clearly articulated, concerns in the West.

Criticism of Manoeuvre Theory

Manoeuvre theory generated various reactions. There are debates about historical generalizations that some interpretations of manoeuvre theory make, including whether pre-1970s Anglo-Americans were really consistently "attritionists", and whether the Second World War Germans were as good at manoeuvre as is supposed. Hope, however, presents an interesting criticism: that a "false" dichotomy has arisen between the concepts of manoeuvre and attrition. Simpkin's work does not suggest that attrition can always be avoided. He writes that there are "three theories of war—attrition theory, manoeuvre theory and the doctrine of revolutionary war."²⁵ Attrition theory will always exist at some level when manoeuvre or irregular forces come to actual fighting. Break-in, break-out, and encounter battles will still have to be fought, and the ability to inflict more casualties on the enemy than one suffers on one's own side will still determine the course of these phases of fighting. His argument is simply that the other types of warfare will be decisive in the course of future conflict. Hope feels that manoeuvre theory has been interpreted into military doctrine in an ill-defined way which suggests that the attrition phase of combat can always be avoided. He states that in the Canadian military, this "frame of mind" has been accepted without being backed up by a comprehensive operational doctrine. This makes it, in his view, an excuse for the view that smaller armies can remain relatively sure of victory over larger ones simply through having superior theories.²⁶ As will be shown below, one group of theorists makes similar criticisms of the 1990s RMA concepts. To understand how, it is first necessary to examine the way in which RMA theory was adopted following 1992.

RMA: High Intensity Conflict versus Low Intensity Conflict

It has been argued that the U.S. Navy and Air Force were most ready to accept the RMA since they work in a "pristine operating environment" consisting of the open air or the open ocean.²⁷ Although atmospheric disturbances and ocean currents and storms can interfere with their sensors, friend and enemy are still easily distinguished from the background environment. Naval officers such as Admiral William Owens and Admiral James Stavridis argued that the information revolution would lead to a "system of systems" in the military, by which computerized systems would relay large amounts of reconnaissance and targeting data between themselves, allowing the information-age military to operate with great speed and accuracy over large distances.²⁸ The acronym C4ISR—command, control, computing, communications, intelligence, surveillance and reconnaissance—was developed from earlier forms such as C3I to describe the essential human and automated systems within a military. The theory suggests that this constellation of high-tech systems, combined with properly organized and trained operators, would be able to gain "information dominance." As Vice Chairman of the U.S. Joint Chiefs of Staff in the mid 1990s, Owen pushed for the adoption of the RMA concept across all the military services, together with the concept of "jointness"—that army, naval and air forces would have to work together seamlessly in order to achieve simultaneous

and decisive effects throughout an enemy's operational depth. In these ways, smaller numbers of troops would be able to create greater strategic effects than ever before.

As these concepts developed under the manoeuvre warfare, MTR and RMA rubrics, some strategic commentators dismissed their long-term importance. They argued that the RMA was merely an extension of traditional Western military ideas, narrowly focused on winning conventional wars between large, organized military forces (High Intensity Conflict, or HIC).²⁹ For instance, the well-known strategic commentator Martin Van Creveld argued that Western armies, police forces and other national security organizations had been unsuccessful in combating asymmetric warfare for decades. His analysis of why this is so concludes that since World War II, non-uniformed fighters have been steadily gaining legitimacy as "freedom fighters". By contrast, he argues, during the period of the dominance of European empires over the world the "Clausewitzian" concept that guerrilla-style resistance was illegitimate, immoral and beyond the rules of warfare was common. At the same time, Van Creveld stated that technological progress has reduced the delta between cheap and small and expensive and large weapons; while a modern jet fighter is more advanced than a World War II fighter, it can be shot down with a shoulder-mounted rocket launcher.³⁰

Similarly, Carl H. Builder, a senior RAND corporation analyst, suggested that the power of the nation state is declining while the power of special interest groups is growing, since nations can no longer strictly control the flow of information, commodities and people, while people are becoming more responsive to global events.³¹ Like Van Creveld, Builder saw military weaponry diffusing beyond the control of governments.³² Builder therefore argued that the U.S. military would have to be tailored to operate in lower intensity conflicts and crises, rather than to fight enemies similar to itself (commonly described as symmetrical enemies).³³

In response, other commentators argued that RMA concepts were useful for fighting both symmetrical and asymmetrical enemies (insurgents, guerrillas, terrorists, and organized crime in failed states).³⁴ They also argued that by working together and building common intelligence infrastructures, police forces and militaries could combat concealment of crime in society at large.³⁵ Basing his description on the 2000 Rand Corporation study *Swarming and the Future of Conflict* by John Arquilla and David Ronfeldt,³⁶ both important contributors to RMA discussions throughout the 1990s, military historian Bevin Alexander lays out a fairly common view of the new type of warfare envisioned at the beginning of the 21st century.³⁷ It is based on the use of small teams (sometimes described as "pods") of highly professional soldiers and ground-attack aircraft, such as helicopters or AC-130 gunships, which "swarm" around enemy targets from all sides rather than deploying along "front lines" as in the 20th century World Wars. These forces use modern information technology and global positioning systems to know the location of both opposing and friendly forces, and to call in heavy fire from long-range artillery or rocket launchers in secure base areas, or heavy aircraft such as B-52 bombers which circle high enough to be out of range of shoulder-held rocket launchers carried by opposing fighters. "Smart" variants of such weapons, such as the joint direct attack munition, or JDAM, can be guided to a target with great precision, theoretically avoiding damage to nearby troops on one's own side, or to nearby civilians. Unmanned aerial vehicles (UAVs, orUCAVs—unmanned combat aerial vehicles) can be used for observation, to attack opponents directly, and to provide wireless communications bandwidth for the rest of the force. Satellites orbiting the planet overhead will also provide reconnaissance and communications bandwidth. Large concentrations of troops will be easy targets for such "stand-off" weapons. Small teams of troops on the ground will be equipped to be relatively self-sufficient, and able to quickly concentrate into larger groups and then re-disperse as needed. Such forces would theoretically be capable of

hunting down groups of insurgent or criminal targets as well as disrupting organized mass armies. What is important to note is that in this RMA vision the total number of personnel in a force is still small, and its equipment relatively light, relying on technology to greatly amplify its effects.

Coalition special operations forces (SOF) have successfully operated as “swarms” and used these techniques to call in heavy fire in operations against the Taliban in Afghanistan in the fall of 2001. Precision-guided munitions have been used by Western powers with increasing frequency in conflicts since the early 1990s, sometimes to good effect, sometimes with more mediocre results. Based on current experience, this type of warfare is highly successful against enemies who present convenient targets when no significant electronic glitches or adverse atmospheric conditions interfere with communications and targeting; many of the early failings of these systems are slowly being resolved. As various analysts, including Alexander, also point out, “swarming” combat is not entirely new but has been used in various ways throughout history. The particular concept of swarming put forward by Arquilla and Ronfeldt has been developing in Western military thought at least since the 1940s³⁸ (Arquilla and Ronfeldt agree that the concept has antecedents throughout history).³⁹

Despite these successes, the arguments for applying highly technical systems to ground warfare do not fully address the point raised by Van Creveld and others, that enemies in ground warfare can frequently avoid presenting themselves as convenient targets. Enemies can hide themselves in urban areas and rugged terrain, where human-based intelligence (HUMINT) is frequently as—or more—important than sensor and communications-based intelligence in discovering their locations. This requires interaction with a local population. In such situations the enemy also has to be sought out and fought in detail for two reasons. Despite their great accuracy, powerful long-range (frequently called stand-off) weapons cannot be used, since it is not known exactly where the enemy is. In such difficult environments a combatant can move a few houses down the street before intelligence concerning his location can be acted upon. Secondly, strain, exhaustion, and confusion will continue to cause human error even amongst highly professional soldiers, another factor which will prevent the collection and timely analysis of information from being entirely complete. Therefore, stand-off weapons can be mis-targeted through human error or failures in computer programming. Extensive use of powerful missiles and projectiles in or near areas of high civilian concentration is therefore likely to cause significant collateral damage, which can adversely affect relations with local populations. As the experienced American officer and transformation theorist Douglas A. MacGregor has commented: “Perfect information about the enemy does not exist and will not exist in the foreseeable future, if ever.”⁴⁰

Even when extended to cover LIC situations, RMA theories rely on advanced technology and networked organization built around small numbers of soldiers with information dominance in order to be effective. MacGregor himself advocates militaries built around smaller, faster manoeuvre units capable of avoiding attacks with weapons of mass destruction (which he believes will proliferate to smaller and weaker states and entities), but at the same time points out that many of the world’s conflict zones in the early 21st century are in underdeveloped states where the populations are growing rapidly. He writes: “Military operations to restore and maintain order and stability place armies squarely at the juncture of these two trends. As practiced in recent decades, such operations are troop-intensive, with the required forces on the ground related closely to the size of the populations in the area of operations.”⁴¹ This concern is an extension of the criticisms of Van Creveld and others in suggesting that theory is mismatched to a strategic situation, and also of Hope’s criticism of manoeuvre warfare; that small armies can be sure of victory through qualitative superiority generated by

using superior theory and technology tailored to it. Like manoeuvre warfare, in the first decade of the 21st century RMA had become part of the “frame of mind”.

Parallel Lines of Thought to RMA

The argument over whether RMA was applicable to HIC or LIC, and whether HIC or LIC would dominate the future of warfare, was, however, only one of a number of 1990s debates concerning the topic. The most obvious debate, between those who reacted skeptically to the term “revolution” and those who advocated it, sometimes overshadowed other aspects. On the extreme anti-RMA side were those who argued that there was no revolution, but more common were those who argued that there was an evolution in military affairs. They could point to long-term historical trends, such as increasing dispersion of forces on the battlefield over centuries, and gradual adoption of microelectronics during the 20th century. Most pro-revolution theories did not dismiss evolutionary trends, but suggested that there are revolutionary periods of accelerated change, the information-driven RMA being a current one, while its predecessor was the 1920’s to 1940’s mechanization of warfare. At the end of the 1990’s this aspect of the debate was still unresolved.⁴²

As debate became widespread, articles and books with titles along the lines of the Revolution in Military Affairs or the Information Warfare revolution appeared. This material reflected the terminology and concepts of 1990s “information revolution” of the business world. The most enthusiastic advocates of ideas in both these areas tended to believe that they were discussing concepts that were fundamentally new—a more important revolution than had been seen previously in history. Historical perspective tended to be lost. Like manoeuvre warfare, RMA tended to become a catch-all phrase or buzzword that needed clearer articulation or replacement with a new term, a potential new buzzword.

Part of the process by which a term becomes a buzzword is also often associated with conceptual bloat. Other “cutting edge” concepts get vaguely attached to it. This also happened with RMA. First, “Information Warfare” concepts could be associated with RMA, expanding it to include police and other agencies guarding against internet attacks by terrorists, insurgents and criminals. The system of systems was an application of information technology to the military and it seemed logical to link this system with other information technology (IT) systems. Conceptually, the two ideas intermix, but from a historical perspective information warfare is viewed most clearly as a separate, but parallel, sub-category emerging in 1990s strategic thought.

Second, criticisms like those of Carl H. Builder—that RMA is unsuited to the changing strategic environment—drew the “military revolutions” debate of historians (and political scientists and sociologists), and concepts of state formation and cultural change into the RMA debate. These theories generally suggest that technological change causes economic and cultural change which in turn changes the nature of the state and therefore the strategic purpose of armies. A new type of state which adapts best to new technological and cultural phenomena is able to create new types of military force which in turn make it military, and therefore politically, successful. The order of precedence of these factors varies depending on the theory of a specific presenter; however, most theories contain these, and other concepts. Amongst historians, this debate began in the 1950s with Michael Roberts’ discussion of a military revolution in the 16th century and included the work of others such as Geoffrey Parker, Jeremy Black, Clifford Rogers, the Brodies, the Tofflers, William McNeill, Van Creveld, and so on. In terms of intellectual history, the distinction between this purely academic debate and the 1990s military-strategic debate can be drawn, but in practice the concepts crossed over, with various of these writers commenting on the RMA.

Third, concerns about dealing with LIC and failed states were taken up by some military thinkers in a series of concepts which were described as operations other than war (OOTW), “3-block war”, and civil-military cooperation (CIMIC). These ideas expanded on older concepts of military government and civil-military relations, and gained new perceived importance within the context of 1990s peacekeeping operations in the Balkans, Africa and elsewhere, the post 11 September 2001, “war on terror” and associated operations in Afghanistan and Iraq. The concept of 3-block war was coined in the 1990s by General Charles Krulak of the U.S. Marine Corps. It described a scenario of early 21st century warfare where soldiers would need to conduct relatively high-intensity warfighting in one city block, peacekeeping in the one next to it, and humanitarian operations in a third. It emphasized separating insurgents from the population that would support them—in other words, a “hearts and minds” campaign has to be won. The implication in these concepts was that in order to win over a local population, it is necessary to offer it a better alternative than insurgents or extremists can provide. Within these approaches, nation-building came to be seen as a partially military function, rather than something to be left solely to foreign aid agencies and humanitarian aid organizations.

3-block overlapped with a number of RMA ideas. As mentioned above, troops who are in close contact with a population can gather information about the enemy much more easily than can an army that is seen as an alien entity.⁴³ This would provide the HUMINT capabilities which a sensor net on its own could not. It did not dismiss the system of systems, but made the human a more important aspect in this system. It accepted the RMA and information warfare assumptions that soldiers would become capable knowledge-workers operating a system of systems as well as remaining capable combatants. It extended the implication that soldiers would be more educated to mean that they would also be capable of doing humanitarian work, which requires the ability to learn and understand local cultural and political issues. 3-block war had no inherent opposition to “swarming” concepts, since it could be argued that “pods” would theoretically be able to manoeuvre flexibly through the same environments as small groups of insurgents, rather than being bound to supposedly less mobile heavy weapons.

A further inspiration for 3-block war came from military concerns about public perceptions on the home front and support from politicians. What military personnel and strategists have, since the 1990s, often called the “CNN effect” seemed to make it politically necessary to be seen to be helping local populations in conflict zones. Politicians, wishing to be seen by voters as doing the morally right thing, focused on public perception from the 1960s on, and so emphasized the idea of peacekeeping and its associated “feel-good” implications. Thus, as MacKenzie argued, politicians do at times intervene with attempts to find “safe, no-risk” ways of stopping the “bad guys.” However, the CIMIC and nation-building concepts have military-strategic importance.

Transformation

During the years 2000 to 2003, the discussion of RMA was largely replaced by “Transformation.” The term Transformation implies that the RMA debate was resolved at least partially in favour of the pro-revolution camp, and that there is an unquestionable need to transform the military organizations of Western countries. The use of Transformation as a term describing current or future military change is not entirely new. For instance, Van Creveld titled his 1991 book criticizing Western HIC warfare concepts *The Transformation of War*. However, in its use in the first decade of the 21st century Transformation has taken on a more definite connotation of impending change.

Transformation is not based narrowly on RMA theory as it was derived from MTR and manoeuvre theory. Rather, it is derived from the broader mixture of 1990s concepts,

including RMA, 3-block war and CIMIC concepts, and concerns about dealing with terrorism, insurgency and failed states. For example, the U.S. Army's 2003 *Transformation Roadmap* states that the military must defend the nation, promote global peace and stability, extend "the benefits of freedom around the world . . . across the full spectrum of operations," and operate effectively "in concert with the other instruments of national power and within joint, interagency, and multinational contexts."⁴⁴ These changes must occur because of "a complex, uncertain, and dynamic 21st century security environment."⁴⁵ The document conceptualizes these changes as meaning that "the nature of war remains a violent clash of wills, but the conduct of warfare is changing at an unprecedented rate."⁴⁶ Like many RMA theories, it identifies the mechanization of warfare around the time of World War II as the most recent previous "comprehensive transformation."⁴⁷ The 2003 United States Army Posture Statement *Transformation—Changing the Way We Fight* states that: "The Objective Force is an army designed from the bottom up around a single, networked, integrated C4ISR architecture that will link us to joint, interagency, and multi-national forces... The Objective Force and its Future Combat System of Systems will leverage and deliver with precision the combat power of joint and strategic assets."⁴⁸ In 2005 the Canadian Army's website *A Soldier's Guide to Army Transformation* stated that a "3-D" approach is to be used in international affairs—integration of diplomacy, defence and development. It states: "As an Army, we must adapt to the realities of modern world conflict. Winning a war no longer depends just on the number of troops in an Army or the type of firepower it has. Modern warfare is no longer defined as two conflicting nations who send their large armies into battle. Canada's Army is also a small force that can't 'do more with less', but it can fight smarter, faster and get the right kit to make sure that it keeps ahead of the enemy."⁴⁹

Transformation documentation stresses the need for "a continuous cycle of innovation, experimentation, experience, and change."⁵⁰ However, a number of officers, including U.S. Colonel Douglas MacGregor and U.S. Lieutenant Colonel Robert R. Leonard, complain in published work that Transformation acquisitions programs such as Stryker and Future Combat System are based on theory rather than true experimentation.⁵¹ A good example is the debate around the future of the main battle tank (MBT). Theoretically, this type of vehicle has poor mobility because of its size and weight, which makes it an easy target for stand-off weapons, while its direct fire capability can be partially replaced with indirect fire capabilities. Against a "near-peer" enemy with sophisticated stand-off weapons, this could be true. However, although it was originally developed for high intensity conflict, the main battle tank may ironically be of more utility in low intensity conflict in the 21st century. For instance, U.S. forces in Iraq in 2003 and 2004 claimed that Abrams tanks turned out to be very useful.⁵² In situations where guerrillas are intermixed with civilians in urban combat, stand off weapons often cannot be used because despite their great accuracy, it is not known exactly where the enemy is. In these situations large vehicles provide direct fire support for infantry, and can be armoured heavily enough to normally survive attacks (survival in this sense means that the crew is protected and the vehicle is repairable, even when damaged) by the relatively unsophisticated weapons used by insurgents (normally rocket propelled grenades and 50-caliber machine guns). In situations where it is nearly impossible to possess information dominance (and insurgency is one, barring the unlikely scenario that it becomes possible to continuously track not only the movement but also the intentions of every person in a city or an area of countryside), older and supposedly redundant techniques and equipment may continue to be useful.

Those, like MacGregor and Leonard, making such criticisms are frequently members of the 1990s pro-revolution camp. They believe that information technology and sociopolitical changes mean that major changes in warfare, on the scale of what was seen during the 1920s to 1940s, are happening. However, they are concerned that there is not yet sufficient evidence of what these changes are, and trying to create a

force structure based on speculation could lead to major mistakes. They believe that “revolutionary” or “transformational” technologies and organizational changes should be applied as we learn, without a preconceived end-state (much Transformation documentation says the same thing, but the critics argue that future combat system programs are trying to lay out a de facto end-state in terms of equipment acquisition).

In the review of the intellectual history presented here, the tension between high intensity conflict and low intensity conflict capabilities emerges repeatedly from the 1980s to the 2000s. Based upon early observations, this disconnect also seems to emerge in the post-2003 Iraq conflict. Although many commentators feared that U.S. forces were too small during the initial Operation IRAQI FREEDOM campaign, those forces were more than equal to the task—as RMA and Transformation theory suggests. It was in the counterinsurgency and nation-building operations that followed that U.S. forces became overstretched.

In the 1980s theorists such as Simpkin still tried to draw a line between high intensity conflict and low intensity conflict; “revolutionary war” versus “manoeuvre theory and attrition”. Those like Van Creveld and Builder suggested that low intensity conflict would largely replace high intensity conflict. Krulak brought them together, suggesting that both could happen in the same physical space and time. Even if this is so, it is questionable whether the same force structure can deal with both. Looking at the theories considered above, one potential picture that emerges is of a force that asks each soldier to be a determined warfighter who can move about independently in small swarming “pods”, while being an educated information worker, a good humanitarian aid worker, and an intelligence collector and analyst. This sounds similar to the job description for the British Special Air Service in World War II and Malaya and, more recently, certain other SOF units. Specially selected and trained troops can do all these jobs seamlessly, but recruiting people that are able to adapt to so many roles is difficult, while their training and education is highly expensive. It seems unlikely that an army can be an SOF unit writ large.

At the March, 2005, 21st Annual Conference of Defence Associations Institute Seminar in Ottawa, discussion of how armies could practically address the divide between high intensity conflict and low intensity conflict in 3-block war was a major topic of discussion. Dr. Thomas Barnett, a U.S. defence analyst, argued in a presentation that Western military forces should be split into two organizations. One of these he called the “Leviathan” organization, which provides more traditional, HIC warfighting capabilities. This organization, he argued, should be composed of mostly “young, angry males.” The other security organization would be designed for operations other than war, and would include a mix of genders with many who are older, good at “multitasking” and “system administration.” Maritime and airborne strategic transport would be shared by both organizations. The Canadian Army’s current policy of generating CIMIC troops from the reserves⁵³ based on the argument that “reservists bring a wealth of civilian experience to the table”⁵⁴ is one feasible implementation of this idea. Warfighting and CIMIC units would deploy together and then attempt to move into their specific roles within a locality. Both would use information sharing and remote sensors in different ways. Further understanding of these roles will be gained through future experimentation and practical experience. However, the division between these different facets of conflict needs to be understood in theory, planning and acquisitions; a vague attempt to “revolutionize” or “transform” everything along the same lines could be detrimental.

More broadly, the overall point of the discussion thus far has been to illustrate how the counterinsurgency, counterterrorism and nation-building concepts are inherent within low intensity conflict, and how low intensity conflict is part of the scenario for 21st century warfare to which armies are trying to adapt. However, this problem is more complex than

being just a military-strategic one; it is also the result of changes in the nature of media and public perception in Western countries. In this sense, there are two distinct areas in which transformations of warfare can take place, and a transformation in one does not always happen together with that in the other.

The Nature of War versus The Conduct of War

There is a recurring argument that while technological development changes the conduct of war over historical time, human nature and therefore the nature of war does not change (as, for instance, seen above in the 2003 U.S. Army Transformation roadmap). This is true in some respects, but not in others. The question of the nature of war has concerned philosophers, historians, and military strategists for millennia. Some earlier works, such as *The Art of War* by the ancient Chinese philosopher Sun Tzu, *The Prince* by the early modern Florentine philosopher Niccolo Machiavelli, and *On War* by the 19th century Prussian military thinker Carl von Clausewitz, are famous. Certain types of cruelty, tyranny, aggression, or greed can be seen throughout history as causes of war. While personal reasons for fighting will vary from individual to individual, emotions related to war are timeless. Nonetheless, the motivations for entire societies to enter into destructive conflict vary from period to period. This suggestion can be seen in some earlier works, and is also inherent in the arguments of historians and strategic analysts who link change in technology and warfare with change in culture and state organization. In terms of such mass-psychological motivation, Western civilization has experienced three general periods spanning the mid-nineteenth to early twenty-first centuries. One major factor which can be used to trace these changes is media development.

The Nature of War: Rational War, Total War, Perception War

The first of these three periods was that of rational war, representing 19th century enlightenment ideals and described perhaps best by von Clausewitz. War was seen as an extension of political policy by other means; the amount of violence used was generally gauged towards achieving a rational end. During this period nationalism was a growing force, and the population of one country often made stereotypes from and mocked that of another, but dehumanization of one's enemy and deep-seated nationalistic hatred of the opponent were secondary to the rational ends of warfare.

During the Rational War period literacy was expanding, but still limited, and many of the most important and influential ideas in society were passed on through philosophic and scientific books and treatises. Literate elites, who made most decisions, prided themselves on knowing the thoughts of great philosophers as well as their own, budding nationalist theorists. Clausewitz's work, couched in philosophic terms and published as a book, is an example of this. His ideas were spread in a similar way to those of Nietzsche, Hegel, Rousseau, and other philosophers. Mass print media, although technologically enabled by the development of the printing press in earlier centuries, only became a force in its own right as literacy became widespread during the 19th century. By the early 20th century most popular newspapers reflected and spread one or the other of the two popular ideologies of the time: nationalism or Marxism. Political posters and other forms of political and nationalistic art also appeared on display more frequently as the 19th century progressed.

The second period was that of Total War, which was contemporaneous with what many historians and political scientists define as the "short" twentieth century; the years 1914 to 1991. In the first half of this period, up to 1945, the phenomena of nationalism which had been developing in Western countries (and those most influenced by them, such as Japan) during the 19th century (with its roots in earlier centuries) caused

societies to accept near total mobilization of their populations and economies towards military ends, and use of technological innovations to attack and destroy the enemy. This approach to war was accompanied by dehumanization of the peoples of enemy countries (a process started by European nationalism, which in sociological or anthropological terms caused large proportions of populaces to treat as “other” any ethnic or linguistic group that did not “belong” to “their” nation). During the first decades of the Total War period, film in the form of both newsreels and movies, photography, and radio, was used to spread ideas and mobilize populations. As media became more ubiquitous—able to reach more people—its importance increased. The Nazis in particular took advantage of these developments, using film footage and radio to spread the effect of the Nuremberg rallies and similar events throughout Germany.

In the second half of the Total War period, after 1945, the major power blocs continued to amass enough destructive power to decimate each other’s populations, as well as to destroy one another’s modern technological and industrial infrastructures. However, this destructive potential—in the form of atomic, and then nuclear, weapons—was so great that no side has proved willing to use it. As populations became more educated, and technologies of mass media became more advanced, the grim side of war was brought home to the public at large. Continuing technological advancements also made it far easier for people to travel, and so populations worldwide became more mixed and cosmopolitan than they had probably ever been. The enforced stalemate of nuclear “mutually assured destruction,” combined with these other changes in society, brought about the collapse of the total war mindset together with the collapse of one of the main powers and total war antagonists of the 20th century, the Soviet Union, in 1991.

As technology continued to develop in the second half of the 20th century, media became even more ubiquitous, and difficult to control. A number of states did succeed in largely controlling the new media of television within their territories, but many of those same countries (such as the Warsaw Pact states) suffered both technological and cultural stagnation as a result in part of their attempts to strictly manage public opinion in their societies. By continuing a firm commitment to the ideas of freedom of speech and freedom of the press, Western countries saw journalists and news corporations experiment with various applications of new communications technologies, leading to ever more ubiquitous media. Nation-wide, and later transnational cable and satellite news corporations appeared, and hundreds of channels became available on television. Colour print replaced black-and-white in newsmagazines and, by the 1990s, in newspapers. Finally, the Internet was allowed to develop freely, with news stations, newspapers, political websites, enthusiast websites, business sites, and so on all appearing alongside each other—the most ubiquitous type of media yet. The phenomenon of bloggers (whose comments and insights are now reprinted in many newspapers, and some of whom are government or business workers who are able to leak information much more easily to the public at large via the Internet than through a newsprint source) shows how the Internet goes beyond “mass media” to become “interactive media.”

The concept of a major shift in the nature of mass media has been seen in various recent works. A recent article in *Wired* magazine argues that a key factor driving the success of the Internet is that much of the online content has been manufactured by users, not corporations.⁵⁵ Paul Saffo, director of the think tank Institute for the Future, has called U.S. military operations in Afghanistan and Iraq a “personal media war” rather than a mass media war.⁵⁶ Though some see the increase in use of the Internet during the 1990s as the transformative event, others like Lieutenant-Colonel Leonard argue for a longer-term shift. Leonard sees the increasing communications bandwidth available since the advent of electricity as driving continuous change in the nature of the media

and its relationship to the military. Before the World Wars, Leonard argues, journalists could only report on recent activities, but with each decade their reports became more immediate until they could cover events as they were happening. Even before the Internet was widely used, this process allowed the Western public to react to geostrategic issues much more quickly, effectively making the media a participant in the unfolding of events.⁵⁷ The term “interactive media” is proposed as the best way of describing this change succinctly. (It differs from the common commercial use of the term in the 1990s and 2000s. In commercial use, the term can refer to many types of software programs delivered for computing or entertainment systems via different types of mass-produced saleable media, such as CD-ROMs).

Other factors than media were at work, although over the last century media types are one of the most important links between a society’s general structure and the way it forms strategic goals in conflict. It is necessary to consider some of these other phenomena in the transition away from Total War. After 1991 an approach which emphasized common aspects of humanity, and which was more sensitive to loss of life and the “legality” of war, became ascendant in the West. Public opinion in the West less frequently “othered” the populations of enemy countries, who instead came frequently to be seen in popular opinion, and a significant amount of media coverage, as innocent victims of both the tyranny of their own regimes and of the violence wrought by Western military forces when those regimes were attacked. Changes also took place because for the Western democracies the Total War period also saw the growth of greater respect for the concept of “Just War.” As military historian John Keegan has argued, abuses of prisoners and civilians by the Axis powers in the Second World War, together with open military aggression, led the victor nations to make a firm commitment to “Just War” principles through such actions as the Nuremberg Trials.⁵⁸ Mass violations of human rights by the major Communist states, especially the U.S.S.R. under Joseph Stalin and Communist China under Mao Tse Tung, reinforced Western beliefs during the early Cold War that a just conflict was being fought against inhuman opponents. In the 1960s and later, the suspicion that the West might be violating its own “Just War” beliefs in places like Vietnam led to extensive self-condemnation. “Just War” concepts have become engrained enough in Western thought for the International Criminal Court to be established at the Hague to punish war crimes, and for countries such as Britain to incorporate war crimes law into their legal systems.⁵⁹ The United States, one of the most important military players amongst the Western democracies during the period of Total War, is now frequently denounced for failing to subscribe to international war crimes law.⁶⁰

Other factors also contributed to the weakening of a standard, self-contained view of the nation state. Within the West, intellectual elites which contained many proponents of nationalism in the 19th century, such as in university faculties, changed by the late 20th century to include many who held to post-modernist, deconstructionist philosophies which rejected traditional types of nationalism. Such existential questioning led many Westerners to further ponder whether their countries’ actions in the past had been “just”, and whether there was justification for intervention in the affairs of other parts of the world in the present. In addition, the same advances in communications technology which caused major changes in the media, and major changes in military doctrine, also allowed geographically disparate groups without a state, or with a distant state as a base, to organize themselves more easily. Therefore, the present period is one in which non-state based organizations, from international aid agencies to organized criminal groups to terrorist extremists, have a greater role than in either of the preceding periods, both of which were dominated by strong nation-states.

The terrorist attacks on the United States of 11 September 2001, caused general hardening of attitudes in that country and a number of its allies, but not full reversion to the approaches of nationalism and total war. Hardening of attitudes appears to some extent to have been temporary, with allies pulling out of the U.S.-led coalition in Iraq by 2005 amidst concerns that U.S. actions may have been unjustified. Moreover, the U.S. government and military came under severe criticism both inside and outside of the country for alleged abuse of prisoners at the Abu Ghraib jail in Iraq and at Guantanamo Bay, Cuba. These events serve to illustrate that Western public perception of the nature of war in the 21st century is still evolving.

This evolution will continue because the nature of media and coverage continues to change. As a result of the development from early 20th century mass media to early 21st century interactive media, the media can no longer be viewed just as a tool in the strategic environment (to put it cynically, a mouthpiece through which to deliver propaganda). The ubiquity of interactive media makes it part of the strategic environment, and it can be seen that those countries which continue to succeed in controlling traditional mass media, such as China, are having greater difficulty in controlling the Internet (and probably will have more difficulty controlling what comes after it). This is the technological and cultural transformation that makes the 21st century an era of true Perception War, even though media, propaganda and ideology were important in past conflicts.

The Conduct of War: Industrial, Mechanized, Nuclear and Information Armies

During these three periods of different motivation for war in the 19th to 21st centuries, there have been at least four periods of technologically-driven change in the conduct of war. Each of these has seen linked tactical and technological changes. The first of these was the mass industrialization of war in the late nineteenth and early twentieth centuries, culminating in the First World War. It was characterized by leveraging improved communications technology—railway, telegraph and radio—to organize and coordinate massive armies, and by using industrial-age factories to mass-produce the weapons and ammunition required by these forces. Practical, somewhat camouflaged uniforms and steel helmets replaced the decorative equipment of the preceding few centuries. Mass long-range artillery, machineguns, and magazine-loading rifles allowed great quantities of fire to be brought to bear on the battlefield. Sandbags, barbed wire, mines, steel-reinforced concrete and other systems allowed intricate defensive networks to be constructed. These systems forced the older tactics of close-order battle in line or column to be abandoned and, by 1918, brought about the development of what have been called “storm trooper” tactics.

The second period saw mass mechanization of warfare, led by the thinking of theorists who had experienced industrial-age warfare and were attempting to avoid the mass attrition battles of the First World War. There were two main sub-groups amongst these theorists. First are the armoured warfare theorists, who combined “storm trooper tactics” developed towards the end of the First World War with the potential for speed and manoeuvrability offered by motorized ground vehicles such as tanks, armoured cars, and heavy trucks.⁶¹ The second group were the air power theorists.⁶² Similarly to the armoured warfare theorists, they believed that a motorized vehicle—the airplane—had the speed, manoeuvrability and firepower to avoid direct attrition confrontation with the enemy and could instead directly attack the enemy’s command, control and communications systems, as well as its civilian population and infrastructure (which, obviously, provides the economic and political backing for the enemy’s forces in the field), thus forcing the enemy to surrender after a relatively short and limited conflict.

These approaches to battle were tested in the Second World War, but ultimately resulted in a return to attrition mainly because all combatants had economies industrially strong enough to field so many vehicles that the motorized formations that were supposed to outmanoeuvre each other wound up fighting massive tank and air battles instead.

The third period was the nuclear firepower revolution. Its starting point was the American atomic bomb attacks on Nagasaki and Hiroshima in 1945. During the 1950's and 1960's, it dominated conventional military-strategic thought. It saw the nuclear weapon as a force multiplier, which could be used to decimate large mechanized formations of the type used in the Second World War, as well as to directly attack an enemy's industrial infrastructure and population in the style of the air power theorists. During the 1960's and 1970's general realization set in that the major powers had equipped themselves with so many nuclear weapons, and that the effects of these weapons were potentially so destructive, that using them would lead to "mutually assured destruction" of the combatants.

The theoretical corner into which the nuclear firepower revolution backed itself generated a partial renaissance of the 1920's-30's approaches, the "manoeuvre warfare" theories of the 1980's. On both sides the belief was that if one could win a land battle in central Europe (and possibly other theatres) with superior conventional force, the other side would choose to negotiate when faced with a *fait accompli* rather than escalate to nuclear warfare. The manoeuvre warfare of the 1980's differed from 1920's-30's armoured warfare in an even greater reliance on speed and accuracy brought about by continuing technological improvements. In the West, the thinkers behind manoeuvre warfare generally had experienced the Second World War firsthand as young soldiers and were frustrated both with what they viewed as the attritionist approaches of many military leaders during that war, and with the return to attrition approaches in the 1960s and 1970s by NATO armies.

The fourth military transformation which took place in the 20th century was that covered in the RMA and Transformation debates; a further extension of the importance of information in warfare combined with the attempt to deal with low intensity conflict. As has been argued elsewhere, information warfare has been part of conflict since the beginning of history.⁶³ However, in its modern form it was pioneered in the Second World War as an extension of manoeuvre warfare used to directly attack enemy command and communications systems and divert enemy troops from the front. It was also used to establish links between regular allied armies and local insurgents. During the 1950s and later, and most successfully in Malaya, it was reapplied to fight insurgencies and guerrilla warfare. Both insurgency and SOF operations circumvented the problems large mechanized formations have in operating in broken terrain such as forests, jungles, or urban areas. They also circumvent the problems large, conventional forces frequently have in interacting with local populations and gaining trust and cooperation. In this way, the information warfare transformation was slowly but successfully developing out of manoeuvre warfare while the nuclear firepower revolution became, for the time being at least, a less likely option.

Transformation of Conflict at the Beginning of the 21st Century

The armoured warfare and airpower theorists of the 1920s-30s, the pioneers of the modern SOF and intelligence-gathering organizations in the 1940s-50s, the advocates of manoeuvre warfare theory as it developed up to the 1980s, RMA and Transformation advocates, and many 20th century insurgency leaders, all shared the same basic goal: to outmanoeuvre the enemy by avoiding his strength and striking him in the rear. In their approaches the enemy rear could be physical (as in tangible control and communications systems), an aspect of timing (as in thinking and faster reaction), or

psychological (as in attacking the morale of enemy troops or civilian populations, or both). Many theories included aspects of all of these concepts—but the strategic purpose was always the same, and always in reaction to the concepts of frontal attack and attrition which dominated a great deal of conventional military thinking from the 19th through to the late 20th century. After 2000 the importance of the common theme of strategic effect was also recognized, as the U.S. and other Western armies began using “effects based operations”, or EBO.

By contrast with other 20th century transformational theories, the nuclear firepower revolution differed in that it proposed attrition on an unprecedented scale. Although nuclear missiles were intended to avoid the strength of enemy defences, they were not designed to strike at weak points and thus bring a fast and clean conclusion to battle—instead, they were simply intended to cause so much destruction that the enemy would be physically destroyed. This was not simply psychological devastation of the enemy home front as some of the original airpower theorists had advocated—it was mass physical annihilation.

In the 20th century, whenever manoeuvre concepts were combined with new technological systems and new information systems, the advocates of the latest “revolution” were generally proven correct in the short term. However, whenever two sides deployed enough of the same types of systems against each other, manoeuvre turned back into attrition. Leaving aside the question of applying revolution or transformation theory to low intensity conflict, this has interesting implications for high intensity conflict. Just as opposing forces of tanks and aircraft came to fight attrition battles in the Second World War, if the West were to fight a “near-peer competitor” in the 21st century, satellites could come to fight anti-satellite weapons while UAVs fight other UAVs. A war between “near-peer” competitors might therefore be less different from past conflicts than might otherwise be expected. This disproves none of the RMA or Transformation concepts as applied to high intensity conflict; rather, it simply illustrates, based both on history and on the likely limitations of information technology, that such concepts may not always have the desired strategic outcomes.

Studying the early 21st century military transformation in the context of the military revolutions of the preceding century illustrates that current forward-looking concepts will encounter analogous problems to those in the past. Thus, there is much to be learned. These are the lessons that need to be considered concerning conduct of war.

However, changes to the public perception of the nature of warfare create new demands on Western military organizations which may be difficult to meet. It may not always be possible for Western armed forces to somehow “liberate,” “nation-build,” and remain “just” as they warfight. It is in this aspect of conflict that history provides us with fewer comparisons. Public perception and information warfare have played partially connected roles in conflict throughout history, but mass media and then interactive media society and information technology emerged fully for the first time in the 20th century. These changes mean that even if the types of goals given to Western militaries turn out to be difficult to achieve, the increased roles of information and perception in war will remain. The rules of warfare will continue to change, but they will not return to what they were in the periods of Rational War or Total War. It is in this sense, then, that a true transformation of war is taking place in the early 21st century.

About the Author ...

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Endnotes

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MANNING PRIORITIES— DOES THE ARMY HAVE THEM RIGHT?

Lieutenant Colonel (ret'd) David Pentney, CD

The Army has taken an “operational pause” over the past 18 months as a period of rebuilding and to give its soldiers a bit of a break after a period of sustained high operational tempo. As the Army is set to emerge from its operational pause, it is an opportune time to examine the Army’s manning priorities to confirm whether they match requirements and set the conditions for it to enter another period of relatively high operational tempo.

The reader will be surprised to learn that the current Peace Establishment (PE) of the Canadian Army (regular force, reserve and civilian) is 52,377¹. This figure represents 80.14% of a current war establishment of 65,355. If the Canadian Army is over 52,000 strong, then why does it have difficulty sustaining less than 10% of that number on operations? This is a fair question for the Canadian taxpayer to ask and one that deserves and answer.

This paper will attempt to answer this question by first examining what the current manning priorities are as reflected in current establishments. The paper will then examine how the Army has evolved into its current structure. Finally, the paper will offer suggestions as to how the Army might better position itself for increasing the percentage of its forces that it can sustain on operations.

To begin, it is necessary to provide a brief description of establishments and how they have been used in the preparation of this article. The establishment of an organization is a comprehensive document that details the organization’s structure, including equipment and personnel. It comes in two forms. The war establishment (WE), as the name implies, describes the wartime organization structure; the PE is a sub-set of the WE. The difference is that certain personnel and equipment are “restricted”. Peace establishments are an economy measure. Manning of restricted positions does not normally occur and restricted equipment is not normally assigned to the unit. The actual manning of the PE adds another wrinkle. The PE is the basis of peacetime manning. In some cases, actual manning may exceed the PE; however, more frequently actual manning is below authorized PE levels.

Table 1 below, provides a summary of Land Force Command (LFC) establishments across six functional areas. The Command and Control (C2) function includes the Land Staff, the Land Force Area (LFA) Headquarters (HQ) and Land Force Doctrine and Training System (LFDTTS) HQ with their respective Primary Reserve Lists, Primary Reserve Operational Training Lists, associated HQ detachments and assigned communication squadrons. The Support Infrastructure function reflects the four Area Support Groups, the regional cadet organizations assigned to LFC and two regular force bands. The Training Infrastructure function comprises the LFA training cadres, the Canadian Land Force Command and Staff College (CLFCSC), the Combat Training Centre (CTC), the Canadian Manoeuvre Training Centre (CMTC), the Canadian Parachute Centre (CPC) and the Peace Support Training Centre (PSTC). The Regular Field Unit function includes the three Canadian Mechanized Brigade Groups (CMBG), 4 Engineer Support Regiment (4 ESR), 4 Air Defence Regiment (4 AD Regt) and 2 Electronic Warfare Squadron (2 EW Sqn). The Reserve Force function includes the 10 reserve Canadian Brigade Groups (CBG) and the reserve Intelligence and Military Police Companies. The Rangers function includes all Rangers.

Table 1 indicates the WEs and PEs by function with the final column indicating the PE as a percentage of the WE. This percentage has been used to categorize the functions as being operational (greater than 90%), effective (greater than 75% but less than 90%), and non-effective (less than 75%).

Statistics from Online Establishment Browser on 17 Oct 2005				
	Legend:	> 90% Operational	75%<90 Effective	< 75% Non-Effective
Formation	Function	War Establishment	Peace Establishment	Peace Establishment as % of War Establishment
LAND FORCE COMMAND		65,355	52,377	87.79
	Command and Control	3,657 (5.6%)	3,515 (6.71%)	96.12
	Support Infrastructure	9,054 (13.85%)	8,856 (16.91%)	97.81
	Training Infrastructure	2,376 (3.64%)	2,330 (4.45%)	98.06
	Regular Field Units	21,872 (33.47%)	11,858 (22.64%)	54.22
	Reserve Units	26,565 (40.65%)	23,994 (45.81%)	90.32
	Rangers	1,831 (2.8%)	1,824 (3.48%)	99.62

Table 1: Function

What stands out most from this table is the orange light on the dashboard showing the Regular Field Unit function to be non-effective. This should give cause for alarm. A unit or formation on operations reduced to 54% of its effective strength would require immediate reconstitution! When one considers that manning in the regular field units is generally less than the authorized PE, and that up to 10% of those that are there are ineffective for medical or other reasons, the situation is surely more severe than reflected here. The Regular Field Unit function provides at least 70% of the Army's personnel resources committed to overseas operations, yet this function only represents 22.64% of the Army's PE. The answer to the question of sustaining operations becomes clear: the actual pool that provides the majority of personnel to conduct and sustain overseas operations is fewer than 12,000.

In order to get a picture of the current state of the Regular Field Unit function, it needs to be examined in more detail. The Task Force construct is the current methodology for building forces for operational deployments. Under this construct, selected sub-units are grouped under a designated unit headquarters to form the Task Force. The requirement is for sub-units that are at or near WE strength. Table 2, below, summarizes the status of the Regular Field Unit function at the sub-unit level. The centre column is WE Equivalent. This column indicates the number of WE sub-units that can be generated with the available PE positions. WE Equivalent presents a more realistic picture of what the Army could actually field, assuming that actual manning levels are at PE levels. We know that they are not, so the picture painted in this chart reflects an optimistic best case. The only sub-units that are in the "operational" category are the light infantry companies and the TOW Under Armour (TUA) squadron. The surveillance

squadrons fall into the “effective” category. The remaining Field Force sub-units are non-effective. The status of the artillery field batteries and the combat engineer field squadrons is particularly alarming when one considers that they are now responsible for providing the indirect fire capability and the pioneer capability that were formerly integral to the infantry battalions.

There are two other areas of major concern because they represent low density, high demand troops that require considerable training time to replace capability. The first is the signal squadron of the CMBG Headquarters and Signals (HQ&Sigs) squadrons that are less than 50%. At least as alarming is the status of combat service support organizations. The integral, first line capabilities of all units is 60% or below and the status of the second line units is only marginally better.

How has the Army adopted a structure that seemingly places its lowest manning priority on the Regular Field Force function? To answer this question it is necessary to review the major changes that the Army has gone through since the late 1980s.



AP2002-5638, a Photo by: Cpl Lou Penney, 3 PPCLI BG Photographer.

Canadian soldiers from the Third Battalion Princess Patricia's Canadian Light Infantry (3 PPCLI) Battle Group march on the close-out parade and Cairn dedication ceremony held in front of the Kandahar Airfield terminal.

In the late 1980s, the Army's C2 function was resident in one Headquarters—Force Mobile Command Headquarters (FMC HQ). Today, there are six Headquarters: the Land Staff, the four Land Force Area Headquarters (LFA HQ) and Land Force Doctrine and Training System Headquarters (LFDTS HQ). The Army's Support Infrastructure function consisted of Canadian Forces Base (CFB) Calgary and its Detachments in Wainwright and Suffield; CFB Shilo; CFB Petawawa, CFB London, CFB Valcartier; and CFB Gagetown. Conveniently, the commanders of 1 CMBG, 5 CMBG, the Special Service Force (SSF) and the Combat Training Centre (CTC) (all brigadier-generals) also exercised command over the bases they occupied, albeit they were assisted by an extra staff to exercise this function. In reality, double-tasking of field force units, particularly service battalions and field ambulances, delivered base support on the major Army bases. CFBs Shilo and London were the exceptions. They both had Base Commanders with no additional responsibilities. FMC HQ exercised direct command over the bases. Today the support infrastructure consists of four Area Support Groups (ASG) organized

Statistics from Online Establishment Browser 17 Oct 2005			Legend:	> 90% Operational	>75%<90 Effective	< 75% Non- Operational
# of Sub-Units						
Unit Type	WE	PE	WE Equivalent	War Establishment	Peace Establishment	Peace Establishments as % of War Establishment
CMBG HQ & SIGS			1.6	1,540	853	55.39
STAFF SQNS)	3	3	1.7	187	106	56.68
SIGS SQNS	3	3	1.5	1,323	656	49.58
FD ARTY			1.3	3,065	1,368	44.63
FD BTYS	12	9	5.6	2,078	975	46.92
SVCS BTYS	3	3	1.1	909	339	37.29
ARMOUR			1.7	2,695	1,524	56.55
REGT HQ SQNS	3	3	1.1	243	84	34.57
ARMD SQNS	4	2	1.4	542	190	35.06
SURV SQNS	6	6	5.3	732	653	89.21
RECCE SQNS	3	1	1	382	121	31.68
TUA SQN	1	1	1	131	131	100.00
HQ SQNS	3	3	1.5	636	324	50.94
CER			1.1	2,769	1,059	38.24
RHQ SQNS	3	3	1.4	156	72	46.15
FD SQNS	8	7	3.7	1,208	553	45.78
ARMD ENGR SQNS	3	2	0.2	418	27	6.46
SP SQNS	3	3	1.1	497	178	35.81
ADM SQNS	3	3	1.3	447	192	42.95
LAV INF			4.1	4,684	3,247	69.32
HQ&CBT SP COYS	6	6	4.5	802	598	74.56
LAV COY	12	12	8.6	2,635	1,887	71.61
ADM COY	6	6	3.5	1,008	583	57.84
LT INF			2.4	1,723	1,380	80.09
HQ&CBT SP COYS	3	3	1.8	296	180	60.81
LT COYS	9	9	8.4	1,017	945	92.92
ADM COYS	3	3	1.8	380	231	60.79
SVC BN			1.9	2,209	1,362	61.66
BN HQ COYS	3	3	1.8	204	121	59.31
S&T COYS	3	3	1.5	1,012	501	49.51
MAINT COYS	3	3	2.5	508	417	82.09
ADM COYS	3	3	2	462	302	65.37
MP PL	3	3	1.6	168	87	51.79

Table 2 – Field Unit Function Sub-unit Summary

on a regional basis and subordinate to their respective LFAs. CFB London has closed; however, the Army has assumed responsibility for five additional bases, or the remnants of bases, that were formerly the responsibility of other commands: Chilliwack, Toronto, Kingston, Longue-Pointe and St. Jean.

In the late 1980s, CTC and the Canadian Airborne Centre (CABC) represented the Army's national Training Infrastructure function. Both reported directly to FMC HQ. (Canadian Land Force Command and Staff College (CLFCSC) was a VCDS unit and not part of FMC.) Another part of the training infrastructure was resident in each of the Canadian based CMBGs. Each had an Operational Training Detachment or Regimental Battle School as a subordinate unit for the conduct of the formation's basic infantry and junior NCO training. Today, CLFCSC, CTC and the Canadian Parachute Centre (CPC—the re-named CABC) have been joined by the Peace Support Training Centre (PSTC) to form the national training infrastructure. The Canadian Manoeuvre Training Centre (CMTC) is another national training entity that is about to undergo its initial operational capability test. Four LFA Training Centres, subordinate to the respective LFAs, have replaced the three former Operational Training Detachments/Regimental Battle Schools.

In the late 1980s, four Militia Areas that reported directly to FMC HQ headed the Reserve Unit function. The Militia Areas had a varying number of subordinate Militia Districts. The reserve units were subordinate to the Militia Districts. Today, there are a few more units (Intelligence and Military Police companies/platoons). The former Militia Districts have been renamed CBGs and the function formerly exercised by the Militia Area Headquarters has been incorporated into the respective LFA HQ.

In the late 1980s, the Regular Field Unit function in the Canadian Army existed as part of FMC with 1 and 5 CMBGs, and the Special Service Force all located in Canada. 1 Canadian Division (1 Can Div) Headquarters exercised command over 4 CMBG in Germany and over 4 ESR and 4 AD Regt. It also had a key role to play in coordinating brigade collective training in Canada through the later RENDEZVOUS series of exercises. While every other function discussed so far has enjoyed some form of growth, or at least remained relatively stable, the Regular Field Unit function has suffered considerable reduction. 4 CMBG, and its subordinate units, simply disappeared with the closure of Canadian Forces Europe. The Canadian Airborne Regiment was disbanded, although much of the manpower was re-distributed to re-man the third battalions of the infantry, thus ending the 10/90 battalion experiment where the third battalions of each of the infantry regiments were manned with a cadre of 10% of the establishment and the reserve force was to provide the remaining 90%. 1 Can Div HQ transitioned into the Joint Headquarters that has since morphed again into the Joint Operations Group.

The unit WEs of the Regular Field Force function have also been significantly reduced. In the late 1980s, manoeuvre and combat support unit WEs reflected four companies/squadrons/batteries per unit. Current WEs have three. The net loss is 18 sub-units from the Army's WE. To make matters worse, the infantry battalions have also lost the pioneer, mortar and anti-armour platoons from their WEs. The responsibility for providing these capabilities has been transferred to the engineers, artillery and armoured regiments respectively. The fact is that the loss of 12 pioneer platoons, 12 mortar platoons and 12 anti-armour platoons did not generate any corresponding increase in the WEs of the other combat arms. The only exception is that three of the 12 anti-armour platoons that have been established in one Armd Regt TUA Sqn. The remaining 33 platoons have simply evaporated from the Army's WE.

How did the Army get to the structure that it has today? One should first try to understand why the C2 function expanded from one headquarters (FMC) to the six that exist today. FMC exercised direct command over three regular brigade groups, four



Canadian soldiers from the 2nd Battalion, The Royal Canadian Regiment (2 RCR), stand at ease during a change-of-command ceremony.

militia areas, six bases and their associated detachments, CTC and CABC. FMC HQ was also responsible for the conduct of regional operations in Quebec area, Army doctrine development and Army training standards. The span of control was considered to be simply too broad and too multi-functional to be exercised from one HQ. The creation of the LFA structure was an attempt to create a more reasonable command and control structure. In the process of standing up the LFAs, the Army actively sought, and subsequently assumed, the responsibility for regional operations across the nation. This

included domestic operations, Rangers and Cadets. The Army also sought and successfully gained command over CLFCSC. Responsibility for Army regular and reserve forces, Rangers, bases and their detachments, regional operations and training establishments, (with the exception of CLFCSC), was assigned to the respective LFA. Doctrine development and training standards were functions that remained at FMC HQ, now operating under the name Land Force Command HQ (LFC HQ).

The work of the Management, Command, Control and Re-Engineering Team (MCCRT), in the mid-1990s, eventually spawned LFDTS HQ. The MCCRT's mandate was to rationalize and reduce the overall HQ structure of the CF. As LFC closed and moved to Ottawa to become the Land Staff, the doctrine and training functions migrated to Kingston.

The Army created LFDTS HQ to lead these two disciplines.² LFDTS eventually assumed control of all national Army training establishments. LFDTS also assumed the collective training responsibility that formerly belonged to 1 Cdn Div HQ. In the process, the creation of the Army Simulation Centre provided one means of executing the collective training responsibility. This function has since grown into the Directorate of Land Synthetic Environments, with a much broader mandate. PSTC opened, adding another national school. CMTC is currently being stood up and will be another important tool in the collective training box.

In the transition to the Area structure, the Army consciously decided that it wanted positive control over its support infrastructure and LFC assumed responsibility for bases that formerly belonged to other commands. In a later effort to de-couple the field force from the infrastructure, the ASGs were formed with subordinate Area Support Units (ASU) and General Support (GS) and Close Support (CS) units and sub-units. Although the transfer of bases from other commands included the transfer of the base personnel, the creation of the GS and CS organizations was generally at the expense of the field force service battalions.

So, what has happened over the past 15 years? All of the functions except the Regular Field Unit function have increased. Command and Control, the Support Infrastructure and Training Infrastructure functions have all seen significant expansion. The Reserve Unit and the Ranger functions have seen much more modest growth. On the other hand, there was a significant, if not drastic, reduction in the Regular Field Unit function. Clearly, the past 15 years has been a period of considerable change. Any significant change requires a certain level of investment of resources to be successful. In personnel terms, that investment has not been forthcoming with an increase to the Army's overall strength. Indeed, it has declined. In personnel terms at least, borrowing from the Regular Field Unit function paid for the extensive growth to the C2, Support Infrastructure and Training Infrastructure that we have witnessed over the past 15 years.

An unprecedented peacetime operational tempo accompanied the steady decline of the Regular Field Unit function over the past 15 years. Simply stated, too few did too much for too long. This led to burnout, particularly amongst low-density, high-demand trades. The combat arms have suffered too, particularly junior and senior NCOs. An increased attrition rate has been the result, with an incredible amount of experience leaving the Army earlier than expected. This trend exacerbates the personnel problem with recruiting barely able to match attrition rates, never mind generating an increase in personnel strength.

The relatively low level of manning in the Regular Field Unit function also makes collective training a challenge at any level. For example, in order to form a company for a collective training event, manpower from at least one other company is required. When a composite company of this sort is broken up after the training activity, the

collective benefit of the training is lost. The Army's Managed Readiness Programme is based on the number of sub-units in the PE. As the chart at Table 2 above illustrates, the real number of sub-units available is below what is indicated by the PE. Managed readiness becomes unsustainable when units or sub-units enter the training cycle below strength. In order to make up the deficiency, personnel move from another part of the cycle and they do not benefit from the supposed reduced readiness cycle; hence, the risk of burnout and its attendant increased attrition rates rises.

As mentioned early in this paper, there are two types of establishment: a WE and a PE. The WEs should be the product of a comprehensive doctrine development process based on historical evidence, modified as necessary to reflect current or recent operational experience and the introduction of new equipment. The Army's WEs have undergone significant modification lately. In fact, they have seen significant reduction. The reductions would be acceptable if comprehensive analysis of operational experience drove the redesign process. There is no evidence that this analysis has occurred. Traditionally, Canada used the "rule of four" for the design of Canadian brigade groups and manoeuvre unit WEs. This recognized that offensive and defensive operations require two manoeuvre elements for the main operation, one for depth and a fourth as reserve. Current WEs reflect a "rule of three". The genesis of this drastic reduction to the WEs was not the result of a fundamental review of operations. It was caused by a perceived need to move the positions elsewhere outside of the Regular Field Unit function. The inability to provide the required capital equipment to match the former WEs might be another factor.

The PE is an economy measure. Theoretically, mobilization is required to generate both the personnel and equipment to remove the delta between the PEs and WEs. The underlying assumption of the PE is that wartime structures are not required in peacetime. This assumption is, and always has been suspect. If this were the case, the Army would not have to force-generate units for operations. The PE would be sufficient. This is not the case.

To illustrate the deficiency of PEs, as they are currently applied, compare an infantry rifle section with a soccer team. The WE calls for a 10-man section, each member having specific training and equipment to perform as part of the section. A soccer team has 11 players, each member having a specific set of skills to contribute to the team effort. The PE for the same section is seven; hence, the rifle section team is missing three key players. Could a soccer team with only eight players train properly? Would anyone expect them to be able to compete and win? No? Then why does the Army expect that a rifle section, or any other military organization for that matter, that has had its structure deliberately and artificially constrained, can function properly? A better solution would be to field fewer, full-strength rifle sections.

Management is about doing things right; leadership is about doing the right things.³

The Army's mission, as stated in the first draft of the 2006 Strategic Operations and Resource Direction is "LFC will generate and maintain combat capable, multipurpose land forces to meet Canada's defence objectives."⁴ This mission statement is doctrinally unsound. A mission statement is a clear, concise statement of a *task* and its purpose. The Army's mission statement contains two tasks using two verbs: generate and maintain. The Chief of the Land Staff (CLS) needs to revisit his mission analysis again in order to provide the Army with a more focused mission statement. If the mission is to "maintain," then the current structure is clearly not suitable. The Army's current structure is more suitable for the "generate" task; however, even then, it is much less than ideal. Where do the Army's real manning priorities lie?

A good indicator is the distribution of its general officers. In the late 1980s, there were a total of 13 general officers in the Army. Of these, there were four in the C2 function, two in the Training Infrastructure function, four in the Reserve Unit function and four in the Regular Field Unit function. There were four general officers in FMC HQ—a lieutenant-general (Commander), a major-general (Deputy Commander) and two brigadier-generals (one Assistant Chief of Staff Operations and the other Assistant Chief of Staff Administration). The Commandants of CLFCSC and CTC, the Commanders of the four Militia Areas and the Commanders of the four CMBGs were all brigadier-generals. Three of these latter four also had responsibilities in the Support Infrastructure function. Today, the Army has 15 general officers, all in the C2 function. The distribution is: one lieutenant-general (CLS); two major-generals (Assistant CLS and Commander LFDTS); and eleven brigadier-generals (the four Area Commanders, four Area Deputy Commanders, DGLS, DGLR and DGLCD).⁵

In the late 1980s, those directly responsible to “generate and maintain combat capable land forces” (four Bde Comds, and Cmdt CTC), formed a formidable block at Army Council. Although, today, this level of command still has the same responsibility as its predecessor, the incumbents of these key Army command positions are now Colonels and do not sit on Army Council. The Commanders of the LFAs and LFDTS are responsible for representing their interests. Given their broad range of responsibilities, they are not positioned to do so in the same way, or with the same vigour that a commander in the Regular Field Force function would.



IS2005-0384 Photo by MCPJ Robert Bouhll, Canadian Forces Combat Camera

Canadian Forces soldiers stand on parade while participating in the Remembrance Day ceremony held at the Kandahar Airfield in Afghanistan.

The Army appears to have structured itself well for *managing things right*. However, is it managing the *right things*? Whether the Army’s mission is to “generate” or “maintain” combat capable land forces, the first manning priority should be the Regular Field Unit function. In business terms, this is the function, augmented by the Reserve Unit function, which represents the Army’s “product”. How successful would Tim Horton’s be if most of its stores had less than 60% of the personnel required to operate them? It would clearly fail, no matter how efficient the corporate and regional headquarters were!

Having identified the problem and its causes, what are some potential solutions? An essential first step is to acknowledge that the problem exists. If the Army decides that

its first manning priority is the Regular Field Unit function, then it must take some concrete action to demonstrate that priority. One of the most effective actions to demonstrate the Army's resolve would be to take some of its leadership out of the C2 function and put it back into the Regular Field Unit function. The CMBG commanders should revert to being brigadier-general command positions. Downgrading the three Land Staff Director-General positions to Directors and making these Colonel positions could accomplish this. This action would clearly signal a significant shift in priority. It would also have the effect of restoring this function's profile and voice at Army Council. The other functions would have much more difficulty growing at the expense of the Regular Field Unit function if the latter was adequately represented at the decision making table!

Having established a clear manning priority in favour of the Regular Field Unit function, the next step is to stop the bleeding. In other words, stop taking positions out of this function in order to employ them elsewhere. This act would be a particular challenge in the present period of CF Transformation. Canada Command, Canadian Expeditionary Force Command, Support Command, Canadian Special Operations Forces Command (CANSOFCOM) and the Joint Task Force (JTF) HQ are all new entities that will be standing up in the immediate future. They will all be looking for personnel. If the recent past is any guide, the easy target will once again be the Regular Field Unit function. As each of these new HQ draws personnel from existing HQ, the natural tendency will be to fill the now vacant positions by reaching down. To allow such actions to occur now will only further erode the manning of the Regular Field Unit function. The irony is that the majority of these new HQ are "force employers", but their creation will almost surely have the effect of reducing the forces available for employment. The exception is CANSOFCOM. It will have JTF 2 and the recently announced Joint Action Task Force (JATF) as subordinate elements. With JTF 2 expansion a priority, and JATF in the process of standing up, one should expect the relative robustness currently enjoyed by the light infantry battalions to be short-lived.

The easy answer to address the manning deficiency is to increase the PE and associated manning of the Regular Field Unit function. The Federal Government's 2005 Budget indicated its intent, over a five-year period, to expand the CF by 5,000 and the reserves by 3,000 personnel⁶. Even if all 5,000 went into the Regular Field Unit function, and the PE increased by an equivalent amount, the Regular Field Unit function would still only reach an "effective" status of 77.08%. An increase of 8,000 is required to achieve an "operational" status of greater than 90%. If recruiting cannot generate the 8,000 then the Army needs to review the establishments of the other functions with a view to generating the necessary personnel.

Establishments need a detailed review, in any case. Conventional wisdom has been that three CMBGs, with their associated units, are required to provide the necessary depth to sustain operations. Augmentation of the establishment for operations is supposed to fill the gap. What has evolved is a shell game. The Army remains under the illusion that it has three CMBGs. In fact, the current PE of the Regular Field Unit function totals less than two WE CMBGs. It is time to dispel the illusion.

There are two options to do so. One option is to consolidate what is available into fewer formations and units. Doing so would enhance the operational effectiveness of the revised structure, provide a viable structure for unit and formation collective training, and reduce the requirement for the overhead of unit HQ and first and second level CSS elements. Another option would be to retain the same number of formations and units that exist now, but consolidate at the sub-unit level. Rather than having three under-

strength rifle companies in a battalion, for example, have two full-strength ones with the third being manned with a very small cadre. There will be fewer, but much more capable sub-units available for operations that also have the capacity for collective training without augmentation. When required for operations or training, additional sub-units can be generated by another unit in the Regular Field Unit function, or from the Reserve Unit function.

In order to implement either option the Army should change the way it uses the PE. The current construct distributes restricted positions throughout the organization, thus rendering all parts of the unit ineffective. A better approach would be to restrict entire sub-units while manning fewer of them to full strength. WEs also require review. If they are found to be unaffordable, in terms of either personnel or equipment, then hard decisions need to be made to reduce the size of the specific establishments by reducing capabilities or eliminating them altogether. A review of all of the Army's establishments should be undertaken, not just those of the Regular Field Unit function. Those functions that have enjoyed significant growth over the past 15 years need careful scrutiny. There is no doubt that the personnel operating within the C2, Support Infrastructure and Training Infrastructure are all incredibly busy; but are they doing the *right* things? That is a question for the Army's leadership to answer. What is clear is that the Regular Field Unit function is non-effective. Addressing this critical deficiency will demand establishing clear priorities over activities and functions and reviewing methods in order to find economies elsewhere.

Canadian Forces Transformation presents another period of profound change. Change requires investment. Over the past 15 years, the Army borrowed from the Regular Field Unit function personnel bank to pay for the growth of other functions. Those loans remain outstanding; in fact, they are past due. As the CF embarks on another period of change, it will inevitably come back to the same bank. While the CF may own the "bank", its personnel capital is limited. Reinvestment is sorely needed, and it is needed now.

Why does the Army have difficulty sustaining 10% of its numbers on operations? Over the past 15 years, the Army's Regular Field Unit function has been reduced with the disbandment of 4 CMBG and the Canadian Airborne Regiment. During the same period 18 manoeuvre and combat support sub-units and 33 infantry combat support platoons have been removed from the WEs of the remaining Regular Field Unit function. The actual manning of the remainder of this function has declined to the point that it is now ineffective. It must be reconstituted. During the same period, the Army's C2 function has increased from one HQ to six, and the Support and Training Infrastructure have also seen significant growth. Notwithstanding protestations to the contrary, the Army's real priorities have shifted away from the Regular Field Unit function into other functions. The evidence of this is the growth in these functions at the expense of the former. The fact that the Army has chosen to employ its senior leadership outside of the Regular Field Unit function provides further evidence. The Army is fortunate in that it has some very bright and very competent general officers. Given a task, they will commit all of their energy and intellectual capital to leading their respective organization to accomplishing it. Are they doing the *right* tasks? Only the CLS can answer that question, and he can do so only after doing a comprehensive mission analysis. The process should clearly identify assigned tasks, implied tasks, constraints, restraints and a revised mission statement. It should also identify clear priorities for manning of the various functions and the activities that they should be conducting.

The purpose of this article has been to highlight the fact that the establishments of the Army's Regular Field Unit function has declined to the point of being ineffective. The article has also reviewed the extent of that decline and described the concurrent, substantial growth that has occurred in other functions. Finally, it has offered some considerations for addressing what might be consider being one of the Army's biggest contemporary issues. It is hoped that this article might prove a catalyst for those who have the responsibility for addressing the issue.

About the Author ...

Lieutenant-Colonel (ret'd) David Pentney, graduated from RMC in 1976 with a BSc (Applied). He is a former infantry officer with service in the PPCLI and Cdn Ab Regt. He is a former CO of 2 Ab Cdo, and 1 PPCLI. He was a member and Dean of the Directing Staff at CLFCSC. He retired in 2003 and is currently employed as an Exercise Controller with DLSE.

Endnotes

1. Establishments are dynamic. Doctrinal change, re-organization, introduction/withdrawal or redistribution of equipment will cause establishments to be created, revised or deleted. Establishment changes occur on a regular basis. Current war and peace establishments are available on the DND Online Establishment Browser (OLEB). The data available in the OLEB changes regularly to accommodate establishment changes. The data available on the OLEB as of 17 October 2005 was used in the preparation of this article. This article uses total personnel numbers with no distinction having been made between regular force, reserve, NCMs, NCOs, officers or civilians.
2. The doctrine function has since migrated back to the Land Staff as a staff function under the direction of the Director General, Land Combat Development.
3. www.famous-quotes-and-quotations.com/leadership-quotes.html
4. armyonline.kingston.mil.ca/CLS/143000440000694/SORD_2006_DRAFT_1.PDF
5. Note that a MGen (LFRR PM) has been omitted from this total and that Comd LFTDS is currently under-ranked.
6. <http://www.fin.gc.ca/budget05/pamph/parespe.htm>



THE ROLE OF THE INFANTRY IN THE WAR OF THE SNAKES

Lieutenant-Colonel Wayne D. Eyre, CD

The Chief of Defence Staff (CDS) has recently used the analogy of “the bear” and “snakes” to describe our shifting security focus.¹ No longer will the Canadian Forces (CF) be fixed on preparing for conventional, nation-state versus nation-state conflict. Now, and for the foreseeable future, the fight against the bear will be the exception. Instead, we will shift focus to dealing with failed and failing states and their inherent complexities. The fight against the “ball of snakes” will be the norm.

This realignment of the CF will cause a great deal of soul searching amongst our various services and corps as they redefine or at least refine traditional roles and responsibilities (and even continued relevance) in the face of this new focus. The infantry is no different. How have things changed? And what are the specific implications of these changes for the infantry corps?

The purpose of this article is to propose a refined “role of the infantry” and associated core competencies. Before the infantry corps, and indeed the army, can delve into detailed discussions of issues such as force structure, light force enhancement, and light armoured vehicle (LAV) crewing, it is essential that we understand the theoretical underpinnings of why the infantry exists in the modern context and what it provides to the nation’s military capability.

The shift in security focus has reinforced the infantry’s central position within the combined arms team, whose purpose is to create a dilemma for the enemy. Combined arms produce complementary effects through various synchronized capabilities. The infantry has a unique place in this team because it can produce two essential effects simultaneously. While retaining the capacity for immediate application of its full combat capability (precision lethal force), the infantry also has the inherent ability to engage in face-to-face interaction with the civilian populace. Human interaction with local populations is the vital enabler of a host of capabilities. Human interaction—interpersonal contact—has ironically become more important to success in modern conflict despite the rise of technological wonders that ostensibly reduce its requirement. The ability to be both a source of lethal force and an agent for human contact with civilians has granted the infantry soldier a key role in the “War of the Snakes.”

The Operational Environment

While the conduct of war continues to change, its nature and character will not. The field of human conflict remains ineluctably human, not technical; inherently complex, not orderly; and inescapably defined by the land and the populations and resources found there.²

The contemporary operational environment (COE) has been the subject of much study and there is general consensus regarding its myriad challenges, which are clear:³

- ◆ Future operations will be conducted in failed and failing states.
- ◆ Populations are migrating to urban centres, including in these states.
- ◆ Future enemies will be embedded within the general population to avoid Western

conventional force overmatch, leading to a “population-based threat.” Sharing the environment will be a host of other actors, from non-government organizations (NGOs) and commercial companies, to criminal gangs and tribal groupings.

◆ The phenomenon of globalization has enhanced the effectiveness of loose human networks and rapid information flow, allowing non-conventional actors to interact globally in a continually changing, amorphous manner.

◆ Globalization has further compressed the strategic, operational, and tactical levels of conflict to the extent that seemingly minor events at lower levels can now have major implications at the highest.



AR2006-A020-0016d Photo by: Corporal Robin Muiridge Task Force Afghanistan Role 1 Imagery Technician

Pte Darrel Barker, Cpl Paul Ractnski, Pte Jeff Leitch and Pte Joe Rustenburg all part of 2 Section C-Company, 1 Princess Patricia's Canadian Light Infantry (1PPCLI) Edmonton. Stand guard outside of a cave, which was being searched for weapons, while on patrol outside a Forward Operating Base near Sangin, Afghanistan.

◆ Finally, conflict across the full spectrum has taken on the added complexities of sophisticated and highly adaptable insurgencies.

The tactical manifestation of these challenges has been articulated by the CDS through the adopted term “Three-Block War,” wherein the full spectrum of military operations is compressed in both time and space. Furthermore, emerging thought on “Fourth Generation Warfare” is gaining currency as it provides great insight into contemporary conflict and the challenges listed above.⁴

While the character of conflict has evolved, its fundamental nature has not. Warfare remains a chaotic human endeavour, fraught with Clausewitzian fog, friction, and chance. Human psychology remains as important as ever. There are no technological “silver bullets,” as wars will continue to be won with superior strategy, operational art, and tactical finesse.

Dynamics of a Population in Conflict

While opinions are arguable, convictions need shooting to be cured.

-T.E. Lawrence

Because popular will is the strategic centre of gravity for all players, understanding population dynamics is the key to unravelling any given “ball of snakes.” Both contemporary and historical experience has shown that a population in conflict has three general groupings, which can be categorized by their position vis-à-vis that of the external actor (considered here to be us as we project ourselves into failed and failing states). Each group will vary in size and degree of support or opposition.

The first group is comprised of those who are fundamentally opposed to our agenda or even our way of life. The second group is neutral, undecided, or apathetic to the outcome of the conflict and can be swayed either way. Finally, the third group is friendly to our agenda. These groups can be viewed on a spectrum, where the degree of support is not absolute and can in fact shift with emerging circumstances.

The War We Want to The War We Have

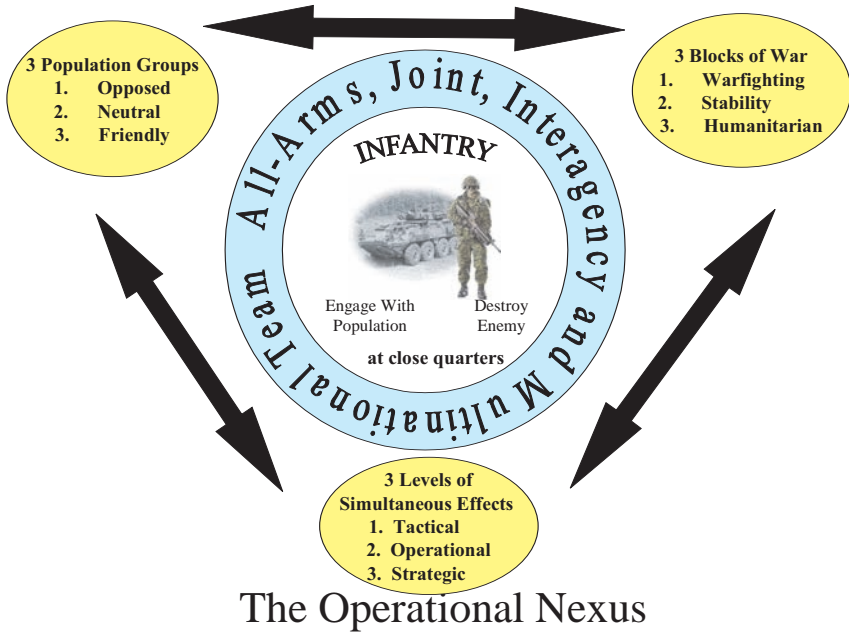


- | | |
|---------------------------------------|--|
| • Military forces in uniform | • Enemy hides within general population |
| • Clear battle lines | • No clear battle lines |
| • Seeks to destroy enemy from without | • Seeks to subvert a nation from within |
| • Technology conveys advantage | • Technology neutralized by combat environment |
| • Conventional weapons | • Conventional and unconventional weapons |
| • Targets armed forces | • Targets everyone; Terror |
| • Strategy from the top | • “Strategic Cpl” |
| • National intelligence has priority | • Local intelligence has priority |

An historical example stems from the American Revolution from the perspective of the British. The first group was the small faction of hardcore American revolutionaries. The second group was the vast majority of the colonial population, apathetic yet vulnerable to the actions and propaganda of either side. Interestingly, this group also included much of George Washington’s Continental Army. The third group were the Loyalists, who supported the Crown to the end.⁵

A contemporary example, very relevant to the CF, is found in the current situation in Afghanistan. The first group comprises Al-Qaida, hardcore Taliban, and criminal elements. The second group is the vast majority of the Afghan population who desire security and stability, regardless of who provides it. The third group is the central government and its supporters.

An understanding of popular will and the engendering of shared-interests with the target population is imperative. Thus the creation of specified and desired effects on each group is essential for our success. For Group One—the enemy—they must be killed, captured, or rendered otherwise irrelevant. For Group Two—the apathetic and undecided—they must be convinced to join Group Three, or as a minimum our actions must not alienate them and push them towards Group One. For Group Three—the friendlies—their support must be maintained and their legitimacy enshrined.



This model, which is intentionally simplistic, does not represent the relationships of the multitude of other competing actors whose agendas are in conflict. These relationships are also important, and must be accounted for as we create effects on each group.

Operational Fundamentals

To achieve success, we must be prepared to fight across the spectrum of political, economic, social, and military spheres.

–Colonel T.X. Hammes, *The Sling and the Stone*

Now that the population is categorized, it is important to establish a set of operational fundamentals for an all-arms team to ensure not only our success, but also the long-term success and growth of Group Three. Only by creating a viable Group Three will we be victorious in the “War of the Snakes.” These operational fundamentals are predicated on the creation of a viable political strategy and the maintenance of political will at the highest levels.

The first fundamental is that effects we create on one group must be synchronized with the cascading effects on the other two groups. The starkest example of this is that excessive firepower directed at Group One may very well alienate Groups Two and Three, especially if significant collateral damage occurs. “Kinetics attract attention...[they are] media-centric events.”⁶ This drives the requirement for precision

and minimum force. It also drives the requirement for proportionality. Excessive force against a weak opponent may result in widespread support for the underdog—the “Goliath versus David” complex if you will. The perception of a fair fight prosecuted by honourable and extremely capable warriors will greatly enhance our credibility with Groups Two and Three.⁷



IS2005-0476 Photo By MCH Robert Botill, Canadian Forces Combat Camera

Corporal Jeff Bailey, from 1 Combat Engineer Regiment (1 CER), provides security cover as Master Corporal Niall Anthony, from the 3rd Battalion Princess Patricia's Canadian Light Infantry (3 PPCLI), poses questions from a questionnaire to various shopkeepers in Kandahar, Afghanistan.

Hard-hitting force does have its place. For a population that is primarily Group One, the application of brute strength will serve to convince the population that it has been beaten. Towards the end of the Second World War, this attrition-focused strategy was necessary against Germany's population, requiring massive destruction in order to convince them psychologically that they had been defeated and that submission was the only viable course of action.

The second fundamental is that local problems require local solutions. “When the state vanishes, everything becomes local.”⁸ Given the compression of the tactical and strategic levels, these solutions must be carefully synchronized. With population-based operations, however, the old adage that “all politics are local” is nowhere more true. The creation of shared interests is most easily accomplished at the local level, where tangible results have the greatest effect, and positive outcomes will cascade upwards. The process is bottom up, however all activities must be carried out in the context of the higher strategic intent. Emerging United States Marine Corps (USMC) doctrine clearly identifies this fundamental:

Small wars require us to decompose the problem into smaller pieces, below the state level, in order to get the fidelity necessary to successfully understand and cope with new non-state threats. Thus, while maintaining a focus on nation-state characteristics, **we will have to focus with greater resolution on such factors as cultural, ethnic, religious, societal, and economic microclimates that comprise the nation, region, or organization.**⁹

The Philippine Insurrection at the turn of the last century serves as an historical case in point. The American forces on the different islands and in dispersed locations required very different solutions for a successful counter-insurgency, but all were enacted in the context of higher intent.¹⁰

This fundamental has some clear implications. As all operations will require precise effects, local intelligence becomes the critical enabler for friendly force action. “Intelligence-cued” operations will be the norm to achieve precision. The enemy, however, will quickly adapt to our technical intelligence methods and slip below the “detection” or intelligence, surveillance, target acquisition, and reconnaissance (ISTAR) threshold to remain hidden.¹¹ Human intelligence (HUMINT) gains tremendous importance and this cannot be acquired at a distance. Thus interaction with the population (or “population engagement”) becomes vital to tactical and operational success.



IS2005-0539 Photo By MCpl Robert Bortill, Canadian Forces Combat Camera

Private William Salikin, from the 3rd Battalion Princess Patricia's Canadian Light Infantry (3 PPCLI), provides security with his section as they stop at various locations in Kandahar, Afghanistan.

Somewhat related to the second fundamental but sufficiently distinct is the third: A compartmentalized battlespace invariably necessitates dispersed tactics, decentralized command and control, and combined arms groupings at the lowest levels. Much more reliance is placed upon semi-autonomous small units—sections and platoons—with attached combat support capabilities, to achieve local success. Communication technology cannot supplant the need for on the ground decision-making at the lowest levels in a climate of mission command.

The downward proliferation of capabilities must apply to relationships as well. Local cooperation, and indeed synchronization, with joint, multinational, and interagency partners is essential to deal with localized problems. Human networking has never been so important.

The fourth fundamental is that balance must be maintained. Close combat must be balanced with standoff capabilities. Force protection must be balanced with population engagement. Integral firepower must be balanced with the force footprint.



LC2005-060-341 Photo by Cpl Phil Cheung, 32 Canadian Brigade Group Public Affairs

Members of the 48th Highlanders of Canada practice house clearing in an abandoned building, at the Toronto harbour during Exercise Crimson Tide.

It is always desirable to kill the enemy at a standoff distance, greatly reducing the risk to friendly troops. Given that the enemy will adapt to get below the ISTAR threshold, the application of sensor led standoff capabilities often becomes problematic. We must be prepared to “fight below the ISTAR threshold”¹²—to be robust enough to overcome the shock of surprise contact and engage in successful close combat. Moreover, given the precision required to discriminate the enemy from non-combatants, population engagement, followed by close combat, will be necessary more often than not.

Forces engaged in war cannot develop a “siege mentality” where force protection overrides all other concerns. Soldiers (or national contingents) who cower in their well-established camps, physically and psychologically disconnected from the local population, might as well pack up and go home. They have no use, and are in fact counter-productive. While greater direct engagement with the population increases the force protection threat by providing more seemingly exposed targets, paradoxically, it also reduces the threat by increasing rapport with the general population who in turn provide indication and warning of enemy activity. Friendly forces that directly interact with the local population must be robust enough to possess their own force protection. Throughout history, aggressive patrolling to dominate “no man’s land” has maintained the initiative and winning spirit. Closer to home, the law enforcement concept of “community policing” has paid great dividends by connecting with the local population and is an experience from which we can learn a great deal.

An overwhelming presence can turn a population against an outside force, especially if there is no positive psychological connection. Driving down narrow crowded streets in an armoured vehicle bristling with weapons pointed at the population does little to establish rapport or maintain security. Conversely, we cannot project an image of weakness. Ready access to reachback fires is a must. Only appropriately trained, equipped and postured “boots on the ground” can show the population a human face while at the same time maintaining an effective degree of force protection and ability to rapidly transition across the spectrum of operations as circumstances warrant.

Every arm has a part to play in executing these fundamentals. No single arm can alone apply these fundamentals and achieve success. The all-arms team, expanded to include joint, interagency, and multinational players, is more important than ever. The infantry soldier on the ground, however, remains our most versatile and therefore potent asset in the *War of the Snakes*.

The Role of the Infantry

The unique quality that the infantry possesses is its inherent ability to conduct human interface at close range while simultaneously maintaining the essential capability to act across the full spectrum of operations. Infantry soldiers can penetrate the psychological barrier of technology to have direct, face-to-face impact on a population. A single infantry soldier provides a balanced, versatile and adaptive “thinking package” of sensor, weapon systems platform, and operator able to personally interact with all three population groups.



LC2006-007-182 Photo by Cpl Phil Oneung, 32 Canadian Brigade Group

Soldiers from 32 Canadian Brigade Group practise assaulting a building at Ortona Range in Meaford, Ontario.

Given the operational fundamentals above, it is clear that success requires a range of disparate capabilities and attributes. All-arms teams must continue to be formed, but the requirement for human interface with the population at the lowest levels make it clear that the infantry will remain the fundamental element in the achievement of the desired effects on the three population groups. Specialists, such as civilian military cooperation (CIMIC) and HUMINT operators, can fulfil the sensor and population interaction functions to a certain extent, but their small numbers provide nowhere near the mass necessary. Furthermore, specialists currently lack the ability to provide integral force protection and equally important capacity to prosecute full-spectrum operations. Special operations forces (SOF) possess the necessary attributes to be very successful, but likewise lack the mass necessary for larger or sustained operations. Properly trained infantry provides all of these capabilities and attributes (and more) in a single package.

With the increased emphasis on human interface, the role of the infantry must adapt accordingly. In order to evolve in the context of the desired effects on the population the role of the infantry must assume two aspects. For Groups Two and Three the role is **to close with and engage the population** (Aspect One). For Group One, the infantry's traditional role remains valid—**to close with and destroy the enemy** (Aspect Two). Although distinct, these two aspects are mutually supporting, so infantry soldiers must have the agility and discipline to rapidly transition between the two. The “close with” facet in both aspects reflects the requirement for reduced physical and psychological distance that could be restated as “at close quarters.”¹³ To combine these aspects in a single statement, the role of the infantry should become: **To engage with the population and destroy the enemy at close quarters.**

Aspect One is not a new role: it has been the norm for the Canadian infantry, albeit without definition, for at least the past 15 years, arguably longer. Population engagement consists of dismounted activity to establish face-to-face contact and a psychological presence or connection with the population. The Aspect One role leads to developing and harvesting relationships with locals. This rapport leads to the gathering of HUMINT, and at the same time greatly facilitates grassroots active and passive information operations. Finally, Aspect One provides reassurance and security to Groups Two and Three through close physical and psychological presence, and if necessary can serve to de-escalate tense situations.¹⁴

Aspect One is conducted while possessing the integral combat capability to rapidly and seamlessly adopt Aspect Two as circumstances dictate—the sensor is also the shooter. Intelligence gleaned from Aspect One activities leads to Aspect Two operations—perhaps immediately. Aspect One is also conducted while possessing the integral force protection to absorb the shock of surprise “contact” and react with a rapid transition to Aspect Two.

The ability to fill these two aspects of its role allows the infantry to succeed in all parts of the three-block war, and indeed, in an incredible multitude of lesser demanding tasks internationally and at home.

Infantry Core Competencies

To be effective in the two aspects of the suggested refined role, infantry requirements can be boiled down to eight core competencies. These competencies must be developed ahead of all other capabilities as they confer upon the infantry its unique range of capabilities in the all-arms team.

◆ First, every infantry soldier must possess the psychological readiness to kill. Aspect Two, at its heart, is about killing. The infantry soldier must not hesitate when faced with a situation that requires the application of deadly force and must be prepared to effectively address the consequences. Furthermore, this psychological preparation also confers upon the soldier the confidence necessary to conduct Aspect One.

◆ Infantry soldiers must be masters of small arms and other personal weaponry, including basic explosives. Like a fine craftsman, the infantry soldier must master the tools of the trade to a level of unconscious competence.

◆ Excellent physical fitness is a requirement for all infantrymen. Human interaction ultimately requires dismounted manoeuvre with weapons and equipment in all types of terrain and climate for extended periods of time by day and night. A high standard of physical fitness breeds infectious optimism and offensive eagerness—physically fit indi-

viduals are more prone to take offensive action, and not to back down from a potentially dangerous situation. Furthermore, a high level of physical fitness mitigates the effects of combat stress and other injuries.

◆ Close quarter combat skills are vital for closing with and destroying the enemy. The infantry soldier must master the tactics, techniques, and procedures required for combat at close range. These skills encompass non-lethal techniques and unarmed combat for Aspect Two, and force protection measures for Aspect One tasks.

◆ The requirement for an infantry soldier to possess excellent field craft skills is not reduced. The ability to move and survive—to master the intricacies of the physical environment—is crucial. “Street smarts” and a hunter’s instincts are both essential.

◆ Communications and interpersonal skills have never been so important. The infantry soldier must not only have the technical and tactical ability to communicate with other military forces, he must also be able to communicate with the local population. Here, interpersonal (or “human”) skills that lead to the development of rapport come to the forefront, whether collecting information on a patrol or advising counterparts within an indigenous force.

◆ The requirement for all infantry soldiers to possess situational understanding is more essential now than at any point in history. The intricacies of population engagement demand that all infantry soldiers strive to develop a full grasp of the situation. Furthermore, the globalization of information has produced the “strategic corporal” phenomenon, demanding that every soldier possess an anticipatory appreciation for the possible effects of his actions.

◆ The final core competency is leadership. This requirement has been eternal, but has now proliferated to the lowest levels. Every infantry soldier must be prepared to be a thinking, decisive leader. With dispersed operations in a compartmentalized battlespace, soldiers will more often find themselves isolated from their chain of command. They must be prepared to step up to fill voids, or show leadership with population Groups Two and Three.

These eight competencies must be inherent within our infantry. Although not necessarily integral to the infantry, supporting capabilities such as delivery methods for insertion/extraction and protected mobility, direct fires greater than small arms, and indirect fires must be available. Ownership of these capabilities is not important—availability is.

Conclusion

Human interaction is at the heart of the *War of the Snakes*. The infantry is unique amongst military capabilities in its ability to conduct effective human interaction on a large-scale. The existing role of the infantry must be updated to acknowledge the critical value of such interaction. The role of the infantry should become: **To engage with the population and destroy the enemy at close quarters**. With a common understanding and acceptance of this role and its two aspects, the infantry corps and the Army have a context in which to address the issues of the day.

Wavell had it right for his time when he stated that an infantryman should possess the qualities of a successful poacher, catburgler and gunman. Now, that infantryman must also have certain attributes of a HUMINT collector, intelligence analyst, psyops operator, CIMIC operator, and most importantly a “beat cop.”

About the Author ...

LCol Eyre is currently the CO of 3 PPCLI. His overseas command experience consists of rifle platoon command in Cyprus, reconnaissance platoon command in Croatia, including the Medak Pocket, and rifle company command in Bosnia. He has served as a staff officer in LFWA HQ and on the VCDS staff in strategic planning. Among other qualifications, he is a graduate of the US Army Special Forces Qualification Course, the USMC Command and Staff College, and the USMC School of Advanced Warfighting.

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11. For a discussion of the 'detection' or 'ISTAR threshold,' see the Australian Defence Force's Future Land Operational Concept, *Complex Warfighting* (Draft Version 8, 19 May 2004).
12. *Complex Warfighting*.
13. 'Close quarters' is defined in the Concise Oxford Dictionary as 'a very short distance.'
14. See Draft *FMFM 1-A, Fourth Generation Warfare* for a discussion of escalation versus de-escalation.

AN URBAN OPERATIONS TRAINING CAPABILITY FOR THE CANADIAN ARMY

Major Greg Burton, CD

“They are... the post-modern equivalent of jungles and mountains—citadels of the dispossessed and irreconcilable. A military unprepared for urban operations across a broad spectrum is unprepared for tomorrow.”

—Lieutenant Colonel Ralph Peters, U.S. Army (Retired)

Armies have traditionally focused on operating in non-urban or open terrain where decisive force-on-force battles can be fought. Indeed, the tendency has been to avoid fighting or operating in cities. As far back as the fourth century B.C., the Chinese military philosopher Sun Tsu advised, “The worst policy is to attack cities. Attack cities only when there is no alternative.”¹ A result of this doctrine is that modern armies have focused on training for operations conducted in open terrain. Additionally, equipment has been optimized for open terrain operations. The Canadian Army is no exception. Its doctrine, equipment and training are all optimized for open terrain operations.

Despite the historical reluctance to fight in cities, armies through the ages have nevertheless had to conduct operations in them. As the world becomes ever more urbanized, so does conflict. Today, armies cannot avoid operating in cities whether it is for war, peacekeeping or humanitarian operations. The logical deduction is that armies must evolve to focus on urban terrain operations. Because military operations in urban terrain are becoming the norm rather than the exception, the Canadian Army needs to invest in an effective urban operations training capability.

This study will articulate the urban operations training capability deficiency and then identify requirements to overcome that deficiency. It will examine a road to mission success and conclude by proposing that a capital project be initiated to deliver an effective urban operations training capability.

The Urban Operations Training Capability Deficiency

Complex terrain is a term used in military parlance, but for which no official military definition can be found. In its final report tabled in 2002, the Canadian Army’s now-defunct urban operations working group offered an unapproved definition of complex terrain as, “those terrain features that impact on line of sight, restrict manoeuvre and separate the soldier from the vehicle. In general terms, urban, jungle, mountain and forest are considered to be complex terrain.”² Another definition comes from a glossary of meteorology that states that complex terrain is “a region having irregular topography, such as mountains or coastlines. Complex terrain can also include variations in land use, such as urban, rural, irrigated and un-irrigated. Complex terrain often creates... unique local weather characteristics...”³ Because it can include unique weather characteristics, one can quickly deduce that complex terrain could also encompass jungles, arctic or polar regions and deserts. From these definitions alone it is easy to comprehend why armies have tended to focus on operating in open terrain, where decisive force-on-force engagements can be fought.

Urban terrain is arguably the most complex of complex terrain types. According to military strategist and author Ralph Peters, “the initial mental image is of physical forms—skyscrapers or huts, airports and harbors, size, construction density, streets, sewers, and so on.”⁴ However, he postulates, “While the physical characteristics of

the... city are of great importance, the key variable is the population.”^{5v} In referring to the populations of cities, towns and villages, Peters uses the terms human terrain, human architecture, flesh-and-blood terrain and human high ground.⁶ Peters’ inclusion of the human nature of urban terrain is vital for military thinking about cities, but it is missing one more critical piece of the urban puzzle. Modern humans thrive on information and have developed an extensive electromagnetic environment for passing it to one another. Urban terrain can therefore be summarized as having physical, human and electromagnetic dimensions.

The complexity of urban terrain is confirmed by research conducted by the North Atlantic Treaty Organization (NATO) Research and Technology Organization (RTO). Following its 1999 report on land operations in the year 2020, which found that NATO forces would have to conduct operations in urban areas, the NATO RTO studied the matter and prepared a 2002 report on urban operations in the year 2020.⁷ The report notes, “The complexity of the current urban environment is best defined as the cumulative effect of a series of interconnected layers of society and infrastructure.”⁸ It further identifies that “today’s urban environment represents the centres of industry, commerce and social activities and, because of the size and the presence of different groups within it, is the probable area where tensions and perhaps conflicts are most likely to arise in the future.”⁹



LC2006-007-114 Photo by Cpl Phil Cheung, 32 Canadian Brigade Group

Master Corporal Paul Cincinnato from The Royal Regiment of Canada climbs through a window at Ortona Range in Meaford, Ontario.

Operations in urban terrain, or urban operations, have been defined by both the Canadian Army and by NATO. The Canadian Army Terminology Board defines an urban operation as an “operation that is conducted within a battlespace that is comprised primarily of built-up areas.”¹⁰ Clearly the battlespace in this definition does not consider the human dimension of urban terrain. It is also uncertain if this battlespace was intended to include the electromagnetic dimension. The NATO RTO developed a definition of urban operations for its study that is far more comprehensive. Urban operations are “those military and other activities in an area of operations where significant defining characteristics are man-made physical structures, associated urban infrastructures and non-combatant populations.”¹¹

Urban terrain dramatically limits the capabilities of modern armies whose sensors, weapons, vehicles and communications equipment were designed to operate in the relatively open terrain of the Cold War battlefield of Western Europe. Buildings are three-dimensional, occupying sub-surface, surface and above-surface space. Defenders have the advantage of cover and concealment, their positions being further strengthened by the screening effects that buildings have on radio signals, lasers and electro-optic sensors. The height and depth of buildings significantly reduces the effects of ground and air launched weapons aimed at those targets that can be identified in urban areas. Rubble and other debris can be a formidable obstacle to most modern military vehicles. Subterranean passages aid defenders in moving freely without detection. Communication infrastructure may allow defenders to communicate without detection, especially if it is left intact for psychological or information operations. Most significantly, the existence of a non-combatant civilian population dramatically increases the chance that innocents may become casualties. Some civilians may also aid and abet defenders while maintaining the façade of innocence. With little or no hope of attaining technological superiority over western armies, it is no wonder that insurgent forces use urban terrain to their advantage.

Given the propensity of insurgent forces to use urban terrain, as well as the irreversible growth of urbanization, it is reasonable to postulate that Canadian land forces will find themselves operating in urban terrain more often than in the past. University of Calgary military affairs student Rob Engen summarizes a Canadian perspective on the emergence and growing importance of urban operations as follows:

It is becoming increasingly deceptive to view urban warfare as a scenario, another 'special' environment needing to be addressed as a footnote to—or entirely separated from—broader military operations. Canadian tactical doctrine currently approaches fighting in built-up areas in this inadequate manner. Given the proliferation of instances of urban warfare and the compounding value of urban population centres as strategic, economic, and political centres of gravity, one can expect that most future conflicts will involve fighting in the streets as an important operational component. It is not beyond reason to imagine that eventually urban warfare will become synonymous with warfare, a norm rather than an exception.¹²

Engen's view is supported by other intellectuals who agree that urban terrain shall be the battlefield of the future. Canadian Forces (CF) Leadership Institute Director Colonel Bernd Horn talks about "complexity squared"¹³ when describing operating in the future battlespace. In this battlespace, asymmetric conflict will be commonplace, with the terrain of choice being urban. Battalion commander Lieutenant-Colonel Wayne Eyre states, "it would be folly not to recognize that the urban sprawl will be the primary battlefield for the foreseeable future."¹⁴ Finally, the principal finding of the urban operations working group was that "urban operations will be a major component of future operations regardless of level of intensity and scope of mission. Urban operations are the most difficult complex terrain operations as they consist of complex terrain (the city), the infrastructure and the non-combatants."¹⁵

After taking an inventory of urban operations related activities, the urban operations working group found three dramatic capability deficiencies. The first was that "there is no doctrine or tactics above the rifle company."¹⁶ Indeed, the low level doctrine of which the working group spoke was based on the experiences of the Canadian Army during the Second World War.

The second deficiency was that "training is extremely limited and there are no current plans to update training needs or to introduce urban related lessons into either

officer or NCM (non-commissioned member) DPs (Developmental Periods).¹⁷ This deficiency is amplified by Colonel Horn, who states, "Fighting in built-up areas is not a traditional core competency of the Army. This is further exacerbated by the inability, due to failure to train and practice, of soldiers and commanders to think in a three dimensional manner."¹⁸ The training need is clearly identified by Rob Engen, who states, "Individual officers and soldiers will require a thorough understanding of the urban environment as a fundamental part of normal combat skills... conducting military operations in modern cityscapes is tremendously demanding and requires special training."¹⁹ Engen warns, "An ill-prepared force will be massacred in an urban environment. Canada, as an expeditionary power, needs to take careful note."²⁰

The last deficiency identified by the working group was that "while the Army has purchased some equipment to increase individual performance the Army lacks formal direction that would make it essential that equipment operate in the urban environment."²¹ This deficiency is related to the Army's operational equipment and does not appear to consider that specific equipment might be needed purely for training for urban operations.

The urban operations working group made a number of findings relevant to the training deficiency. Firstly, "current concepts, doctrine and equipment are designed for an open battlespace where the enemy can be easily detected and engaged with stand-off fire."²² Secondly, "urban operations require the ability to apply precise scalable effects. While the Army is not optimized for urban operations, the infantry-centric nature of the force structure facilitates Army of Tomorrow [urban operations] initiatives."²³ Thirdly, "training provides the highest pay-off in the near and mid-terms; however, the design and content of all aspects of individual and collective training require a fundamental shift from open terrain to complex terrain."²⁴ Lastly, "close combat will remain inevitable and the individual soldier remains an essential element of urban operations."²⁵

Despite the lack of formal urban operations doctrine, training capability and equipment, Canadian soldiers have been remarkably resilient in devising ingenious methods to prepare themselves for the urban operations they have faced. Numerous 'one-time-only' local initiatives have been organized by commanders who understand the need, but whose Army has not provided standardized, multi-use resources. This ground swell of initiative, coupled with a plethora of intellectual study and some high profile operations, has begun a process of transformation within the Army. Indeed, the complexity and seriousness of the threat posed by potential urban operations, both domestic and international, has been acknowledged at the highest levels of government.

In April 2004, the Government of Canada released its first national security policy document titled, *Securing an Open Society: Canada's National Security Policy*. The document provides an excellent framework from which specific measures can be implemented to enhance Canada's security, both domestically and internationally. The national security policy states, "The government recognizes that the Canadian Forces constitute an essential national security capability... Our forces must also be able to defend Canada, help secure North America, and address threats to our national security as far away from our borders as possible."²⁶ Most importantly, "In this increasingly unstable international threat environment, Canada must have armed forces that are flexible, responsive and combat-capable for a wide range of operations, and that are able to work with our allies."²⁷ This keystone policy statement provides a foundation from which a variety of doctrine, training and equipment can be developed and implemented. Of course, urban operations are included in 'a wide range of operations.'

Flowing from the national security policy is a new document titled, *Canada's International Policy Statement: A Role of Pride and Influence in the World*, which was

released on April 19, 2005. Produced in five parts, the overview document issued by the Department of Foreign Affairs and International Trade unequivocally articulates government understanding of the importance of urban operations. The following vivid description is provided:

The image that captures today's operational environment for the Canadian Forces is a 'three-block-war.' Increasingly, there is overlap in the tasks our personnel are asked to carry out at any one time. Our military could be engaged in combat against well-armed militia in one city block, stabilization operations in the next block, and humanitarian relief and reconstruction two blocks over. Transition from one type of task to the other can happen in the blink of an eye.²⁸

The government further acknowledges that, "today's front lines stretch from the streets of Kabul and the rail lines of Madrid to our own Canadian cities."²⁹ But most importantly, "the Canadian Forces must embrace new technologies, concepts and doctrines... In turn, the Government, and Canadian citizens, will support them with the tools needed to do the job... Investments today will enable the Canadian Forces to develop the expertise and skills that Canadians, and the world, desperately need."³⁰



L23006-007-195 Photo by Cpl Phil Cheung, 32 Canadian Brigade Group

Soldiers from 32 Canadian Brigade Group practise assaulting a building at Ortona Range in Meaford, Ontario.

Government of Canada acknowledgement of the urban operating environment does not stop in the overview document. The Defence Policy Statement issued by the Department of National Defence (DND), provides specific vision acknowledging that, "Missions are now far more complex and dangerous, with troops frequently deployed to failed and failing states... where... they have been confronted with new dangers from... civil disorder, to clashes with irregular forces in urban areas."³¹

As mentioned earlier, until 2002, there was some low-level Army doctrine related to urban operations. It was quite out-dated, and none of it was related specifically to training for urban operations. Since 2002, there has been some improvement at both the CF and Army levels. New CF doctrine has been ratified for CF operations, peace support operations, non-combatant evacuation and crowd confrontation. The manuals

containing this new doctrine have excellent procedures on how to plan and conduct these operations. However, given that each of these types of operations is likely to occur in urban areas, the manuals contain neither direct reference to such likelihood nor to the complexity of operating in urban terrain. There are references to urban intelligence and planning considerations, but there are no references to urban training. Indeed, the doctrine manual for peace support operations (PSO) states, "The CF maintains the view that the best core training to meet the diverse demands of PSO is general-purpose military training with emphasis on basic combat and occupational skills."³² Since the basis for this statement is open terrain combat skills, it is clearly not adequate for the urban environment. These CF doctrine manuals must be revised to reflect the new emphasis on urban operations.

The CF has additional doctrine related to strategic capability planning. The strategic capability investment plan (SCIP) includes a capability-based program for generating forces. Amongst other things, this program includes the ability to train personnel, research, test, and procure equipment, and produce the infrastructure and capabilities necessary to support military operations.³³ The SCIP also includes a CF transformation program in which capability designs for cold-war fighting environments and traditional peacekeeping scenarios will be transformed to capability designs for complex operations and environments.³⁴ The SCIP is a critical element to developing an urban operations training capability, as it the only approved plan towards which funding resources may be applied to the procurement of new capability. In other words, the requirement for an urban training capability must be included in the SCIP in order for funding to be assigned to its delivery.

Having looked at CF level doctrine, it is finally time to examine the developing urban operations doctrine in the Army. The Army's keystone document is titled *Advancing with Purpose: The Army Strategy: One Army, One Team, One Vision*, and was released in May 2002. While this document does not specifically mention urban operations, it does set the scene for Army Transformation away from its cold-war orientation. A key objective of the strategy is to deliver a combat-capable, sustainable force structure.

The Army structure will produce combat ready forces capable of operating in the land environment for domestic and expeditionary imperatives... It must leverage technological advances in key areas to permit sufficient modernization to remain strategically relevant and tactically decisive on the future battlefield.³⁵

A critical enabler for this objective is to "achieve instrumentation of the Canadian Manoeuvre Training Centre (CMTC)."³⁶ The CMTC will be examined later.

Another key objective of the Army strategy is to manage readiness. As the land force generator, the Army must ensure that the right people with the right training are deployable at the right time. Managing readiness will manage personnel tempo, leading to a better quality of life for soldiers and encouraging retention. It will also optimize the use of equipment and resources needed to achieve the training standards required for deployment.³⁷

Implementing the Army strategy will be guided by the following philosophy:

The core Army business remains the production of combat capable forces. Generally, investment energy will be focused where quantum improvements can be achieved. Quality will usually be preferred over quantity in order to produce consistency and mission success, although it is recognized that some tasks will remain personnel intensive.³⁸

The key elements of the Army strategy that prepare the ground work for a transformation are leveraging technological advances, remaining strategically relevant

and tactically decisive on the future battlefield, and focusing investment in quantum leap improvements. In order to achieve these, a concept for force employment was needed.

On March 31, 2004, the Chief of the Land Staff (CLS) released a document titled *Purpose Defined: The Force Employment Concept for the Army: One Army, One Team, One Vision*. This document immediately identifies that “urban terrain will increasingly become the setting for conflict.”³⁹ Indeed,

Operations will often be characterized by what has become known as the ‘three-block-war,’ where forces can expect to be providing humanitarian assistance in one part of a city, conducting peace support operations in another and fighting a lethal battle in yet a third. Moreover, the requirement to transition from one type of activity to the next could be measured in minutes.⁴⁰

The notion of a ‘three-block-war’ is not a Canadian idea. The phrase was first coined in 1997 by General Charles C. Krulak, Commandant of the United States (U.S.) Marine Corps, in an address to the National Press Club in Washington. He described an asymmetrical battlefield where,

In one moment in time, our service members will be feeding and clothing displaced refugees, providing humanitarian assistance. In the next moment, they will be holding two warring tribes part—conducting peacekeeping operations—and, finally, they will be fighting a highly lethal mid-intensity battle—all on the same day—all within three city blocks. It will be what we call the ‘three block war.’ In this environment, conventional doctrine and organizations may mean very little. It is an environment born of change... We can ignore the implications of change... or we can learn from history and prepare now for the inevitable battles to come.⁴¹

General Krulak also confirmed “throughout modern history, we have consciously skirted fighting in urban areas... It is here that our enemies will challenge us... the urban areas will become the centers of gravity for our foes. Cities have the potential to negate much of our current technological advantages.”⁴²

The force employment concept reiterates that the stand-up of the CMTC will be an essential step in implementing Army transformation. “It will furnish the Army with the ability to collectively train all elements across the five operational functions, ensuring coherent synchronization of capabilities to a common standard.”⁴³ The CMTC, located in Wainwright, Alberta, is now open for managed readiness training. The CMTC will be equipped with a laser and radio-based, live and constructive weapon effects simulation (WES) system that will permit task forces to train as closely as possible to the way they would operate and fight. The CMTC will enable manoeuvre warfare, mission command and virtually all capabilities to be exercised. It will provide feedback to all soldiers and commanders. The only deficiency of the CMTC is that it is designed for open terrain operations and built in a training area that is open prairie with no urban terrain whatsoever. Advances in technology shall make it possible to include an urban training capability at the CMTC, based on live and constructive simulation that is seamlessly integrated with the WES system. Such a capability could be the basis of a multi-spectrum, urban training capability for the Army, and potentially for special operations, maritime and air forces.⁴⁴

Doctrine also exists in the Army manual titled *Land Force Tactical Doctrine*. At the end of the manual, a section on operations in built-up areas is included in the chapter about operations in specific environments.⁴⁵ The arms specific doctrine manuals also make passing reference to fighting in built-up areas (FIBUA), as though it was an exception rather than a rule.

It is also important to examine training doctrine. The manual titled *Training Canada's Army* makes no mention of training for, or in, urban environments. However, it does articulate the levels of individual and collective training deemed essential to achieve operational readiness. Levels of training 1–7 are progressive from the individual to the brigade,⁴⁶ and are suited to various forms of simulation, depending on the level. The *Range Construction and Maintenance* manual does have a section titled FIBUA, but its only words are, “To be published later.”⁴⁷

It is clear that while the Army strategy and force employment concept documents have evolved to focus on urban operations, critical tactical doctrine and training manuals have not. In January 2004, while a draft version of the Force Employment Concept was being circulated within the Army, the Commander Land Force Doctrine and Training System (LFDTs) commenced “development of a strategy to institutionalize urban operations in all individual and collective training, as well as develop a plan of action for development of urban training centres in Canada.”⁴⁸ Direction was given to that effect, and many local initiatives to re-orient to an urban focus were started.

Army Transformation took several more steps towards urbanization in early November 2004. During the Army Council meeting, the CLS provided his commander's intent and directed that “The Army's focus must be the ‘3-Block War’ identified by General Krulak.”⁴⁹ The CLS also stated that, “We can expect that we will be operating in failed and failing states during the next twenty five years. To do this, the Army must be tactically capable, credible and decisive. Being able to operate in all parts of the 3-Block War simultaneously must be our guiding vision.”⁵⁰ Direction was given to develop the following critical urban training capability,

The Canadian Manoeuvre Training Centre (CMTC) is the Army's centre of gravity in the near future as it is the means by which the concepts of the 3-Block War will be imparted to units and formations through practical training. This requirement means that the CMTC must have complex terrain that supports both horizontal and vertical operations as soon as possible. Additionally, investments will have to be made to provide complex terrain to other ranges and training areas (Valcartier, Petawawa and Gagetown).⁵¹

Training direction was amplified by the CLS in several ways. Firstly, “training for Combat Service Support (CSS) soldiers must be improved to provide them with a greater ability to operate and survive in combat situations.”⁵² Most importantly, “All training areas must be provided with complex terrain training facilities as soon as possible. This will not be easy but imaginative interim steps, such as laying out temporary urban areas using modular tentage, can greatly enhance the quality of training while we await more permanent complex terrain training sites.”⁵³

The last and most recent step towards optimizing training for urban operations is direction concerning range and training area management given in the *Strategic Operations and Resource Direction (SORD) 2005 Draft 1*. For fiscal year 2005/2006, the LFDTs will assume leadership and overall responsibility for range and training area management. The priority for urban warfare training sites will be at the Combat Training Centre in Gagetown, New Brunswick and at the CMTC in Wainwright, Alberta.⁵⁴ The SORD also contains a section specifically concerning development of urban warfare training sites. Direction is given that LFDTs will seek funding and proceed in developing standardized Urban Warfare Training sites for the Army as a training development initiative.⁵⁵

This approach to developing urban training capability is flawed. It is short term, providing virtually no time to develop standards and requirements. It only has the

potential to address some aspects of the physical dimension of urban terrain by constructing some buildings and limited infrastructure. It will provide limited elements of live simulation capability by using existing targetry or by using WES, once it is fielded, for close combat engagements. The approach will not leverage new technology at all, particularly simulation technology. Any investment under this approach will not equate to a quantum improvement in capability and because of its short sightedness, will likely not have a funded support plan to maintain facilities once they are constructed. That being said, it might be able to provide a transitional urban training capability until such time as a more permanent solution can be implemented.

So far it is abundantly clear that the Army is making an effort to focus on urban operations. Backed by government and departmental policy, the Army is taking giant steps towards optimizing for urban or complex terrain operations. In order to round off the impression of forward movement, it would be useful to examine several examples of local initiatives to illustrate the ingenuity of local commanders who simply need to provide their soldiers with the best possible urban training opportunities.



LC2006-007-203 Photo by Cpl Phil Cheung, 32 Canadian Brigade Group

Soldiers from 32 Canadian Brigade Group gather for a briefing at Ortona Range in Meaford, Ontario.

The single largest initiative to conduct urban training occurred in Edmonton in April and May 2001. Exercise Urban Ram 2001 was sponsored and organized by 1 Canadian Mechanized Brigade Group (1 CMBG). This one-time-only exercise took advantage of the closing and demolition of Griesbach Barracks, which was representative of a very small city. Using the abandoned buildings inside the barracks, 1 CMBG established a series of urban training sites, each designed to accommodate different levels of training, from section to platoon to company to combat team. 1 CMBG rented a limited number of early-generation weapon effects simulation systems to permit soldier force-on-force engagements. The Director of Land Requirements was also able to procure a limited number of close engagement ammunition simulators (paintballs) for a buy-and-try trial during the exercise. An observer controller, or umpire organization was formed to control the activities and determine engagement results, as well as to provide feedback and an

after action review to exercise participants. A dedicated opposing force was created to provide a realistic, well-trained enemy to exercise participants.⁵⁶

Exercise Urban Ram 2001 was an unqualified success and many tactical and institutional lessons were learned or re-learned. Because it was a one-time-only exercise, an extraordinary effort was required to organize and run it. Use of simulation technology was limited to what could be arranged within time, funding and availability constraints. Sadly, the skills learned by all participants could only fade in the absence of follow-on urban training capability. No urban exercise of similar scale has been attempted since then.

Colonel Craig Hilton, Commander of the CMTC, has taken the initiative to create rudimentary 3-Block War urban terrain in the otherwise barren Wainwright prairie. According to Colonel Hilton, there are intentions to develop a fully instrumented urban operations training site that is seamlessly integrated with the WES system.⁵⁷ Until such time, several sites will be improvised within the Wainwright training area, predominantly using metal sea containers to represent buildings, but also including wood frame construction and military defensive stores.⁵⁸ The improvised facilities will include an area in Camp Wainwright to establish a National Command Element and a National Support Element. A tactical aerial port of debarkation (APOD) and a forward operating base (FOB) will be established in the vicinity of Wainwright's Airfield 21. An isolated farm, tunnel complexes and a vertical village are being built for conducting dry training, and a land force live-fire village and an air-aviation strike village are being built for live fire training.⁵⁹ Construction of the improvised urban facilities should have been completed by the end of 2005.

The next three examples are smaller scale urban training activities that occurred between late 2004 and early 2005. Each was reported in a newspaper, and this gives an idea of the profile and interest that urban training activities currently enjoy.

In October 2004, soldiers from the Third Battalion Princess Patricia's Canadian Light Infantry, a unit of the Regular Force, conducted close-quarter urban operations training at the lone urban skills house located in the Edmonton Garrison. This was preparation training for a battalion deployment to Fort Lewis, Washington, which has a forty-five building urban training village called Leschi Town. Leschi Town is instrumented to capture close-quarter engagement data for use in providing soldiers with accurate after action reviews. Second Lieutenant Matthew Dawe, a platoon commander who took part in the training, gave the following testimonial. "This training represents the evolution of warfare from more traditional large scale battles to operating in close-quarter urban centres."⁶⁰

The next example is capped by the February 6, 2005 headline in the Halifax Herald, "Soldiers Hone Urban Ops Skills."⁶¹ Over one hundred soldiers from 36 Canadian Brigade Group (36 CBG), a formation of the Reserve Force, participated in Exercise Sky Trooper which took place in downtown Halifax and at a disused military housing site in Shearwater, Nova Scotia. Soldiers practiced helicopter loading and unloading at Windsor Park and Halifax Commons before flying to Dartmouth's Shannon Park. Local civilians commented that, "It kind of gives you an idea of what it would feel like to be in an occupied country."⁶² The exercise was in preparation for further urban training at Fort Pickett, Virginia.

Later in February 2005, the follow-on Exercise Southbound Trooper V saw over three hundred Reservists from Nova Scotia and Prince Edward Island descend on the old American fort, which is now used as a manoeuvre training base. This was the fourth year that 36 CBG traveled to the United States to conduct urban training. The Fort Pickett urban training facilities are significantly more basic than those described at Fort Lewis, and consist solely of non-instrumented, cinder block buildings. Canadian reserve

engineers even had to construct some plywood buildings to be used by the enemy in the final assault. Most importantly, Canadian reserve forces were able to take advantage of recent urban operations experience gained by American soldiers. They practiced convoy and ambush drills, house clearing, casualty evacuation and treatment, communications and civil-military coordination.⁶³

These local initiatives are indicative of the urge within the Army to reorient towards operations in urban terrain. They are by no means the only such initiatives. Note also that air and aviation forces have a role to play in urban operations. There are themes common to each of these activities. There are very limited facilities for conducting urban training in Canada, short of operating in real Canadian cities as the Halifax militia did. Because of this, there is no commonality of training from one activity to the next, and each activity requires a significant effort to plan and conduct. Additionally, the excellent skills learned during these activities fade soon afterwards without an ability to conduct continuation training. Urban training facilities exist in the United States and attract Canadian units because they incorporate simulation technology, after action review instrumentation and human expertise to provide objective feedback. The cost and effort to travel to the United States is significant and such opportunities are dependant on the facilities being available. Skill fade is also a problem.

Finally, there is a strong desire to make urban training as realistic as possible. Metal sea containers are not very realistic. One-time-only opportunities such as disused barracks or downtown parks are not very representative of potential deployment areas and do not offer commonality across the Army. Simulation technology greatly improves training realism, but it is extremely costly, and individual units cannot reasonably be expected to procure and sustain their own. Intentions are honourable, but mean nothing unless properly coordinated and funded.

There is clearly an urban operations training capability deficiency in the Canadian Army. There is an equally clear requirement for such a training capability. It must be standardized and available to Regular and Reserve units throughout Canada. Because air and aviation forces must support land operations in the urban environment, there is an absolute necessity that urban training capabilities include air component input. Implementing a sustainable standardized urban operations training capability that leverages technology to provide quantum improvement will only be deliverable if centrally controlled and funded. The obvious deduction is to create a joint capital project team to develop and deliver an urban operations training capability.

Identifying Urban Training Capability Requirements

Having established that the Canadian Army has an urban operations training capability deficiency, and that the will to create such a capability exists, what sort of capability must it have and how will it get there? Fortunately, there are a variety of sources from which deductions can be made about capability requirements.

In its 1994 report, the Auditor General of Canada found that “Unlike the United States Army, the Canadian Forces does not validate land field exercises and therefore cannot assess whether exercises meet operational requirements.”⁶⁴ The recommendation was that DND should set up “an objective, verifiable operational readiness reporting system... Where quantified measures are not appropriate, clear standards for subjective rating should exist.”⁶⁵ With the pending implementation of the CMTC and its WES system, the Army will have a system to objectively validate readiness, but only from an open terrain operations perspective. Until the CMTC has a fully instrumented urban training capability, clear standards for subjective rating must be developed. These standards must be promulgated to all Army units that conduct urban training until they have a means to objectively verify readiness.

In 1996, the Report of the Auditor General of Canada had a focus on peacekeeping, and in which several urban training related issues were raised. A major concern was peacekeeper stress, especially in the militia. The Auditor General found that Reservist participation in peacekeeping operations had skyrocketed, and that they generally lacked adequate training before joining their deployment units. In response, the Army is “continuing military training that can effectively inoculate soldiers against peacekeeping stress. High levels of unit morale, stamina, technical competence, familiarity with and confidence in weapon systems, and field training are all known to reduce stress in soldiers.”⁶⁶ The Auditor General recommended, “The Department should continue to develop and implement a program to manage stress among its peacekeepers... The active involvement of senior management and command personnel will be necessary.”⁶⁷

Several deductions can be gleaned from this finding. Firstly, Reservists must have the capability to train close to their home locations if they are to be prepared to join



LG2006-00494 Photo: Cpl Bill Gormin

Winnipeg—A soldier with a C9 covers the hallway to his front.

Regular units on deployment. In order to inoculate soldiers and commanders to the stress of urban operations, it is vital that training be as realistic as possible. Reservists are not the only soldiers who may suffer from stress. Regular soldiers are also susceptible to stress, particularly those in support trades who have fewer opportunities to inoculate themselves through realistic training. All soldiers preparing for deployment must be inoculated against stress by participating in realistic urban operations training. Stress and stress inoculation will be discussed in greater detail later.

A vital Canadian source of urban operations lessons learned comes from the Army Lessons Learned Centre (ALLC), which in 2002 published its journal *Dispatches* on the subject of “Training for Urban Operations.”⁶⁸ Contained in its forty-two pages is a goldmine of information that includes strategic, operational and tactical lessons from urban operations, some fundamentals of training for urban operations, and finally some tips on the conduct of training for urban operations. The lessons are derived from historic and contemporary

urban operations, and significant attention is given to the lessons learned from Exercise Urban Ram 2001, which was described earlier. Of particular note is the warning, “the lessons highlighted have repeated themselves over and over, and have been paid for in blood. Ignore them at your peril!”⁶⁹

This examination will focus on those lessons that are germane to developing training capability requirements, and will start by highlighting the most important fundamentals of urban training. Physical fitness is identified as a key requirement for training and conduct of urban operations, particularly upper body strength.⁷⁰ The suggestion is to develop urban obstacle courses for fitness training. Urban combat shooting skills are critical, particularly the ability to discriminate targets and to shoot at shorter ranges. Sharpshooters or snipers are also critical in an urban environment.⁷¹ In order to hone urban marksmanship skills, the Army must have a progressive system for training urban battle shooters. A combination of dry and live fire simulation capabilities would be required for such a system.

Urban combat movement skills must “focus on the ability to think in 360 degrees and in three dimensions.”⁷² The only sure way to develop these movement skills is to train in an urban setting. A logical deduction is to train in terrain that replicates real mission areas. This would enhance movement skills at the same time as familiarizing soldiers in advance with the terrain on which they will operate. Urban camouflage and concealment skills are radically different than similar skills for open terrain. Lights and shadows, colours, texture and shapes must be considered. Most importantly, dogs and other domestic pets, as well as civilian populations, have an effect on soldiers’ abilities to conceal themselves.⁷³ An urban training capability must therefore contain these elements of urban realism to expose soldiers to their effects and to enable them to develop experience in overcoming them.

The final fundamental of urban training is that soldiers must have an understanding of building construction techniques. Construction type will affect weapon effects and the ability to build effective defensive works. Soldiers must also receive training in urban engineering to accomplish basic tasks such as turning on and off gas, electricity and water, locating and effecting basic repairs to telephone systems, and locating useful infrastructure by reading urban plans and blueprints.⁷⁴ Construction techniques are different throughout the world; therefore exposure to a variety of construction methods is required. Mission specific urban training must include near exact replica construction to provide the maximum training value. This requirement can be delivered progressively using different simulation technologies.

The ALLC confirms that realism in urban training is critical. One approach to providing realism is to conduct tactical exercises without troops (TEWT)⁷⁵ within a local community. This approach is useful for developing knowledge in small groups of leaders, and is particularly relevant for defence of Canada tasks. TEWTs can be augmented with participation by local security and civil services. Significant preparation would be required for such TEWTs, but the information packages and lessons learned resulting from them would be valuable in the eventuality of a real crisis. TEWTs may also be conducted in mission areas, although security requirements may limit numbers who can participate. Again, if conducted in conjunction with local security forces, TEWTs offer the opportunity to develop good working relationships that may be critical on operations.

While TEWTs are good for small groups of leaders, significant time must be dedicated to training soldiers in the tactics, techniques and procedures (TTP) of urban operations. The ALLC suggests that live simulation in purpose-built urban operations training sites is ideal for this requirement. To be effective, urban training sites must have a number of characteristics. Urban terrain requires three-dimensional battlespace in the form of multi-storey, multi-room buildings, as well as underground sewers or tunnels. Civilians, including local government and non-governmental organization (NGO) representatives must exist in the battlespace of the training site. The site must be robust and adequate in size to accommodate a host of combat and support vehicles. The site must permit weapon effects simulation inside and outside buildings, and be instrumented to capture engagement data for after action review purposes. For increased realism, urban training sites require the “clutter found in real world cities [like] furniture, wrecked cars and trash.”⁷⁶

Finally, for live simulation to be completely effective, the ALLC states that there must be observer controllers and an opposing force (OPFOR).⁷⁷ Observer controllers act as mentors to the trainees. They control and observe the training to provide feedback and after action review and they enhance safety. The OPFOR simulates the enemy as realistically as possible. Mistakes made and overcome in training with an OPFOR elevate the morale and readiness level of a unit, enhanced performance on operations, and ultimately improve the chance of mission success.

Our American and Australian allies involved in contemporary operations in Iraq indicate another significant urban training capability requirement. "Training is continuous, whether in a combat zone or not... Marines must be continuously trained otherwise they will lose proficiency in MOUT (Military Operations in Urban Terrain) skills learned through experience during the attack."⁷⁸ And as happens during training at home, "constructive criticism should be encouraged... telling good and bad observations."⁷⁹ To illustrate the importance of in-theatre urban training, the US Army procured two mobile MOUT facilities, one now in use at the Baghdad airport and the other in Afghanistan.⁸⁰ The Australians confirm the requirement to conduct in-theatre training to acclimatize personnel to the terrain and to operating with allies.⁸¹

In order to truly create quantum improvement, soldiers and leaders need information in forms that best permit transfer and retention for planning and decision-making. Human factors scientists at Defence Research and Development Canada Toronto have been investigating soldier information requirements for urban operations, and have conducted several experiments to determine the best way to improve performance. A critical area of research has been to determine the best method of visualizing urban terrain for mission planning, rehearsal and operational way finding. Experiments have included terrain visualization for urban street way finding,⁸² in-building way finding,⁸³ and high density urban way finding.⁸⁴ Overall, results tend to indicate that performance improves when virtual three-dimensional (3D) models of urban terrain are used versus traditional two-dimensional (2D) models such as maps and diagrams. The experiments recognize the limitations associated with off-the-shelf virtual simulation technologies that are designed for commercial marketing.

Experimentation has led to the following technology improvement suggestions. The creation of hybrid 2D/3D virtual tools would blend the positive aspects of 2D into 3D, leading to best information available. The virtual model fidelity must be improved to include detail on building materials for walls and floors, views out of windows and varying light levels. Soldiers suggested a more user-friendly human machine control interface. Most importantly, soldiers need thorough training to operate the virtual environment effectively.⁸⁵

If information is critical to soldiers and leaders, it is logical that the information must be as near real time as possible for relevance to the mission at hand. In the same way that aerial photos become time expired due to changes in the terrain from bombing, demolitions, and defensive works, so too, do 3D models become outdated. This leads to the deduction that if 3D models are used for situational awareness, then there must be a capability to rapidly create them and update them with the latest possible information about the terrain. A rapid terrain visualization capability would be extremely useful during pre-deployment training to familiarize soldiers with their area of operations before they arrive in a theatre.

A further deduction can be made that if rapid terrain visualization were performance enhancing during training, it would likely have a similar effect in enhancing performance during operations. This leads to the potential of using the same simulation capability in both training and operations. The mind boggles at the potential that such a capability could be embedded in an operational situation awareness system.

The examination of lessons learned would not be complete without an overview of allied urban training capability. For this study, the capability within NATO is examined. NATO has expended significant effort studying urban operations training capability. In a 2002 investigation into urban operations in the year 2020, the NATO RTO made specific findings about training for urban operations. Firstly, "training is the responsibility of individual NATO nations, [but] the lessons learned from training can be shared."⁸⁶ This is standard NATO policy that appears to discount combined training. The reality is that while some countries do conduct combined training exercises some of the time; their

training systems are only established and funded to support the training of their own forces. Additionally, nations tend to support their national industries, particularly when it comes to procuring high technology items like simulation systems. From a simulation perspective, combined training would in all likelihood be impossible thanks to different operating systems, frequency bands or sensitive intellectual property rights. The frank reality of this statement is that interoperability of training systems is not required or expected.

The RTO also determined that urban training “should be focused upon joint and coalition operations in urban areas, featuring all aspects of the 3-Block War... [That] there is a need for more urban-specific training facilities... [and] that there is a need to combine these facilities with simulation systems to portray more accurately the complexity of the urban battlespace.”⁸⁷ These determinations support similar deductions made earlier regarding Canada’s requirements.

More recently, the RTO initiated a study on urban combat advanced training technology (UCATT). The aim of this study is to “investigate and recommend a generic set of unclassified requirements to be made available for all NATO/PfP (Partners for Peace) nations to inform interoperability requirements and standards for development of instrumented MOUT capability.”⁸⁸ There are eight countries participating in this allied study. Canada is not one of them. By not participating, Canada will likely miss valuable experience that cannot be replicated in a final report. In light of the importance the Canadian Government has placed on the 3-Block War, Canada should join the UCATT study group in order to gain feedback in progress.

Of the NATO nations, the U.S. is recognized as the leader in urban operations experience. While the U.S. Marines Corps played a prominent role in developing early urban operations concepts, the U.S. Army has become predominant in the field. The U.S. Army approach to urban operations has included the MOUT advanced concepts and technology demonstrations (ACTD) which investigated technology and verified tactics, and the Combined Arms MOUT Task Force (CAMTF) which reviewed and updated doctrine, and developed training requirements.⁸⁹

The work of the CAMTF is particularly important for this study. The CAMTF has identified several specific urban training facility requirements of which Canada would have similar requirements. The first is a requirement for a live fire breach house to practice mechanical, thermal, ballistic and explosive breaching. The second is a requirement for a live fire shoot house to gain confidence in conducting close quarter live fire operations. The third requirement is an urban assault course to practice focused sequential training in basic fundamentals. The final requirement is a collective training facility to provide a realistic environment for all combined arms force, special forces and civilian agency training.⁹⁰

The U.S. Army has a number of urban training facilities around the country. For example, there are seven instrumented, live simulation, urban training sites. Unfortunately, none of them are standardized in either layout or instrumentation. On a larger scale, this is similar to Canada’s situation, where local initiatives have left a legacy of good intentions that provide some capability. The U.S. Army does have a plan to commence standardization of its urban training facilities starting with Fort Lewis, Washington. This supports a similar approach for Canada deduced already.

The Road to Mission Success

Realism is particularly relevant to an urban operations training capability. There are current and emerging simulation technologies that could be integrated to provide the ultimate urban operations inoculation experiences, short of conducting actual urban operations. A sample of virtual and live simulation technologies will now be highlighted as potential capabilities for a Canadian urban operations training system.

Thales Canada Inc., of Ottawa, Ontario, is collaborating with the urban operations team at Defence Research and Development Canada in Valcartier, Quebec to develop an artificial intelligence based system for command and control of urban operations. Known as the AI Think project, its aim is “to develop a prototype command and control artificial intelligence based system for command and control (C2) in urban operations with the view to enhance the commander’s understanding, facilitate his decision-making, [and] augment his information management and orders process.”⁹¹

A promising virtual reality simulation system has been developed by Object Raku Technology Inc., of Vancouver, British Columbia. Known as the Sextant Virtual Warfighting Tool (VWT) and Mission Rehearsal Central (MRC), it permits rapid 3D virtual world generation for mission planning and rehearsal.⁹² The Sextant VWT and MRC were developed specifically for urban operations training under the U.S. MOUT ACTD that was mentioned earlier. The Sextant VWT and MRC provide a contingency/in-garrison and enroute mission planning and rehearsal capability that is laptop based and fully deployable, and capable of automatic 3D scene generation with on-the-fly scene and situation modification. It allows multi-user interactive 3D web-based rehearsal and has low bandwidth dissemination.⁹³ Sextant is currently in use with the U.S. National Geospatial-Intelligence Agency, the U.S. Army Topographic Engineering Center, and the U.S. Marine Corps as a mission planning tool. It will also be used for dynamic navigation in the U.S. Army Enhanced Urban Tactical Planner.⁹⁴

An interesting feature of Sextant is its capability to rapidly generate 3D terrain, making rapid terrain visualization in near real time possible. It can use terrain data in a number of formats to generate the 3D virtual world. Sources include vector data, photography, known intelligence of building details, digital terrain elevation data (DTED), and even LIDAR (Light Detecting and Ranging) data.⁹⁵ The 3D model will be as accurate as the information used to create it, giving the capability to initiate and improve models, in near real time, as the urban operation situation changes. This feature will provide users with the best possible knowledge of the urban terrain and allow them to rehearse on that terrain in virtual reality.

Object Raku Technology has also identified and tested a promising technology for heightening the fidelity of 3D virtual models. Tactical Geographics, LLC of Tucson, Arizona, has developed the Red Hen Global Positioning System (GPS) referenced video system that collects geo-referenced imagery. The Red Hen system is portable and can be taken on patrol to capture image data that can then be used to generate higher fidelity models. The testing conducted by Object Raku Technology indicates that captured imagery can be easily imported to Sextant, dramatically increasing the realism of the model.⁹⁶

In 2003, Canada’s DND contracted Object Raku Technology to create a basic 3D model of a notional urban training site in Wainwright, Alberta. Additionally, GPS referenced video was taken of the entire Camp Wainwright for the purpose of creating a sample virtual model for testing.⁹⁷ These types of technology have great potential for possible integration into a Canadian urban operations training capability. Such a system could be used for garrison training, planning and rehearsal at the CMTC, and for in-theatre mission planning and rehearsal.

NGRAIN Corporation of Vancouver, British Columbia, has invented revolutionary 3D modeling software to create extremely high fidelity, information rich 3D Knowledge Objects (3KO) that are highly interactive, physically accurate and have broad deployability. A 3KO is a 3D digital model or scene that contains and visually communicates knowledge about the real object it represents. 3KOs are portable, re-useable, accessible and scalable.⁹⁸

In 2002 and 2004, DND contracted NGRain to create 3D urban objects as well as a 3D urban training village editor. The prototype editor software is intended to be a synthetic environment based acquisition (SEBA) tool with a rapid prototyping and cost

estimating capability to help in the development of a potential urban training site capability. The tool is intended to be used throughout the acquisition process and then be converted to a virtual reality simulator, and potentially integrated with the Sextant VWT and MRC.⁹⁹ NGRAIN 3KOs have the potential to exponentially increase knowledge of urban terrain, including the humans who are resident in urban terrain.



Winnipeg—Soldiers from The Royal Winnipeg Rifles and The Queens Own Cameron Highlanders clear and secure a room in the Simuniton range as senior staff observe and critique the attack.

The contractor for the Canadian WES project, Cubic Defense Applications Inc., of San Diego, California, provides a technology overview of basic urban operations training system instrumentation and targetry control systems.¹⁰⁰ Cubic has experience delivering similar systems to the U.S. and British armies for their urban training sites. Typical urban training sites include control facility infrastructure, command of building devices, targetry engagement systems, and battlefield effects systems.

Control facilities contain an integrated management system for capturing all training engagement and imagery data. This data is then processed for use in the after action review system. Still and video imagery collection is done by interior and exterior high and low resolution thermal cameras, and is augmented with an audio capturing system.

Command of building functions is done via a command computer resident in each building that is connected to the control facility. There are a number of discrete devices inside the buildings used to control activity. There are panic buttons to signal the control facility of problems and to unlock doors and windows. There are motion detectors to trigger the activation of cameras, as well as automatic door lock controls. Lighting can also be controlled, and includes infrared total darkness illumination to save soldiers' night vision. Targetry, if employed in the site, is also activated from the control facility under observation via the camera system.¹⁰¹

Live simulation engagements in urban settings require a system to track soldiers' locations as they move inside and outside buildings. Location and time data is normally collected via GPS located on each soldier. GPS is ineffective when buildings screen the satellite signals, therefore an alternate system of determining location and time must be

incorporated. An ultra-wideband (UWB) precision tracking system is used for this purpose. UWB transmitters mounted on the soldiers transmit signals to building sensors, which are in turn converted to location points by the building computer. This is particularly important for engagements that occur from outside to the inside, for example a tank gun firing through the wall. The flight path coordinates of the simulated tank round are used to calculate which room in the building will be hit. Then, any soldier in that room at the appointed moment of impact would receive a signal from the building command computer notifying of the engagement.¹⁰²

Finally, there is a battlefield effects system that adds stressful realism to the training. Elements of the battlefield effects system include concussion wave cannons, rooftop explosion devices, 'smells of war' generators, and smoke generators.¹⁰³

The last technology to be illustrated has been mentioned earlier. Anteon Corporation of Fairfax, Virginia, has recently developed a mobile, reconfigurable MOUT training facility. The mobile MOUT system is based on trailers that can be transported for use in any location, particularly in-theatre. The containers can be linked and configured to resemble any building and they can be instrumented for after action review capability. The system comes with a control facility container for collecting data and delivering the after action review.¹⁰⁴ As mentioned, the U.S. Army has installed one of these facilities at the airport in Baghdad and another in Afghanistan.

It is clear that virtual and live simulation technology does exist that could satisfy some of the requirements for a Canadian Army urban training capability. The technologies illustrated would be useful for individual and collective dry training. There are other technologies that can satisfy command and staff training requirements as well as individual and collective live fire training. They will not be discussed here.

What is apparent is that implementing any of these technological solutions will not be easy. A variety of technologies are involved, some of which may have to be integrated with the WES system which is now being fielded. Standard packages will have to be designed for army units and bases where urban training would take place. Significant infrastructure would have to be built and existing infrastructure may have to be redesigned. And of course, it will require funding. Despite the ominous signs, delivering an urban training capability is not an impossible task.

The Army's current short term plan for developing urban training sites is very flawed, and only has the potential to deliver an unsustainable partial collective training capability, as well as to waste staff effort and scarce funding resources. By all means, a study should be undertaken to identify areas on bases where urban training capabilities can be built. However, the only logical path to delivering an all encompassing urban training capability is to create a capital project that has the technical and project management expertise to be successful. Only by maintaining central control of requirements and funding will it be possible to maximize the benefits of standardization across the Army and be cost effective. Additionally, sustaining an Army-wide, high-tech training system will require central funding and control. It is therefore proposed that the Army take immediate steps to include an urban operations training capability in the SCIP, assign funds for its procurement, and create a capital project to deliver the capability.

Conclusion

Urban terrain is very complex, consisting of physical, electromagnetic and human dimensions. The physical dimension includes man-made structures and infrastructure that have height and depth on the surface, sub-surface and above surface. These structures affect the performance of the sensors, weapons and equipment of modern military forces. The electromagnetic dimension exists in the infrastructure and may be useful to all parties operating in the urban terrain. The human dimension includes non-combatants who are innocent, but who may also help or hinder urban operations.

Additionally, the human dimension includes diversity, politics and economics that must be well understood by those operating in the environment.

Military operations are also complex and when superimposed on the dimensions of urban terrain, will require officers and soldiers to have special knowledge and training. Allies and intellectuals agree that urbanization in the world is irreversible, and in future, modern militaries will almost always find themselves operating against irregular forces in urban terrain. The Canadian Army has participated in numerous urban operations for the last sixty years, but has had virtually no urban operations doctrine, training or equipment. These deficiencies were confirmed by the urban operations working group and are supported by intellectual assessment. Canadian land forces will have to operate in complex urban terrain in the future. In order to do so, officers and soldiers must have knowledge of the complexity of urban terrain, as well as the training to operate in it.

The Government of Canada understands the complexity and importance of urban operations. The National Security Policy, the International Policy Statement and the Defence Policy Statement are replete with acknowledgements to that end. The policy between documents is well linked, providing a concrete base from which the Canadian Army is justified in developing doctrine and training capability for urban operations.

The Army is taking steps to develop appropriate doctrine. The Army Strategy and Force Employment Concept documents spell out plans to transform the focus to urban operations. The key elements of transformation are leveraging technological advances, remaining strategically relevant and tactically decisive on the future battlefield, and focusing investment in quantum leap improvements.

At present, LFDTs has been directed to seek funding and proceed in developing standardized urban warfare training sites for the Army as a training development initiative. But this approach to developing urban training capability is flawed. It is short term, with virtually no time to develop standards and requirements. It only has the potential to address some aspects of the physical dimension of urban terrain by constructing some buildings and limited infrastructure. It will provide limited elements of live simulation capability by using existing targetry or by using WES, once it is fielded, for close combat engagements. The approach will not leverage new technology at all, particularly simulation technology. Any investment under this approach will not equate to a quantum improvement in capability and because of its short sightedness, will likely not have a funded support plan to maintain facilities once they are constructed.

Local initiatives to conduct urban training are indicative of the urge within the Army to reorient towards operations in urban terrain. They also point out that air and aviation forces also have a role to play in urban operations. Although local initiatives provide exciting training experiences, there is no commonality from one activity to the next, and each activity requires a significant effort to plan and conduct. The excellent skills learned during these activities fade soon afterwards without an ability to conduct continuation training. Although some training opportunities exist at American bases, the cost and effort to travel to the U.S. is significant and such opportunities are dependant on the facilities being available. Simulation technology greatly improves training realism, but it is costly, and individual units cannot reasonably be expected to procure and sustain their own. Intentions are honourable, but amount to nothing unless properly coordinated and funded. The evidence is clear that the Canadian Army has a deficiency in urban operations training capability. The requirement for such a training capability is also clear.

Canada is responsible for training its own soldiers. The goal is to seek quantum improvement in performance on domestic and international urban operations, which results in mission success and a safe return home. Standards for urban training and readiness must be objective and, if not, clear standards for subjective rating must be developed. Participation in urban training must include all Regular and Reserve soldiers

and officers, in all branches and corps, with no exceptions. Joint urban training, particularly with air and aviation forces, is also a critical requirement. Standards of urban training capability must be the same in all locations across Canada. Standards are policy oriented and can be implemented quickly with minimal cost.

Knowledge resident in doctrine is the foundation from which soldier and leader knowledge is developed. To maintain its urban operations knowledge the Army must participate actively in all allied urban operations forums. Domestic and international information packages, including cultural awareness, must be developed and studied in preparation for deployment. Rules of engagement, construction techniques, urban engineering and weapon effects must be taught to and studied by all soldiers. Development of urban operations knowledge is a long-term investment that must be coordinated and funded.

An urban operations training system is required to provide the conditions for developing improved performance. The system must include individual, collective and command and staff training capability. Virtual, live and constructive simulation must be exploited. The Army requires urban training capability at home and in-theatre. Facilities such as urban training sites and live fire ranges are required. They must be standardized and interoperable with each other, and to the greatest extent possible, simulation capability must be embedded in operational systems. An urban operations training system represents a significant, long-term investment in technology, infrastructure and life cycle support. If centrally coordinated and funded, maximum capability could be procured for the best cost.

Urban realism is the critical enabler that will energize and add significant value to the standards, knowledge and training system. Replication of the complexity of urban terrain will help inoculate against stress as well as elevate skills like fitness, movement and shooting to higher limits. The introduction of civilian authorities, non-governmental organizations, and refugees and displaced persons to training will improve negotiation, target discrimination, and rules of engagement skills. The costs for realism would be included as factors of each of those capability areas.

Virtual and live simulation technology does exist that could satisfy some of the requirements for a Canadian Army urban training capability. These technologies would be useful for individual and collective dry training. There are other technologies that can satisfy command and staff training requirements as well as individual and collective live fire training.

Finally, delivering an urban training capability is not an impossible task. Central control of requirements and funding would make it possible to maximize the benefits of standardization across the Army and sustain such a high-tech training system, all while being cost effective. The only logical path to delivering an all encompassing urban training capability is to create a joint capital project team that has funding and the technical and project management expertise to be successful. It is therefore proposed that the Army take immediate steps to include an urban operations training capability in the SCIP, assign funds for its procurement, and create such a capital project to deliver the capability. The Canadian Army needs to invest in an effective urban operations training capability if it is to be strategically relevant and tactically decisive on future domestic and international urban operations.

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THE LAV III IN URBAN OPERATIONS

Captain David Hill and Captain Christian Breede

The intent of this paper is to express the ideas and lessons learned regarding the Light Armoured Vehicle III (LAV) and urban operations (UO). Divided into three parts, the paper defines the advantages and disadvantages of the LAV in UO from the context of the operational functions. Secondly, it defines the key threats that are present to a potential LAV-based element in UO. Thirdly, it identifies the key tasks of a LAV element and considerations in UO. Based on this information, each task is cross referenced with the threats in order to define the key employment considerations for the LAV based element given the specific threat in UO. It is based on the experiences, training and operations of soldiers of the Second Battalion, The Royal Canadian Regiment (2 RCR).



AS2005-02094 25 September 2005 Photo by: MCpl John Bradley

Call Sign 13C, a Light Armoured Vehicles III from A Company, 1 Princess Patricia's Canadian Light Infantry, advances to a position during Exercise Phoenix Ram at CFB Wainwright, Alberta.

2 RCR was the first military unit to use the LAV III operationally. Deployed into the border regions between Ethiopia and Eritrea, "Hotel" Company Group formed part of the United Nations Mission to Ethiopia and Eritrea (UNMEE) under Operation ECLIPSE from December 2000 to June 2001. In September of 2001, 2 RCR was assigned the task of trialing an advanced laser engagement system for both soldiers and vehicles. As part of this trial, several techniques, tactics and procedures (TTPs) for the LAV and Leopard C2 in a combat team setting were validated. Beginning in 2002, 2 RCR began a series of complex, dry and live collective training events, both "on the economy" and in the training area that culminated in Exercise ROYAL FIST. The exercise consisted of a live-fire exercise at battle group (BG) level with most actions conducted at night.

In May of 2003, "India" Company Group deployed to Afghanistan, under the Theatre Activation Team (TAT) for Operation ATHENA, deploying with two LAV III-equipped platoons and a LAV III-based company headquarters with operations focused on urban patrolling and convoy escort.

In the fall of 2003, 2 RCR was tasked with non-combatant evacuation operations (NEO) training and to maintain one company operationally ready for a potential NEO

tasking. This was realized in February 2004 when “India” Company was warned to prepare for a NEO task in Haiti. In early March of that same year, the company deployed to Haiti as part of Operation HALO. Deploying with a LAV III-equipped platoon and two light support vehicle wheeled (LSVW)-equipped platoons, the company formed part of the Ground Combat Element of a United States Marine Corps Marine Air Ground Task Force (MAGTF), as part of the United Nations sanctioned Multinational Interim Force (MIF). In June 2004, “Hotel” Company replaced “India” Company with the same order of battle in an effort to secure the transition from the MIF to a United Nations led force (MINUSTAH) in Haiti. Operation HALO involved extensive LAV III-based patrolling in a variety of urban and rural settings.

Upon the companies’ return to 2 RCR in the fall of 2004, the battalion began collective urban patrolling training in Fort Drum, New York, trialing numerous methods of communicating and manoeuvring in order to best achieve mission success and force protection. Since the introduction of the LAV III into 2 RCR, the battalion has supported the Combat Training Centre’s Combined Arms Team Commander’s Course (CATCC) at CFB Gagetown each spring, from April to May.

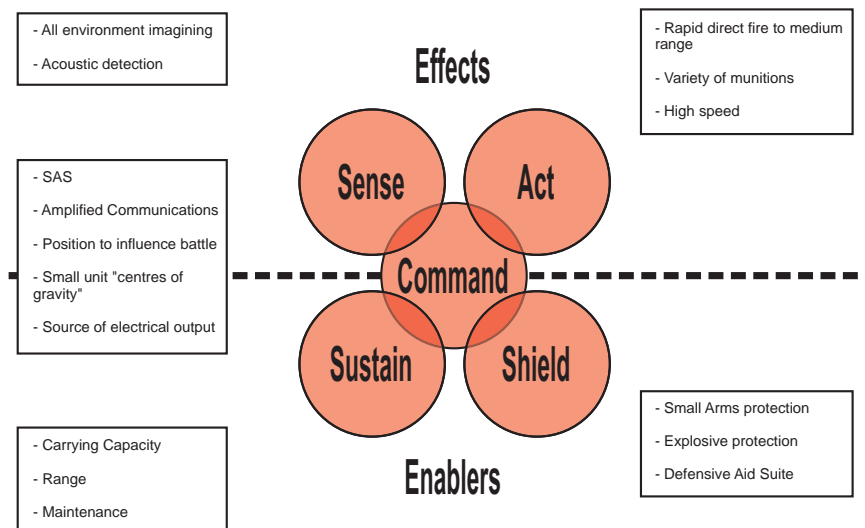


Figure 1. LAV III Core Advantages and the Five Operational Functions

Canada’s LAV fleet has now experienced operations in Ethiopia/Eritrea, the former Yugoslavia, Afghanistan, and Haiti. Coalition armies fighting in both Iraq and Afghanistan have used close cousins of the LAV, such as the Stryker and its numerous variations. In addition, Canadian mechanized battalions have conducted training with the LAV since the late 1990s. From these deployments and exercises, many lessons learned have been identified for the effective employment of the vehicles. However, there is, as of yet, no clear documentation on how these vehicles should be employed in an urban environment.

In order to develop TTPs for LAV operations in an urban environment, one must first understand the complete tactical situation. The method of employing the LAV is dependant on two situational factors; first the potential threat, and second, the mission specific task. A commander will not use the same TTPs when conducting a hasty attack against a conventional enemy as he would if he were conducting a convoy operation in a peace support operation where there is an asymmetric enemy threat. This paper endeavours to isolate the potential “red” and “blue” situations in order to identify the key

factors for consideration to the commander, in the context of the five operational functions.

The LAV in Urban Operations from the Perspective of the Operational Functions

The force employment concept states that there are five operational functions that define a fighting element's combat power: command, sense, shield, sustain, and act. Figure 1 defines the core advantages that the LAV has in UO. The LAV is a force multiplier in UO; however, its advantages must be carefully weighed against its limitations. These will be clearly identified and addressed in isolation.¹

Command. The LAV provides an excellent platform for command and control. This is based on its digital communication system with amplification,² and the upcoming Situational Awareness System (SAS) that should offer thorough situational awareness to all commanders. In a tactical urban sense, the element commander must be positioned in the best location to influence the operation. During an attack with a mounted support and dismounted assault element, the commander would most likely find himself dismounted with the assault force. In a less combat-oriented operation, the situational awareness of the LAV may well outweigh the advantages of dismounting. In all cases, the commander must decide where he can best influence the battle.³ At the command-post (CP) level, the LAV must remain in a safe location with effective communications. This allows the commander and manoeuvre elements the flexibility to conduct their tasks without concern over additional security for the CP, or for the normal reporting with higher headquarters. During Operation HALO, the "India" Company Group would routinely send a LAV platoon into areas of Port au Prince, Haiti in order to conduct various operations. During these operations, the platoon commander would leave one or two LAVs with a small security detachment in order to act as a CP. The patrol would then depart this location using personal role radios (PRR), a non-secure local radio net, and let the LAV redirect messages to higher headquarters. Alternatively, the LAV was also employed as a mobile CP while conducting a mounted patrol to supplement the footprint of the dismounted patrol. This method of mounted and dismounted patrolling was also employed by 3 RCR in Afghanistan.⁴

Another key function of command is the ability to communicate. The LAV offers the ability to maintain dual radio nets in command vehicles and single installations in all others. It was realized during joint operations that amplified radios, especially from tanks and LAVs, override the dismounted radios during a patrol. This means that in an urban environment attention needs to be paid to the level of amplification of radios. For example, if the task is a combined mounted and dismounted patrol, perhaps all of the LAV radios should be non-amplified with the exception of the CP that reports to higher headquarters. This way the dismounted soldiers are able to maintain their radio traffic in the case of an incident or contact. Again, the use of redundant communications is a must in an urban environment due to the many "dead" zones. PRRs were valuable at the platoon level. Maintaining a cell phone is also valuable, if the infrastructure supports it. Even though many third world countries lack essential services, it is common to find cell phone service in the urban centres. A hasty phone call from one person to the next can save net time and be more convenient, as long as secure voice procedure is followed. For long-range patrols, or movement outside of thirty to fifty kilometres of the higher headquarters, a satellite phone and a High Frequency (HF) set is also necessary.⁵

Sense. The LAV has many sensors that can be useful in UO. The key sensor and primary sight in the LAV is the thermal imaging (TI) sight. This can detect heat signatures in ideal conditions up to three kilometres away. This allows for a 24-hour observation capability from the LAV. In addition, there is an image intensifier (II) sight

that can be employed by the crew commander. This has been found to be less effective since helmet mounted night vision devices (NVDs) offer the crew commander more flexibility in observation. This is especially true when attempting to manoeuvre the LAV off-road at night. The crew commander must focus much of his energy on maintaining local situational awareness of where the vehicle is in relation to the ground since the driver's visibility is limited to his driver's visual aid (DVA). The DVA provides TI, which displays the immediate front of the hull. This is a valuable driving tool, yet can not be a crutch as the driver will not be able to detect sharp shoulders and his depth perception is limited.⁶ The final optical sensing agent is the 10-power day sight. This allows for outstanding observation during the day to ranges well past the effective 2 400 metres of the main armament. During UO, all of these devices can be used, but they are all reduced in effectiveness due to the shorter ranges of contact and obscuration. Also, the LAV is limited due to its blind areas at short range. A crew commander observing from the cupola and soldiers observing from the rear roof hatches are able to detect more with their eyes or NVGs in an urban environment than they would be able to in open terrain.



IS2005-2038a 28 April, 2005 Kabul, Afghanistan Photo: Sgt Frank Hudec, Combat Camera

A Canadian LAV III (Light Armoured Vehicle) with the Force Protection Company (FP Coy), of Task Force Kabul, provides cover for a dismounted patrol in Kabul, Afghanistan.

Act. The firepower of the LAV comes from the 25 millimetre chain gun which is effective to 2 400 metres. In addition, the coaxial mounted 7.62 millimetre machine gun (MG) is effective to 1 400 metres. A 5.56 millimetre or 7.62 millimetre MG can be mounted externally near the crew commander's hatch for additional firepower. In reality, however, it is a poorly designed system that can only engage from the hull's 9 o'clock to the 11 o'clock and exposes the crew commander when in use. The main armament fires Armour Piercing Fin-Stabilized Discarding Sabot with Tracer (APFSDS-T), Frangible Armour Piercing Discarding Sabot with Tracer (FAPDS-T), High Explosive Incendiary with Tracer (HIE-T), Training Practice Discarding Sabot with Tracer (TPDS-T) or Training Practice with Tracer (TP-T). Each of these rounds, including the practice rounds, is effective in urban operations to various degrees.⁷ Also, recent experiences in Iraq by

both American and British forces have found that crews have greater security keeping their personal weapons in the bustle racks next to them vice inside the vehicles.⁸

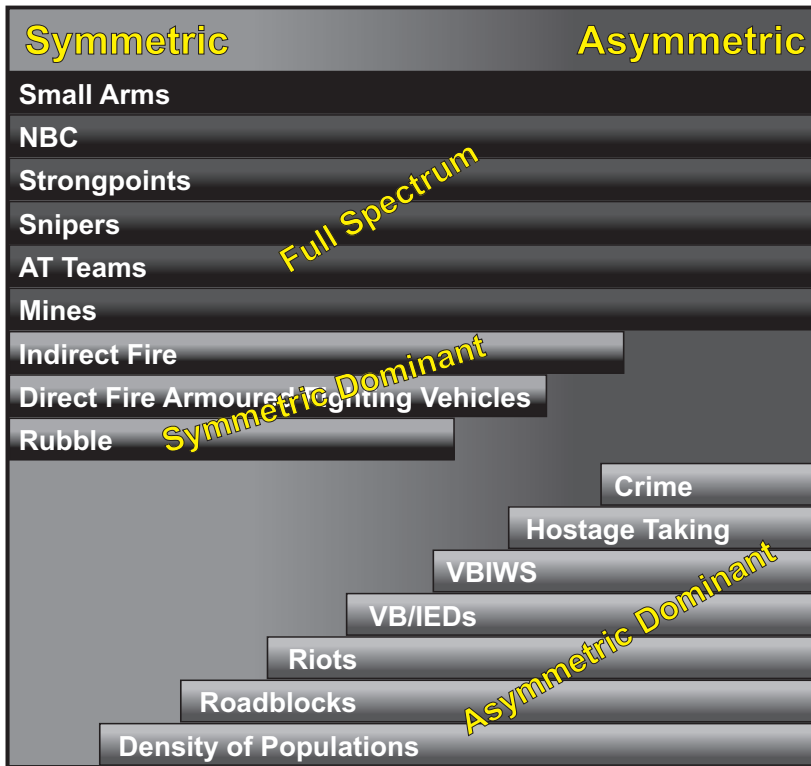


Figure 2. Threats and their relationship with conflict symmetry.

The manoeuvrability of the LAV in urban terrain is a key consideration to the commander. Are the roads wide enough to support LAV movement (especially with add-on armour)? Will the construction of the roads or bridges support the LAV? Are there roadblocks or obstacles to moving vehicles? These issues were key during Operation HALO to the point that the U.S. MAGTF established a daily operation to clean up rubble, garbage and vehicle hulks from the streets of Port au Prince in order to improve vehicle patrol and Quick Reaction Force (QRF) mobility. In circumstances in which vehicle movement is unrestricted, the LAV has a great strength in its speed and manoeuvre on roads. They are faster than tracks, require less maintenance, and are more fuel-efficient. Employing the LAV in urban areas with open roads emphasizes all of the advantages of the LAV.

Shield. The LAV, as the name indicates, is lightly armoured. Therefore it is vulnerable to direct fire from all but small arms and some fragments. The hull has been tested operationally and it can withstand an anti-tank (AT) mine strike.⁹ It is also strong enough to protect its crew and troops from some improvised explosive devices (IEDs). The greatest protection to the LAV is its mutual support from dismounted troops. This was observed during Exercise URBAN BYTE in which soldiers from "Golf" Company, 2 RCR determined that the survivability of the LAV during an urban patrol improved when the focus of the patrol was dismounted. Therefore the LAV was either in a harbour, out of action, or in intimate support to the rear in order to allow the dismounted soldiers to

make initial contact. This allowed the commander to react, either manoeuvring the LAVs into a position of fire, or securing them in the rear, and conducting the task with dismounted soldiers.¹⁰ A key modification to the LAV that would improve dismounted operations with LAVs in support would be a 'tank phone,' or intercom system accessible from the outside and preferably to the rear of the LAV. This would allow the dismounted section commander the flexibility to command the vehicle without yelling, or exposing himself at the flank of the vehicle. This would also permit communication when the crew commander is "hatches-down" due to sniper or artillery threats.¹¹

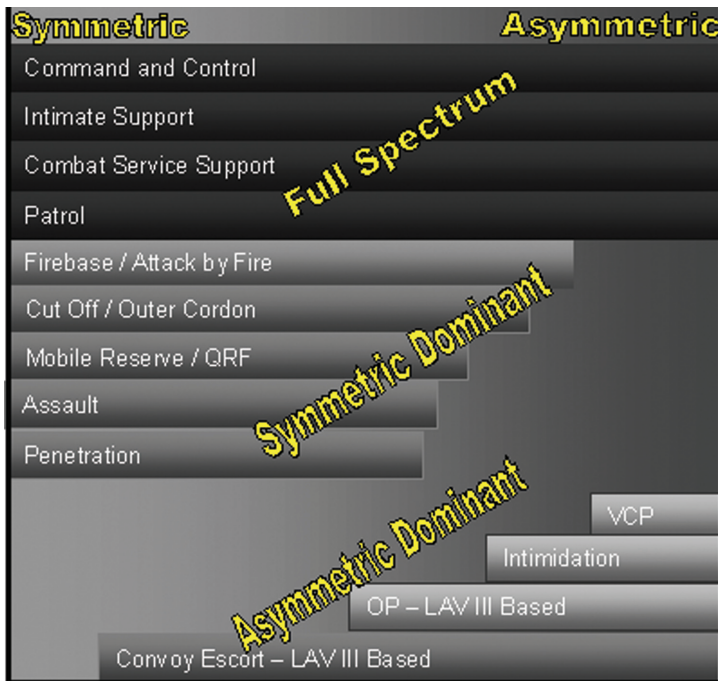


Figure 3. Tasks and their relationship with Conflict Symmetry.

A point of debate regarding force protection in UO is whether the troops should be dismounted or mounted. This question is directly related to the threat assessment for the task. More detail will be paid to this question in the breakdown of UO threats. The principles of UO remain the same throughout: depth, maintenance of mutual support, deception and pattern avoidance, solid communication, maintaining a reaction force (reserve), and situational awareness to threats in all dimensions.¹²

Sustain. A key area of benefit for the LAV in UO is in a sustainment role. UO consume a great deal more ammunition than would be used in conventional operations. Due to the excellent mobility of the LAV, this task would be well suited to this vehicle. "Zulu" (with crew only and no soldiers riding along) LAVs from the element in contact, or reserve LAVs could perform this task. It was found during Exercise ROYAL FIST that implementing either depth LAVs or the company sergeant's major LAV, which allocated to him at the time, was a very time efficient method of both conducting casualty evacuation and ammunition re-supply.¹³ Unfortunately, with the exception of Exercise ROYAL FIST, there have not been many field-training exercises (FTXs) that have focused on the combat service support (CSS) potential of the LAV in an urban setting. This should be the focus of further study.

Threats to a LAV in Urban Operations

Threats in an urban environment can be overwhelming. However, for planning purposes, thought needs to be given to the nature of the threats. In developing this examination of the LAV in UO, Figure 3 was created, identifying 16 threats. Every attempt has been made to make this list exhaustive and it should at least spur further thought and development. The 16 threats were identified and grouped as full spectrum, symmetric-dominant or asymmetric-dominant in nature. Figure 2 illustrates the interactions of the threats and how they relate to each other.

Full Spectrum. Encompassing six threats, these can be expected across the spectrum of conflict, from symmetrical (or conventional) conflict through to asymmetric warfare as characterized by recent conflicts in the Middle East. The six threats identified include: snipers, strongpoints, anti-tank (AT) teams, small arms, mines, and the ever-present nuclear, chemical and biological (NBC) threat.



IS2005-2034a 28 April, 2005 Kabul, Afghanistan Photo : Sgt Frank Hudec, Combat Camera

Sgt Darrin Clenighan from Windsor, Ont., with the Force Protection Company (FP Coy), of Task Force Kabul (TFK), stands sentry with a C8 carbine assault rifle in the hatch of a LAV III (light armoured vehicle) during a patrol in Kabul, Afghanistan.

Snipers. "A 1st Armoured Division soldier died of a gunshot wound early this morning [late May 2004 in Iraq]," a US Army statement said. "The soldier, who was taking part in a patrol, was sitting in a military vehicle when he was struck in the back by a small-calibre bullet."¹⁴ A sniper attack is difficult to prepare for since in reality it could happen anywhere at any time in the area of operations (AO). During times of heightened probability, such as past attacks, threats, strange behaviour by the locals, or indications by human intelligence (HUMINT) sources, there are several considerations for a commander. First, if the element can intimidate the sniper into not taking the shot, they are successful. This comes from massing elements, well-disciplined field craft, security in all directions and the intelligent use of speed. If there is an immediate threat, then the crew should operate with hatches closed, understanding the trade-off of increasing protection at the expense of immediate situational awareness.

Strongpoint. A strongpoint is a defensible site that the enemy is determined to fight from. It could be hastily occupied or well prepared. It will have coordinated kill

zones (KZ) that will likely include the streets around it. When a LAV based element contacts a strongpoint, the troops should dismount into a safe area, and the vehicle should use fire and manoeuvre to withdraw to a position that allows the commander to make a plan. If an attack is to be conducted, the LAVs would be best suited to a support task, allowing the dismounted infantry to manoeuvre through the adjacent buildings/roads in order to get to their attack position and then gain lodgement.¹⁵ Also, the LAVs would be effective in providing an outer cordon or cut-off task, with the support of a dismounted security detachment. This was conducted on several cordon and search operations during Operation HALO in which a LAV platoon established an outer cordon, a dismounted platoon provided the inner cordon, and the third platoon and the company headquarters entered the premises. The key consideration for LAV employment in the vicinity of an enemy strongpoint is that they will have weapons sited to kill the vehicle as it moves into the KZ, so it would be best to remain masked until the direct fire plan begins. If the enemy has no TI assets, then smoke would be effective at masking the movement of vehicles into place.

Anti-Tank (AT) Teams. One of the largest threats to a LAV-based force, AT teams have proven to be an efficient and effective element that has historically been employed across the spectrum of conflict. In current theatres of operation, specifically in Chechnya, small teams of eight soldiers work independently. Typically, within the cell are a sniper, two machine gunners, two rocket propelled grenade (RPG) gunners, and three riflemen.¹⁶ This grouping affords excellent protection, flexibility, mobility and lethality by virtue of having the freedom of action to hit their target in the weakest area. With such a threat, a policy of bypass with the employment of maximum speed or that of dismounting and clearing must be employed. Many passive security measures will assist with avoiding an attack or minimizing the damage done by one. Maintaining proper spacing, route planning, using air sentries, avoiding patterns, air recce, and security elements dissuade a potential AT team from attacking.

Small Arms. Although obvious, the LAV offers good protection from this threat, however, as with considerations when facing a threat from snipers, the LAV crews must be prepared to operate with all hatches closed. At most, crew commanders must employ "chin defilade;" meaning that they must keep a low profile in the turret while observing, eyes peering just over the main sight heads.¹⁷

Mines. Again, although somewhat obvious, mines have had an impact across the spectrum of conflict for decades. The LAV offers outstanding protection from the blast of a mine by virtue of the design and shape of the hull of the vehicle.¹⁸ However, as mobility can be severely affected, drills and procedures should remain the same for the LAV as they have for any other vehicle.

Nuclear, Chemical and Biological. Although a constant threat, western nations have little operational experience using armoured vehicles in an NBC-affected environment. The LAV is equipped with a ventilation respiration system (VRS) and has some limited detection capability, however, the system is cumbersome and will impede operations in much the same way as previous soldier-systems.

Symmetric Dominant. These threats can reasonably be expected in operations ranging from symmetric operations on into some areas of asymmetric operations, albeit limited in nature. Mostly conventional in nature, the three threats are: indirect fire, direct fire armoured vehicles and rubble.

Indirect Fire. When there is a threat from artillery, mortars or rockets, movement through an area should be either deliberately planned, or the area should be avoided. Since the LAV offers protection from shrapnel, it gives troops protection during the bombardment, however, the LAVs mobility is greatly reduced due to rubble on the roads.

Unless there is a significant operational requirement for operating in an UO with a high artillery threat, the LAV based element should avoid it. During a deliberate operation, the LAVs should have a clear route to a location for dismount or for fires so that they are either driving fast to get to a location, or they are in a firing line, supporting the attack. To use LAVs in intimate support in this environment would become very difficult to control due to the inflexibility of mobility in a rubble-filled area, as a result of the collateral effects of indirect fires.



KA2004-R103-16629 20 July 2004 Kabul, Afghanistan. Photo: Cpl John Bradley, 3 R22ndR Bn Gp

A LAV III light armoured vehicle crew from the 12^e Régiment blindé du Canada (12^e RBC) , in support of the 3rd Battalion, Royal 22nd Regiment Battalion Group (3 R22ndR Bn Gp), prepares to depart after taking a short break beside a derelict former Soviet T-55 Main Battle Tank near Kabul, Afghanistan.

Direct Fire Armoured Fighting Vehicles. During an instrumented field trial in 2001, it was determined that the LAV, in particular its main armament, was effective against armoured fighting vehicles (AFVs) up to and including the BMP2 range of vehicles.¹⁹ The main armament is a very powerful weapons system that can defeat most light and medium armoured vehicles. As most modern AFVs are now equipped with weapon systems capable of defeating the armour on a LAV, maintaining stand-off while engaging targets would most certainly be ideal, however in an urban environment, with restricted ranges and fields of fire, this is often not possible. It then becomes an issue of quick response, sound crew training and effective engagements. The entire crew must work together to acquire and kill targets in urban environments.²⁰

Rubble. Produced as a result of indirect and to a lesser extent, direct fire, rubble can severely affect the mobility of a LAV in urban environments. Sound planning, down to the section level, when affecting fire on a building must account for the rubble such actions will produce.

Asymmetric Dominant. Somewhat of a “grey area,” these threats have only recently emerged and effective TTPs continue to be developed in this area. In short, seven asymmetric dominant threats have been identified and they are: vehicle borne/improvised explosive devices (VB/IEDs), vehicle borne improvised weapons systems (VBIWS), crime, riots, hostage taking, roadblocks and population density.

Vehicle Borne/Improvised Explosive Device. An attack with these systems can occur anywhere. For this reason it is prudent to deny the enemy knowledge of routes and vehicle movement. For LAV elements, the hull should withstand the blast of most IEDs due to the amount of explosive that are normally used. Although some 'super IEDs'²¹ have been detonated in the past, most tend to be smaller than their vehicle-borne counterparts. For this reason, keeping troops mounted along threat areas would be prudent. In addition, the attachment of engineers to manoeuvre elements operating in threat areas would assist in the assessment of tasks should signs of an IED be present. As the name suggests, VBIEDs are inherently larger and, as such, affect a larger area or have a more concentrated effect in a smaller one. VBIEDs can destroy AFVs such as the LAV and as such, soldiers should dismount to provide maximum observation and coverage of all approach angles to the vehicle. Where IEDs can be expected at anytime, the greatest threat from VBIEDs comes while operating in a static and overt position, such as a vehicle checkpoint or static sentry post.²² These weapon systems have become very effective in the ongoing insurgency in Iraq and to a lesser extent in Afghanistan. Although some historical precedents²³ do exist, never has their employment been more prolific than in the last three years.

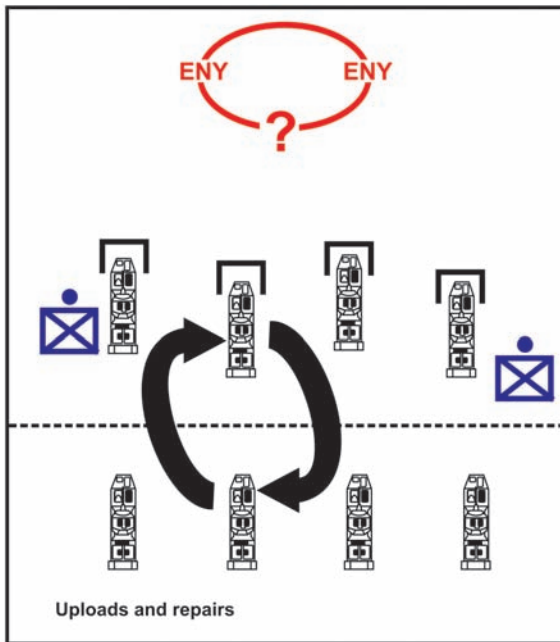


Figure 4. LAV III Fire Base using two platoons

Vehicle Borne Improvised Weapon Systems. Made infamous during the early nineties in Somalia, these simple and cheap systems are a staple of asymmetric operations. VBIWS are, in broad terms, civilian-pattern vehicles of some kind, modified locally with a medium or heavy machine gun or other simple crew-served weapon. These systems can be created quickly and, depending upon the ingenuity of the user, can be easily disguised into an apparent non-combatant's vehicle.²⁴ The direct-fire systems of the LAV have devastating effect on VBIWS disproportionate to what it can do to a LAV. Threats from VBIWS should be addressed, but can easily be managed by a well-trained and drilled crew.

Crime. With the failure of local and national government institutions in areas of operations, crime such as looting, extortion and murder are expected. Although not a

direct threat to the LAV, LAVs may come across these acts in progress and may have to deal with elements of these threats.²⁵ The intimidation provided by the presence of an armoured vehicle is often enough to dissuade further criminal actions from taking place. Crime will be significant if not rampant in the regions that Canada will conduct UO.

Riots. Riots are similar to criminal actions, however LAV elements will likely have to respond to this threat directly rather than by chance. Despite this, the technique for dealing with riots remains the same: either overwhelming intimidation or complete withdrawal from the area. If the force will not be completely effective, then from a force protection perspective, they should not be there. When employing a LAV either as a QRF or as an in-place force, it should be placed in a position so as to be most visible and influence the greatest area, yet afford mobility should the vehicle need to change locations. Riots do provide excellent cover for IEDs, either vehicle-borne or man-packed. As such, dismounted over watch is required at all times.

Hostage Taking. Such acts are separate from criminal actions as they tend to have a greater strategic component, but again, they are addressed in much the same way as the above two threats.

Roadblocks. Previous operations have demonstrated that effective denial of routes can be accomplished quickly and with little sophistication. The LAV, although offering excellent operational mobility, has only marginal tactical mobility. Much as rubble impedes a LAV's performance, so too do roadblocks. Effective route reconnaissance and clearance must occur prior to moving with the LAV and flexibility must be present in any plan to allow for alternate routes should the primary be impassable. If a roadblock must be cleared, normal held-up drills must be undertaken, with emphasis on tri-dimensional security and vehicle spacing. As a corollary, construction on roads can offer the same threat as roadblocks. In most urban areas where Canadians will deploy, the standards for infrastructure are poor. Therefore, bridge classifications, for example, must be confirmed prior to operations. Most highways will be accessible to LAVs, however urban sprawl areas will often be characterized by dirt tracks with shanties on either side through which a LAV may not fit. The roads may be so poor as to become impassable in wet weather since the dirt will turn to mud.²⁶

Density of Population. Market areas and locations in which civilians mass provide a physical and a rules of engagement (ROE) obstacle to LAV operations. Although the LAV is a significant intimidator and deterrent to crowds, it has difficulty manoeuvring in crowded areas and it cannot readily react to an incident due to the surrounding population. In this situation, maintaining over watch through snipers or helicopters and using the LAVs as a QRF may be more effective.²⁷ Unless it is mission dependant, these areas should be avoided unless it is absolutely necessary.

Tasks of a LAV Element and Considerations in Urban Operations

The following list contains what are assessed as the most likely tasks that could be encountered in UO. In this manner, a detailed examination of the threats for the LAV can be cross-referenced with its likely task.

Intimate Support. A LAV would be effective in a close intimate support task for reasons of communications, intimidation, and immediate fire support. The major consideration regarding employing a LAV in this fashion is its vulnerability to anti-tank (AT) weapons and its limited mobility in narrow passages. In an intimate support role, the vehicle must be commanded by the dismounted force, since the troops on the ground will be dispersed and therefore have better overall situational awareness than

the LAV crew. Due to the wide coverage afforded by the differing arcs of the soldiers, the survivability and therefore the functional lethality of the LAV III is greatly enhanced. With the dismounted infantry providing local protection to the LAV, its weapons systems and surveillance capabilities can be exploited to increase the survivability of the dismounted soldiers.²⁸ An additional consideration is that due to the limited ranges in UO, the LAV may encounter problems with its turret depression. This would be a more significant issue in an intimate support role vice a firebase role due to the difference in range.²⁹ Elevation is not as great a factor since the LAV can elevate to 75 percent off the turret platform.

Fire Base and Attack by Fire. The LAV element would be well suited to providing



KAZ004-R-101-476 19 June 2004 Op Athena Role 1 Kabul, Afghanistan Photo: MCP1 Yves Proseau

During patrols in and around Kabul, it is very important to keep your guard up. Private Patrick Gagnon and Pte Jean-Yves Matte demonstrate that principle as they bring up the rear of their patrol.

direct fire support to an attack in UO. The vehicle could dismount their troops for the assaulting element and retain only local security. The route would need to be confirmed to ensure that all of the vehicles required in the firebase will be effective. In the case that the LAVs are simply firing down a narrow street, the LAVs could be echeloned under the control of the sub-unit's LAV Captain so as to ensure proper management of the objective through fire control orders and replenishment. Figure 4 illustrates the conduct of a firebase with the LAV III. Local security through either dismounts or air sentries will be required since the firebase will likely be required to stay in location for several minutes. Despite the unique features of UO, the LAVs in a firebase should still attempt to jockey unless they are providing immediate rapid suppressing fire onto the objective.

Assault Force. Employing a LAV element as an assault force would be effective under specific conditions. First, the commander must be certain that his routes will be accessible for insertion and extraction. Second, he must consider the probability that any routes accessible to LAVs will be enemy kill zones. Third, traffic control must be highly coordinated, likely by either the commander or a supporting commander. Having considered this, the LAV will be able to get troops onto the objective quickly with the fire

support of the canon and the protection from small arms that the hull affords. Again, if there is a possibility of weapons outside the category of small arms, including anti-aircraft weapons,³⁰ then the use of the LAVs may be better suited in a support, reserve or a CSS role. The LAV will provide situational awareness for the troops in the back as they prepare for the assault as the crew commander can christen the ground for them as the vehicle nears the objective using the crew situational awareness monitor (CSAM). Essentially a television screen in the back of the LAV III, the CSAM is hooked up to a small camera mounted above the main gun or can be slaved of the gunner's or driver's TI, simply by pressing the appropriate channel on the monitor.

Cut off and Outer Cordons. A LAV team would be very effective in this role due to their mobility. Once in location the section can dismount and provide local security. Consideration for arcs of fire will be important due to the task that is being supported. If the zone is heavily populated there will be civilians present and unaware of the situation, restricting fields of fire. Given limitations in line-of-sight and command and control, the effective range of the LAV in a cut off role would likely be one to two city blocks at the most.³¹

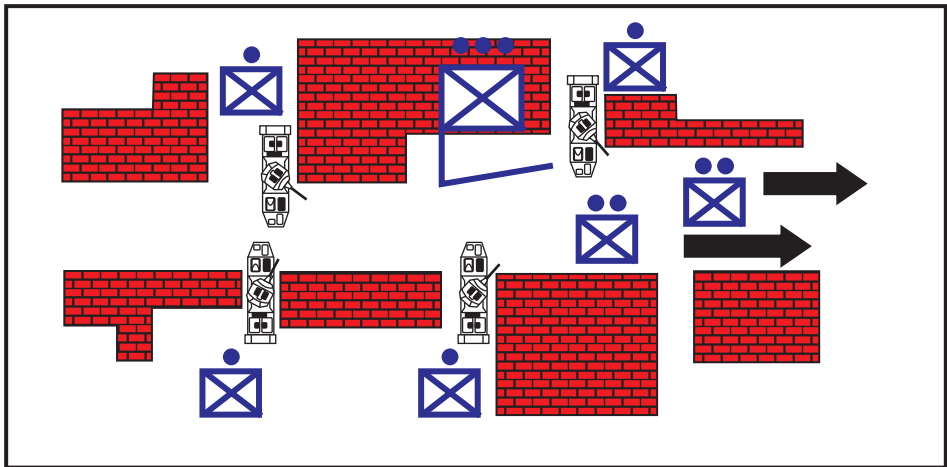


Figure 5. LAV III Platoon patrolling in urban operations

Mobile Reserve and Quick Reaction Force. LAV elements are very well suited as a mobile reserve. LAVs are highly mobile and can distribute troops to a given area in a short period of time. If the operation is deliberate in nature, map and route reces can be conducted to ensure LAV movement and confirm timings. If the element is pushed forward to a waiting area, then there will be a requirement for local security.

Penetration. The initial seizure of Baghdad by U.S. forces in 2003 was facilitated by deep penetration manoeuvres known as "Thunder Runs." This task was led by tanks and included mechanized infantry, engineers, aviation assets and indirect fire support. The vehicles would drive as fast as the convoy could move down the highway, through strongpoints, and seize key terrain such as bridges, intersections and key buildings within the city.³² This highly mobile task would also be suitable for the LAV III. Again, route suitability would be an important consideration. It would be most effective to conduct this in a combined arms team setting, however the force ratio can be scaled as suitable. CSS planning for this type of operation would be significant as the element will be essentially cut-off until a link-up at a later time by follow-on forces.

Combat Service Support. A LAV III based element is well suited to assisting with CSS tasks. There is suitable room in the back to bring forward ammunition and to return to a casualty collection point with casualties. Its mobility allows it to get to and from areas quickly, and more importantly, it has the protection that soft skinned vehicles, such as light utility vehicle wheeled (LUVW), LSVW, medium logistics vehicle wheeled (MLVW) or heavy logistics vehicle wheeled (HLVW) do not have. Currently this is the composition of echelon vehicles in a LAV III company. Therefore it would be prudent to identify either “Zulu” LAVs or a reserve platoon to conduct CSS tasks should that contingency arise.³³

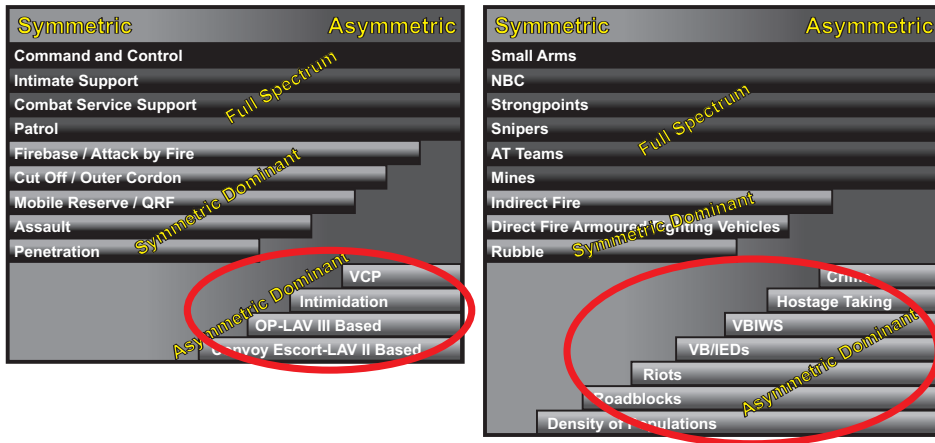


Figure 6. Overlay of threats and tasks

Intimidation. The LAV III intimidates local civilians and potential enemies. If they feel that their safety is at risk in doing what they planned to do, such as targeting friendly forces or non-governmental organizations (NGOs), start a protest or riot, or even conduct criminal activities, they will likely hesitate, if not abort. Terrorists and guerrilla opponents will strike when they feel that they have the maximum potential for payoff at a minimum risk.³⁴ Therefore if there are key locations where an attack could take place, it may be prudent to consider either a roving patrol in the area with LAVs, or consider stationing a platoon of LAVs at that area in order to deter any aggression. In a situation like this, the troops from the LAV should be dismounted, providing local security and maintaining a secure perimeter around the vehicle and target area. This allows the LAVs to manoeuvre should they need to, and it reduces the possibility of attacks due to the proximity of locals to their intended target. The dismounts would also maintain their dispersion so that the effects of a rocket attack against a vehicle would be minimized. Combining snipers and air reconnaissance assets would be invaluable for the force protection to the LAVs in a task such as this.

Convoy Escort. A LAV is the ideal vehicle to provide convoy escort. It can travel long distances without maintenance or fuel problems, and it can provide firepower to suppress any contacts on route. Two effective methods of convoy escort have been employed with the LAV at 2 RCR. First is the conventional style, with a security element both forward and in the rear, and the convoy vehicles in the centre with a QRF. This has been proven as the most effective because of its simplicity and consistent speed. In the case of a roadblock, the lead security element takes up a position of support in order to give cover to the commander who can then assess the situation and react from a position of security. He can then allow his lead element to deal with the situation or

implement his QRF as necessary. The second method of convoy escort that has been used is the “rolling tunnel” method. This is a difficult and complex method, which should only be used when the convoy is deliberately planned and there are significant security risks. The limitation with this method is that unless the LAVs can constantly speed past the moving convoy, there is a requirement for the convoy to halt at regular intervals. This makes the convoy slow and vulnerable during halts, although it is more secure during the move.³⁵



IS2005-05-16 30 November 2005 Ghazni province, Afghanistan. Photo By MCpl Robert Beatrix, Canadian Forces Combat Camera

Canadian Forces vehicles drive southbound on Highway 1 towards Kandahar Airfield in the last CF convoy from Camp Julien in Kabul, Afghanistan.

Regardless of the type of movement, communications is another key consideration for LAV-based convoys. The VHF radios are effective to approximately 25 to 30 kilometres in good conditions. Therefore, as stated earlier, there is a requirement for redundancy in communications. Along with these other features, the tactical navigation system (TACNAV) is also a powerful tool in the LAV III. It allows crew commanders to input all of the key points on their route, including alternate routes, into their vehicle to confirm that their navigation is effective. This system is as accurate as a global positioning system (GPS) and it is very user friendly. It should be incorporated into every move that the vehicle makes.³⁶

Patrol. Urban patrolling has become the main effort of mechanized infantry units on operations. This was a fundamental task of “India” and “Hotel” Companies during Operation HALO. There are many different reasons to patrol and many ways to do it, but overall, the principals do not change. Some of the reasons for patrolling in Haiti were to make contact with the locals in order to gain HUMINT, confirm routes, confirm activities, identify key buildings and people, to provide a presence, to deter crime, and to conduct hasty cordon and search operations.

When attempting to make contact with the locals, the troops would be dismounted and often the commander would send the LAVs away to conduct a concurrent mounted patrol of the routes in the area. At times the LAVs would be kept in overwatch or as a

CP, however in these circumstances, the overall threat assessment was considered to be low. Most route reconnaissance was conducted mounted with all-around security provided by the soldiers standing through the LAV's rooftop hatches. When the situation dictated, the commander would either quickly move the LAV into a given area of interest, or order soldiers to dismount, leaving the LAVs in the rear until the situation was confirmed. Often, when the patrol commander detected criminal activity or a suspected weapons cache, the LAV's would be manoeuvred into cut off positions and the troops would either search the building, or establish an inner cordon and wait for a QRF to assist with the operation.

During urban patrol operations in Iraq, Stryker Brigade Combat Teams (SBCTs) have employed aggressive tactics that have focused on overmatching the enemy objectives with firepower and deliberate planning. They routinely have conducted cordon and search operations with little to no warning using company and larger sized forces. Employing an all-arms approach, they incorporate air reconnaissance, airmobile cut-off and assault, maximizing the speed and shock action of the Stryker. They have found that the hull of the Stryker can withstand most IED blasts³⁷ and have made positive statements about the effectiveness of the vehicle in this regard.

During Exercise URBAN BYTE, in which TTPs for urban patrolling were tested for three weeks, it was found that the dismounted infantry must lead in order to protect the LAV and maintain the first contact. This allowed the commander to decide whether to immediately implement his LAV fires onto the objective, or to mass fires from a support position. It was also confirmed that the thermal site is very useful at night and can detect key information better than the dismounts with Night Vision Devices (NVDs). This suggests that at night the LAV should be used in a more aggressive intimate support role than during day operations. A great deal of debate was also raised regarding the exact location of the dismounts in relation to the LAV. Despite a lack of consensus, the principles still dictate that if there is concern over the LAV's vulnerability, the dismounted troops should lead with the vehicles either in a "Zulu" harbour, or behind the lead troops with local security. In a situation in which the LAVs are required forward for observation, CSS or intimidation, then there is a requirement for all-around security from the dismounts whether they are physically beside the vehicle, in front, behind, or in the rear roof hatches. The guiding paradigm that "Golf" Company, 2 RCR developed for urban patrolling is depicted in Figure 5. There are numerous potential variations to this model, employing all four LAVs together to minimize the burden of local security, employing the vehicles on a separate axis, or using them in intimate support. The possibilities depend on the commander's assessment of the threat and the task at hand.

Vehicle Check Points. Vehicle check points (VCPs) are a very effective use of the LAV. The intimidation factor and speed are two excellent advantages. To effectively take advantage of the LAV, a team should be employed at the actual VCP itself in overwatch. At least one more team should remain out of sight in a hide location prior to the VCP. This allows the commander to react to a vehicle that attempts to turn and avoid the checkpoint upon observation. The VCP observation point can radio the hidden LAVs with a description and location and they can then cut-off the fleeing vehicle from their run-up position. The TI makes the LAV very effective in the overwatch or observation post (OP) role at night.³⁸

Observation Posts. In any urban setting, covert OPs are difficult to establish unless a sniper element can infiltrate an abandoned building. In the establishment of overt OPs, however, the LAV is an excellent platform due to its optics, communications

platform, its resistance to extreme weather conditions such as rain, heat and cold, and its intimidation factor. This was implemented during the mandated observation of the withdrawal of Ethiopian troops from Eritrea during Operation ECLIPSE in 2001. The troops on OP duty could clearly count all withdrawing troops and determine the types of weapons that they carried. With the new Ferret technology, the LAV will become an effective listening post able to determine the location of small arms fire. In all cases, local security will need to be maintained, and the shifts must be kept short, as the TI site is difficult to watch intently for more than an hour.

So What?

The intent of this article is to collate some of the key lessons learned about the LAV in UO and express them in a manner that would elicit debate. At the present time, there is very little published about these types of operations despite the fact that our major coalition partners are presently engaged in full-spectrum operations in Iraq and Afghanistan. Potential competitors now draw modern, “western” armies into urban areas, in an effort to neutralize the superior weapons range, manoeuvre capabilities and communications systems. As such, it is prudent to question our TTPs under the backdrop of our guiding principles and the fundamentals of war as they apply to this complex and multi-dimensional environment.

The methodology of examining LAV operations in UO from the three perspectives was born of necessity as opposed to desire. In order to cover all of the key topics in a clear and cohesive manner, it was determined that categorization of some sort had to occur. It became immediately clear that the paper would be based on first principles; however, this alone did not encompass all of the technical information that was intended to be included. Using the operational functions, the potential threats and the potential tasks to and of the LAV seemed to best allow an exhaustive list for comparison, and the desired overlap that would allow key themes and trends to become clear to the reader.

Several themes, themselves interdependent, appear immediately. Firstly, asymmetric dominant operations are more complex according to the overlay of Figures 2 and 3 (Figure 6). For four tasks, seven threats are directly related in asymmetric dominant areas. Secondly, and dependent on the increased complexity of asymmetric dominated tasks, are the expansion of ROE for these forms of conflict. As conflict becomes more asymmetric, it is not purely based on an asymmetry of tactics, equipment or capability, rather it is also an asymmetry of what is simply expressed as morals.³⁹ The enemy is more willing to kill others and die in so doing than we are. It is akin to playing a game, with each competitor using a different set of rules. As our rules tend to be more restrictive, so too will the complexity of our tasks rise. Finally, based on these previous statements, the LAV III, although an excellent weapons, sensor and communications platform, is lightly armoured. The threats that a LAV III element deals with in an asymmetric dominant conflict requires more consideration than those where the stand-off afforded by its weapons and sensor systems can be fully exploited. Many comments are anecdotal and state the perception of the authors regarding the employment of the LAV in specific scenarios. This is due to the practical nature of warfighting and conducting UO. Theory provides guidance, however practical experience and operations are the backbone of solid TTPs. Over time, the Canadian TTPs for operating the LAV in UO must be developed to perfection. Our soldier’s lives depend on it.

About the Authors ...

Capt. Christian H. Breede graduated from the Royal Military College of Canada in 2002 with a first class honours undergraduate degree in Politics and Economics. Upon commissioning, he was posted to 2nd Battalion, The Royal Canadian Regiment, where he served as a Platoon Commander for two years. In March of 2004, he deployed to Haiti as part of Operation HALO as a duty officer in the National Command Element. In May 2004, he became the liaison officer to the US Marine Air Ground Task Force (MAGTF) until their redeployment in July. Since returning from Haiti, Capt. Breede has served as the Intelligence Officer and the Technical Adjutant for 2nd Battalion. He is currently employed as a LAV Captain in "Hotel" Company and is in the first year of a Masters degree in International Relations at the University of New Brunswick.

Capt David L. Hill graduated from the Royal Military College of Canada in 2001 with a first class honours undergraduate degree in Politics and Economics. Upon commissioning, he was posted to 2nd Battalion, The Royal Canadian Regiment, where he served as a Platoon Commander for two years. In 2003, Capt Hill graduated from the US Army Ranger School and became the Reconnaissance Platoon Commander for 2nd Battalion. In March of 2004, he deployed to Haiti as part of Operation HALO as the operations officer for "India" Company and later "Hotel" Company until his redeployment in July 2004. He has since served as a LAV Captain and Company 2IC for "India" Company and is currently the 2IC for Combat Support Company in 2nd Battalion.

Endnotes

1. Figure 1—Developed by the authors and based on the graphic from *Purpose Defined: The Force Employment Concept for the Army*, Chief of the Land Staff, 31 Mar 04.
2. The LAV III is equipped with the IRIS radio suite as fielded under the Tactical, Command Control and Communications System (TCCCS) project in 2000.
3. Major Ross Bradley. *LAV in operations: A service paper*. 2002. It was found during a live fire village clearing range at the company level that the best command and control was exercised with the company commander dismounted with the lead section, and the platoon commanders mounted with the lead sections. In this way, the company commander (OC) could determine when each house was effectively seized and subsequent objectives were isolated. This allowed him to order his next echelon platoon through the now supporting platoon and onto a subsequent objective. The platoon commander had situational awareness and speed through mobility to react, and the OC would simply follow along behind the lead vehicle as they passed through his location. This attack was also done at night and the command and control throughout was excellent.
4. Captain A. Jason Gimby, "Urban Patrolling" *The Canadian Army Journal*. Fall/Winter 2004, p. 26
5. During an "India" Company, 2 RCR convoy escort task on Operation HALO, A platoon escorted NGO vehicles approx 300 km North of Port au Prince in order to deliver aid to the city of Hinche. During this task, the platoon had its integral communications gear plus PRRs, a cell phone, an iridium phone, a satellite phone (Issued and used by a USMC Signals Operator), and an HF set.
6. From 2001 to 2005, 2 RCR has experienced 3 LAV roll-overs in which the limited view of the DVA was a factor. It is clear that all maneuver at night must be tightly controlled by the crew commander through his NVGs.
7. During the Instructor Gunnery Conference held in May 2005 at CFB Gagetown, it was reported that American forces have been using TP-T as the primary round in their M242 chain gun-equipped platforms in place of the APFSDS-T, FAPDS-T or HEI-T during recent operations in Iraq. Since most of their engagements are at short range, they do not require the range of the sabot round. As the TP-T has a shorter range and less "punching power", it will cause the desired effects on the target without causing as much collateral damage as a round with three times the danger-area template.
8. During ambushes in which American Infantry Fighting Vehicles (IFVs) have been destroyed, yet the crews were not casualties, they were able to defend themselves using their personal weapons from their turret while awaiting follow on troops for extraction. See Lieutenant Colonel Eric Schwartz, Major Daniel Cormier and Staff Sergeant Bobby Burell, "1-64 Armor's Rogue Gunnery Training Program" *Armor* (January-February 2004) p.17 also see CPT John B. Nalls' article entitled "A Company Commander's Thoughts on Iraq" in the same issue. During British operations in Iraq in 2004 near Al Amara, several cases of FV510 Warrior crews engaging targets from their vehicles were recorded. See the British Army publication, *Soldier*, June 2005.
9. In 2001, a LAV struck an Anti-Tank mine while employed with 2 RCR as part of Task Force East Africa under the United Nations Mission to Ethiopia and Eritrea (UNMEE). The LAV was severely damaged, losing a complete front wheel assembly, however it was able to return to base under its own power and the hull integrity was maintained. The crew suffered only minor, superficial injuries.
10. "Golf" Company 2 RCR noted this in a Post Exercise Report (PXR) for Ex URBAN BYTE II. The PXR outlines their experiences with MILES gear during a specific trial on how to employ a LAV in an urban patrolling environment.
11. Major Ross Bradley. *LAV in operations: A service paper*. 2002.
12. From *Chapter 6: Stability Operations*, a draft from the Infantry School, May 05.

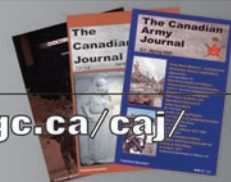
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13. Exercise ROYAL FIST was the 2 RCR BG live fire night attack ranges, which lasted from October through December of 2002. At that time, the Battalion allocated 16 LAVs to each rifle company allowing one for the CSM to use for CSS tasks. This sped up the reaction time for casualty evacuation (CASEVAC) reports due to the vehicle being able to move off road immediately to the casualty collection point, and because of the situational awareness of the CSM commanding vehicles to get this task done, as opposed to requiring net time and other sub-sub unit vehicles. This was especially problematic when there were mass casualties in an area in which an LSVW ambulance may not be able to get to, and would not have the capacity for the casualties.
 14. Margaret Neighbour, "US Soldier Killed in Sniper Attack", *The Scotsman*, 18 Jul 03, <http://thescotsman.scotsman.com/index.cfm?id=670352003>
 15. From Chapter 4: *Offensive (Urban) Operations*, a draft from the Infantry School, May 05.
 16. From a briefing given by Major Les LeBlanc, 2 Canadian Mechanized Brigade Group G2 15 Oct 04, at CFB Petawawa, Ontario.
 17. Unless a LAV is conducting a long-range movement (more than 50 km) in adverse conditions, the crew commander's windshield should be removed. Although it provides a minor comfort to the commander when riding hatches open, it restricts the view from two of the periscopes and therefore makes command and control more difficult in this environment.
 18. In 2001, a LAV struck an Anti-Tank mine while employed with 2 RCR as part of Task Force East Africa under the United Nations Mission to Ethiopia and Eritrea (UNMEE). The LAV was severely damaged, losing a complete front wheel assembly, however it was able to return to base under its own power with the crew suffering only minor, superficial injuries.
 19. Major Bill Beaudoin "An Update from the Combat Training Centre: The LAV III/Leopard C2 Mobile Automated Instrumentation Suite Field Trial" *The Army Doctrine and Training Bulletin*, Vol. 5, No. 4, Winter 2002-2003, p. 14-19.
 20. During the Instructor Gunnery Conference held at the Combat Training Centre in CFB Gagetown in May 05, lessons learned were presented that indicated the driver, in many cases, has identified targets before the gunner or even the crew commander.
 21. Some recent IEDs in Iraq have involved the use of multiple 152mm shells attached with detonation cord to a simple trigger mechanism. See *Improvised Explosive Devices—Iraq* from www.globalsecurity.org and Colonel David Eshel, "Countering Improvised Explosive Devices", *Tank: Royal Tank Regiment Journal Vol 87 No 771*, Mar 05, p 3-7.
 22. USMC pamphlet on IEDs and VBIEDs outlines several basic tactics used when employing VBIEDs.
 23. The use of *Kamakazi* (Divine Wind) by Japanese forces during operations in the Pacific during World War II, the Embassy and Marine Barracks bombings in Beirut 1983, and the attack on the USS Cole in South Yemen 2000 are just a few examples of the effectiveness of these concealed explosive weapon systems.
 24. During a presentation on Lessons Learned from recent conflicts in the Middle East given during the 2005 IG Conference at the CTC in CFB Gagetown discussed this development. In Iraq, VBIWS have been designed to provide for a collapsing MG mount that is covered quickly by a tarp. The entire system is erected and put into action in seconds.
 25. During operations in Haiti in 2004 as part of Op HALO, this was one of the major concerns of the Task Force Commander. Not that Canadian forces would be directly targeted, but that soldiers would be caught in a crossfire by stumbling across an illegal act. During a routine presence patrol in Gonaives, Haiti, a Canadian patrol was engaged by direct fire from small arms. The patrol immediately sought cover, but was unable to return fire or cut off the shooters due to the density of population and the numerous narrow alleyways. A LAV/Griffon QRF was immediately dispatched to the area to assist with the patrol. The effect intimidated the locals and the shooters fled the scene. From HUMINT sources, the shooters were criminals in the process of collecting "protection money" from local businesses and they were caught off guard by the presence of the soldiers. Their fire was simply to cover their withdrawal from the area. Situations such as this clearly indicate the effects of crime on UO.
 26. This was clear on Operation HALO during urban patrolling in Port au Prince, Petit Goave, Miragoane, and Gonaives. All of these cities were accessible through the main highways (excluding flood season) yet inside the actual communities the LAVs were very limited in their maneuver. In many cases they would remain on the MSR, dismount the troops and then either form a patrol base, CP or conduct a separate mounted patrol and VCP along the MSR. It was also noted in Captain Gimby's article that in Afghanistan, 3 RCR BG LAVs experienced the same limitations in Kabul.
 27. This was the method of operation during the Independence Day celebrations in Port Au Prince in which the MAGTF maintained dismounted patrols, under helicopter and sniper overwatch with the Canadian LAV company in reserve with preplanned routes and "actions on" drills.
 28. "Golf" Company 2 RCR noted this in a PXR for Exercise URBAN BYTE II held by 2 RCR in Fort Drum NY in the fall of 2004.
 29. In July 2005, 2 RCR conducted some rather "unscientific" trials in which this depression "dead space" was determined. With the Battle Override engaged, meaning the barrel would traverse and depress into driver's danger area, a LAV III could engage a target 180 centimetres high no closer than 5.5 metres from the front of the hull. On the sides, the LAV III could engage the same target no closer than 4.2 metres.
 30. Although a glib remark, anti-aircraft is only determined by how it's aimed. A Self Propelled Anti-Aircraft gun (SPAAG) such as the Russian ZSU-23/4 can be devastating against light armour such as a LAV III.
 31. During Operation HALO, many cordon and search operations were conducted. The outer cordon was normally one city block, however there were times when the blocks were curved and the outer cordon was forced to use dismounts at line of sight with each other and the LAV was used as the section CP. It was also evident from an After Action Review (AAR) during the CATCC 2005 that attempts to conduct an outer cordon of a size larger than one block became less effective since it increased the probability of gaps in the security for both reinforcements to come in, and for enemy to escape.

32. Daniel Goure, "Rolling Thunder" *Armed Forces Journal*, May 05, p 24-27.
33. LAVs can use their CSAM to assist with this. The CSAM is the viewing aid in the troop compartment in the rear of the LAV. During Ex Royal Fist, a night live fire attack onto a small village, the H Coy CSM required direction to get to the forward platoon casualty collection point (CCP). He stopped behind a LAV that had observation into the battle area and jumped in the back. He then asked the crew commander to slew his turret using the thermal to the site of the CCP. The CSM identified the spot on the CSAM and then commanded his LAV to that location.
34. Individual Protective Measures briefing from CJTF Marine Corps SERE specialists to "India" Company during Operation HALO, May 2004.
35. Convoys in HAITI were conducted for very important persons (VIPs) and NGOs. These were all conducted in the conventional style. The CATCC 2005 conducted four convoy escort tasks with a portion of the task moving to and from a village. The CATCC convoys also implemented engineer and aviation assets in support. Helicopters provided front and flank security while the engineers were collocated with the QRF elements to deal with obstacles and IEDs.
36. A grid for a new location can be entered at anytime into the Precision Lightweight GPS Receiver (PLGR). Ensuring that the PLGR is set to custom direct, which will display the required information to the crew commander, does this. Waypoints are then entered, such as a checkpoint en route or a hide in-route. Once this is completed, the waypoint can be copied into the next empty slot and then immediately edited so that the cursor is located directly over the first digit of the MGRS number. Therefore when the next grid is issued over the radio or is determined, the crew commander only has to pop his head down into the hatch and enter the new grid. This process takes about 10 seconds. Therefore there is no reason that the vehicle should not be programmed for the target grid every time it is moving. This will allow for ease of navigation in that the troops in the back can watch the TACNAV from the back of the vehicle and follow on their maps. At times, especially during night operations, the navigators in the back can have greater situational awareness, in broader terms, than the crew commander.
37. Reports sometimes conflict on this issue as some blasts have rendered the vehicle a mobility kill. Although the crews are not incapacitated, the vehicle is taken out of combat. See Beth Ipsen "Stryker Vehicle Performance Passes Muster with Army", Fairbanks Daily News-Miner, 10 Dec 04.
38. The vast majority of weapons that were confiscated during Operation HALO were done so during hasty VCPs that the platoon would conduct without warning at key intersections and choke points along Main Supply Routes (MSRs). During the five and half months of operations, more than 50 weapons were confiscated in this manner along with a significant amount of intelligence for follow on tasks.
39. Dr. Michael Ignatieff first referred to this moral asymmetry during a speech entitled "Ethics and the New War" which he gave in 2001 at the Royal Military College of Canada as part of the 2001 Young Memorial Lecture on 25 Oct 01.



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ADVANCED MARKSMANSHIP TRAINING: EXTENDING THE TACTICAL REACH OF THE SECTION

Major-General Ed Fitch and Sergeant Kurt Grant

More than one spectator at the Battalion Colours presentation and Medals Parade held in Pakrac during March 1993 later commented on the eerie sensations they felt on hearing target indication orders being passed by spotters to marksmen. Those orders drifted down on the wind from security posts located high above in the destroyed Pakrac hospital. No one can deny the calming effect the presence of these overt posts had on the participants and the deterrence value for any would-be belligerent.¹

As far back as anyone can remember, elements of the Canadian Forces (CF) have argued over the relevance of advanced marksmanship training. The question has always been whether shooting teams and the participation in shooting competitions, such as the Canadian Forces Small Arms Competition (CFSAC), and provincial matches, were merely elitism or whether this type of training holds any real benefit for the average soldier.

Within the combat arms community, the debate over what constitutes sufficient marksmanship training has long been divided between two camps, each equally well entrenched. On the one hand, there are those who look at CF doctrine in light of Canada's participation in three-block war (3BW) operations and recognize that there is a gap between the way CF trains and the way they are deployed in the field. They argue that advanced marksmanship allows a section commander to bring precise fire on a fleeting target in the 3BW environment, while at the same time minimizing collateral damage in the form of non-combatant casualties. They also recognize that it allows the section to maximize its firepower by extending its reach in the event it gets pinned down while on patrol. Thus, marksmanship training in their eyes is seen as a force multiplier.

The other side of the debate considers the problem with a financial eye and a triage approach to training. They compare the availability of time and funds to the number of items on the Battle Task Standards (BTS) list required to complete prior to deployment and conclude that any money spent on what are perceived as elite shooting teams or marksmanship training beyond Personal Weapons Test Level Three (PWT3), would be better spent training the soldier in fieldcraft and working out unit Standard Operating Procedures (SOPs) for use on operations. Justification for their decision can be found in CF doctrine, which implies that the CF will never embark on an operation in the field with anything less than company strength, therefore the finer points of marksmanship become less important and can be dropped from the training syllabus.

The purpose of this paper therefore, is to answer the question "is there a place for advanced marksmanship training beyond PWT3?" by demonstrating the benefits, and describing where and how the marksman would hone his skills.

Background/Scope

Personal Weapons Test

To help the reader understand the scope of the discussion, let us first examine the Personal Weapons Test (PWT) program, as laid out in the Army Training series of manuals (under Skill at Arms), B-GL-382-001/FP-001 *Shoot to Live*.

Fitch, Major-General Ed and Grant, Sergeant Kurt 'Advanced Marksmanship Training: Extending the Tactical Reach of the Section'
Canadian Army Journal Vol. 9.1 (Spring 2006), 134-144

The stated aim of the *Shoot to Live* program is to “impart the skills necessary to effectively engage a target at all distances within the effective combat range of the weapon assigned the individual.”² It is based on a multi-layered, progressive learning model that integrates both indoor and outdoor components as part of the training plan. The indoor component uses the Small Arms Trainer (SAT), which was incorporated into the program as a means to confirm basic marksmanship skills prior to moving onto the live-fire range. Most units have access to a SAT trainer, yet few, if any, make regular use of it for marksmanship training purposes. Frequently, competing training requirements, lack of skilled operators, and broken equipment keep the soldiers from making effective use of the trainer.

The outdoors, or live-fire component, is broken into ten range practices and three PWTs. For the purposes of this paper, PWT3 may be described as a confirmation of the firers’ ability to engage the target while advancing from 400 to 25 metres and includes PWT1—grouping and zeroing in various positions at 100 metres, and PWT2—applications from 200 metres with the night firing supplement. To attain the distinction of Marksman, the individual must achieve a score of 80% or better during PWT2 and 3.³

Advanced Marksman

The advanced marksman can be described as a soldier with the ability to engage targets from all positions up to 500 metres. This distance exceeds by 100 metres, the stated effective range of the C-7 with C79 scope.

Advanced marksmen are developed through participation in competitions using a standard set of twelve matches that challenges the individual to engage targets at distances from 100 to 500 meters from all four shooting positions. The matches include precision shooting as well as fire and movement. The most difficult match is the 500-meter rundown, which involves engaging the target in various positions while covering the distance in 100-meter increments. The matches further test the individual’s ability to



Sgt Grant and MGen Fitch discussing the finer points of the standing position.

deal with simulated battle stress by limiting time available to make the shot.

Attaining the Advanced Marksman level implies achieving a score over 525⁴ in the twelve matches in provincial or national competition.

It is understood that not all soldiers possess the ability to be advanced marksmen; indeed, it takes years to develop the skills to be a top shooter. Advanced marksmanship training is applied to the select few who show promise by attaining Marksman standing during the PWT.

Advantages and Disadvantages

It can be argued that manoeuvre warfare doctrine, based on fire and movement, employing massed fire against a symmetrical opponent, and its application by the CF does not call for the need to train the battle shot above PWT3. Thus, the need for advanced marksmanship skills becomes a non-starter. In addition, modern commanders are naturally reluctant to follow earlier patterns and send members (or entire platoons) of their unit off to the shooting team. The fear of elitism drives many to avoid like the plague participation in shooting teams since it traditionally involves troops

disappearing in the Spring only to reappear in the Fall—having missed the Summer's taskings, which was assumed to have had a negative effect on unit cohesion. However, in the current CF environment, particularly given the pace of operations and the need to develop and maintain higher levels of operational readiness, such avoidance is neither practicable nor realistic.



Combat Camera APD02 5340

A sniper from 3 Bn PPCLI blends into the background of Afghanistan APD02

Manoeuvre Warfare has been long-studied but rarely, if ever, applied by the CF. In reality, CF operations since 1990 have been a journey of discovery of 3BW, characterized by asymmetric opponents and complex terrain amongst a dense civilian population. Operationally, the CF practice of deploying troops over a wide Area Of Responsibility (AOR) and conducting operations at the team, section and platoon level (e.g. patrolling/harvest operations) effectively establishes a dichotomy between the way the CF trains and the way it operates. On the one hand, the CF prepares for the worst-case scenario wherein large-scale operations are planned, while on the other hand it practices interventionist type operations where minimum collateral damage is required. Operations Other Than War (OOTW) such as Op HARMONY in Croatia and Op DELIVERANCE in Somalia, have clearly demonstrated the need for advanced marksmen at the lowest levels. Yet CF doctrine shows that marksmanship above PWT3 is not an essential skill due to the nature of the operations for which it trains. Therefore, one is left to ask, how good is good enough? Is there really a need to train the battle shot only to level three—the fire and movement phase? Or is a higher level of training required? Few will deny the effectiveness of the sniper. The mere word strikes fear into the hearts of those who are aware of their capabilities, and raises an air of mystique when used in the media. Despite their classification as a weapons system by Geneva Convention, they are few in number and can only be deployed (within the CF at least) by a battalion commander. This then severely limits their availability to lower level commanders. But what if the capability of a highly trained marksman were available to the section, platoon or company commander? The effect on enemy morale would be measurable and would achieve the goal of rendering the enemy incapable of fighting while minimizing friendly casualties, particularly on asymmetric operations. It is here that we introduce the Advanced Marksmen—the infanteer who has qualified as a marksman

at PWT3, and gone on to refine his shooting skills through coaching courses and competitive shooting. By training the individual soldier to become a better marksman with his C-7, he can now engage the target out to a distance of 500 metres. When coupled with a spotter—his fire team partner using the C79 scope—that distance can be further extended by 100 to 200 metres. This then creates a potential 700 m envelope around whatever is being protected without adding new resources, while retaining control down to the section level⁶.

But doctrine continues to evolve, and the manoeuvre warfare doctrine born of the Cold War finds little application in the fluid environment of current operations. First articulated in 1997 by Marine Corps General Charles C. Krulak, the 3BW concept clearly demonstrates the spectrum of skills required by the modern soldier.

In one moment in time, our service members will be feeding and clothing displaced refugees, providing humanitarian assistance. In the next moment, they will be holding two warring tribes' apart—conducting peacekeeping operations—and finally they will be fighting a highly lethal mid-intensity battle—all on the same day, all within three city blocks. In this environment, conventional doctrine and organizations may mean very little. It is an environment born of change.⁶

As General Krulak points out, on the modern battlefield conventional doctrine and organizations may mean very little. Change began in 1990 with the demise of the Iron Curtain, marking the end of the bi-polar world that dictated doctrine since the end of the Second World War. From the Canadian perspective, the past fifteen years of United Nations (UN) peacekeeping operations have seen the emphasis shift from inter-state to intra-state conflict, leaving Cold War doctrine in its wake. In spite of this changing reality, a decade after its introduction, the 1994 White Paper continues to influence how the CF organizes and trains. This doctrine is based on fighting techniques that were developed as far back as the First (section attacks) and Second (fighting in built-up areas [FIBUA]) World Wars and assumes that the enemy will be based on the Soviet model: a model that is no longer being encountered in the field. Where the doctrine speaks of brigade, battalion-, and even company-level operations, the Canadian tactical peacekeeping experience clearly shows a completely different deployment of manpower. Gone are the days of in-depth defensive positions that utilized interlocking company arcs of fire. The tactical situation now demands that companies operate independently in areas of operation. Headquarters and support elements are centrally located, with platoons and sections dispersed to observation posts to act independently, supported only by the quick reaction forces (QRF) in the event of an emergency. Patrolling and interaction with locals forms the basis of the new tactics. With far less emphasis now being placed on holding the ground, commanders at all levels are being forced to think of how to render the enemy incapable of fighting while minimizing friendly casualties.⁷

Application

By examining the various phases of war we see that the advantages of having advanced marksmen in the formation become clear. During the advance phase of transitional operations, it is common practice for the lead section or platoon to hold their ground after they have come under effective enemy fire and act as a fire base for which ever remaining elements are going to put in the attack. Under these circumstances advanced marksmen, as part of the fire base, can reduce the number of enemy combatants through the use of snap shooting (limited time, aimed shots). Coupled with C-9 fire, a section would be capable of sustaining suppressing fire as well as accurately engaging targets of opportunity at the target area, thus conserving ammunition and maintaining the initiative.



Combat Camera/IS2005-0167

Night firing skills are also critical. Here soldiers from R22R practice at a firing range

In defensive operations, both mobile and area, the use of advanced marksmen can be extremely effective in reducing the number of advancing troops once they have dismounted (rapid fire aimed shots). This would effectively destroy the enemy's offensive capability, "... while retaining terrain and preventing the enemy from breaking through."⁸ Also in defensive operations, as demonstrated in the opening quote, a well-placed marksman with spotter can provide effective over-watch against enemy recon parties. Again, snap shooting skills learned during competition, coupled with experienced reading of the wind, thus improving accuracy, come into play here as reduced exposure times and greater distances are involved. This tasking need not be for one individual or single team only, since these skills would be resident throughout the platoon and more than one team can be assigned to the task. To see how the over-watch concept can further be applied to OOTW, we need only return to the CF experience in Yugoslavia. In the opening quote then LCol Nordick makes clear reference to teams being deployed in over-watch positions, something he was able to do without having to employ his sniper assets. An excellent example of the application of fire from a defensive position in recent CF peacekeeping operations is the 1993 PPCLI hasty defence of the Medak Pocket in Croatia. During the engagement, the PPCLI used small arms fire to engage Croatian forces causing substantial casualties (some estimates range as high as 120) while suffering only four wounded from shrapnel.

Finally, during a withdrawal, a platoon of advanced marksmen with spotters left behind in a delaying action would have the same or greater effect as a number of C-3 snipers with the same task. The advantages here are that the deployment of the marksman teams would be at the platoon/company level and because of the larger numbers of teams, the ground covered would be considerably larger, with less risk of loss of valuable assets (sniper team).

In the 3BW context, another recurrent scenario is the convoy that is ambushed. Here, advanced marksmen would help to win the firefight then dominate the scene while the remaining convoy elements or reinforcements plan and execute the definitive counter-attack.

Training and Honing Marksmanship Skills

A leader without a sense of competition is weak and easily overcome by the slightest challenge

Attila the Hun

In light of the strategic corporal where one bad shot can have far reaching political consequences, the need for marksmanship training at all levels becomes more apparent. Yet the question remains in light of the current training load and operational deployment, where does the commander find the time and personnel to participate in any kind of advanced marksmanship training? The answer, in a word, is competition.

The stated aim of competitions such as the Canadian Forces Small Arms Competition (CFSAC) is to encourage and develop marksmanship in all components of the CF in order to increase operational effectiveness⁹. The lessons learned from participation in these events, however, are universal and apply to the firing of all small arms under all conditions and ranges. While most operational engagements with the C7 rifle are expected to be at 300 m or less, soldiers skilled at longer range marksmanship under conventional range conditions have demonstrably improved likelihood of hitting a closer target at degraded conditions of light and weather under the stress of combat.

Expertise in marksmanship is not a simple skill; regular practice is essential to skill retention. The good news is that compared to many other forms of training, small arms shooting enjoys a high benefit-to-cost ratio. The infrastructure (including ranges, targetry, and electronic simulators and firearms) are by-and-large already available. Small arms ammunition is relatively inexpensive and shooting training and competitions enhance many desirable qualities at the critical "small unit" level. Most competitions are held on weekends during the summer, while effective use of the SAT trainer to hash out the basics can be made during off hours or downtime during training throughout the year at limited cost and training impact. As unit training gears down in the spring, weekend and evening training on live ranges outside the training schedule exposes the shooter to changing conditions, building a base of experience the shooter can use on operations. In striving for the top, shooters progressively learn the skill in all its intricacies. It is certainly not necessary for every serviceman to be a Bisley¹⁰ shot. Nonetheless, Bisley remains the pinnacle of achievement for the best long-range rifle marksmen of the world, be they professional soldiers or civilians pursuing a challenging sport.

Marksmanship training progress demonstrates the classic series of steps upward interspersed with plateaus; marksmanship improves with intelligent practice and, once attained, can be maintained without great difficulty or cost. To support this approach, the CF has the essential components in place in the form of instructors assisted by small arms training simulators and conventional ranges. There are section commanders with small arms coaching courses to further develop individual skills and teach the elements of collective Battle Task Standard (BTS) on the range and in the field. The Infantry School in Gagetown grows a small number of more qualified coaches and instructors who can train unit coaches and transmit the long-range marksmanship skills essential to the sniper. But where do these more qualified instructors learn their craft? If limited to mutual instruction at school and unit level then the skills will fade. It is here that competition, especially at the international level, becomes particularly important. The 300 m rifle matches of CISM-Shooting are a good example of high-level competition with direct application to military skills. CFSAC too, with teams from England, the US, Australia and across Canada, provides a forum for the best military shooters in the world to ply their trade under similar conditions and exchange ideas on operational shooting¹¹. In Canada, the pre-eminent national organization dedicated to exactly this challenge is

the Dominion of Canada Rifle Association (DCRA), which is firmly supported by a tight network of provincial rifle associations such as the Ontario Rifle Association (ORA). Provincial and national level competitions such as the DCRA Service Conditions Competition provide the motivation for excellence as well as the venue to trial ideas and techniques against the best our allies have to offer. Indeed, post-9/11 has witnessed the renewed appearance of tactical teams from the Bruce Nuclear plant near Toronto, and Royal Canadian Mounted Police (RCMP) teams on the competitors list signalling a universal recognition of the importance of marksmanship as an essential skill.

It is at these higher levels of long-range marksmanship that the CF can benefit most by tapping into expertise available outside the CF. But competition need not be seen as an elitist sport. Integral to the participation in competition is the need for the participant to return to his unit and pass on the skills and techniques he has learned. This means for instance, that competitors to higher competition (e.g. CFSAC, Bisley) understand that they have not been sent there solely for their personal benefit or enjoyment. Rather, they are expected to systematically learn, absorb, analyse and transmit the gains to the next lower level within their unit. In turn, unit commanders must understand and value what has been learned and create the opportunities for that learning to be passed on. Competitions such as CFSAC more closely simulate operational shooting than conventional training, but are ultimately as the best test of marksmanship, an essential building block of operational shooting. Total operational shooting is the domain of the unit and formation commander who needs to be able to depend upon the foundations of marksmanship being in place before they add the remaining parts.

The benefits of competition shooting can best be seen in Figure 1, below, which illustrates the hierarchy of marksmanship by the nature of the participant and the relative importance of training or competition as a means of attaining the skill level. Directorate Army Training uses a similar construct but names the five levels according to skill or competition level, thus (lowest to highest): Individual Battle Task Standard (IBTS) or Skill; Collective or Team BTS or Skill; Collective or Team BTS or Skill; Unit, Brigade or Area Competitions; Army or National Competitions, International Competitions.

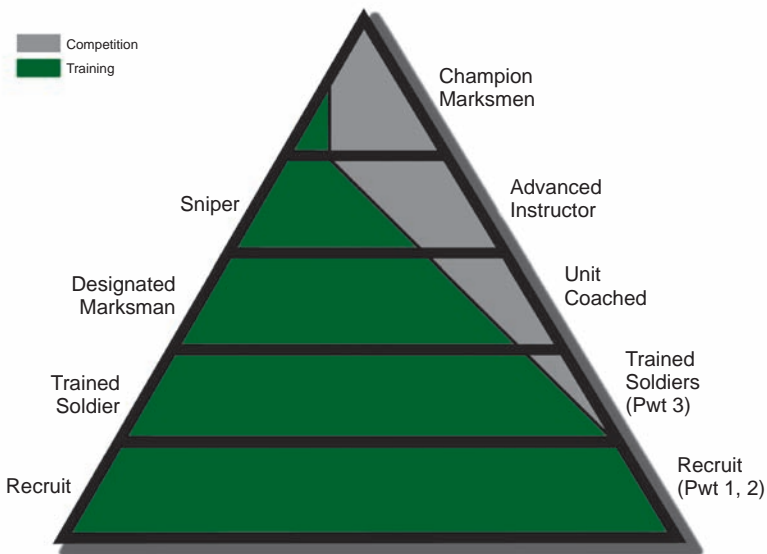


Figure 1: Marksmanship training to need.

Meeting the Need

Having looked at the various components of marksmanship in light of the new doctrine we are left to ask: is there any advantage in training marksmen beyond PWT3? Without question the answer is a resounding yes!

First and foremost there is the issue of operational effectiveness. As Col Calvin, commander of the Canadian forces involved in the 1993 Medak Pocket incident points out, "a soldier must have confidence in his own, his section and platoon and higher's ability to apply deadly force and protect himself. Only when they possess that higher levels of confidence born from skill at arms will they be able to apply that deadly force calmly and with absolute precision."¹² Advanced marksmanship training in the form of competition shooting affords individual soldiers the opportunity to test and refine their marksmanship skills in a stress filled environment. They gain an increased proficiency with their personal weapons, and their ammunition discipline far exceeds anything learned in the regular training system. This gives the member a higher degree of confidence in his ability while in theatre. Given the dispersed nature of deployments on operation, this type of training unquestionably increases the effectiveness of the individual soldier. Combat arms soldiers know this and make efforts to avail themselves of the opportunity to compete, as witnessed by members of 3 RCR attending an ORA Service Conditions competition in July 2003 while on leave prior to their deployment to Afghanistan.¹³ Additionally, the skills and expertise learned from this type of training are brought back to each member's unit and passed on to others¹⁴ thereby improving the marksmanship standard throughout the unit through individualized coaching.

Tactically, the advantages offered to the lowest levels of command by the marksman are disproportionately high given the low cost of implementation, and not without precedent. The 4th Marine Expeditionary Brigade (Anti-Terrorism) has recently implemented a Designated Marksman program to increase the effectiveness of their Marine units. As Major General-select James Mattis said during an annual Marine Corps dinner where lessons learned from the war on terrorism were discussed, "It allows the squad to [bring] precise fire on an individual. For example, if people are hiding behind civilians.... you've got one guy back there who can pick out somebody in the crowd and knock him down, and not hit the innocent people."¹⁵

As we are all aware, the past 15 years have witnessed a marked increase in the operational pace for the CF. This increased pace has meant that commanders have been forced to make tough choices on where to focus their efforts within a limited training schedule in order to meet operational readiness standards prior to deployment. Few commanders have shown that they are aware of the benefits of using a SAT to improve basic marksmanship skills, and fewer still are willing to take advantage of the benefits garnered by having their troops participate in competition. As a result of the downplaying of marksmanship training, individual soldier skills have correspondingly degraded in recent years. Evidence of the effect of this decision can be found in the results of the 33 Brigade MILSKILLS competition held in Petawawa on 1-3 October 2004, in which teams competed for points at various stands while completing a forced march¹⁶. One of the stands involved a C7 day firing supplement, valued at 10 points. The average score for the 26 eight man teams was 4.9 (or 49%). A night firing supplement was also held as part of the competition for which the average score out of ten was 3.6 (or 36%).¹⁷ These poor results are not only indicative of the low level of marksmanship skills resident among the competitors [who are supposed to be the best soldiers from each regiment], but are an indication of a far greater problem within CF as a whole.

It therefore seems strikingly odd that an army, that for years supported advanced marksmanship training (small arms, and small arms coaches course) and competitive



On a shooting range in Afghanistan—marksmanship here may save a soldier's life

shooting as a means of increasing the marksmanship standard within a unit and building moral, should cancel participation in marksmanship competition at all levels.¹⁸ Given that marksmanship is one of the three cornerstones of an infantry's skills¹⁹, and that the infantry's job description is "to close with and destroy the enemy," this decision harkens back to the American pre-Gulf War experience of abandoning all sniper and marksmanship training immediately following WWI & II, Korea and again after Vietnam. It was not until the mid 1980s that the US Marine Corps took up the challenge of creating an advanced marksmanship-training unit that continues to send instructors into the field in Iraq and Afghanistan to conduct refresher courses—a need that is becoming more apparent within the CF.

Conclusion

With far more emphasis now being placed on asymmetric warfare, commanders at all levels are forced to think of how to render the enemy incapable of fighting while minimizing friendly or non-combatant casualties. We need only look as far as the CF experience in Yugoslavia, or the American experience in Iraq for examples of the need for this capability. Marksmanship training effectively addresses this issue. Yet despite the obvious benefits of this type of training, the inherent need for company and platoon commanders to create unit cohesiveness through commonality of training frequently outweighs the requirement to detach individuals for advanced marksmanship training. This preference for cohesion persists despite the fact that trained marksmen allow the commander to expand the capability and effectiveness of his unit without risking lives or taxing limited battalion resources. Additionally, increased range time, and the re-introduction of competitive shooting to the training schedule, will have a positive influence on the soldier's confidence to successfully engage the enemy at distance.

In short, marksmanship training is—both mentally and physically—a force multiplier. Further, by encouraging all trades across the CF to participate in competitions, marksmanship skills and thus, trained marksmen, would be more evenly dispersed throughout the CF and available to commanders outside the combat arms. This would

further enhance the capabilities of the commanders who are currently forced to use their non-combat arms personnel for base security and other infantry type taskings²⁰.

Soldiers are expected to shoot well. Competent marksmanship contributes to a soldier's self-confidence and the mutual confidence of those around him. Expert small arms marksmanship contributes to effective firing of other weapons systems as the soldier gains more understanding of the complex relationship between weapon, projectile, environment and target. To progress as a marksman, personal discipline grows as the individual sets goals, identifies problems, derives solutions, takes the necessary action, and follows through until success is achieved. These are basic problem solving skills applicable to many situations. Marksmanship is a fundamental military skill essential to success in combat. In an age of doing more with less, comparing the minimal cost associated with training marksman (thus creating a low-level deployable weapons system), with the disproportionate tactical advantage offered commanders, the choice seems clear. Yet the issue is more fundamental than lack of funding, availability of resources or time to train. The training of marksmen is an issue of priority. Even if funding and time were made available many commanders would not increase the emphasis on marksmanship, but would choose instead to redirect their efforts toward other activities they deemed more important. While this could be explained away as a command decision, the impact on subunit effectiveness would be appreciable, and in the end will cost lives.

Note: the authors would like to thank WO Mike Lever who consulted on the writing of this paper and is a serving member of the Cameron Highlanders of Ottawa. He was a member of the 2004 and 2005 NDHQ rifle team, and is employed at the DND's Directorate History and Heritage in Ottawa

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Major-General Ed Fitch is the project manager of the LFRR project. A long time shooter and international competitor, he was named the CF Patron of Shooting in 2001.

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Endnotes

1. Maj Fisher, *UNPROFOR Rules of Engagement*, Infantry Journal #26, LCol Nordick, Commanding Officer's Concluding Remarks.
2. B-GL-382-001-FP-001, Shoot to Live, Section 2, Concept, point a. The effective combat range of the C7 rifle with C79 scope is defined as 400m.
3. It should be pointed out that the term "marksman," as applied here, is only an achievement and not a skill.
4. Highest possible score is 600
5. At 700 metres the 5.56 round will have substantially reduced impact power. However, the round would still be supersonic and have the ability to cause casualties and therefore is, by definition, effective fire.
6. General Charles C. Krulak's National Press Club speech can be found in *Vital Speeches of the Day*, 15 December 1997, pp 139-41
7. B-GL-300-002-FP-000, *Land Force Tactical Doctrine*, 1997-05-16, Chapter 1, Manoeuvre Warfare, point 14.
8. B-GL-300-002-FP-000, *Defensive operations*, points 3a and d, p 4 -1
9. Lt (N) Delaney, *Briefing Note—The Cancellation of the Canadian Forces Small Arms Competition (CFSAC)* 2003, point 2
10. Bisley Camp, Surrey, England is the more than century old location of the annual world championships of long-range rifle shooting. Bisley also hosts many other shooting competitions, notably the Central Skill-at-arms meeting (CENTSAM) UK-hosted international equivalent of the Canadian Forces Small Arms Competition (CFSAC)).
11. Operational Shooting is the application of the fire of weapons and weapons systems during the conduct of operations.

This is a defining skill of a military force. It is composed of several complementary skills including fieldcraft, tactical movement, camouflage and concealment, target acquisition, command and control, and marksmanship. Collective live fire is often identified as the peak of operational shooting training but is counter-productive to any soldier that is not confident of his/her own marksmanship skills.

12. Col Calvin 1998, as quoted in a CDA/CDAI paper entitled *The Medak Pocket*, opening quote

13. Personal interview with MCpl Travis Surette of 3 RCR, one of the team members who attended the ORA meet.

14. Lt (N) Delaney, *Briefing Note—The Cancellation of the Canadian Forces Small Arms Competition (CFSAC) 2003*, point

6. This point is reinforced by the author's personal experience.

15. C. Mark Brinkley, *Top Shots For Every Squad*, Marine Corps Times, 29 July, 2002

16. Events include General Military Knowledge, C7 day shoot, Forced March, First Aid, Night Shoot, Night Evasion and Navigation.

17. Figures are based on the Competition Scoring Matrix generated on 03 Oct 2004 with the official results.

18. 2002 marked the last running of CFSAC in Ottawa, however, prior to that money allocated for participation in regional shoots was withdrawn and CF participation dropped to near zero.

19. The three skills required to be an effective infanteer are fieldcraft, physical fitness, and marksmanship.

20. American units are using armoured troops for house clearing operations, as evidenced by photos published in a recent issue of Time magazine.



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— BOOK REVIEWS —

SEMPER FI IN THE MIDDLE EAST—THE MARCH UP: TAKING BAGHDAD WITH THE UNITED STATES MARINES

Bing West and Major General (USMC Ret.) Ray L. Smith (New York: Bantam Books, 2004) SC, 315 pages, \$21.00 Cdn

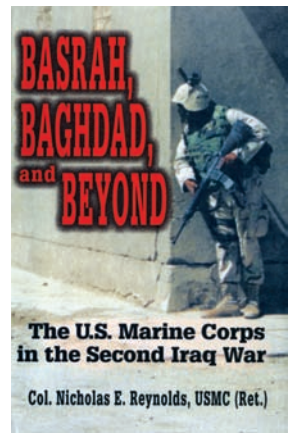
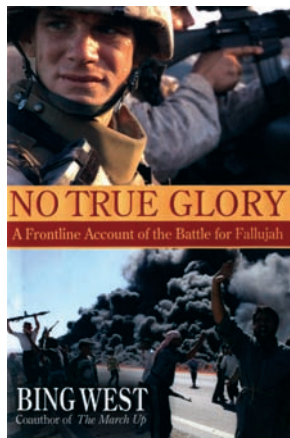
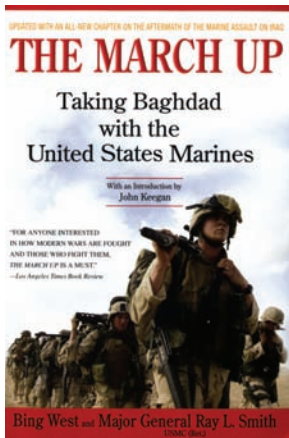
NO TRUE GLORY: A FRONTLINE ACCOUNT OF THE BATTLE FOR FALLUJA

Bing West (New York: Bantam Books, 2005) HC, 380 pages, \$35.00 Cdn

BASRAH, BAGHDAD, AND BEYOND: THE U.S. MARINE CORPS IN THE SECOND IRAQ WAR

Colonel (USMC Ret.) Nicholas E. Reynolds (Annapolis: Naval Institute Press, 2005) HC, 320 pages, \$USD 32.95

Reviewed by Lieutenant-Colonel Ian Hunt and Major Andrew B. Godefroy, CD, Ph.D.



The first unclassified histories of the 2003 Iraq War and its aftermath appeared within months of the announced termination of major combat operations. *The Canadian Army Journal* reviewed one of the earliest publications, *The Iraq War*, by Williamson Murray and Major General Robert H. Scales Jr. in 2004 (Vol. 7.3/7.4 pp.124-127). This review examines three additional histories of the Iraq War that focus more specifically on the United States Marine Corps (USMC), interestingly all written by retired U.S. Marines.

After months of training and preparation, the 1st Marine Division's Regimental Combat Teams (RCTs) surged across the Kuwait-Iraq border on D-Day, 21 March 2003. Within the first few hours they had seized several vital objectives in southern Iraq including 'the crown jewel', the nickname for the Az Subayr oil pumping station that was the lynchpin for more than 300 of the 454 active wells in the Rumaylah oil fields. Over two million barrels a day flowed to this single pumping station and its destruction by the Iraqis would have released a terrible environmental disaster across southern Iraq. Striking fast, the marines secured the site and kept it from becoming an obstacle to their advance.¹ The 1st Marine Division then made its way to Jalibah, and then after on up to An Nasiriyah where it fought its first major engagement against the Iraqi Army and its

ancillary forces. Pushing through the resistance there, it continued up highways 1 and 7, executing its doctrine of manoeuvre warfare as it thrust all the way northward towards the prize—Baghdad. By 10 April Marine RCTs were on the outskirts of the city and the regime of Saddam Hussein came to an end soon after.

Colonel Reynolds' work, *Basrah, Baghdad, and Beyond* offers a concise if at times unrefined narrative of USMC operations in this war. However, the official historian (it should be noted however that he was one of several official historians deployed to the theatre) admits in his preface that the book was not meant to be a finished official history but an operational history from one historian's perspective. What is immediately interesting about this book is that it begins its story in September-October 2001, when the Marine Expeditionary Force (MEF) had its attention focused towards Afghanistan. Providing considerable detail of the command and control aspects of preparing Marine forces for theatre operations and deployment, the reader gets a good sense of just how complex and at times incredibly demanding modern operations truly are, especially when moving from one major theatre to another. Reynolds takes the reader through this planning and execution maze right up to the end of the major combat phase of Operation Iraqi Freedom (OIF), and includes a considerable amount of supporting information in a series of annexes accompanying the main manuscript.

Reynold's book provides a good example of the iterative process of historical record and there are some lessons to be learned by the Canadian Army from this example. As a uniformed military historian, Reynolds maintained an intimate relationship with his subject. He collected primary sources as they became available, interviewed the main actors, deployed when and wherever his subject went, and was able to provide a contemporary and relevant product back to both the military student and the interested public. As a result, he was able to produce a timely and relevant manuscript that will serve as a reference for more advanced studies.

Similar to Colonel Reynolds' own efforts was that of another pair of retired Marines, Bing West and Ray Smith. West, a Marine Infantry Officer in Vietnam and later Assistant Secretary of Defence for International Security Affairs, teamed up with Major General (retired) Ray Smith, a Marine rifle company commander at Hue City in 1968 who later commanded Marines in Grenada and Beruit before becoming commander 3rd Marine Division, to follow and record the story of the 1st Marine Division as it fought its way into Iraq. As with Reynolds' work, *The March Up* presents a highly readable account of the Iraq War, which could only result from authors having immediate access to the subject at hand. Their account of the fighting at Ambush Alley, An Nasiriyah, and other engagements, give the reader a very personal look at the modern foot soldier fighting a manoeuvre war.

The last book considered in this review is another study by Bing West. His book, *No True Glory*, is the first comprehensive account of the battle for Fallujah from its beginning with the infamous ambush of the Blackwater security vehicles in April 2004 through to the final assault to clear the insurgents out of the city in November 2004. It is well researched and well written, and serves as a practical example of Full Spectrum Operations in an urban environment.

Regularly moving between the morass of politics at the national and Joint Task Force level and the dirty, hair raising stress of individual combat, *No True Glory* is a book to be read by section through battalion commanders to give them a better understanding of the issues involved in counter insurgency on a broad level and urban fighting at the section level. While a reinforced division conducts the final operation, the book correctly focuses on the platoons and squads that fought house to house as the key to the success. The author relates many examples to show that, once in contact with the

enemy, the key decisions were made at the company, platoon and most frequently at the squad level, leaving the higher HQs to support their efforts as best they could.

The book demonstrates that huge leaps in gathering and disseminating intelligence have failed to lift the fog and that war remains hell, especially at the section level where advance to contact remains the norm. A thoughtful study of this book, compared with our current doctrine and tactics, techniques and procedures, coupled with a discussion of why things go right or wrong would be useful training in preparation for operational deployment. This book is recommended professional development reading for combat arms officers and NCOs in conjunction with B-GL- 322-007 *Unique Operation—Urban* and B-GL 322-008 *A Tactical Guide to Urban Operations*.

Overall, these three books provide a solid introduction to USMC operations in the Iraqi theatre and are recommended to soldiers, historians, and students of land warfare.

Endnotes

1. The American perception prior to the war was that Saddam would order the destruction of oil wells just as he had in the 1990-91 Gulf War. A recently declassified study by US Joint Forces Command of Iraq's political and military preparations for invasion has since revealed that Saddam did not intend to destroy his own oil fields, thinking that he would need them to sustain his power base following the end of the 'limited war' against the USA.

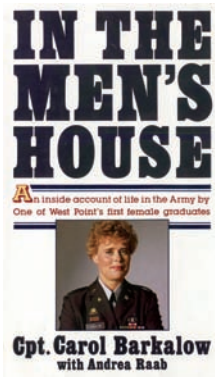
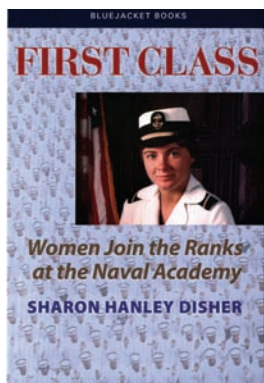
IN THE MEN'S HOUSE: AN INSIDE ACCOUNT OF LIFE IN THE ARMY BY ONE OF WEST POINT'S FIRST FEMALE GRADUATES

Captain Carol Barkalow, with Andrea Raab (New York: Poseidon Press, 1990), 283 pages, ISBN 0-671-67312-2

FIRST CLASS: WOMEN JOIN THE RANKS AT THE NAVAL ACADEMY

Sharon Hanley Disher (Annapolis: Naval Institute Press, 1998; Bluejacket Books printing, 2005), 362 pages, ISBN 1-59114-216-4

Reviewed by Captain Helga D. Grodzinski, CD, MA



In October 1975, US President Gerald R. Ford signed Public Law 94-106, which admitted women into the nation's three service academies. In the year of the American Bicentennial, 119 women entered the U.S. Military Academy (USMA) at West Point, 81 entered the U.S. Naval Academy (USNA) at Annapolis and 157 entered the U.S. Air Force Academy (USAFA) at Colorado Springs. Canada followed, admitting women to Royal Military College (RMC) Kingston and le Collège militaire royale de St-Jean in 1980 the year the first women

graduated from the American academies. (Women were not admitted to Royal Roads Military College until 1984)

In the Men's House and *First Class* tell the stories of the first women to attend West Point and Annapolis, respectively. There is no book about the first women to attend

USAFA, nor has any book come along to tell the story of the first women at Canadian military colleges. As the only books extant on the topic, these titles are in any case critical additions to our military and social history. The good news is that they are both engaging and interesting books.

The books are generally similar in structure and theme. Both are based primarily on diaries and recollections of the authors, however *In the Men's House* also contains accounts from interviews with the author's classmates, senior officers and women from later West Point classes. Both books begin with a disclaimer that, although the stories are true and the characters real, names had been changed "to protect individual privacy, innocence, or guilt."¹ This cloaking of the truth was most likely prompted by legal advice and the necessity becomes clear when one reads the harrowing descriptions of sexual assault, harassment, hazing and hatred inflicted upon these women by upperclassmen and peers, many of whom would have been at the time of publication (and might still be) serving in senior leadership positions.

In the Men's House is a very satisfying read, which will be of particular interest to army officers. It is well researched and has obviously benefited from Barkalow's collaboration with a professional writer. I began the book expecting it to be a reconstruction of a West Point diary, but it is much more than that. Only half the book deals with Barkalow's West Point career, and the author provides an excellent contextual overview. The opening chapter situates the admission of women to West Point within the context of other institutional changes, such as fall-out from the Vietnam War and a major cheating scandal in the early 70's that prompted a revisiting of the honour code. The latter half of the book describes Barkalow's post-USMA career and provides some of the most interesting reading.

The book presents her diary entries, edited and arranged for narrative consistency and augmented with explanations and comments from interviews. Written in the first person, this is Barkalow's true story and her skilful use and definition of Academy jargon pulls us along for a whirlwind guided tour through "Beast Barracks", West Point's recruit orientation camp. The pacing is excellent and the book is quite simply a page-turner.

Barkalow does not shy away from dealing with the difficulties that pioneering women at West Point faced, but she takes pains to understand and express the male perspective. She also describes conduct that is frighteningly hateful and which cannot be excused in any way. On hazing, Barkalow recalls:

Women, in particular, became a target group for special hazing, though certainly men were not exempt. The difference was, men had to prove themselves weak before they became subject to this kind of harassment; women had to prove themselves strong before they were spared it. [...] Hazing was constant, emotional, mental. It was like a form of terrorism, because we never knew when it was coming and where it was coming from [...] Even the simplest social exchange could become an occasion for contempt. If a female new cadet passed an upperclassman in the hall and said, "Good morning, Sir," she might be greeted in return with cool civility. Then again, she might hear back, "Good morning, bitch." Or, "It was a good morning until you got here, whore". "Turn and face the wall," an upperclassman would tell a female new cadet. "You're ugly."²

Life for women at West was a never-ending series of Catch-22s. A female cadet was ordered by upperclassmen to undergo seven haircuts over two days. After that, her "tac" (tactical officer, equivalent to RMC squadron commander) yelled at her for having her hair too short and forbid her from getting another haircut without his direct authorization, as if this was something she had willingly done to herself. It is as absurd as it is infuriating to read. Body shape was another particular hell visited upon female

cadets, who were required to attend every meal, fed a diet designed for eighteen-year old males, then savagely ridiculed when they gained weight.

The jokes that the author recounts about female cadets are dishearteningly familiar to the early classes of women who attended Canada's military colleges:

To compound the problem, we had professors—majors and lieutenant colonels—who told jokes about female cadets. [...] Of course there were times when we'd hear one of these jokes and think that maybe we should have been more vocal against them. The overriding question was, where do we expend our energy? We had to pick our arguments. In some cases we learned to suppress our anger, even outrage, when we figured it simply wasn't worth it.³

Barkalow focuses heavily on plebe and yearling (second) year and glosses over much of cow (third) and firstie (fourth) year. Graduation and her feelings about it are scarcely mentioned, which seems somewhat odd, given the significance of the moment. At this point in the book, however, Barkalow is clearly more interested in analysis and critique of the Academy and US Army policies concerning the employment of women. She does not dwell upon the historical impact of her graduation from West Point; rather she is more focussed on getting out into the real world as a commissioned officer.

The other half of the book is an extremely interesting account of her early post-USMA career. The portion describing her service in a Nike Hercules nuclear missile battery in West Germany is a fascinating account of service on the front lines of the Cold War. Her comments about leadership—working with senior NCOs, making ethical decisions, dealing with problem soldiers, maintaining morale—in a nuclear weapons site are excellent lessons learned by a sharp student in a tough classroom, and they transcend gender. This part of the book also reveals how official policies restricting women from combat could be circumvented when needs of the service dictated.

Upon returning to the US, Captain Barkalow transferred from the artillery to transportation corps in order to have the opportunity, not available to her in the artillery under the policies of the day, to command. Here she writes candidly about the challenges of leadership and the unglamorous but critical work of command in what was generally considered peacetime. Mass drug testing, boredom, financially strapped soldiers and domestic violence are just a few of the problems with which she had to contend. She also describes challenge of trying to have a life of her own while being in the public eye as a female officer.

The book concludes with a useful appendix detailing the policy evolution that led to the admission of women into USMA. There is also a chronology of American army women in the 20th century, in which Canada receives honourable mention for having removed barriers to women serving in combat roles (less submarines) in 1989, although no mention is made of women attending Canadian military colleges since 1980.

In short, Barkalow does a wonderful job using her own experience to tell the story of the first women attending West Point and their post-USMA careers. She has included personal photographs, which enhance the book. Even better is the way in which she places her experience within the bigger picture of the overall evolution of USMA, the role of women in the US military and the historical context of the period.

First Class is presented as a third person narrative of the Naval Academy careers of a few key characters, who are either autobiographical or composites of the author and selected classmates. This is an odd device, for it creates the appearance of fiction in a work that purports to reveal truth. Organized in journal form, with chapters following semesters, the book is strongest in its first chapters. Disher vividly captures the stress and disorientation of plebe summer (recruit orientation camp), including the added stress for women dealing with butchered haircuts, man-cut uniforms, relentless media pressure

and overt hostility from males of all years and ranks. With plain, effective language and colourful detail, she defines the jargon and describes the quirks of Annapolis, drawing the reader into this unique world.

Even a reader who has experienced or witnessed harassment in military settings will be shocked by many of the incidents described by Disher. Even the supposedly humorous incidents contain undertones of hostility or despair. While she is doubtless being true to her story and that of her colleagues, the composite nature of her characterizations emphasizes negative incidents; thus the book reads as a series of outrages punctuated only rarely by the odd act of kindness or tolerance. Under the unremittingly soul-destroying conditions recounted by Disher it is indeed remarkable that 56 of the 81 women who entered Annapolis in 1976 hung on to graduate.

Like the female cadets at West Point, the first women midshipmen at Annapolis constantly found themselves in no-win situations. If they tried to look and act like women they were ridiculed as unprofessional and were publicly subjected to sexually charged commentary about their appearance. They had no choice but to wear mandatory, hatchet-job short haircuts, for which they were labelled ugly. If they avoided romantic entanglements with male midshipmen they had to be dykes; if they entered into relationships they were “fried” (record of improper conduct) for “dragging” (fraternization). If they tried to support each other, they were branded a “sewing club”, or worse, given the policies and attitudes of the day, a lesbian network. They therefore did everything within their power to blend in with their male classmates, which naturally resulted in accusations that they were not “real” women.

Focussing also on the toughest and busiest years Disher’s book concentrates on plebe summer and the plebe (first) and youngster (second) academic years, and the summer training programs between them. Less than a third of the book describes the second-class (third year) and first-class (fourth year) years. At this point, the author seems in a hurry to get the stories down on paper and some descriptions of incidents are begun, but not followed up. By the time the author gets around to describing the culmination of this arduous journey, the narrative is rushed and Graduation Day seems anti-climactic. The book ends here, except for a brief epilogue where the main character returns to Annapolis for the graduation of a later generation of women. A glimpse of the women’s post-Academy careers would have been welcome.

Although Graduation Day should have been the ultimate triumph and vindication for these remarkable women, Disher unintentionally records a sad and telling dénouement, when one of the main characters refuses an invitation to join in a photo of “us girls, for posterity”. “There was no way Sarah was going to be part of this group segregating themselves from the guys the last day they would all be together. She didn’t want that to be one of the last impressions the guys had of them.”⁴ The first female midshipmen had never been allowed to feel one moment’s pride as women. An opportunity to complete an important historical record was lost by this desperate and ultimately futile attempt to remain invisible.

Both of these books are highly recommended for anyone who is interested in the history of women in the military, curious about the idiosyncrasies and inner workings of American service academies in the late ‘70s, or who wishes to develop his or her understanding of leadership and the formation of officers.

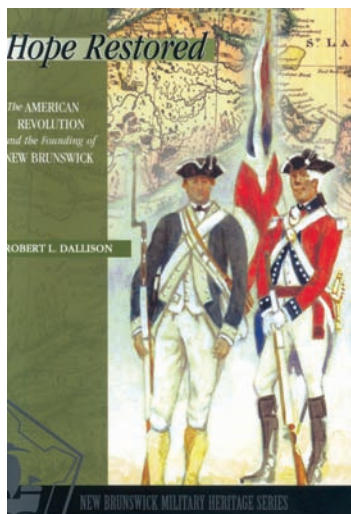
Endnotes

1. Disher, *First Class*, p. x.
2. Barkalow, *In the Men’s House*, p. 37.
3. Barkalow, p. 56.
4. Disher, p. 352.

HOPE RESTORED: THE AMERICAN REVOLUTION AND THE FOUNDING OF NEW BRUNSWICK

Robert L. Dallison, (Fredericton: Goose Lane, 2003), 128 pages.

Reviewed by Captain Jason Watt



It is well known that the American Revolutionary War was a driving factor in the founding of New Brunswick. At the close of the war, Loyalists, persecuted by the victorious armies of the Continental Congress, settled in modern-day New Brunswick, Nova Scotia and Prince Edward Island. *Hope Restored: The American Revolution and the Founding of New Brunswick*, by Robert L. Dallison, aims to tell the tale of those Loyalists who contributed to the settling of New Brunswick, focussing specifically on those who served in the various Provincial Corps involved in that conflict.

Lieutenant Colonel (ret'd) Dallison, a former member of Princess Patricia's Canadian Light Infantry, is the ideal person to craft this history. He is a former Director of the King's Landing Historical Settlement and a former member of Heritage Canada's Board of Governors.

Hope Restored: The American Revolution and the Founding of New Brunswick is laid out in an essentially chronological format, starting with the first shots of the Revolutionary War. This is followed by a brief overview of a few key actions of the War, covering events in Nova Scotia and the Northern parts of the Continental Congress. The author continues by chronicling the exploits of sixteen separate Provincial Corps, from being raised to wartime exploits to settlement in what would become New Brunswick. Following this logical sequence, Mr. Dallison then explains the cultural and political impacts of those settlers on the newly founded province. Finally, the reader is treated to the exploits of several fascinating ex-soldiers who settled in New Brunswick at the war's end.

Mr. Dallison's expertise shows throughout this book, as he seems to have access to a treasure trove of fine detail about the various Provincial Corps and the places involved. He includes a great amount of information about where Corps were formed, the motives behind the forming of certain Corps and even trivia about the political infighting that took place within some of the Provincial Corps. This eye for detail is evident throughout the text, as the reader is told where to find various artefacts and geographical points of interest in modern-day New Brunswick.

The author does not, unfortunately, make it clear from the outset what his intent with this book is. For the first half, I felt as though there was too much detail, and not enough effort to put this tale into a larger historical perspective. It was a pleasant relief to find that the fourth chapter did bring this history into perspective. Perhaps a brief introduction by the author might have contributed to a more informed reading of the first three chapters.

The third chapter of the book, as extensively detailed as it is, will be of particular interest to genealogists and others interested in the finer points of New Brunswick's history. As an example, Mr. Dallison's history of the King's American Regiment (4th American Regiment) describes the birth, education and character of the Commanding Officer. ("Noted for his polished manners, obvious intelligence, and political cunning,

[Colonel Edward] Fanning became one of Governor William Tryon's most trusted representatives."¹ He goes on to chronicle the raising of this Provincial Corps, including the appointments of various officers. The author gives us a hint as to the political infighting that went on as officers were appointed to the King's Americans, but fails to put this political infighting into a larger context. He then covers the Corps' wartime accomplishments, though only giving enough detail to give us some appreciation for what the Regiment went through. In this case, I believe the author has done the reader justice, as this book does not seem to be intended to be a history of battles fought during the Revolutionary War. Dallison covers key points, such as the example of the King's American's performing exceptionally well at Hobkirk's Hill, where they were said to have "behave[d] superbly under fire, despite suffering forty-three casualties."² In almost every case, the reader is told the terms under which a particular Provincial Corps settled. The King's American Regiment was fortunate enough to be placed on the British establishment, meaning that officers received half pay following the war's end. Each history concludes with a description of where the Provincial Corps' veterans settled, how many there were of them (usually broken down into officers, non-commissioned officers, soldiers, women, children, and servants), and how they fared in their new settlements. The level of detail in this chapter of the book should be enough to satisfy any historian, so long as it is facts that are sought, and not deep analysis.

In the fourth chapter of the book, Mr. Dallison provides some insight into the significance of these settlers for the newly formed province of New Brunswick. As is the case in any post-conflict situation, the resettlement of former soldiers is rife with challenge and opportunity. The author describes a bevy of difficulties, including "the faulty premise that disbanded soldiers, after years of military service, could be remoulded without difficulty into successful, contented farmers."³ This chapter includes some detail on the reasons for the selection of Fredericton as the provincial capital, and a particularly interesting section on the plight of free black men and women settling in Nova Scotia and New Brunswick. This chapter, particularly enjoyable for its inquiries into the social aspects of resettlement, is disappointingly short. Perhaps a future volume of the New Brunswick Military History Heritage Series, of which this book is a part, might pick up where Mr. Dallison has left off.

The fifth and final chapter should be of particular interest to anyone who has spent significant amounts of time in New Brunswick. The postwar exploits of many fascinating figures are covered in this thoroughly enjoyable chapter. It also serves as the link between present and past, describing the current state of various locations significant to the era described by this book. Many of the stories in this chapter have a more anecdotal feel than the recitations of troop strengths in the second chapter. Of particular interest is the intersecting (and conflicting) history of two particular veterans, whose endeavours led to the cessation of slavery in New Brunswick.

Overall I found Hope Restored: The American Revolution and the Founding of New Brunswick to be a worthwhile read. It granted a new level of appreciation for the influence of the veterans of the American Revolutionary War on the history of New Brunswick. In places, I believe that the text could have benefited from a greater dissection of the facts, but on the whole, the book was enjoyable. Any reader with an interest in history might enjoy portions of this book, though I would suggest that readers take into account their own preferences and select readings that might appeal to them.

Endnotes

1. Dallison, Robert L. *Hope Restored: The American Revolution and the Founding of New Brunswick* (Fredericton: Goose Lane, 2003), 44.
2. *Ibid*, 45.
3. *Ibid*, 74.

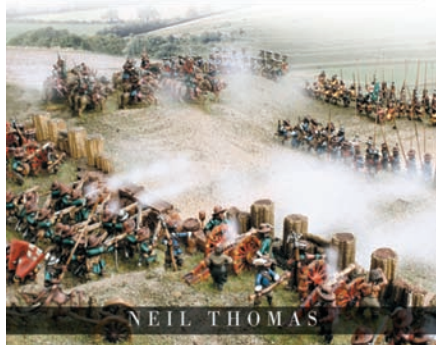
WARGAMING: AN INTRODUCTION

Neil Thomas, (Gloucestershire: Sutton Publishing, 2005). 179 pages. Trade Paperback. ISBN 0-7509-3816-1



WARGAMING

AN INTRODUCTION



Reviewed by Major Tod Strickland

Growing up, my first exposure to the idea of soldiering came in the form of playing in my back yard with small, plastic “army men” that had been given to me by one of my uncles. Battles could be fought painlessly, and with complete tactical proficiency, in the comfort of a sandbox on a sunny afternoon. Later, as I grew and began to study military history, I learned to play games like “Risk”, “Axis and Allies” and the “Avalon Hill—Squad Leader” series of games. On the periphery of my experience, I saw others playing far more intricate and complex battles with armies of their own creation. In his book *Wargaming: An Introduction*, author Neil Thomas sets out to expose a whole new generation to the pleasures of this type of wargaming; one fought with small-scale models on homemade battlefields.

Written by an experienced and extremely knowledgeable practitioner, the book itself is a quick and easy read, with detailed sets of rules for almost any particular period in which the budding tabletop general chooses to display his tactical acumen. Commencing with a brief history of the subject, and reasons why this type of simulated battle remains popular, *Wargaming* then moves on to a discussion of how to get started and how to actually conduct either a full-scale mock battle or a simple skirmish. Chapters are devoted to specific periods and follow a format that is relatively simple to grasp: what types of soldiers you will need, what rules to utilize for the period you have chosen, and then how to build and organize your army. At the conclusion of the book, there is a brief section outlining an example “Napoleonic” wargame, and a short list of useful addresses and websites, which anyone who takes up the hobby may find helpful.

In many ways, this book fuels the imagination and serves as an able demonstration of what is possible if you have both the time and the space to take up this intriguing hobby. Sadly there are some distinct problems with the book and its approach to the subject. For the most part, these are limited to small details, which might not be a problem at all for someone already familiar with the subject matter, but for a true novice could pose a definite hindrance. Fine details like what types of dice to use, how to keep track of your losses and even a list of supplies that would be required are all absent from the explanations. The rules themselves are on the surface quite complex; this perception does dissipate with repeated reading, but at the outset can be daunting. Sketches or line diagrams to clarify any ambiguities in the text would be a useful amendment to future editions. Lastly, though the idea behind including a list of contacts might in itself be a good one, the fact that they are all located in the United Kingdom is frustrating and limits the audience that might make use of it.

Weaknesses notwithstanding, the book does have strengths, which commend the book to anyone who might be considering this as a hobby. First, the selection of photographs which have been selected to accompany the text serve as a capable display of what can be achieved in the process of crafting one's army. Finely painted figures serve to bring the battlefields to life in a fashion that cannot truly be accomplished in any other way. The continued popularity of military modelling is solid testament to the power that finely painted figurines of soldiers have to fuel the imagination. Even the more modern approach to wargaming, using computer simulation, cannot touch the artistry that this type of wargaming inherently possesses. A second reason to pick up this book can be found in the multiple sets of rules which Thomas has developed for six different periods or types of games. This omnibus of regulations serves as a ready reference for anyone conducting mock battles. Further, the format in which they have been written allows them to be modified by the more-experienced wargamer who might want to adapt them to a different period. For those in the military, the chapter on "skirmish" wargaming has distinct possibilities. With some creativity the rules could easily be adapted to allow a section or platoon commander to teach low-level tactics in an innovative fashion.

Wargaming is an interesting and useful synopsis of what some would consider a niche hobby, but that many in our Army might find appealing. The existence of the "Games Workshop" retail chain, which markets pieces (for their Warhammer game),¹ teaches wargaming and provides a venue for players of all ages, clearly shows that this form of gaming is increasing in popularity. The competition posed by other options, which may fill the same type of need for simulated combat, however is quite fierce. One only need look at the updated "Axis and Allies" game with its own pre-painted miniature pieces, or some of the "first-person shooter" games available for personal computers, as well as the ability to play these collectively on the internet to see that this is so. On balance, if people are interested in this hobby they will probably find that this is a decent book to help get them started, but they would be well advised to check around at local hobby shops, or on the internet, for a club of similarly minded people where much of this information can be obtained first-hand.

Endnote

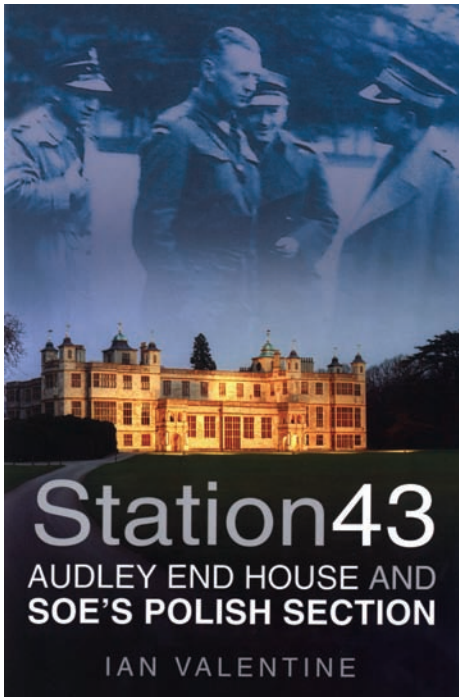
1. The difference between Warhammer and the type of wargaming being introduced in this book is that Warhammer focuses solely on fantasy and futuristic warriors, as opposed to simulations of real people, periods or events.

STATION 43: AUDLEY END HOUSE AND SOE'S POLISH SECTION

Ian Valentine (Sutton Publishing Company, 2004) cloth, 224 pages, ISBN 0750937084047.

Reviewed by Lieutenant-Colonel R.S. Williams, MSM, CD

Ian Valentine begins *Station 43: Audley End House and SOE's Polish Section* with an excellent summary of the history of Poland's involvement in World War 2. By way of background history, he covers the origins of the Home Army (AK- Armia Krajowa) and the complexity of all the various Polish units and self-defence organizations. Although this aptly sets the scene for the reader unfamiliar with this chapter of history, owing to its complexity, it may require a second read. This topic, virtually unknown in the West, is



hampered by both the lack of primary source information and the absence of many records of Special Forces in the Polish Armed Forces in the West. The adherence to the Official Secrets Act, an oath not taken lightly by the various members of the Special Operations Executive (SOE) also will most certainly limit there ever being a complete first hand account of the Polish Special Force/Agent (Cichociemni) exploits in Nazi-occupied Poland.

This entire volume offers an interesting chronological description of Audley End House including an update on what the house is used for today. The Polish link to the house is the presence of Polish SOE at Audley End House or Special Training School (STS)-43 during the period 1942-1944. The narrative highlights their training both at the House and on its surrounding grounds. The book relies heavily upon anecdotes from British Army support staff present during the War and Polish SOE veterans who stayed in the UK after the War.

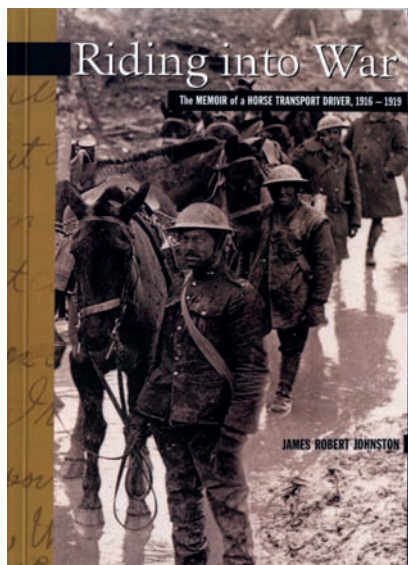
A reader looking for the detailed accounts of the missions undertaken by the 316 Polish Cichociemni (Silent and Unseen) who parachuted into occupied Poland will be disappointed.

Valentine's excellent description of the Royal Air Force (RAF) Special Duties Squadrons who despite huge losses, delivered these patriotic Poles to their mission areas and attempted to re-supply the Polish AK should provide direction for further research to the historian interested in the lesser-known operations of World War 2. The narrative also covers the staggering losses of the commonwealth aircrew who attempted to aid their Polish allies during the Warsaw Uprising (August to October 1944). As an aside, the only monument to the 25 RCAF aircrew who perished attempting to re-supply the beleaguered AK was erected by the Polish Combatants Association (Canada) and is located in Confederation Park in Ottawa.

The author is most certainly passionate about the topic. Unfortunately, the complete story of the Polish SOE is hampered by a lack of reference and archival material available in any language. Despite the shortcomings, this book is recommended to those interested in the lesser-known special operations in Nazi-occupied territory, whether the interest is the Poles or the RAF Special Duties units. *Station 43: Audley End House and SOE's Polish Section*, in particular the house description and chronology will also prove to be of interest to those whose passion is heritage properties

RIDING INTO WAR: THE MEMOIR OF A HORSE TRANSPORT DRIVER, 1916-1919

James Robert Johnston, assisted by Brent Wilson (Fredericton: Goose Lanes Editions & the New Brunswick Military Heritage Project, 2004), Soft Cover, 103 pages with 25 photographs, one drawing and 3 maps, \$14.95 CAD, ISBN 0-86492-412-7



Reviewed by Mr. Geoff R. Hall

The New Brunswick Military Heritage Project is a non-profit organization devoted to increasing the public awareness of the military heritage of New Brunswick. It is an initiative of the Military and Strategic Studies program of the University of New Brunswick and supported by the Canadian War Museum. This book is Volume Four of a series.

The author was born and raised on a farm at Notre Dame, near Moncton, NB. He joined the army at 18 and served at Vimy, Hill 70, Passchendaele, Amiens and Valenciennes. During a 1964 visit to these WW1 battlefields, he kept a journal recording his wartime recollections, which are the basis for this book. Mr Johnston passed away in 1976 and it was his family who brought forward that journal. Mr Wilson accurately introduces the book by stating that Mr Johnston's "memoir is not a history of the war; rather it is an account of his own wartime experiences"¹ that

recount events that occurred to him as an individual set in chronological order.

The story starts with Mr Johnston's early years growing up in Moncton NB and Massachusetts, US. In April 1916 he joined the 145th Battalion and trained in Canada and, after crossing to England in September, in Kent. In November Private Johnston arrived in France and joined the 26th New Brunswick Battalion. In January 1917, he volunteered for the new Canadian Machine Gun (MG) Corps and joined the 14th MG Coy horse mounted transport section on the Vimy front during the preparations for the coming offensive. The rest of 1917 was spent with 14th MG Coy as it supported 2nd Canadian Division at Vimy Ridge & Passchendaele. In November 1917 his company was withdrawn from the Ypres front and returned to the routine of trench warfare at Vimy and Lens.

Pte Johnston developed mumps in March 1918 and was in hospital until June 1918. He returned to the front to find that he has been transferred to the 4th Canadian MG Battalion, although still in the transport platoon. In July his unit moved to Vimy to participate in the Amiens offensive, which was followed by the August 1918 allied advance. Pte Johnston remained with 4th Canadian MG Battalion as it fought at the Drocourt-Queant Line (SE of Arras) and Bourlon Wood (near Cambrai), crossed the Canal de la Sensee (north of Cambrai) and ended the war at Valenciennes. In December his unit moved near Brussels where it remained until the spring of 1919. In April 1919, Pte Johnston was attached to the 44th Battalion from New Brunswick for his return to Canada via England, where he was discharged in June 1919.

Riding into War was created as a tribute to the bond between the horses and men that served together during WW1. As well as a chronological wander through the battles in which Pte Johnston took part, the book offers an excellent view of life in the support echelon of a non-mechanized army. It gives the reader a glimpse at how a typical soldier

survived two years in the mud and the blood of the trench lines riding one horse of a pair through many assorted perils to deliver ammunition and supplies to the men in the trenches. There is humour, sometime slightly macabre, in that survival and sadness, especially with stories of shell shocked or wounded horses. The photographs are mostly personal glimpses that help the reader visualize what he is reading about while the maps are general in nature and help with geographical orientation.

In the introduction, Mr Wilson offers the view that *Riding into War* offers strengths in three areas: the portrayal of a passage of a young man from recruit to old soldier, an accurate description of what soldiering on the battlefields of WW1 was like and an opportunity to learn about the supply lifeline to the most forward areas of the WW1 battlefield—horse transport. I concur and recommend it. This is not a long or intense reading experience nor does it take a great deal of time to complete.

Endnote

1. Johnston, James Robert, *Riding into War*, (Fredericton: Goose Lanes Editions, 2004), p.10.
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THE ROAD TO CANADA: THE GRAND ROUTE FROM SAINT JOHN TO QUEBEC

Gary Campbell, The New Brunswick Military Heritage Series, Volume 5. (Fredericton: Goose Lane Editions, 2005), 115 pages, \$14.95 Paper. ISBN 0-86492-426-7.

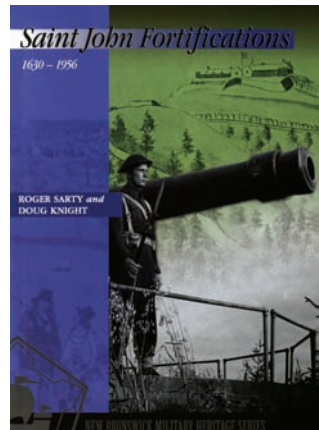
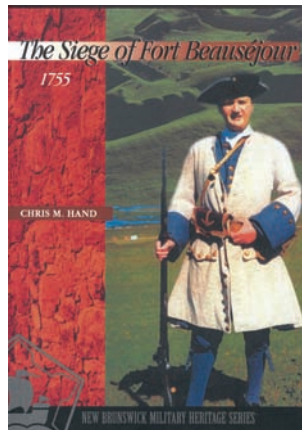
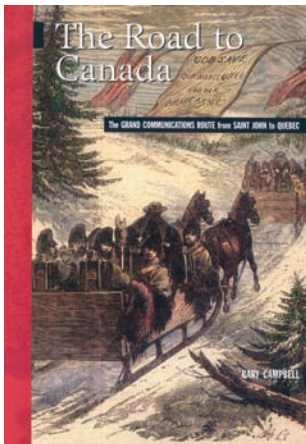
THE SIEGE OF FORT BEAUSÉJOUR, 1755

Chris M. Hand, The New Brunswick Military Heritage Series, Volume 3. (Fredericton: Goose Lane Productions, 2003). 109 pages, \$14.95 Paper. ISBN 0-86492-377-5.

SAINT JOHN FORTIFICATIONS, 1630—1956

Roger Sarty and Doug Knight. The New Brunswick Military Heritage Series, Volume 1. (Goose Lane Productions, 2003). 112 pages, \$14.95 Paper. ISBN 0-86492-373-2.

Reviewed by Major John R. Grodzinski, CD



The titles listed above are three in a series that originated with the Military and Strategic Studies Programme at the University of New Brunswick. The aim of the series was “informing the general public of the remarkable military heritage of the province, and to stimulate further research, education and publication in the field.”¹ The result of work

by academics, graduate students and enthusiasts, these books offer insight into a variety of military topics.

The authors come from military and academic backgrounds. The author of the first book, Gary Campbell, is a serving logistics officer who has done much to advance study of New Brunswick military history; he is also a doctoral candidate at the University of New Brunswick. Chris Hand wrote the second title in this review originally as a master's thesis. He is an infantry officer, and like Gary Campbell, is serving in Gagetown, New Brunswick. The last book is by Roger Sarty, a well-known military historian and Doug Knight, a retired military engineer officer who pursues a passion for military history from his base in Ottawa.

In *The Road to Canada: The Grand Route from Saint John to Quebec*, Gary Campbell traces the history of one of the oldest and strategically most important (yet largely forgotten) routes into the interior of the continent, known as the Grand Communication Route. This route stretched from the Bay of Fundy at Saint John, across New Brunswick and ended at Rivière-du-Loup, on the St Lawrence River. In the eighteenth century, this overland route allowed the French to move personnel and supplies from the threatened Atlantic Colonies. After inheriting the route, and particularly after the American War of Independence, the British made similar use of it to rush reinforcements into central Canada, as was demonstrated by the famous march of the 104th Foot to Kingston during the winter of 1813 and the movement of reinforcements into Canada during the *Trent* Affair in 1862. This is a neat little narrative that weaves not only a story of the development of secure communications, but of how that development was linked to settlement policies, military strategy, communications, technological evolution and international disputes. As far as this reviewer knows, this is the only book length study of this aspect of the route.

Perhaps the most intriguing passages, without trying to blow them out of proportion to the main study, deal with British efforts to end French resistance in the Saint John River Valley, through which the Grand Communication Route passed, and which culminated with the Acadian expulsion. While this is a far more complex matter to examine in just a few sentences, was the military imperative for *secure* communications basis enough, at least for those living in the Saint John River Valley, for demanding loyalty and was it indeed as a factor in the decision to finally deport the Acadians? Furthermore, once the Grand Communication Route regained importance following the American War of Independence, did not the repopulation of the area with "loyalists" make perfect sense? Security sometimes does not allow half-measures so while I do not want to condone what might be compared to the modern concept of "ethnic cleansing," I fear our current sensibilities may forever prohibit our full discussion of this topic.

The *The Road to Canada* lends itself nicely to introducing the next title, *The Siege of Fort Beauséjour, 1755*, which deals with the British capture of Fort Beauséjour. Located near Sackville, New Brunswick, Fort Beauséjour was built by the French in the early 1750s and fell to the British following a two-week siege in 1755. Renamed Fort Cumberland, the fort was again attacked in 1775, this time by American rebels. *The Siege of Fort Beauséjour, 1755* deals with the events surrounding the 1755 siege. The construction of a French fort in the Chignecto Isthmus was meant to prevent the establishment of a British presence there until the Acadian boundary dispute could be settled.

The story of Fort Beauséjour flows nicely into the next title, *Saint John Fortifications, 1630–1956*, which tells the story of the port's defences from when the first fort was built in 1632 to the early years of Cold War. This interesting study almost spans the entire

breadth of Canadian history, incorporating events from several conflicts, periods of military vigilance, the evolution of military technology, defensive planning and everyday soldiering, providing a nice complement to the little known photo history *Fortress Saint John: An Illustrated Military History, 1640–1985*, by Harold E. Wright and Bryron E. O’Leary, published in 1985.

The port of Saint John is one of the oldest fortified sites in Canada and, as noted earlier, was part of the Grand Communication Route. The early forts were constructed on commanding ground designed to protect specific points at the entrance to the Saint John River; beginning in 1793, the first defensive “system,” incorporating multiple batteries, numerous types of fortification, magazines, communications, ordnance stores and barracks, covering an entire area, was begun, largely in acknowledgement of demographic and political changes in British North America and in response to threats from Europe and the United States. Further domestic and international changes would see the development of a second fortress system in 1850, followed by other enhancements during both World Wars and the Cold War. Like Halifax and the later system at Kingston, the fortifications were designed to protect against seaborne attack and provide a safe haven for ships of the navy. This concept, subject to technological advances in weaponry, communications and new types of threats, such as aircraft and submarines, remained valid until the fortress was finally disabled in 1956.

The story of the Saint John fortifications is not only a history of a defensive system, it also follows the evolution of the Canadian military from its creation as a sedentary militia supporting British regular troops, to modern regular and reserve units facing myriad threats against British North America and Canada. The geographic position of Saint John rather than the state of defences likely accounted for it not being attacked in modern times. Nonetheless, the construction and plans developed during times of peace and war were a significant achievement.

Each volume in this series includes illustrations and maps from various archival sources or specially commissioned for the series. Each booklet has a selected bibliography, although there are no endnotes, quite probably due to space limitations.

These three titles seek to enhance the significance of events in New Brunswick within the context of French, British and “American” territorial competition and the general military history of Canada and in this aim they are successful. To a degree they somewhat oversimplify the North American security environment (if we can call it that), particularly during the 18th and 19th centuries, in that they do not acknowledge other factors that may have contributed to decisions made by various powers. We must remember that other countries, such as Russia, held territory on this continent and the most significant player outside the “big three” was Spain, whose holdings between 1525 and 1821 grew to include a significant chunk of the continent. Spain’s territories included New Spain (most of the modern south western United States, Mexico and Central America), Spanish Florida (modern Florida, Alabama and Mississippi) and the Louisiana territory. While considering these possessions may initially appear insignificant, Spanish colonial historiography suggests that when the United States failed to subdue British North America in 1775-1776 and then with the War of 1812, the Americans turned their gaze south and west, where the climate was less harsh and the pickings seemed a little easier. This consideration, in turn, places a different spin on events in the north, especially between 1815 and 1871. Could the British have misread American intentions?

These musings aside, the message here is that these three titles, *The Road to Canada*, *The Siege of Fort Beauséjour* and *Saint John Fortifications*, of the New Brunswick Military Heritage Series are welcome additions to the literature. They

demonstrate the potential of collaborations such as that undertaken by the University of New Brunswick and the Canadian War Museum. All three titles have succeeded in achieving the overall goal of the series, while the best part is that the research of two serving officers has been published, a goal that everyone in uniform should strive for.

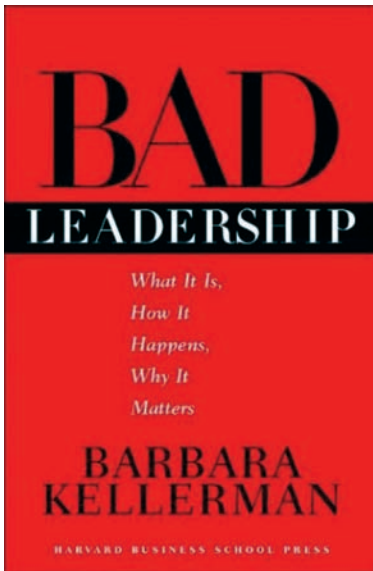
Endnote

1. See the New Brunswick Military Heritage Website at http://www.unb.ca/nbmhp/01_AboutNBMHP.htm for more details.
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BAD LEADERSHIP: WHAT IT IS, HOW IT HAPPENS, WHY IT MATTERS

Barbara Kellerman (Boston: Harvard Business School Press, 2004), 282 pages, \$33.50 HC, ISBN 1-59139-166-0

Reviewed by Captain Robert Tesselaar



By virtue of being in the military, we see much emphasis put on leadership and how to be a good leader. This emphasis is reinforced by a wealth of material that tends to focus on those leaders we would wish to emulate. Conversely, Barbara Kellerman examines the oft-overlooked side of leadership, bad leadership, in her book *Bad Leadership: What it is, How it Happens, Why it Matters*. She introduces the topic by discussing why there is so little published material on bad leadership, and suggests that like any other issue the best approach to correcting it is to first study it.

In order to accomplish this study, Kellerman reviews the recent evolution of language and theories surrounding leadership, and why the “dark side” is often ignored. As leaders are often judged as much by the actions of their followers as their own personal actions, no examination of leadership would be complete without looking at the motivation of the leader, as well as the role and motivations of the followers. Kellerman discusses bad leadership on two axes, ineffective leadership and unethical leadership. She then breaks bad leadership down further into seven types: incompetent, rigid, intemperate, callous, corrupt, insular and evil. These seven types refer to the behaviours exhibited by leaders rather than the personality traits examined, and while not an exhaustive list, they are broad enough to provide a structured examination of bad leadership. This two-axis model, while somewhat simplistic, provides a solid foundation upon which Kellerman builds her analysis of bad leadership through case studies.

As the Research Director of the Center for Public Leadership at the Kennedy School of Government, Harvard University, Kellerman makes excellent use of case studies to dissect each of the seven types she has defined. She opens each chapter with two or three brief case studies to set the tone, and then goes in-depth with another. All of the case studies are fairly well-known and date from the mid-nineties onward (although

background to the specific incidents may go back decades). Most are American, but there is also international representation in order to provide examples of leadership types that are generally indisputable. While there are no military case studies, the leadership points that come out of Kellerman's analysis are still valid for any professional study of the topic, and the methodology employed could be as easily applied to military leadership.

Recognizing that in a personality-focused field such as leadership very little is straightforward or clear cut, Kellerman takes a multi-dimensional approach to each case study. For each of the seven type examples she provides a brief introduction, and then describes the context of the events of the case study before examining the leader in question. As leadership doesn't occur in a vacuum, she then scrutinizes the role played by the followers and concludes with an analysis of the tangled web of human interactions and their quite public consequences.

Proponents of the situational leadership school of thought will find their beliefs well reinforced by Kellerman's arguments. Not only does the roster of case studies include such luminaries as Vladimir Putin, Rudolph Giuliani, and Bill Clinton, all of who have colourful careers, but the structure of her analysis illustrates that in a different context or with a less conforming group of followers there may have been a much different outcome.

Although it is not Kellerman's main intention to be prescriptive, no study of a topic such as bad leadership would be complete without some prescriptive elements. She introduces these by applying the benefit of hindsight to her case studies. In the concluding chapter she provides some tips and strategies for leaders and followers to establish a culture less conducive to bad leadership. While none of these tips are revolutionary, as none of us are perfect, they bear reflection upon in order to maintain and improve our own positions in the effective and ethical leadership model.

RUFF'S WAR: A NAVY NURSE ON THE FRONTLINE IN IRAQ

By Cdr Cheryl Lynn Ruff, USN (Ret) and Cdr K. Sue Roper, USN (Ret), (Annapolis, Maryland: Naval Institute Press, 2005), 208 pages, HC, ISBN 1-59114-739-5

Reviewed by Captain Jason Watt



The ongoing conflict in Iraq has provided much fodder for all manner of tales. This book is a valuable example of one veteran of that conflict telling her story. In *Ruff's War*, Cdr Ruff, recently retired from the United States Navy, recounts, from beginning to end, her time in uniformed service, with the focal point being her deployment to Iraq in support of Operation Iraqi Freedom.

Ruff's War is broken down into three major sections, the first describing Cdr Ruff's childhood and the first twenty-odd years of her Naval career. The second section, which I feel is the best written and the part that sets this book apart from others, is her description of the time between her being told that she would be deploying and when she actually ends up on the ground in Iraq doing what she has trained so long for. Finally, Cdr. Ruff discusses her time on the ground in Iraq.

Ruff's War starts off much the same as any other memoir of a sailor's career. Cdr. Ruff shows her personal touch early in the story, going into frank detail about her childhood and her relationship with her parents and her sister. While there is nothing shocking about what she discusses, she does allow the reader some insight into her most intimate thoughts and feelings. It is this generous granting of insight, throughout the book, that makes Cdr. Ruff's story so engaging. In letting the reader see what motivates her, the author sets the stage for everything to come in the book.

Without the subsequent three chapters of this book, a non-medical reader such as myself would have been lost. Cdr Ruff sums up 27 years of her life in short order, using plain language to explain her role first as a non-commissioned Navy Corpsman and later as a commissioned Nurse Anaesthesiologist. It is her straightforward manner of writing that makes this book a worthwhile read not only for somebody who might know nothing about medicine, but also for a reader who knows little or nothing about life in uniform.

Anybody who has gone through a deployment will read the next chapter with sympathy for Cdr Ruff's predicament as she prepares to deploy. She encounters mixed feelings about the deployment; sorrow at being separated from her loved ones, but anticipation at the opportunity to put her skills to the test in a dynamic, stressful environment. In typical fashion, she endures a total travel time of almost three weeks between departing her home station and arriving on the ground in theatre. This period is punctuated by many 'hurry up and wait' experiences, stopovers in dismal and unfamiliar locations, and a general lack of information being made available.

This part of the book provides a great primer for pre-deployment stress. I highly recommend that any serving members and their families read this portion as they prepare for deployment. Cdr Ruff's straightforward language and her willingness to expose her feelings might help those who are befuddled by their loved ones' behaviour to come to terms with the emotional chaos that can accompany a deployment.

As Cdr Ruff arrives on the ground in Kuwait, the story's tone and pacing changes. As this is the meat of the book, the reader is now treated to the author's perceptions of a foreign land, her descriptions of her living accommodations, and her nightmarish tales of sand and filth causing all manner of difficulty. A recurring theme throughout her deployment to Iraq and Kuwait is the constant state of dirtiness. This affects not only the soldiers and sailors on the ground, but it makes the idea of sterile operating rooms a laughable concept. Cdr Ruff describes various situations in which equipment becomes unserviceable due extreme amount of dust and dirt. The clothing that they wear is distinguished as either "clean dirty," meaning recently washed, or "dirty dirty," meaning that it has been worn for some time. Extremely windy conditions exacerbate the situation, with winds getting so harsh as to knock down and destroy the tents in which Cdr Ruff and her fellow sailors live and work. One of the strengths of Cdr Ruff's storytelling is that, having spent her career in the Navy, and not the Army, she looks on much of what goes on here with an outsider's perspective. Whereas a career soldier might take for granted living in dirty conditions and going without re-supply, for Cdr Ruff these are new experiences. I believe this adds to the readability of the book, and makes this book even more interesting for the reader who has not spent time in uniform.

One of the more interesting anecdotes in the book revolves around CNN's coverage of the pre-war preparations. While in the author's camp basic supplies such as water were in short supply, other camps had amenities such as fast food, swimming pools, and telephones. Those were, more often than not, the camps from which CNN broadcast. So while on one hand Cdr Ruff was writing home asking for desperately needed supplies such as Chapstick or pre-moistened towelettes, those at home were seeing coverage of very elaborate and well-stocked camps. This led to a frustrating situation in which those

in Cdr Ruff's camp were almost being mocked by those back home for their easy living conditions, when the reality was far from what was seen on TV.

In keeping with her previous theme of "hurry up and wait", Cdr Ruff's deployment from Kuwait to Iraq is fraught with uncertainty and miscommunication. After a long and dangerous journey, she, along with the rest of Bravo Surgical Company of the Second Force Service Support Group, finds herself in Iraq. Scarcely ten hours after arriving in Iraq, Bravo Company's surgical trauma unit is completely set up and begins receiving patients. For almost two full days they continuously receive and treat patients. Their patients include American soldiers, Iraqi soldiers, and innocent Iraqis caught in the crossfire or used as human shields. Cdr Ruff recounts many important details about these patients, giving first names, very particular details of the injuries, and what happened to most of her patients. I was struck by how common it seems to be, in this situation, to spend hours and hours trying to revive somebody only to ultimately experience failure and have to watch a patient die. Again, Cdr Ruff's candour is a treat, as she expresses compassion both in her treatment of these people and in her telling of their stories.

Another of Cdr Ruff's interesting anecdotes comes from an encounter with CNN reporter Dr. Sanjay Gupta. Dr. Gupta spent three days with Bravo Surgical Company in Iraq. During that time not only did he file reports to CNN as a journalist, but he routinely helped out in the operating room, demonstrating his skill as a neurosurgeon, a specialty lacking within Bravo Company. Cdr Ruff writes of Dr. Gupta's time amongst Bravo Company with respect and admiration.

After a few days at Camp Anderson, their original home in Iraq, Cdr Ruff and her colleagues are told they will be relocating. Given that they are forced to make this move in a convoy, it is seen as a very dangerous trip. Yet again, Cdr Ruff gives us an honest assessment of her thoughts and emotions as she and her comrades are forced to stop out in the open for several hours as their convoy waits out a firefight that is blocking their route. She continues to share all that is going on in her psyche throughout the rest of the book, taking us through the final days of the war, her homecoming, and her retirement from the Navy. I did feel that she could have given a little more valuable insight into homecoming. Her tale basically ends when she is reunited with her family in America. Given that the author's greatest strength is her ability and willingness to reveal her emotions, I think more attention could have been paid to this very emotional event. In many cases where a family member is deployed, it is the homecoming that is the most stressful, even more than the deployment and the time apart.

I thoroughly enjoyed Ruff's *War*. This book, written in such straightforward prose, is recommended for anyone who wants to increase their understanding of what goes through people's minds as they put themselves in harm's way.

THE STAND-UP TABLE

Commentary, Opinion and Rebuttal

AFGHANISTAN AND IRAQ COMPARED

Vincent J. Curtis, recently returned from Basra, Iraq, writes ...

While embedded with the 1st Bn Royal Irish Regiment in Iraq for nine days in November, 2005, I sought to compare the British experience in Iraq with the results of the study by LCol Dave Banks of the American experience in Afghanistan.¹

The 1 R Irish are tasked with maintaining the internal and external security of the massive Shiabah Logistics Base (SLB) south of Basra, escorting the logistics convoys from Kuwait and protecting British VIPs in Baghdad. While the answers to my questions constitute anecdotal information, which is in no way as comprehensive as that obtained by LCol Banks, they are interesting and shed light on the differences between the conflicts and between the British and American militaries.

My primary source of information was Captain Gareth McIndoe, 27, the unit's Intelligence Officer. I also interviewed Commanding Officer Lieutenant Colonel Michael McGovern and Officer Commanding C Company, Major Richard Morphew. I was able to speak freely to anyone at will and had the opportunity to go out on a couple of operational taskings where I was able to observe the way the British soldiers work and interact with the locals.

According to Capt McIndoe, the average age of a Platoon Commander is 25. He has two years operational experience before he is given a command in an operational theatre. A platoon second-in-command ranges in age from late 20's to late 30's. A British military career is set at twenty-two years, so an 18-year old recruit expects to retire at age 40. The Company Sergeant Major of C Company, WO2 Alan Somerville, holds a rank equivalent to our Master Warrant Officer. He is 34 years old with sixteen years experience. Unless he gets a commission, with the rank of Captain, he will be retiring in six years. The youngest soldier I interviewed was 21 years old, and even he had done an operational tour of Northern Ireland and OP TELIC 1, the Gulf War of 2003. What is striking about nearly all the British soldiers, from the rank of private upwards, is their professionalism.

Patrols did not place any special stress on the gathering of human intelligence (HUMINT). This is due partly to the nature of the conflict in Iraq, and partly to the character of the average British soldier. The platoon senior NCO and platoon commander do know local words that enable them to pass on simple instructions and greetings to the locals, and a translator accompanies each patrol that is expected to encounter local people. Because 1 R Irish are responsible for maintaining external security of SLB, they run a vigorous program of vehicle patrols outside and around the base, and it is with these patrols that they expect contact with locals.

In Iraq, there is nothing that the insurgents can do that is of tactical consequence to the Coalition forces. Around SLB, insurgents can plant roadside bombs, snipe at patrols from the safety of a built up area and launch rockets and mortars at the base. The aim of insurgent action is not tactical but strategic: the creation of adverse headlines in the western media to the effect that Iraq remains unsettled, with all the political consequences that would follow. The British, therefore, operate in a manner that minimizes the likelihood that the insurgents will get a headline. Contact with the locals is kept to a minimum and tactical security measures featuring speed, surprise and

physical protection are taken to ensure that British troops are not left unduly exposed to hazards. Patrols move quickly, perform their tasks quickly, and do so at irregular intervals and at random places. The British aim to be tactically unpredictable. SLB itself features heavy fortifications and blast protection everywhere.

Because the British tour of duty is six months, and the companies rotate in their tasks every six weeks or so, the average soldier is not able to become familiar enough with the locals and the ground to be aware when something is amiss. The British rely on their local translators for that kind of HUMINT. In addition, it is in the British culture that the average soldier is uninterested in the activities of the locals. The British do not become emotionally involved with the locals or with the mission. They maintain a professional detachment about their work and are concerned primarily about doing the job for which they are so well trained. Otherwise, the British doctrine on military intelligence is quite similar to American doctrine.

In the Afghan theatre, it might be that the NATO forces are seen as representatives of the government in Kabul, and the behaviour of the NATO troops reflects upon the perception of the Kabul government by the Afghan people in the countryside. This is definitely not the case in Iraq. The foreign troops are most decidedly foreign and are in no way seen as the agents of the government of Iraq. The foreign troops on Iraqi soil are widely perceived as a necessary evil, to be endured with greater or lesser patience until times get better.

When asked whether British troops were winning hearts and minds or merely gaining trust, Capt McIndoe most vigorously replied "hearts and minds." He asserted that the locals appreciate the security that the presence of British troops brings. These remarks were borne out on a security patrol that I accompanied.

The area around SLB is flat; the hard sand is rough and not quite consolidated enough to be sandstone. Thus, the only way to travel quickly is by paved road, and the dust a cross-country traveler would kick up can be seen for miles. The task of the patrol was to operate a couple of "snap" vehicle check points along the paved roads, that is, drive to a spot, set up the check point, operate it for a little while and move on to another point. The aim is not to tie up traffic and make a big show of security; it is to deter and detect the movement of weapons and explosives while not giving the local insurgents a chance to create an incident. The reactions of the locals caught in the security checks were exactly what one would expect of ordinary people. Everybody knows the drill, everybody goes through the drill and everybody knows why there is a drill. Both soldiers and locals try to keep the temperature low. An older man, dressed in traditional Arab garb, betrayed in his stern look and crossed arms, his exasperation and annoyance at yet another hassle.

Interactions with the local police at the several permanent checkpoints through which the patrol passed were professional and cordial. A hand wave, a nod and slight smile were passed between the two forces going about their jobs. A couple months previous to my trip, the British Forces broke out of jail two of their soldiers who had been arrested and detained by Iraqi police, and an international furor erupted. The high emotion lasted all of two days after which the Iraqi police went back to working with the British as if nothing had happened. The police detachment that had arrested the two soldiers was found by Baghdad authorities to have been infiltrated by sectarian elements. The detachment's funding was consequently ceased; it was decertified and put out of business.

The British maintain that the reputation of their country and their army in the world is quite different from that of the Americans, and this helps in their relations with the locals. But the British also, as a result of their experience in Northern Ireland and

Malaya, train their soldiers in a way that minimizes the volume of gasoline that military action throws on the proverbial fire. A story related to me illustrates this point. A British soldier riding along Route Irish between Baghdad International Airport (BIAP) and the International Zone spotted a man with a rifle who then pointed the weapon at the convoy the soldier was escorting. The British soldier fired his weapon, and the bullet splattered the wall beside the man. The man dropped his weapon and began to run away. Because the British soldier judged the man to be no longer a threat, he ceased firing and let him go—although he could easily have killed the man. The British teach restraint in the use of deadly force and tend not to use maximum firepower when operating in a civilian environment.

Another revealing incident occurred while I was being given a tour of SLB. I observed a row of Challenger tanks parked in a compound, and asked the driver, a corporal who appeared to be in his forties, if they were ever used. He said, “Oh no sir. That would be too aggressive a posture.” This man did not strike me as a “big picture” kind of guy, but his training and experience led him to a profound and insightful judgment.

The British are also helped by the nature of the local population. Because the Basra area is 90% Shiite, there is little internecine violence, and the Shiites are content with their political prospects in the new Iraq. The soldiers do not have to be on edge fearing for their very survival at the next contact, as is the case around Baghdad.

In summary, the average British soldier cannot be said to be aware of the consequences of his individual actions on the success of the Coalition’s mission in Iraq. It would not be in his character to think on such a large scale and his officers and NCOs do not expect it from him. The training he receives as a British soldier, which emphasizes restraint in the use of deadly violence, the British national character he possesses, and the reputation of the British army in the world all help to keep in check the natural antagonisms between a national population and the British army that secures that nation. The British mission in Iraq is simplified by the fact that the British army is not seen as an agent of the Baghdad government, and that there is little internecine struggle in their area.

A major source of trouble in the Basra area is Iran, from which come technical expertise, manufactured car bombs, shaped charge explosives, and infiltrators. Iraq is surrounded by countries that have a strategic interest in keeping the pot boiling, and most Iraqis will tell you that much of the trouble in their country is caused by foreign infiltrators.

Endnote

1. Lieutenant Colonel Dave Banks CD Three Block Warrior: Learning from US Infantry Tactical Leadership CAJ Vol 8 No. 1 pp 12-20.

CHECKS AND BALANCES IN ARMY OPERATIONAL RESEARCH

**Mr. John Evans, Director of Integrated Operational Research,
DRDC CORA, writes ...**

Major L.R. Mader wrote previously in the *Canadian Army Journal* (CAJ Vol 8.3, Fall, 2005, pp. 138-140) that he was concerned that moving an element of the Canadian Forces land combat modelling capability from Defence Research and Development Canada Centre for Operational Research and Analysis (DRDC CORA) to Land Force

Doctrine and Training System (LFDTs) might introduce biases in experimentation and wargaming results.

Checks and balances of the quality and independence of wargame results were in place before the move of the Research War Game Team (RWGT) in 2005 from DRDC CORA to LFDTs. Equivalent checks and balances are still in place. The RWGT client sponsors always had a strong role in setting the combat scenarios and underlying assumptions, but had little influence on the results derived from the game. In the future, the Army will conduct its force development wargames in Kingston in cooperation with the Director General Land Capability Development (DGLCD), the Chief of Force Development and with the other services. Independent Operational Research (OR) scientists are still involved as advisors to each Kingston game. There are clear cost savings and synergies related to co-locating this large-formation wargaming capability with the training simulation community in Kingston, and the move was made with these issues in mind. The transfer was discussed and agreed upon by the former DGLCD, Director General of the Centre for Operational Research and Analysis (DG CORA) and LFDTs. Operational Research studies and experiments conducted for and with the Army have a very small chance of being biased because they are open to a wide audience and are vetted by operators, planners, and combat developers. In addition, results are peer-reviewed by sponsors, stakeholders, and other OR teams. Co-location of OR with the clients is a critical aspect of DRDC CORA's mode of operation. If bias problems appear in the future, they can be fixed, however neither the current Army sponsors nor CORA's managers and analysts see this as likely.

SOLDIER REMEMBERS CANADA'S DEPLOYMENT TO VIETNAM IN 1973

Karen Johnstone, Assistant Public Affairs Officer, 3 ASG Gagetown writes ...

It was a grand send off, unlike anything seen in Canada since the sailing of the First Division to England in both the First and Second World Wars, even though by comparison the Contingent for South Vietnam was miniscule.¹

It has been approximately thirty-three years since Canada sent 250 soldiers as part of the Military Component Canadian Delegation (MCCD) for the International Commission for Control and Supervision (ICCS) to South Vietnam. The role of the ICCS was to monitor the cease-fire in South Vietnam as agreed upon in the Paris Peace Accords. Four countries—Canada, Hungary, Indonesia and Poland (CHIP)—contributed 1160 members. In fact, the Commission arranged the release and exchange of more than 32,000 prisoners of war. Canada participated in the ICCS from January 28, 1973, until July 31, 1973, whereupon Iran stepped in to take over.

Lieutenant-Colonel Malcolm McCabe, currently G5 (Resource Management) at 3 Area Support Group (3 ASG) Headquarters, CFB Gagetown, was a young captain when he received word that he would be deployed as part of the first rotation into South Vietnam. "Things were different than they are now," said LCol McCabe. "Vietnam was the first war where media played such an important role." Although it was mainly our southern neighbours who were participants in the war, Canadians followed it closely because of the coverage in the news. Each evening, Canadians sat in front of their television sets and saw body bags being unloaded from American planes, and watched the death count rise. McCabe, a graduate of the University of New Brunswick (UNB), said that there were peace demonstrations on the UNB campus against the war. "We

were certainly informed as much we could be, through the news, as to what was going on in Vietnam. It was part of everyone's life." Thus, when LCol McCabe was sent to South Vietnam, he had a clearer idea of the history involved than most of his predecessors would have had before they were sent on deployment.



Capt Malcolm McCabe—now LCol McCabe—is pictured here with Maj George Shorey seeing off American soldiers en route to the plane redeploying them back “to the world,” at Danang Airport in Vietnam. McCabe and Shorey deployed with the Military Component Canadian Delegation that was part of the International Commission for Control and Supervision (ICCS) sent to South Vietnam in 1973. The role of the ICCS was to monitor the cease-fire in South Vietnam as agreed upon in the Paris Peace Accords. (Photo taken by a Vietnamese driver)

A far more significant change that impacted on the Canadian military deploying on MCCD/ICCS was that the very structure of the Canadian Forces (CF) was transforming. The Service Battalions were established in brigades and the Logistics Branch replaced the Army's Service, Ordnance and Pay Corps. In 1972, one of the major changes occurring as a result of unification of the CF was the introduction of one CF uniform instead of the distinctive khaki, light blue and dark blue of the Army, Air Force and Navy. When LCol McCabe embarked to Vietnam, he wore the new CF green uniform, the same as all three elements. It was a time of change for the Canadian military.

The number of Canadians who would deploy with the ICCS fluctuated throughout the negotiations of the Paris Peace Accords; at times it seemed as if they wouldn't go at all. From a maximum of 1200 soldiers, the final number of 250 was finally decided upon, and McCabe was in the batch designated to go.

He left on February 10, dressed in winter kit, landed in Montreal and switched into tropical gear and re-boarded after a brief bomb threat. The flight over was lengthy, with

stops in Alaska and Tokyo for fuel, before it finally landed at Tan Son Nhut Air Base in Saigon. “The temperature in Saigon was at least 100 degrees Fahrenheit, with humidity at 98%,” said LCol McCabe. “Our uniforms just wilted.”

There was a brief period of acclimatization in Saigon, where the soldiers were accommodated in long narrow buildings with air vents along the top of the walls to allow air to circulate. Bunks lined the walls, and men of all ranks and from each of the four countries all slept in the shared area, with about 50 people per hut. After a few days, McCabe was told to report to the supply section, where they took one look at his youth and promptly reassigned him. “They were expecting an older, more experienced officer, preferably one commissioned from the ranks,” said McCabe. “That suited me just fine. I was assigned to a point of entry (POE) Team in Region 2.”

The Paris Peace Accords divided South Vietnam into seven Regions and Saigon,

each of which—except for Saigon—was further divided into 26 sub-regional areas. Each region had a headquarters team of eight to ten men, and each sub-region had two men. In addition, there were seven two-man teams to supervise the exchange of prisoners of war and civilian detainees, and twelve small teams to supervise the flow of restricted war material through points of entry. Several teams were held in reserve, and a small support group was concentrated in the theatre headquarters in Saigon.

Foreshadowing our current procedure of having multiple departments on missions, the Canadian deployment to Vietnam included 40 Canadians civilians from the Department of External Affairs, headed by Michel Gauvin, Canada's ambassador to the ICCS and the first ICCS chairman. In fact, the military component was subordinate to Mr Gauvin, and the roles of both parties were closely entwined.

Equally novel was the fact that the MCCD/ICCS was arguably the first tasking of its kind carried out since the unification of Canada's military, meaning that LCol McCabe worked hand-in-hand with Air Force and Navy representatives, not just his peers from the Army. In fact, the officer in charge of McCabe's POE team was an Air Force pilot, and the operations officer was a naval officer. McCabe was amazed to see such a seamless transition. "It certainly worked very well in Region 2," he commented. Region 2 was centred on the city of Danang. McCabe's role was to monitor the flow of war material imported and exported through that point of entry. Material often came by sea, but also by air and land. McCabe also replaced members of the sub-teams on leave, and carried out investigations when necessary.

One such investigation illustrated why LCol McCabe believes in the end that the mission was not successful. His investigation team consisted of eight members, two from each of the CHIP countries. They were to look into the death of a South Vietnamese man who had been shot from behind while operating a combat bulldozer. Members from Canada and Indonesia believed it was likely that the man was either killed by a North Vietnamese soldier or by a soldier of the Viet Cong. Hungary and Poland agreed only that the man was dead. The investigation remained unsolved because the findings had to be unanimous. LCol McCabe stated that the findings always split along the same political lines: Hungary and Poland from communist countries, and Canada and Indonesia from democratic ones. This was, of course, the Cold War Era. In fact, when cabinet records were opened in 2004, one briefing paper read, "There had been 7000 violations of the ceasefire recorded. The commission had been asked to investigate only 31 complaints, from which only two reports emerged." The results of LCol McCabe's investigations were obviously not an anomaly.

Canada's role with ICCS was non-combatant, yet losses were suffered. One Canadian, Capt Charles Laviolette, was killed when the helicopter he was flying in was shot down while on a reconnaissance mission to Lao Bao, in Region One. This was in spite of the fact that the helicopter that he was flying in was clearly painted in distinctive ICCS colours, as were all modes of transportation used by the ICCS. Other members of the ICCS were kidnapped, including Canadians Capt Ian Patten and Capt Fletcher Thompson. Both men were eventually returned safely. The sound of nearby gunfire was quite common. Security for investigation was provided by the Army of the Republic of Vietnam (ARVN). A typical convoy consisted of an armoured ARVN vehicle at each end of a convoy made up of ICCS members travelling by pairs in jeeps. While most convoys were conducted without incident, it was not uncommon for an investigation to be interrupted by direct gunfire, causing an immediate and intense response from the ARVN escorts. Despite the clear element of risk, LCol McCabe felt relatively safe while on tour, just as long as members stayed where they were supposed to stay. He certainly enjoyed the opportunity to see a different part of the world that he would have been unlikely to see otherwise.

LCol McCabe described the Canadian approach to living in South Vietnam as different from that of some of the other nationals. Canadians tended to “live on the economy,” by finding villas, while some of their peers preferred staying in barracks, away from the local population. Canadians also ate the local food, being careful to eat food that was cooked or, if raw, peeled. Danang is commonly called the “Paris of the Orient,” and many of the restaurants were a pleasure to visit. The American Consulate opened its doors to the Canadians, allowing them to eat at their mess, offering them affordable and good food. LCol McCabe shared a six-bedroom house with five others, and together they employed both cleaning staff and a servant. They also had a Vietnamese driver who did not speak English. “Thank goodness for Nam, our house servant,” said McCabe. “Not only did he look after our creature comforts, he also spoke English and always ensured that our driver knew where we needed to go!”

The Americans lived in stark contrast to the Canadians, preferring to import as much of their home culture as possible. Leaving Vietnam often meant leaving much behind. For example, many Americans owned pleasure boats in the Danang area. One American, a member of the Central Intelligence Agency (CIA), offered LCol McCabe his 16-foot Boston Whaler-style boat. He could either give it away or sink it. McCabe happily accepted the boat, and then in turn sunk it himself in the Danang River when he found nobody to pass it on to before he returned home. The same gentleman gave him a pistol and an AK-47 assault rifle, which now resides in the Base Gagetown Museum.

When LCol McCabe was about to take his first period of leave, he received word that the MCCD/ICCS was at an end. Canada’s Secretary of State for External Affairs, Mitchell Sharp, had made it clear at the onset of the mission that if the ICCS process wasn’t working, Canada would pull out. When it became clear that this was the case, the tour was cut short in July of 1973 and LCol McCabe returned home. The ICCS continued to operate for another two years (until April 30, 1975), after Canada withdrew.

The MCCD/ICCS was among the first deployments undertaken after Unification. While the intent of the Paris Peace Accords was not attained, the ability of soldiers, sailors and airmen to work together to achieve objectives was proven beyond doubt.

The current transformation of the CF and the Army bears a distinct relationship to the efforts of unification that occurred in the early 1970’s, just prior to the MCCD/ICCS deployment to Vietnam. The formation of the new commands: Canada Command (Canada COM), Canadian Expeditionary Force Command (CEFCOM), Canadian Special Operations Forces Command (CANSOFCOM) , and Canadian Operational Support Command (CANOSCOM) as well as the Strategic Joint Staff (SJS), are reminiscent of the efforts undertaken through unification more than 35 years ago. Whereas unification failed, today’s transformation initiatives will be a success, due to the efforts of Canada’s soldiers, sailors, airmen and airwomen.

Notwithstanding great frustration and serious risks they have carried high the flag of Canada; for some it has cost them their life...It was our Delegation that carried the main burden of organizing the work of the Commission and whatever success the Commission has had can, in a large measure, be attributed to their professional competence, dedication and energy.²

Endnotes

1. Major-General Duncan A. McAlpine, Commander Military Component Canadian Delegation (MCCD)
2. The Honourable Mitchell Sharp, Secretary of State for External Affairs, May 29, 1973