THE ARMY
DOCTRINE AND TRAINING
BULLETIN

ISSN 1712-9745

Canada's Professional Journal on Army Issues

Vol. 3, No. 4/Vol. 4, No. 1, Winter 2000/Spring 2001

National Defence / Défense nationale

Published Quarterly

THE ARMY DOCTRINE AND TRAINING BULLETIN

Canada's Professional Journal on Army Issues

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

ARTICLE GUIDELINES

Articles of any length will be considered for publication, the ideal length being 3000 to 6000 words. Articles can be submitted in either official language. Usage and spelling are in accordance with *The Canadian Style: A Guide to Writing and Editing* (Minister of Supply and Services 1997) and *Le guide du rédacteur de l'administration fédérale* – both are available via www.pwgsc.gc.ca/termium, libraries or bookstores; and *The Concise Oxford Dictionary* or *Le Petit Robert*. Supporting tables, charts and images must be provided by the author and should not be embedded in the text. Articles must include endnotes. Contributors must include a brief biography citing their academic background, noteworthy military or other experience, key courses and current position. Articles can be submitted via e-mail or regular mail (a disc copy must be included). All submissions will be reviewed by an Editorial Board and contributors will be notified by the Managing Editor on the status of their submission. The Managing Editor reserves the right to make minor editorial changes to grammar or style. Authors will be contacted should their submission require revision.

STAND-UP TABLE (COMMENTARY) GUIDELINES

Contributions to the Stand-Up Table should be no longer than 1000 words and can be made anytime. Every effort will be made to publish these in the earliest issue possible. Comments on articles should be submitted as soon as possible following the publication of that article.

DEADLINES

The deadline dates for submissions for each issue are as follows:

Spring Issue:	By 15 September
Summer Issue:	By 15 December
Fall Issue:	By 31 March
Winter Issue:	By 30 June

DISTRIBUTION AND ELECTRONIC COPIES

The *Bulletin* is distributed throughout the Army and to select NDHQ, Maritime Command, Air Command, CFRETS and DISO addresses. Copies are also provided to defence-related organizations, allied armies and members of the public and academia. Inquiries regarding distribution are to be made to the Managing Editor. An electronic version of the *Bulletin* is available at www.army.dnd.ca/ael/.

CORRESPONDENCE

All contributions and correspondence should be sent to the Managing Editor, Major John R. Grodzinski, as follows:

The Managing Editor
Army Doctrine and Training Bulletin
Land Force Doctrine and Training System
PO Box, 17000 Stn Forces
Kingston ON K7K 7B4

Telephone: (631) 541-5010, extension 4874
Fax: (631) 541-4478
Internet e-mail: mail854g@dnd.ca

EDITING AND LAYOUT

The final editing of each issue is performed by the Army Publishing Office, Land Force Doctrine and Training System, Kingston, Ontario:

English Editors: Lieutenant(N) Brian Lawrie-Munro, Ms. Karen Johnstone, Ms. Jenny Turner, Mr. Greg Taylor.

French and English Editors: Mr. Gilles Langlois, Ms. Thérèse Lessard.

Layout and proofreading services are provided by:

CFTMPC CPMIFC

CF Training Materiel Production Centre
(204) 833-2500, ext. 5356

ISSN 1480-9826 **Publication Agreement No. 1882732**

Table of Contents

Part of Our Heritage

A City of Québec militiaman, c. 1775 – 1776. Some 900 men of the city militia were divided into eight “Canadian Militia” and six “British Militia” companies to defend Québec City against the invading American army. (courtesy Directorate of History and Heritage)

A volunteer rifleman of the Halifax Rifles in 1859. (courtesy Directorate of History and Heritage)

A soldier of the Royal Canadian Rifle Regiment, between 1857 and 1862. This sedentary regiment was raised from veterans of line regiments and served in Québec, Ontario, Manitoba and Newfoundland between 1840 and 1870. (courtesy Anne S. K. Brown Military Collection, Brown University)

A gunner of the Canadian Volunteer Artillery between 1863 and 1870. (courtesy Parks Canada)

Guest Editorial

Exploiting Opportunity: Thoughts on ISTAR

by Colonel Glenn Nordick, MSC, CD, Commander 1 Canadian Mechanized Brigade Group

I am delighted to provide the guest editorial for this issue of *The Army Doctrine and Training Bulletin*. I would like to use this opportunity to outline some personal thoughts with regards to the future of ISTAR (Intelligence, Surveillance, Target Acquisition and Reconnaissance) at the brigade level.

I must admit to having been a virtual neophyte with respect to ISTAR when I took command of 1 Canadian Mechanized Brigade Group (CMBG). The concept was not foreign to me and, through my education with the U.S. Army, I was well aware of the All Source Information Centre (ASIC) idea. However, my first introduction to the practical realities and potential of ISTAR started on the second day of the hand-over briefings when Colonel (now Brigadier-General) Leslie took me through the headquarters complex. The matching pair of terrain maps in the main command post, coupled with the staff explanations on the practical applications of ISTAR, piqued my interest. This introduction, together with practical field and simulated experiences, detailed education on the ISTAR process from my G2, Captain Dave Travers (who has an article in this issue), plus the significant theoretical and doctrinal debate within the army, have made me a firm believer and advocate of ISTAR at the brigade level.

What I have learned is that ISTAR is not constrained to just the operational function of *Sense*, traditionally the primary role of intelligence. Instead, ISTAR is also an essential player in the areas of *Act*, *Command*, *and Protect*. Although I acknowledge that the primary role of intelligence and ISTAR remains its contribution to the Sense function (at the brigade) and the Operational Planning Process (OPP), I have deliberately permitted the ISTAR cell in 1 CMBG to act on my behalf and often provide them resources to do so. The information garnered from higher intelligence sources, electronic warfare, artillery, air defence, aviation and air assets, linked to integral brigade collection assets (Fire Support Coordination Centre (FSCC), Unmanned Aerial Vehicles (UAV), Electronic Warfare (EW), Air Defence Coordination Centre (ADCC), brigade recce squadron and brigade units) often yield time-sensitive targets. These include the movement of enemy counter-attack forces or high value targets of opportunity (enemy reserves, command and control nodes, artillery concentrations, and air defence weapons and networks). To be effective, these targets must be attacked immediately. By establishing priorities or triggers, the G2, in concert with the FSCC, Brigade Artillery Intelligence Officer (BAIO), EW Liaison Officer (LO), Attack Helicopter (AH) LO, Air LO and ADCC, can effectively prioritize targets and control key assets such as rocket artillery, attack helicopters, air interdiction / close support missions, and EW attack assets. This allows them to easily determine the most effective, timely and economical means of attacking a target. Close co-ordination and co-location of the G3 and ISTAR tables also permits rapid and effective action to prevent fratricide on the battlefield.

"The issue then . . . is not whether ISTAR is useful but how it can be made more effective."

This in turn relieves the commander and G3 staff from a major co-ordination burden and frees up time to concentrate on controlling the brigade units, terrain management, adjusting ongoing operations, development of future plans, and the maintenance of contact with flank and higher formations. Regular situation reports from the G2 to the commander, G3 staff, and all brigade units, via the brigade command net, permit the adjustment of priorities and triggers, and offer the means to ensure that key resources remain under effective brigade control. Using ISTAR in this manner also enables me to effectively include key assets in my reserve and to influence the battle at key moments through the use of priorities and triggers. ISTAR allows the build-up of target lists, which can then be struck by a variety of means to give the greatest advantage in both defence and offence at a time and place of our choosing. Thus, ISTAR does play a role in the Command portion of brigade operations.

In 1 CMBG, ISTAR also contributes to the operational function of *Protect*. First, through its *Sense* function, it can provide effective early warning throughout the brigade area. Then, through its contribution to *Act*, it can prevent, disrupt or destroy expected or unexpected enemy threats and, in particular, counter-attacks. Finally, close interaction between ISTAR and G3 staffs prevent fratricide, again improving force protection.

The issue then, for future concern, is not whether ISTAR is useful but how it can be made more effective. In my mind, the only way to maximize ISTAR at the brigade level is to obey the time-honoured adage "train as you intend to fight."

Brigades will never become truly proficient at implementing the ISTAR process until they are permitted to train

regularly with all of the assets that are required to produce the ISTAR task matrix. This includes artillery detection systems (radars and sound ranging), air defence detection systems, EW systems, special forces, and UAVs, etc. I believe that the tendency to stovepipe or centralize key assets prevents the creation of synergy between these types of assets. For example, I have mused with my brigade staff as to whether or not Skyguard could not also be incorporated into the counter-battery plan. Can an artillery sound ranging line or an EW baseline also be used to detect aircraft, UAVs, enemy vehicle movement? Can counter-battery radars be used to detect helicopters? Can Coyote Manportable Surveillance and Target Acquisition Radar (MSTAR) pick up aircraft or UAVs, etc.? The answer to these questions is largely a matter of computer software, coupled with the requirement for a single, integrated collection and collation system. ISTAR gives us the collection, analysis, and collation capability; now can technology and doctrine give us the tools to achieve synergy among the various collection means?

Under the existing Defence White Paper, the largest army formation committed outside Canada is a brigade group. Therefore, it would seem that our ISTAR training efforts within the army must be focused at this level. Given the geographic size of this country and the perennial shortage of training money, past attempts to centralize key assets (2 EW Squadron and 4 Air Defence Regiment are the best examples), while still ensuring adequate training opportunities at the brigade level, have failed miserably. Participation by key ISTAR assets in 1 CMBG field exercises has been spotty at best, with only slightly more success during computer exercises. Far more equitable access and better training can be achieved by distributing key assets to each brigade to the extent possible, with a clear understanding that these assets will need to be brigaded on an annual or bi-annual basis for specialist type training and exercises. A compromise on this plan would be a two-way split with assets distributed to 1 CMBG, due to geographic dispersion, and shared assets for 2 CMBG and 5e GBMC.

This is a minimum requirement for three combat ready brigade groups and to provide support for battalions or battle groups deployed overseas. Any additional ISTAR assets to support army educational institutions, the national joint headquarters or to augment the national J2 function should be addressed as additional requirements or via the tasking system.

Make no mistake, there have certainly been improvements even in the past two years. The addition of a geomatics cell and a meteorological section to the brigade have been welcome additions and will contribute significantly to the ISTAR process. Closer relationships with the reserve air defence batteries provide for the brigade ADCC; unfortunately, without the Skyguard type assets, the ADCC does not contribute to the ISTAR process in the way that it should, relying instead on higher level air defence early warning assets. Improved communication systems and Automatic Data Processing (ADP) tools have significantly enhanced our ability to access national intelligence sources. Strong relationships with American aviation units, both regular and National Guard, have yielded almost continuous attack helicopter expertise in the form of an AH LO. The appearance of a UAV simulator for Computer Assisted Exercises (CAX) has been most welcome. However, in the absence of real UAVs, 1 CMBG has taken the steps of hiring civilian aircraft to simulate UAVs during field exercises, and of purchasing commercial grade air photos to simulate satellite and air recce imagery. In the past year, we have also had considerable success in our experiments with EW assets. As well, in Janus and the Command and Staff Trainer (CST), we are able to simulate many of the missing pieces (UAVs, rocket artillery, tactical air, AH, and artillery target acquisition).

However, although CAX simulation does permit the brigade to train to a minimal standard, it does not represent a complete operational capability. In operations, Canadian ISTAR would only function with the insertion of a wide range of external surveillance and detection assets. Many of these force structure and equipment issues are currently the subject of intense debate within the army and will be resolved in time. We are also searching for methods to contribute meaningfully in coalition operations at the strategic level. Perhaps a functioning, integrated and effective tactical ISTAR system would also give Canada the means to achieve a strategic aim. My point is that, in the future, the ability to garner and collate information (ISTAR) coupled with the ability to act decisively on that information, will be the difference between success and failure. I am convinced this applies equally to peace support and wartime operations. If we are willing to acquire the missing tactical detection and surveillance assets, we have a functioning ISTAR doctrine, supported by a world-class TCCCS based digitization and communications capability that could give Canada a real window of opportunity.

Colonel Glenn Nordick, MSC, CD

From the Managing Editor

Is There Room for Manoeuvre? Wither Mission Command?

by Major John R. Grodzinski, CD

The Canadian Army, after almost a decade of debate, has adopted manoeuvre warfare as doctrine. For some, this may mean a new way to how the army fights. For others, this change may involve only the minor rethinking of how they perceive warfare in its varied dimensions.[1]

This paragraph from the Land Force Tactical Doctrine manual heralded, along with the adoption of "mission command", a fundamental shift in the means of conducting military operations. This occurred in 1997. The three publications on operational level doctrine, tactical doctrine and command have expressed themselves in debate and discussion in units, schools, and messes, and several articles in this and other professional journals. What the above quote does not reveal is the division, unresolved issues and shaky application of these changes. Falling out from the 35th Meeting of the Army Doctrine and Tactics Board in Kingston, the decision to become a doctrine based army and to adopt manoeuvre warfare and mission command brought considerable intellectual and professional challenges. Army leadership, included the Chief of the Land Staff of the time were divided on what this meant. It fell to doctrine writers to craft these terms into workable doctrine. After over three years what is the result?

The biggest challenge probably fell to the Directing Staff of the Canadian Land Force Command and Staff College and the Directorate of Army Doctrine. The latter had to make this into workable doctrine while the former had to teach it. Each has struggled with this question and devised their solutions. Great hope was placed on those that would receive the training to lead change. Yet, despite the completion of several commanding officers courses, command and staff courses and the publication of several manuals, pamphlets and articles, has there been any change? Do we actively practice manoeuvre warfare and mission command? Is mission command something we can ignore in the garrison on Monday, but choose to employ in the field on Tuesday? Given that our focus is based on the battle group is manoeuvre warfare or mission command applicable? Can we instill the intellectual robustness to apply these methods of operations and command style? Focussing on battles like Vimy, which may have been significant national events, may offer the wrong framework. Vimy was meticulously planned, strictly controlled and timetable driven. Our admiration of such battles may reveal more than we realize. Does our command and staff system support mission command and manoeuvre warfare? How compatible is mission command with the new command and control systems coming into service? Or are we too caught up in trying to define these methods rather than just determining what we want to achieve and getting on with it?

Perhaps someone out there can articulate this and thus achieve some transformational goal.

A NEW LOOK - WELL, NOT REALLY

Until the Summer 2000 issue of the *Army Doctrine and Training Bulletin*, the layout, printing and distribution was handled by the Army Publishing Office (APO) in Kingston, Ontario. The APO consists of a team of editors, technicians and information technology specialists who are responsible for the publication of all LFC manuals and for management of the LFDTS website and other web matters. To help reduce the massive workload placed upon this small organization, it was decided to transfer the layout, proofreading, printing and distribution responsibilities to the Canadian Forces Training Materiel Production Centre in Winnipeg, which is specifically mandated to do, amongst other things this type of work.

The APO will continue to do their excellent work in editing and translation of all material published in the *Bulletin*. However, special acknowledgement and thanks are offered to Sergeant Laura Cunningham and Corporal Jenni Buckland for their diligence in producing excellent layouts for the Bulletin, and to Lieutenant (N) Brian Lawrie-Munro, the Army Publisher, for his continual support of the *Army Doctrine and Training Bulletin*. We welcome the staff of the Canadian Forces Training Material Production Centre to the *Army Doctrine and Training Bulletin* team!

ENDNOTES

1. B-GL-300-002/FP-000 Land Force Tactical Doctrine, p. 1-7. This topic was also discussed in Chapter 2 of B-GL-300-001/FP-000 *Conduct of Land Operations — Operational Level Doctrine for the Canadian Army*: "the Canadian Army seeks the manoeuvrist approach to defeat the enemy by shattering his moral and physical cohesion, his ability to fight as an effective coordinated whole, rather than by destroying him physically through incremental attrition". See page 15. Mission Command is defined "as the army's philosophy of command within the Manoeuvre Warfare approach to fighting". See B-GL-300-003/FP-001 *Command*, p. 30.

From the Directorate of Army Doctrine

Roles of the Military Police

New Military Police Doctrine, Tactical Aide-Memoire – Military Police Insert, Structures and Battle Task Standards", DAD Update prepared by Major Denis Egglefield, The Army Doctrine and Training Bulletin, Volume 3, No. 2, Summer 2000.

The Canadian Forces Provost Marshal writes…

THE THREE ROLES OF THE MILITARY POLICE

With reference to the superb Military Police doctrine update from the Directorate of Army Doctrine, it is good to see that cohesive and innovative thought concerning the Military Police is flourishing at the operational and tactical levels. As the incisive and articulate author clearly understands, doctrine is a dynamic issue and continually evolving.

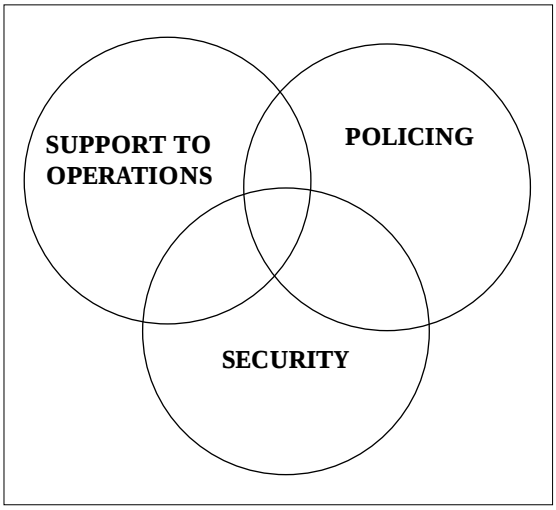
Consequently there are matters which redefine and re-conceptualise the roles and functions of the Military Police. Many of these issues were crystallised by the Dickson Report.

Essentially the four roles have been reduced to three. Military Policing is thus made up of three separate, but interconnected roles – policing, support to operations and security. The roles are:

Policing. This includes activities such as law enforcement, investigations, criminal intelligence, crime prevention arrest, custody, detention and the laying of charges in support of the Code of Service Discipline, Criminal Code Canada and various other legislation.

Support to Operations. This includes activities such as traffic control, straggler, refugee and prisoner of war control and escorts. Additionally this role includes force protection activities as directed, and under the command and control of field commanders.

Security. This relates to activities in support of Government Security Policies relating to security of personnel, material and information to include, but not necessarily under the technical direction of the CFPM, security intelligence and counter intelligence and information technology security. (Advise and Assist.)



The focus of support is becoming more advisory in nature with regard to aspects of custodial and overall security tasks. This is essential on two fronts:

- Firstly the core activity of any police force should be aimed at **policing**. As a professional police force the Military Police enjoys the same approach.
- Secondly the reduction in manpower prohibits involvement in distracting tasks. Therefore, the Military Police has been focussed on the primary area of policing throughout the spectrum of conflict. Whether at home or abroad, in peace or during times of conflict, the military[1] will require to be policed.

Innovation must always be encouraged. However, Military Police business has to be accepted as being conducted within the three roles above. This concept must be embraced and accepted in full and by all if the potential of the Military Police in the 21st Century is to be realized.

NOTE

1. Includes all Navy, Army and Air Force personnel, their dependants and non-military personnel when subject to the Code of Service Discipline.

The Directorate of Army Doctrine offers this reply…

ROLES OF THE THE MILITARY POLICE

The Director of Army Doctrine (DAD) appreciates the opportunity to respond to the concerns raised by the Canadian Forces Provost Marshal. This response was prepared by DAD and the Army Provost Marshall (PM). The article which the CF Provost Marshall refers to, "New Military Police Doctrine, Tactical Aide-Mémoire - Military Police Insert, Structures and Battle Task Standards," was based on recently approved Army MP doctrine. It is a standard type of article, which is regularly featured in the Army Doctrine and Training Bulletin to ensure that everyone is aware that a manual has been approved. The MP manual was not rushed into production even though it was sorely needed – the previous manual was dated 1973!

The Directorate of Army Doctrine does not produce a new manual in isolation. Input is sought from multiple sources, ranging from international contacts through NATO and the Australia, Britain, Canada, America (ABCA) program, NDHQ, branch advisors, formations, schools and units. Draft versions are circulated to many of the same Canadian audiences.

reviewed by all of the DAD staff, encompassing most of the Army classifications. The author is often required to defend his or her manual on several occasions. The point is that while everyone may not agree with the end product, it is the result of consensus and consultation, and is based on the guidance provided by overarching doctrine established by the Commander of the Army in Canada's Army: We Stand on Guard for Thee (B-GL-300-000/FP-000).

The Army MP doctrine delineates four main roles performed by MP, not three. The Military Police provide commanders with an essential element of command and control, through the conduct of four roles: Mobility Support; Security; Detention; and Police Operations. The Army Military Police doctrine manual is divided into six chapters and defines how Military Police will succeed in fulfilling their role.

The Dickson report *recommended* the amalgamation of Police and Detention Functions, but it also acknowledged that environmental chiefs of staff are responsible for ensuring support to operations, as they require it.[1] The Army has defined its roles, and has kept the separation of police and detention roles, for the following reasons:

- Detention Operations includes more than peacetime garrison detention. Prisoner of War (PW) and civilian detainee tasks are included; and

- Detention Operations do not need to be performed by MP. Manoeuvre Arms and Reserve Force MP can do the tasks associated with detention operations, whereas Police Operations require MP with Peace Officer status.

The roles described by the CFPM contribute to an understanding of the evolving roles of the MP. From an Army perspective there remains, however, some inconsistency regarding the MP mission, which is believed, must be directly linked to operations. The activities associated with the MP roles and the core areas of responsibility for any CF MP organisation should emulate the following:

- provide commanders with an essential element of command and control;

- assist formations and units in operations; and

- assist with maintenance of morale and discipline within the Forces.

On a positive note, it appears that there will be an opportunity for the Joint Support Group (JSG) to create operational level doctrine. This level of doctrine should, in the future, provide a basis previously lacking for the next rewrite of Army MP doctrine. DAD looks forward to the opportunity to contribute to the development of this doctrine.

In conclusion, the three roles of responsibilities for MPs as outlined by the CFPM are not incompatible with the four that we are using in our doctrine. It is more of an issue of emphasis. Garrison activities should be carried out, as necessary, to develop and maintain the skills necessary for operations. It is considered that Detention Operations need an explicit reference, as they are an important aspect of our operations. This has been apparent on our recent operations in dealing with civilian detainees.

ENDNOTE

1. *Report of the Special Advisory Group on Military Justice and Military Police Investigation Services*, (The Dickson Report), 4 March 1997, p. 28

From the Directorate of Army Training

"The Matrix"

INTRODUCTION

In the past, training within the Canadian Army has not been without its shortcomings. Training schools would sometimes use outdated or locally developed qualification standards and training plans, personnel might learn skills that they would never use within their classifications and duplication of training could mean soldiers would re-learn skills they have already been taught.

Training has sometimes taken a "backseat" to equipment procurement and operational requirements. In the recent past equipment was fielded before we had developed the training and doctrine required to employ it (i.e. Coyote and M203 40mm Grenade Launcher). Equipment would appear at the units, training schools and on the armoury floor with no one qualified to teach it or operate it. A need must be established before new equipment is procured. Doctrine and training policies need to be in place before the equipment is received. This way we do not waste money on equipment, which is of no use to us and it permits us to put new equipment into operations quicker.

Procurement, maintenance and training of the "high-tech" equipment world armies are inclined to procure in this day and age comes with a hefty price tag. We can no longer afford to train everyone to do everything and although the Directorate of Army Training (DAT) does not advocate training one person for a specific function we need to be judicious and wise when it comes to deciding who needs the training and who does not.

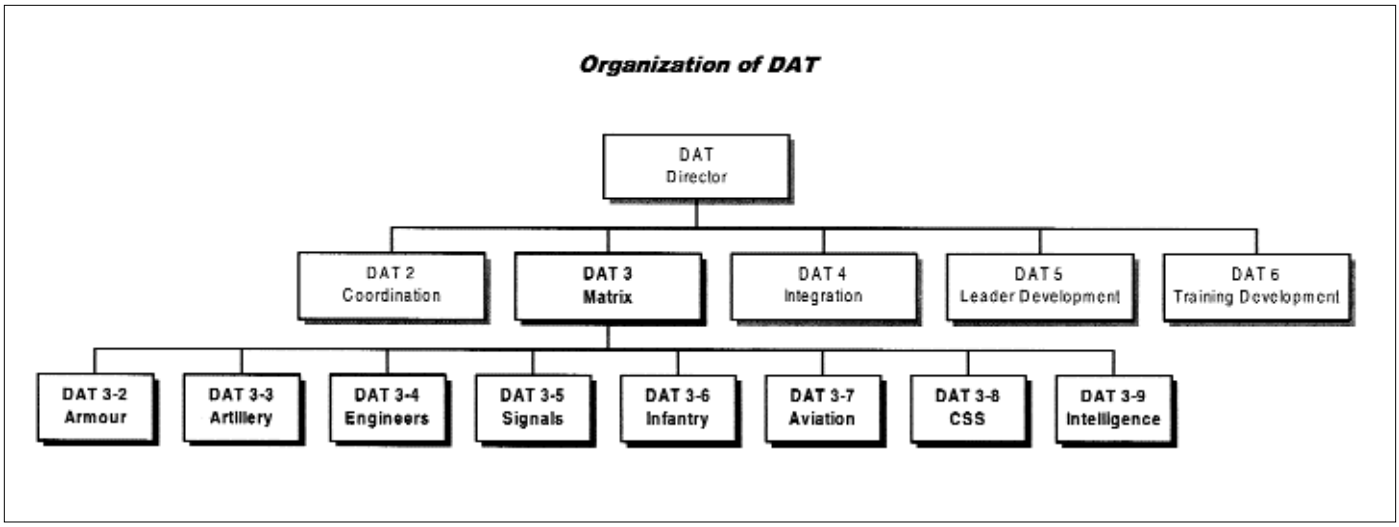
BACKGROUND

In order to maintain control of the way we train our Army, Land Forces Doctrine and Training Systems (LFDTS) was created to "**manage the intellectual development and training of the Army**." In order to accomplish this a number of directorates, schools and units were brought under the command of LFDTS. One of these crucial organizations was DAT. Originally, DAT was under command of the Commander 1st Canadian Division, in his capacity as the Army Training Authority (ATA), until the fall of 1999 when LFDTS was stood-up. DAT was given the mandate of "**providing dedicated and professional training support to the Land Force,**" with the vision of "**providing the highest quality of training at all levels in order to prepare the Army to meet all of its roles and missions.**" To meet the demands of this mission statement DAT was expanded from its initial organization of three sections and just over a dozen personnel into the organization it is today, of five sections which provide support and advice to the Army on all training matters.

DAT 3 – "THE MATRIX"

The DAT 3 Section, which is also known as the *Matrix*. Led by a Lieutenant-Colonel, DAT 3 is comprised of eight sub-sections, which represent all of the combat and combat support arms, as well as, combat service support. In addition, DAT 3 also has an aviation sub-section, which represents the air force and its essential support to the field force.

The primary function of DAT 3 is to provide the Subject Matter Experts (SMEs) to the remainder of the directorate, the Commander LFDTS and all other components and elements of the Army. DAT 3's responsibilities go far and wide and encompass all aspects of training within the Army. In addition to holding the majority of Army Qualification standards (QSs), DAT 3 is responsible for the maintenance of Battle Task Standards (BTS) and many of the Land Forces Command Orders, which govern training. As well, project advice, training publications and trade equivalencies are also provided.



QUALIFICATION AND TRAINING STANDARDS

In order to continue to centralize the training authority within the Army the Combat Training Centre (CTC) will come under the command of LFDTS in April of 2001. DAT 3 will hold the majority of the Army QSs with the exception of those courses operated by Canadian Forces Recruiting, Education and Training System (CFRETS) and some unique qualifications such as parachuting and mountain warfare maintained by other organizations such as the Canadian Parachute Centre. CTC will be responsible for Training Plan (TP) and Courseware development. The intent is to use the area training centres to deliver training and reduce their workload by having CTC amend TPs and Courseware from recommendations made by the area training centres and LFDTS driven QS changes. This will allow the Army to train to one standard.

Commencing in January 2001 personnel from DAT 3 will co-chair the QS writing boards that will dictate the future training of the Army. The intent is to re-write and improve the courses our soldiers undertake in order to reduce duplication and rationalize training.

PROJECTS AND WORKING GROUPS

In addition to the administrative aspects of training, personnel from DAT 3 have been pivotal in the creation of training for new and upgraded equipment, as well as new training concepts. DAT 3 is involved with the M113 and Wheeled APC Life Extension projects, the Athena Tactical System (ATS) and the Situational Awareness System (SAS). In addition DAT 3 is also involved with LAV III, the Protective Weapons Station and the use of the Small Arms Trainer in training our battle shots. It is now possible to complete the Training Needs Assessment (TNA) and develop the training prior to the fielding of new and upgraded equipment. DAT 3 is involved with many of the working groups, which are conducted within the Army and the Canadian Forces. Anti-armour boards, firepower audits and the Yearly Flying Rate (YFR) working groups, which establish the Army's requirement for aviation support, are only a few of the meetings which DAT 3 personnel participate.

THE WAY AHEAD

It was once said that you could measure the health of an institution by how often it re-organizes itself. We speak of unity, one operational standard and a systems approach to training. We must train as we intend to fight with one standard where everyone is assessed and given guidance as to how to improve their weaknesses.

We can no longer afford to make-up our own standards, have an "eastern" and "western" Army mentality. If we continue to expect our allies to ask us to join them on operations we must ensure that the problems which have plagued our army in the past are corrected and that we train as we intend to fight – smartly and effectively. DAT 3 is a small organization in relation to their responsibilities but we share the Commander's Intent of how the Army must progress and we intend to give the army the support it requires.

This update was prepared by Captain Bruce Coolican, DAT 3-6-3 (Infantry).

The 2000 Army Doctrine and Training Bulletin
Annual Warfighting Essay Competition

Last year the *Army Doctrine and Training Bulletin* sponsored, through the assistance of the Deputy Chief of the Defence Staff Millennium Fund, a warfighting essay competition. The aim of the competition is to provide a competitive forum for members of the Canadian Forces and others interested in army issues to express their thoughts and opinions in a competitive environment. Three prizes were offered for the best papers ranging from $500.00 for the best paper, $300.00 for the next and $200.00 for third place. The three winning papers would also be published in the *Bulletin*. The competition was advertised in the *Maple Leaf* and the *Army Doctrine and Training Bulletin*.

Submissions were received from regular and reserve officers and non-commissioned members and civilians. Based on the number and quality of submissions received, it was determined by the judging committee, that only one prize be awarded and that only the winning paper would be published. The committee included Brigadier-General J. Lessard as Chair, Major Paul Duff representing the Directorate of Army Doctrine, Major Brock Millman representing the Directorate of Army Training and Dr. Sean Maloney as the academic member. The Managing Editor of the *Bulletin* served as Secretary.

What follows is the prize winning paper for the first annual *Army Doctrine and Training Bulletin* Annual Warfighting Essay Competition. Details for this year's competition will be published in the next issue of the *Bulletin*.

Thank you to all whom submitted papers for the competition and the members of the judging panel. The support of the Deputy Chief of the Defence Staff Millennium Fund is also appreciated.

Year 2000 Competition Prize Winner
Their Intelligent Initiative and Its Cultivation: A New Leadership Doctrine for Manoeuvre Warfare

by Second Lieutenant Mark Gaillard

> Since 'closed order' has evolved into 'dispersed order'...an army's success depends largely on the compound effect of many local collapses on the opposing side. Battle has become a serial process composed of momentary minor opportunities, and the exploitation of these naturally tends to turn on a general superiority in minor tactics among junior leaders than on the major tactics of generals...The junior leaders have always borne the brunt of war, and still do, but their intelligent initiative, and its cultivation have now become vital factors in determining the issue.[1]

MANOEUVRE WARFARE THEORY

The Canadian Army has adopted Manoeuvre Warfare as its doctrinal approach to warfighting.[2] The Army has defined Manoeuvre Warfare as a "war fighting philosophy that seeks to defeat the enemy by shattering his morale and physical cohesion, his ability to fight as an effective coordinated whole, rather than destroying him by incremental attrition."[3]

". . .the manoeuvrist approach to warfighting is highly dependent upon leadership."

Manoeuvre Warfare Theory was born of the terrible agony of trench warfare in the First World War. Trench warfare in 1914-1918, the ghastly and mechanical "exchange of munitions"[4], was the 20th century apotheosis of the doctrine of positional warfare or, as it is now known, Attrition Warfare. A technological breakthrough weapon of the First World War, the tank, was initially conceived as an antidote to trench warfare. Although some have insisted that the tank represents "attrition on wheels"[5], clearly the impact of the tank has influenced conceptions of time, space and application of force in relation to warfighting.[6] Soon after the end of the war, Basil Liddell Hart began to appreciate the possibilities that manoeuvring by tanks could bring. He diverged from Clausewitz, whom he decried as the "Mahdi of mass", and for whom the destruction and overthrow of the enemy's forces in the field by means of "the essential military activity, fighting, which by its material and psychological effect comprises in simple or compound form the overall objective of war."[7] Liddell Hart realized that by capitalizing on the new mobility that the tank promised, the same "psychological effect" could be attained by means of dislocating the enemy's command and control systems, without recourse to battle. In 1925, he concluded:

> Once one appreciates that tanks are not an extra arm or a mere aid to infantry but the modern form of heavy cavalry, their true military use is obvious - to be concentrated and used in as large masses as possible for a decisive blow against the Achilles' heel of the enemy army, the communications and command centres which form its nerve centre. Then not only may we see the rescue of mobility from the toils of trench-warfare, but with it the revival of generalship and the art of war, in contrast to mere mechanics.[8]

MANOEUVRE WARFARE AND THE ROLE OF LEADERSHIP

Liddell Hart's "revival of generalship and the art of war" means that the manoeuvrist approach to warfighting is highly dependent upon leadership. However, the Canadian Army, even with its new manoeuvrist doctrine, continues to define "leadership" in the time-honoured way as being "essentially, the art of influencing others to do willingly what is required in order to achieve an aim or goal".[9] This leadership definition, devised for Attrition Warfare, may no longer be appropriate for Manoeuvre Warfare. And although much has been written in recent years about the principles and practice of Manoeuvre Warfare, little has been written addressing a fundamental question: does the doctrine of Manoeuvre Warfare require a new leadership doctrine?

". . .Manoeuvre Warfare Theory stresses that the chaos of combat is beyond rational control and planning. . ."

For many manoeuvrists, the answer is clearly: yes. Leadership is a "cardinal point of faith" for manoeuvrists and has "strategic level implications."[10] To practice Manoeuvre Warfare, U.S. Marines Corps Commandant General Charles Krulak noted that leaders at all levels need to be able to "confidently make well-reasoned and *independent* decisions under extreme stress...[that] *will directly impact the outcome of the larger operation*."[11] British Brigadier General R. Simpkin, in his seminal 1985 book *Race to the Swift*, considered to be the textbook on Manoeuvre Warfare Theory, confessed that:

> My treatment of the physical aspect of manoeuvre theory constitutes the longest and probably strongest part of the book. This does not mean that it is the most important! Not only does morale enhance the real worth of a military force many times over...exploitation of the dynamics of manoeuvre theory calls for rare excellence in training and the exercise of command.[12]

Indeed, Simpkin emphasized that, for the manoeuvrist, "success [in manoeuvre theory] depends on the skill in the art, leadership and above all creative thinking - all of them fields in which the rules are, to say the least, a shade skimpier and more pliable" than the rules of war.[13] Simpkin's three personal attributes of the manoeuvrist commander are important because, at its root, Manoeuvre Warfare Theory is a theory of psychology, not of war. Manoeuvre Warfare is not about "manoeuvring" nor does it have anything to do with "vast numbers of men and machines charging about the countryside".[14] Instead, the focus is psychological: to attack the cohesion of the enemy's force with the aim of achieving a catastrophic collapse. By concentrating on breaking the enemy's morale and cohesion, rather than by destroying him physically, Manoeuvre Warfare Theory places greater emphasis on psychological intangibles such as morale, cohesion, shock and initiative than it does on actual movement. It seeks the pre-emption, dislocation or disruption of the enemy through the use of the elements of surprise, tempo and simultaneity. Manoeuvre Warfare is therefore a mind-set that really has little to do with the word "manoeuvre" at all.[15] Manoeuvrists aim to unhinge the enemy's command and control and to dislocate his capacity to resist through "manoeuvre", rather than to smash his forces to bits through "attrition". By exploiting the compounding effect of "many local collapses", an enemy force is made to fall victim to the psychological dislocation of its fighting elements. The resulting psychological collapse spreads throughout the defeated force and eventually leads to paralysis. Only when paralysis occurs can the attacking side gain the overwhelming decision it seeks at minimum cost to itself. It thus draws its power from opportunism - the calculated risk, and the exploitation both of chance circumstances and of winning the "battle of wills" either by means of surprise or, failing this, by speed and aptness of response.[16]

The exploitation of chance circumstances is axiomatic of Manoeuvre Warfare Theory. Chance has always loomed large as a factor in war. Indeed, Clausewitz himself noted that:

> War is the province of chance. In no sphere of human activity is such a margin to be left to this intruder, because none is so much in constant contact with him on all sides. He increases the uncertainty of every circumstance, and deranges the course of events.[17]

By accepting as given this vital fact, Manoeuvre Warfare Theory stresses that the chaos of combat is beyond rational control and planning and, instead of futilely attempting to regulate chaos, commanders and leaders ought to use it to their advantage. The doctrinal underpinning of Manoeuvre Warfare Theory is that "chaos is to be exploited for the opportunities it offers, by the commanders, and indeed by all soldiers, at all levels."[18]

DIRECTIVE CONTROL AND LEADERSHIP

The manoeuvrist approach to leadership (one of Simpkin's three personal attributes) is manifested in the field through the key Manoeuvre Warfare concept known as "mission command", or, as it is known in much of the literature, "directive control". This is derived from the German concept of

Auftragstactik, "mission-type control" or "mission tactics", which is the converse of *Befehlstaktik*, "control by detailed order".[19]

Directive Control is a style of command that holds that command and control (C2) needs to be structured so that the leaders of small units are given the freedom to respond to ever-changing tactical situations and challenges. Furthermore, the leaders is able to seize unforseen opportunities and to act, even without orders, to achieve favourable results.[20] Its three most important components are:

- the issuing of Directives by commanders;
- the designation of Main Efforts (*schwerpunkt*) by commanders; and
- the conduct of Mission Analysis by subordinate leaders.

With Directive Control, a commander in the midst of fast-paced operations and pressed for time will reduce his "orders" to the bare essentials. An order for a major operation might fit on one page and would never exceed three or four pages. They are not cluttered with intelligence, executive and logistic detail that could be dealt with through staff channels. They set out clearly and simply the controlling commander's intention, his subordinates' tasks, the resources available to them, and the constraints they must observe.[21] The subordinate leader then considers these in the context of Mission Analysis, which is a process whereby the subordinate leader is forced to consider the Directive in relation to the Main Effort and the commander's intent. The subordinate leader's Mission Analysis takes place in the presence of his commander so as to gain a clear mental picture of what must be done.[22] Directive Control therefore demands that all leaders possess flexibility of mind and courage to act decisively even without direction.

By stressing command over control, Directive Control endeavours to maximize the effect of the leadership and tactical skills of junior leaders. Missions are thus conducted by the junior leaders "themselves reading the instantaneous local situation and reacting to it with their understanding of the aim and plan."[23]

The real basis of Directive Control is "an unbroken chain of trust and mutual respect running from the controlling operational commander to the section commander."[24] This chain leaves the subordinate free to act as he sees fit in the furtherance of his superior's intention, and assures him of support even if he makes an error of judgement.[25] In the United States Army, this basis of trust and respect forms the foundation of the concept of "battle command", which is essentially Directive Control methodology applied at the tactical level.[26] To use "battle command", General Frederick Franks, former commander of US Army Training and Doctrine Command, noted that:

> [b]attle commanders need leadership skills...[because] leadership means getting the units to the right place at the right time in the right combination on increasingly dispersed battlefields where you will only want to physically mass forces at the last moment...Leadership in battle is also about decision making. That is why we give commanders wide latitude in the execution of their responsibilities. We trust them. We also demand they set the right command climate - getting the whole organization involved in being a winner on the battlefield so everyone wants to contribute. Pride in unit and loyalty to unit count in battle.[27]

THE RIGHT COMMAND CLIMATE - TRANSACTIONAL VERSUS TRANSFORMATIONAL LEADERSHIP

General Franks's "right command climate", the psychological manifestation of the chain of mutual trust and respect, is the *sine qua non* of manoeuvrist leadership. To create and sustain this, the manoeuvrist leader must be able to decentralize command and control with trust.[28]

The adoption of the manoeuvrist approach to warfighting has coincided with the emerging psychological theories of leadership known as "transactional" and "transformational" leadership. "Transactional" leadership is based upon "exchange" behaviours whereby the leader provides rewards in return for the subordinate's effort. The exchange may be a tangible reward, such as promotion or a high performance evaluation, or it may be more subtle: to be accepted as a member of the team.[29] Whatever form the exchange takes, the key to transactional leadership is the self-interest of the subordinate. The leader's effectiveness extends only to the leader's ability to meet the needs of the subordinate. The follower participates because it is, in some way, in his personal interest to do so.[30]

". . .the manoeuvrist leader must be able to decentralize command and control with trust."

"Transformational" leadership, on the other hand, is a process whereby an individual engages with others and creates a connection that raises the level of motivation and morality in both the leader and the follower.[31] This kind of leadership occurs when leaders broaden and elevate the interests of their subordinates; when they generate awareness and acceptance of the purposes and the mission of the unit; and when they stir their subordinates to look beyond their own self-interest for the good of the group.[32] Such leaders "get followers to transcend their own self interest for the sake of the leader, team, unit or organization...[and] obtain more from their followers than superficial change in their attitudes or minor increments in their temporary level of motivation."[33] Behaviours typical of transformational leaders are believed to augment the impact of transactional leadership because followers feel trust and respect toward the leader and they are motivated to do more that they are expected to do.[34]

Second Lieutenant Mark Gaillard

"The goal of transformational leadership is to 'transform' people in the literal sense...and bring about changes that are permanent, self-perpetuating and momentum-building."[35] In the stress of uncertainty and ambiguity of the manoeuvrist battlefield, the leader needs to ensure that there will be a positive outcome and that subordinates know what it is. Through transformational leadership, the manoeuvrist leader acts to convert taxing conditions into problems to be solved. This increases the subordinates' tolerance for chaos and the general stress that results from a high operational tempo. The high degree of involvement and commitment of subordinates to achieving the leader's vision or "intent" will *transform* them and offset their focus on the deleterious effect of the stress in the widely dispersed, fast-paced and uncertain operational environment.[36]

". . . Manoeuvre Warfare doctrine requires a new leadership doctrine."

TRANSFORMATIONAL LEADERSHIP FOR MANOEUVRE WARFARE

In Attrition Warfare, the overarching end is to impose control over the battlefield in order to achieve the decisive victory. The means to this end is for subordinates to successfully execute the commands and orders given to them. Transactional leadership is needed to motivate subordinates to "do what is expected of them" in strict adherence to the control of higher authority. In Manoeuvre Warfare, on the other hand, the end is to exploit unforeseen opportunities that the chaotic battlefield presents in order to achieve a desired result. The means to the end is to give subordinates the freedom to find their own ways to contribute to the achievement of the ultimate aim. This is the very purpose of Directive Command, the manifestation of the manoeuvrist approach to leadership. In order to "unleash" one's subordinates, transformational leadership is first needed to foster and promote a climate of trust, initiative, responsibility and creative thinking.

To be effective, every manoeuvrist commander, whether he or she is a commanding general or a section commander, must possess high level professional and leadership skills combined both with the ability to think creatively and the courage to act without direction. A leadership doctrine appropriate to the manoeuvrist approach to warfighting is the key determinant for the adoption of manoeuvrist doctrine. Leadership to influence others "to do willingly what is required in order to achieve an aim or goal", while suitable for the attritionist approach to warfighting, is simply insufficient for the chaotic and unpredictable battlefields of the future. To succeed in the disorder and confusion of modern war, subordinate leaders and soldiers must be unfettered and encouraged to go beyond the transactional "what is required". Literally, they will need to make up their own orders, and then act upon those orders, as they go along. It is for this reason, above all, that Manoeuvre Warfare doctrine requires a new leadership doctrine. As noted by Liddell Hart in the opening quotation, the crucial ingredient for Manoeuvre Warfare is the "cultivation" of the "intelligent initiative" of leaders at all levels, and especially at the junior levels. Transformational leadership theory rests on a foundation of trust and respect and is joined to a credo that leaders must be developed, not just evaluated. It is the best theoretical underpinning for the kind of leadership doctrine needed for successful manoeuvrist warfighting. Transformational leadership must therefore become the foundational doctrine of leadership for the Canadian Army.

ABOUT THE AUTHOR...

Second Lieutenant Mark Gaillard is a Foreign Service Officer with the Department of Foreign Affairs and International Trade and is a Reserve Officer with the Stormont, Dundas and Glengarry Highlanders in Cornwall, Ontario. He holds a Masters of Arts in War Studies from the Royal Military College of Canada, an LL.M. and Bachelor of Social Sciences from the University of Ottawa and LL.B. from the University of Victoria. 2Lt Gaillard also served with the Royal Canadian Mounted Police for seven years. He is currently employed in the Oceans Law Section of the Oceans, Environmental and Economic Law Division Legal Affairs Bureau.

ENDNOTES

1. B. H. Liddell Hart, "The Growing Importance of the Junior Officer", *Defence of the West*, (London: Cassell and Company Limited, 1950), p. 315.
2. B-GL-300-000/FP-000 *Command*, (Ottawa: Department of National Defence, 21 July 1996), pp. 27-28.
3. B-GL-300-001 *Conduct of Land Operations*, pp. 2-3. Compare this definition with the US Marine Corps which states that the purpose of "Maneuver Warfare" is to "shatter the enemy's cohesion through a variety of rapid, focussed, and unexpected actions which create a turbulent and rapidly deteriorating situation with which the enemy cannot cope...[t]he aim is to render the enemy incapable of resisting effectively by shattering his moral, mental and physical cohesion - his ability to fight as an effective, coordinated whole - rather than destroy him physically through incremental attrition through each of his components", Department of the Navy, *MCDP-1 Warfighting* (Washington, D.C., United States Marine Corps Headquarters, 20 June 1997), p. 73. (the term "attrition" is defined as "operations which aim to defeat an enemy by destroying him through direct combat, and which relies heavily on coordinated firepower").

4. J. P. MacIntosh, "Who Can Afford Passion? Emergent Conflict and the Challenge of Complexity: Leading Beyond Pragmatics," *Analytic Approaches to the Study of Future Conflict*, (Toronto: Canadian Institute for Strategic Studies, 1999), p. 171.
5. J. Arquilla and D. Ronfeldt, "Cyberwar Is Coming", *Comparative Strategy*, issue 12 (1993).
6. MacIntosh, p. 171.
7. Carl von Clausewitz, ed. tran. by Michael Howard and Peter Paret, *On War*, (Princeton: Princeton University Press, 1984), p. 225.
8. Basil H. Liddell Hart, *Paris, or the Future of War*, (New York: Cassell and Company, 1925), p. 79.
9. B-GL-300-003/FP-000 *Command*, p. 6.
10. Harry Yarger, "Land Power: Looking Toward the Future Through Green Lens", *Strategic Review*, (Winter 1999), p. 29.
11. General Charles C. Krulak, "The Strategic Corporal: Leadership in the Three-Block War," *Marines Magazine*, (January 1999), p. 4.
12. R. Simpkin, *Race to the Swift*, (London: Brassey's, 1985, reprinted 2000), p. 57.
13. Ibid., p. 57.
14. Ibid, p. 133.
15. Capt D. Price, "Canadian Army Land Force Tactical Doctrine and Manoeuvre Warfare: Do We Practice What We Preach?", *Infantry Journal*, vol 33, (1999).
16. See generally R. Simpkin, pp. 20-22.
17. Carl von Clausewitz, tran. by Col. F. N. Maude, *On War*, abridged version, (London: Penguin Books, 1968), p. 140.
18. J. Shaw, "Examining the Mechanics of Change: How We Can Create Manoeuvre Warfare", *British Army Review*, vol. 97 (April 1991), p. 20.
19. Ibid., p. 228.
20. Capt. I. A. Hope, "Directive Control and Mission Analysis: Keys to Manoeuvre Warfare at Company Level", *Infantry Journal*, vol. 31, Spring 1997.
21. Simpkin, p. 240.
22. Hope, p. 11.
23. Simpkin, p. 230.
24. Ibid, p. 230.
25. Ibid, p. 239.
26. "Battle Command" is defined as "the art of motivating and directing soldiers and their leaders into action to accomplish missions. Includes visualizing the current and future state [both enemy and friendly]...then formulating concepts of operations to get from one to the other at least cost." *US Army Field Manual 100-5, Operations*, (Washington, D.C.: US Government Printing Office, June 1993), 2-14.
27. Gen. Frederick M. Franks Jr., "Battle Command - A Commander's Perspective", *Military Review*, May-June 1996, pp. 17-18.
28. Shaw, p. 20.
29. Major J. W. Hammond, "First Things First: Improving Canadian Military Leadership", *Canadian Defence Quarterly*, (Summer 1998), p. 9.
30. Ibid.
31. See P. G. Northouse, *Leadership Theory and Practice*, (Thousand Oaks, CA: Sage Publications Ltd., 1997).
32. B. M. Bass, *Bass & Stodgill's Handbook of Leadership: Theory, Research and Managerial Applications, 3rd Edition*, (New York: Free Press, 1990), p. 655.
33. Major K. S. Donohue and Major L. Wong, "Understanding and Applying Transformational Leadership", *Military Review*, (August 1994), p. 25.
34. G. Yukl, *Leadership in Organizations, 4th edition*, (Upper Saddle River, NJ: Prentice-Hall, 1998)
35. Stephen R. Covey, *Principle-Centred Leadership*, (New York: Fireside, 1992), p. 287.
36. Bass, p. 655.

Second Lieutenant Mark Gaillard

Soldiers from the 1st Battalion, The Royal Canadian Regiment, on Onslow Beach after returning by a Landing Craft, Air-Cushioned, or LCAC, from the USS Gunston Hall. As part of Exercise UNIFIED SPIRIT 2000, a joint exercise with the United States Marine Corps. (Courtesy CFPU)

The Idea of the Thing:

The Regimental System

by Captain Mike O'Leary, CD

Many military authors have addressed the Regimental System, from many varying points of view,[1] but few authors treating the subject have been able to definitively establish what the Regimental System is, or what elements make it a truly valuable attribute of a modern army. Most often these articles confuse the Regimental System with the existence of a specific organizational or unit structure, such as the Canadian Army's named regiments.

It is likely that most officers in the Canadian Forces have little or no comprehension of the context of the Regimental System. In fact, it is arguable that our current mechanism for progression and career development precludes any readily accessible means to acquire an understanding of the Regimental System except through intensive personal study well outside the normally offered curricula of Course Training Plans and developmental training.

While perhaps having done enough reading to achieve this degree of cognizance, this author would be hesitant to proclaim full awareness of every contextual facet of the Regimental System. Most observers, however, treat the Regimental System as the blind men did the elephant, assuming the small part they perceive, or choose to perceive, is representative of the whole. We are led, as young officers and soldiers, to believe in the sanctity and strength of 'The Regiment.'[2] But those who so instruct us seldom portray the regiment within its relative position to greater organizations. The regiment is a key focus in the training of new soldiers of the combat arms, but that regiment lies within an Army, and that Army is part of the Canadian Forces. The regiment, while important to us from our own focussed viewpoint, is merely one of many small building blocks that make up the Army.

The Canadian Forces, in its turn, is an institution of the Canadian people, mandated by the Canadian government, and entrusted with the military history, honour and capability of our nation. We must accept that to uphold the honour of one's regiment one must ensure that no embarrassment accrues to the Army, the Government or the people of Canada by our actions. It is more proper to ignore an insult to one's regiment than to risk embarrassment of those greater institutions for which we stand.

"...few ... have been able to definitively establish what the Regimental System is..."

If we look at some of the 'incidents' which have occurred in recent years, we see episodes where soldiers or officers, in thinking they were upholding 'regimental' ideals (of toughness, playfulness, etc.), were in fact undermining Canadian ones. This skewed sense of the importance and place of regimental ideals in the Army has resulted in some circles perceiving a threat to 'The Regimental System', through the possibility that some regiments may be disbanded, amalgamated or re-roled in a future Army reorganization.

> Keep your hands off the regiment, ye iconoclastic civilian officials who meddle and muddle in Army matters, - Wolseley [3]

We tend to hold the collective memory and history of our named regiments highly, proclaiming that the regiment as it stands today on the parade square or armoury floor is the living embodiment of what has gone before. We hear these voices protest that to eliminate any regiment is to undermine its memory and to cast slight upon the past members and the honour of their service deeds.

But is this truly so? Does the Association for the 56th Tank Transporter Company of the Royal Canadian Army Service Corps consider its unit's wartime history to be less of a contribution to our nation's history because the unit no longer exists in the Order of Battle? Yet their feelings of fraternal belonging remain so strong they continue to have reunions 55 years after the conclusion of 'their' war. What of the numbered battalions of the Canadian Expeditionary Force, then disbanded and their troops sent to other battalions? Were they less-worthy, or merely the victims of consequence of service requirements? Many regiments of the Canadian Army have been disbanded, re-roled, demobilized or amalgamated, most often under honourable circumstances. Were these based on the considered decisions of our headquarters and political masters, or are they to be considered simple victims of less energetic Regimental associations? Should any regiment's continued survival be primarily dependent on the degree of activism of its supporters?

To enter the fray with the sole objective to save one's own Regiment through an era of Army reorganization, perhaps at the expense of a stronger Army, is to set aside the soldier's higher moral obligations.

The continuance of the regimental system, in and of itself, is not sufficient

justification to defend the continued existence of any particular regiment. Disbandment, amalgamation, or re-roling of one or more regiments does not threaten the existence of the regimental system. The regimental system and regiments themselves are not, nor should they be, considered synonymous entities. Regiments are an organizational entity. The regimental system is a mutually supportive personnel management structure that emphasizes a sense of belonging (in our collective military experience, to a military unit structure[4]). Though symbiotic in nature as we have become accustomed to them, regiments or a variation of the regimental system can each exist without the other.

Soldiers are taught to and many eventually come to believe that their regiment is the embodiment of the Regimental System. Perhaps that is an inverted view. Which came first, the regiment, or the regimental system? – the chicken or the egg? Does a regimental system propagate intense loyalty in regimental soldiers, or do soldiers, trained, perhaps fought, together, create a loyalty and collective honour that propagate a regimental system? What, in fact, is the regimental system? And does it apply only to named regiments of the combat arms?

The essence of the regimental system is that no decision is taken except that it is for the good of the regiment. In a purely altruistic sense this approach protects the regiment from dishonour and, by extension, the army and the nation. One thing only is sure, any discussion of the regimental system will usually offend more readers or listeners than it will appease. The need to maintain "the regimental system" and the many attributes of regimental service in which it is upheld in defence are all too often selected by the personal preferences of the defender.

> The British army for centuries has been recognized as a highly successful socializing institution for recruits drawn from a wide array of social, racial and ethnic backgrounds. In the British case, this phenomenon appears to be related to the sense of belonging to the "regiment." [5]

The Regimental System is commonly considered to have reached its evolutionary pinnacle in Britain during the Victorian era. Keep in mind, however, that this was the army that, through ignorance, nearly defeated itself logistically in the Crimea, and, through arrogance, saw a battalion of Regulars, with sundry reinforcements, be butchered by "savages" at Isandhlwana. And these are not necessarily unique blunders of an Army that we declare to be our basic model for Regimental proficiency. The most modern equivalent of regimental reading rooms cannot protect our soldiers from a system that sold commissions and, after abolishment of the purchase system, also promoted officers solely on the merits of their father's service.

A central attribute of the Regimental System was a coordinated arrangement of regional affiliations (county regiments, etc.) and internalized regimental structures for recruiting and training. It is generally ignored that these "strengths" were primarily bureaucratic penny-pinching; the minimization of Army level administration by capitalizing on historical willingness of the titled gentry to personally raise regiments for their King (or Queen) and to avoid the national expense of training systems, soldiers' dress, etc.

The Regimental System has been a mainstay of the British Army for centuries, and Canada's Army adopted it from that source. Interestingly, there is no clearly defined alternative. If the military and social structure of Britain had chosen to thwart the evolution of the Regimental System, what was the alternative? We in the Canadian Army proclaim ourselves, perhaps not in such direct terms, to uphold the traditions and customs of the Victorian British Army and what we contend are historical precedents of the regimental system. I would contend however that there's never been a pure regimental system.

Before and during the Victorian era, the honour of a regiment historically hinged upon that collective mirage of the individual personal honour of the regiment's officers. (The men, after all, were "the scum of the earth," having joined the army to escape the bailiff or an even more abysmal civilian life.) Consider how select regiments were perceived to have held higher honour, by virtue of their respective social standing, for those who served with them, based upon a preference for service by the nobility, their placement in the order of battle, or the location of their service. Even, perhaps, the opulence of the regimental dress.[6] Reasons for joining aside, the conduct of the Regiments' officers remained under scrutiny because of their interdependence for maintenance of mutual and individual honour. Consider what might happen when an officer committed an ethical offence, which may or may not have been related to his military service. Colonels cashiered or transferred officers who had been perceived to have dishonoured themselves, not to protect the honour of the regiment, but to distance themselves and their other officers, some of whom may have had higher social standing than the Colonel himself, from any hint of contamination through association. This aspect of Regimental life, while it first appears to be for the good of the regiment, was often quite selfishly motivated. A very capable officer could as easily be transferred because of a perceived social slight, such as the social status of his mother, as for the actual commission of an ethical offence.

The Regimental system was also marked, perhaps 'scarred' would be a better term, by the business of maintaining the regiment. Unscrupulous Colonels would enrich themselves at the cost of their men's equipment, provisions and accommodation. But for many decades no official notice of such improprieties took place, for the [British] army saved itself the expense of a bureaucracy to establish and maintain a standardized national system. The regimental system, in its earlier guises, never had the welfare of the men at heart. It was centred on the preferences and ethics

Captain Mike O'Leary, CD

of the Colonel, the officers he permitted to purchase into his regiment, and the social life in which they partook. Officers took little notice of the daily life of the men, and the men simply never dared to intrude upon the social level of the officers.[7]

Our application of the Regimental System is a shadow of its stronger iterations. Once the refuge of petty tyrants playing at soldier and ordering their subordinates about,it evolved to a highly structured Army organization within which the Regiment dictated all aspects of the soldiers' life except in which wars he fought. It is now the refuge of self-proclaimed Regimental soldiers attempting to thwart further erosion of 'their perception' of the System. But when is this defence correct?

Many writers presume that the alternative is a mass recruiting system and individual augmentation to units (regiments) without regard to prior affiliation. They envision the worst example of this available short of outright conscription – the U.S. Army in Vietnam, a recognized, and subsequently corrected, flaw-ridden system. Perhaps the unspoken fear is that Scott Taylor[8] and Peter Newman[9] will arise as the Canadian Army's Gabriel and Savage[10], compiling their no-doubt extensive notes into a Canadian *Crisis in Command*.

And yet we conduct mass recruiting through anonymous Recruiting Centres with no vested interest or affiliation toward any Regiment, or even any Service. Most probably, the average recruit joins the Canadian Forces, and may even proceed through their recruit training, without actually speaking with a member of the trade (or Regiment) for which they are destined. We no longer even have distinct combat arms depots, battle schools or training centres.

The average young soldier or officer applicant knows nothing of a regimental system. An anonymous telephone call from a Recruiting Centre might tell him/her that he/she has been selected for service in a regiment thousands of miles from home, the name of which they have never heard. Unless his (or her) father served in the regiment, few recruits enlist to join any conception of an existing regimental family. In this day, the majority of recruits join for employment, not necessarily unlike their British antecedents. They learn of the Regiment after they are already in it.[11] The impression of the regiment that they receive is the one the existing regimental hierarchy packages and delivers to them at a stage in their careers when they are susceptible to suggestion, striving to please and attempting to fit in, whether from a psychological need to do so, or simply to avoid the instructors' ire. And certainly no regiment maintains a ready record of its defeats, debacles, or embarrassments. No regiment ever played a bit part in its own regimental history, no matter how minor a footnote they may be granted in Stacey's[12] works.

"The regimental system, in its earlier guises, never had the welfare of the men at heart."

But the old guard — the Honouraries and active Veterans — know not these new recruits at this stage, unsure and uninitiated. In their movements through the Regimental lines the old guard meet soldiers fully inculcated in the Regiment's lore and superstitions. They see a strong soldiery attired in the Regimental regalia, performing well-rehearsed movements and answering the traditional "Any complaints?" with a confident "No, Sir!," whether delivered in awe of the Regimental presence, or fear of the Sergeant-Major loitering nearby with his pace stick held threateningly in full view. As sure as there are no atheists in foxholes, there are no detractors of the Regiment on a regimental parade.

Does a course curricula requirement to learn a Regimental catechism by rote serve as a Regimental indoctrination? What critical degree of knowledge can be considered enough? For a young recruit, does a list of regimental awards and decorations truly encompass and deliver a sense of regimental pride and courage? In a sense, is this not little more than a brainwashing technique? If we were to accept the most recent Canadian Forces approach to a hierarchy of loyalty – to the Canadian Forces, then the Army, then the Regiment – then should we not begin with instruction of the Army's place in our history, then allow instruction of the Regiment's role? Would a comprehensive tutorial on the Canadian Army's history be out of place in any new recruits' training? I would think not.

Our Regular Force regiments have only a residual regional affiliation for recruiting. A recent Infantry course at the Training Centre in Meaford had candidates from hometowns ranging from Newfoundland to British Columbia, representing seven provinces. The claim of Reserve Force units to have maintained geographic regimental affiliation for its own value to the Regimental System is unfounded. The enrolment of recruits from limited and long-standing geographic areas, as a function of Reserve Force recruiting, is driven more by the limited mobility of the target recruiting audience than by any innate desire on the part of the recruits to serve a local Regiment out of familial pride. [13]

What force does attract and retain the soldiery? How can we claim it is regimental pride when only a small fraction come from military families, and often there is no awareness of Regimental systems before entering the Recruiting Centre. Is it service to Canada? Or is that just a vague generalization easily edited as television news sound bites. Is it employment? Our more recent recruiting efforts have stressed pure employment opportunities over 'Service". Or is it the career opportunities? Opportunities do exist for career advancement and ongoing challenge for those that want it, but there is also a comfortable structured lifestyle for those psychologically wired for hierarchical conformity.

Reserve Force combat arms proponents of the Regimental System often claim that the Regimental System is the fundamental mainstay of their units, that without this paternal matrix, soldiers would "vote with their feet" and leave the unit.[14] An interesting point of view when the average reserve unit has historically been forced to recruit 20 to 30 new soldiers each year to maintain a single sub-unit's strength. By comparison, Regular Force combat arms units of up to 600 personnel receive 30 to 60 new soldiers annually. Also, one must wonder about the combat service support units of the Reserve Force, what amazing secret weapon do they wield in absence of an overt "Regimental System."

Historically, any familial feeling which troops developed toward the regiment was to exercise a psychological need to belong. They associated with their primary group, the company or half-company, and the regiment by extension not so much as a discrete entity of itself, but simply as a differentiation from those soldiers of other regiments. They belonged to their regiment because they knew no other after years of literal bondage to the colours. They fought for their regiment as fiercely against fellow regiments of their own army in public houses or on the sports field[15] as they might against a declared enemy in armed conflict. The honour they defended was their own, for any slight against the regiment, whether by insult or by fire, was to damn their own courage. They would have cared as little about their officers' personal honour and prestige as those officers did of theirs.

What sense of a regiment's history serves to carry it forward in battle? Did the 52nd Battalion, CEF, fight less well than did The Royal Canadian Regiment at Vimy Ridge in 1917? They both carry the battle honour, one still to this day, the other in memory only, yet one Regiment dated from 1883, the other merely from 1915. In a conflict with high attrition rates, rapid replacement of personnel, and little time to inculcate drafts in any Regimental sense, how can one argue that the regimental system significantly contributes to the regiment's conduct in combat?

Enough works have focussed on man's motivation in combat. S.L.A. Marshall established, certainly to his own experienced mind, that men fought not for a regimental ideal, but for and within the primary group, whether that be a battalion, company, platoon or section.[16] And the intensity of the fight and prevailing attitudes prior to and during the *current* combat may shift the consideration of that group up and down the organizational scale.

Canadian reserve units have a unique view of the Regimental system and their own developed sense of belonging to a regiment rather than to a subordinate primary group. When a unit parades 100 to 150 strong, a few years service will ensure that any soldier knows every other unit member, barring the new recruits each year. This familiarity breeds a sense of belonging to The Regiment – even when its strength against wartime establishments is that of a company. At a wartime strength of 600 to 1000, it is not possible for many of the members of such a unit to have the opportunity to know many outside their own company well, particularly when the operational tempo rises. As the horizon of acquaintance decreases (in an organizational context), the individuals' feelings of affiliation to a primary group return to the same span – 100 to 150 men (a company), or even to the platoon or section level. This also occurs when combat reduces the horizon of perceived and actual support, in both senses: fire and moral.

In a similar context, with peacetime soldiering, long service in a Regular Force unit with low (peacetime) attrition, a soldier may actually achieve familiarity with most of a battalion's members. A few inter-company postings over an initial career length of 10 to 12 years will ensure this sense of "Regimental" or unit-level belonging. But on active service, with combat attrition and the higher rate of mobility of, in particular, officers as the system strives to maximize variety of service experience, the virtual horizon of individual familiarity drops quickly.

At any time, but especially when the individual battalions of a regiment (or companies of a battalion) are dispersed in widely separated garrisons, one's impression of 'The Regiment' is what one is familiar with. The other battalions (companies) seldom actually intrude upon one's conscious considerations. In this manner, the soldier's sense of belonging to the battalion is interpreted as a Regimental affiliation.

The perception that soldiers do, or must, perceive the regiment as their primary group is an invention of the regimental system. The soldiers belong to and defend their primary group; it is the Regiment that presumed that this primary group should be the Regiment itself.

One aspect of regimental life that is commonly misinterpreted is the role of sports. Sports may take the role of fitness and bonding activities, or they may be a mechanism to promote and highlight competitiveness. Sports for fitness, conducted by junior officers or NCOs, are an ideal mechanism for soldiers to learn to work together, to expand their awareness of one another's personalities and reactions, and to improve overall levels of fitness. This works particularly well when the activity and intensity support the general interaction without creating internal segregation by skill or experience levels.

Intramural sports programs, where the soldiers of platoons and companies compete within the unit, can be healthy. This develops primary group pride, but must be established to ensure that every soldier contributes to collective victories, or shared responsibility for losses. When a varied selection of activities allows every soldier to participate, than the sporting program, taken collectively, becomes the primary group strengthening exercise, not any one sport in itself.[17]

When the attraction of 'winning' begins to overshadow the values of widespread participation and associated primary group benefits, then sports can actually become a corrupting influence on the Regimental System. It is a false premise that unit sports teams necessarily contribute to unit pride. When team members are removed from

Captain Mike O'Leary, CD

field training, or excused other work, for practices and games, the shared experience test for developing Regimental esprit de corps is failed. Other soldiers now must bear the additional responsibility and work caused by the departure of team members, who may well be seen as pampered prima donnas by peers who may be better soldiers, but less skilled athletes. Victory in inter-unit sports competitions may bode well across the brigade commander's conference table, but it means little in the men's mess.

With regiments, as with other organizations, there is a weakening of the greater body politic through the isolationism of individual parts. This occurs for dispersed battalions or companies (or squadrons or batteries) of a Regiment. This tendency may be evidenced by an increase in presumed authority by the separate elements or a divergence in common customs and tradition (the evolution of 'quirks'). Members of the disparate parts eventually come to see themselves as belonging more to their component part than to the whole, thus creating a sense of primary group which actually subdivides the organization's considered ideal. Once the sense of unit pride extends to embrace these quirks as fundamental and necessary to establish and maintain the differences between elements, than the sense of The Regiment in the context of the regimental system is lost.

In the late 1980s, The Royal Canadian Regiment identified the pervasiveness of such a trend and a conscious effort was made to post officers returning to Regimental Duty to a different battalion than the one(s) in which they previously served. By 1990, the most of the First Battalion's senior staff had previously served in the Second Battalion and were, therefore, unknown to the majority of the battalion's NCOs and the rank and file. In this situation, a well-meaning initiative backfired at the most basic level, the troops' perception of the sanctity of their own Battalion (which was, of course, their limits of perception of *Regiment*) and, therefore, their morale. Proposed changes to the battalion's organization or procedures were unhappily maintained to be an attempt to create a carbon copy of the Second Battalion in London. Too much of a good thing? Too late in application? Perhaps.

In contrast, consider the tension that can exist between members of different components of the same regiment when they share a garrison. When the Black Watch Depot[18] was in Aldershot, Nova Scotia, a brawl would quickly ensue if a soldier walked to the wrong end of the canteen H-H1ut[19] after buying his beer. Such an intrusion on one battalion's space by the other's soldier was an affront that could not be overlooked. And few active Regiments on the Order of Battle could have claimed a greater Regimental spirit, yet within the Black Watch's own ranks no such fraternal emotion existed between the battalions, the separate members of which few outsiders might have distinguished.

To diminish the effects of organizational erosion caused by dispersion, organizations (and armies are notable for this) develop reams of regulations and correspondence to establish and enforce commonality. This directed commonality may be with regards to dress, administrative processes, or operational procedures (SOPs[20]). Efforts to combat this entropic decline has, in recent years, given rise to standardized army Field SOPs to replace the many and disparate brigade and battalion SOPs which had been so prevalent, and as commonly ignored in detail. SOPs, however, are only as effective as the degree of respect and adherence given them by each component.

The Canadian Airborne Regiment, in creating and maintaining an exclusionist 'aura' which contributed to its own demise, established such an intensity in the sense of belonging to the Regiment that it had displaced any proportional sense of value in belonging to the Army itself. The British Army, in its classical representation of the Regimental System, did not foster such disparity. The British soldier traditionally carried a very strong sense of his nationality with him throughout the world. They were Britons. They represented their sovereign, on whose empire the sun never set. They were soldiers of the British Army, staunch and undefeatable in the end, who stood stolidly against the Empire's foes. Lastly, but not less loyally, they were soldiers of their regiments. Perhaps it is because they might be poorly treated at the hands of the Regiment, particularly in comparison to their view of the officers' privileges that this sense of a higher ideal flourished. To endure suffering, whether marching toward or in combat with one's enemies or at the hands of one's own commanders, a soldier needs some degree of belief to sustain him. Regardless of its origins or means of being sustained, a proportional sense of belonging to the Nation, the Army and the Regiment were all maintained in balance that fit the soldiers', the Army's, and the society's expectations and requirements.[21]

"The Canadian Airborne Regiment, in creating and maintaining an exclusionist 'aura' which contributed to its own demise, established such an intensity in the sense of belonging to the Regiment that it had displaced any proportional sense of value in belonging to the Army itself."

> Regimental spirit and tradition can be a powerful factor in making for good morale, and must be constantly encouraged. But in the crisis of battle a man will not derive encouragement from the glories of the past; he will seek aid from his leaders and comrades of the present. Most men do not fight well because their ancestors fought

well at the battle of Minden two centuries ago, but because their particular platoon or unit has good leaders, is well disciplined, and has developed the feelings of comradeship and self-respect among all ranks and on all levels. It is not devotion to some ancient regimental story that steels men in the crisis; it is devotion to the comrades who are with them and the leaders who are in front of them. - Field Marshal Montgomery[22]

The Regimental System is only truly embodied in the sprit of belonging imbued by service with other soldiers working toward common goals. As long as each member fully understands that those unit goals are subordinate and inclusive to those of the Army, and the Army's in turn to those of the nation, then the Regimental System continues to be a viable article. The "Regimental System," as an ill-defined entity, is not a valid argument in itself to continue outmoded and inefficient practices. If such arguments were valid, we would still be conducted basic infantry training courses at Wolseley Barracks in London, Ontario, and wearing battle dress (for who could imagine maintaining a soldierly appearance in a baggy set of combats and matte black boots?).

Take a moment and mentally strip away the much-acclaimed trappings of the Regimental System. The badges, buttons and titles are merely signs of belonging to a group, intrinsically of no more importance than a revolutionary's armband. Battle honours signify only the past doings of a Regiment, not its current ability. Besides, is a Regiment without battle honours any less a Regiment? The 19th Century role of Colours has been replaced by GPS determined, crypto-encoded frequency-hopping radio reporting of location both within and by units. Beyond that Colours are an archaism, a moth-eaten rag on a worm-eaten pole, brought forth only for increasingly infrequent ceremonial occasions. Except, of course, for the artillery, who serve their Colours.

Buttons, history and flags do not in themselves impart or generate unit pride. They expand the scope of objects and knowledge toward which this pride might be exhibited in their ritualistic care or display, but they are mere decorations. As the post-Vietnam, reformed American Army has shown, a soldier can exhibit pride just as fiercely in belonging to the "3rd of the 145th Infantry" as he or she might in the "King's Own Royal Peninsular Grenadiers."

The trapping of a regiments are often offered up as proof of the strength of the system in the hearts of the regiment's soldiers. This is mere vanity, individual and collective. Man is human, he becomes attached to little things in life, the buttons and badges issued him by a surly quartermaster become the symbols of his belonging. But that belonging may not be to the 48th Highlanders, as much as it is to 2 Platoon, A Company, of that unit. Similarly, with practice, the simple routine of preparing one's uniform assumes a comforting aspect of its own. It is the ritual of getting ready to be with one's primary group, an act of mental and physical preparation. And any style of unique dress is readily affected, not because men necessarily need to belong to a regiment, but because human vanity is pervasive.[23] How else might one explain how a teenager in the year 2000 might be persuaded to stroll a Toronto street in a kilt?

Once the veneer of decoration is removed, what elements of the Regimental System remain? How is it, if the regimental system is so strong, that situations may arise in which a soldier, NCO or officer might embarrass the Army, while believing that he is upholding Regimental tradition or honour?

An underlying aspect of regimental life remains the political intrigue wielded by those who survived to achieve high standing (if not necessarily high rank) within the Regiment. The potential has always existed for the presence of a sense of paternalistic control by senior officers that can, in a careerist bureaucracy, be perceived as wanton patronage and nepotism. When a career manager proclaims that there are no separate regimental merit lists, it evinces a chuckle but also reflects an official policy on decreased Regimental control when the opposite appears tobe true in practice. Contrarily, we are all equally aghast when some Regimental member sent to purgatory by Regimental influence reappears some years later with undue career momentum, having received outstanding evaluation reports from a reporting officer from another Corps or Service. Regimental influence in a system that does not admit that it exists as a driving factor can create imbalances as surely as it may claim to minimize them. Then again, no one has ever upheld the Regimental System as a meritocracy.

Those who survive the Regimental System generally fall into select groups. Those who serve in wartime come by their Regimental loyalty honestly, they recall the camaraderie tempered by shared experience and even loss of comrades in combat. Notably, for many, this is without the contrasting emotions of peacetime internal regimental politics. During peacetime, however, the situation is much more complex. When the system is true, the survivors are those that persevered through honest dedication and loyalties to a higher cause, i.e., an open readiness to protect the Army through correct regimental behaviours. When the system becomes corrupted by bureaucratic hierarchism, those that survive are the Regimentally chosen (often known colloquially as 'streamers'), and those that blandly fit the expectations of the hierarchy itself. The attributes of being a streamer, or a placeholder, however, are seldom overt characteristics. Often the subject may remain unaware of the root cause of the momentum of their regimental career. Keep in mind also that such success may less be measured by regular promotion than by garnered respect within the Regimental family and associated career protection, particularly for those regimental stalwarts who have peaked professionally but can be trusted to preserve the status of the regimental hierarchy.[24]

One fundamental weakness in the Regimental System is the tendency for the creation and growth of cliques. Less evident in the nineteenth century, when regimental staff might change little in a

Captain Mike O'Leary, CD

decade, malcontents and those perceived not to fit were quickly ushered out of the Regiment, never to return. In this manner a consolidated Regimental front was maintained. When an Army bureaucracy dictates personnel management and career requirements increase mobility in and out of regimental appointments, it opens the door to the formation of cliques. Cliques occur when senior regimental officers, often those no longer subject to service in line appointments, sustain a (usually personal) controversy and begin to gather and even to recruit allies among their subordinates. When cliques form, decisions of regimental import, like the appointment of commanders may be driven by clique loyalty rather than by the good of the regiment. This approach may also be subject to the alternative option of a course of action, or appointment, being taken simply because it accrues no perceivable advantage to the competing cliques.

The most important characteristic of a traditional regimental system is an altruistic approach to decision-making. Every action, whether it be that of an individual or a leader for a group, must be weighed against those standards of trust and respect through which we expect that each service member will protect the Regiment from embarrassment. And in doing so, will also, automatically, ensure that no embarrassment is caused the Army as a whole. Unfortunately, such an altruistic approach to regimental matters is increasingly unlikely in an era where the careers of officers are trapped in a highly refined atmosphere of bureaucratic hierarchy. Where obedience (to a superior who may be self-serving) and loyalty (to a Regiment/Army/system) are as readily confused in everyday activities as in annual performance evaluation reports.

The creation and maintenance of loyalty to one's Regiment is considered a strength of the Regimental System. But our Army's current standpoint that a service member must have loyalty to the Army above and before one's own regiment also indicates a misunderstanding of the Regimental System. Fallout from the Somalia Inquiry, this expectation is intended to avoid future scandals whereby an officer, NCO or soldier might bring discredit upon the Army while ostensibly upholding the perceived mores of their Regiment.

Why has this distinction not been considered necessary in the past? Because, properly approached by service personnel, there is no conflict. Loyalty towards one's Regiment and protection of the honour of the Regiment has always reflected favourably upon the Army as an entity.

" One fundamental weakness in the Regimental System is the tendency for the creation and growth of cliques."

Historically, within the British Regimental System, no fault was more immediately damned and punished than to bring dishonour upon The Regiment. By this means, each Regiment protected the honour of the Regiment within the Army, the honour of the Army, and by extension the monarch (or, as in a Constitutional Canada, the nation, her government and her people).[25]

This sense of honour, historically perceived to be the domain of the officer, was not learned at the commanding officer's mess table, or at the adjutant's elbow, it was that self-same sense of honour that carried each and every gentleman throughout his life. These gentlemen, in turn, applied their sense of honour to Regimental concerns on receipt of the Queen's (or King's) Commission. Most certainly, this concept of honour was not a virtue that was held only by military regiments. It is, however, an increasingly unfamiliar concept in our present society and poorly understood by most for its nature and the value it can accrue and maintain within a military context. There was no thought to teaching the officers of the nineteenth Century about ethics, for *gentlemen* simply conducted themselves appropriately within society and to hold a Commission was simply to have expanded one's circle of acquaintances (while accepting some attendant responsibilities which didn't really interrupt one's social life). This is not to say that those officers never committed acts which might be today considered unethical, but, for the most part, they were appropriate to the day, its societal expectations and the allowances of a class-structured society.

That sense of honour which the officer was expected to have has evolved over the past hundred years. It has changed in context and intensity, for no longer does one officer challenge another to a potentially fatal (or at least illegal) duel over a perceived slight.[26] As described by Christopher Duffy, the role of honour has changed along with the matrix of western society:

> The ancient cult of honour, in all its complexities, gradually crumbled in face of the assaults of the industrial age. The ground that was once the preserve of the principle of honour has since been invaded by nationalism, political ideology or religiously based morality. Honour, which had once been the concern of the individual, now refers to loyalty to the group and the state. It is now tolerable for an officer to ignore an insult, but scarcely thinkable that he should let down the men for whom he is responsible.[27]

NCOs and soldiers have also historically protected the honour of their Regiments, at least as they perceived it. This defence was generally executed with considerably less formality and decorum than their officers might employ, and was often in response to direct insults by outsiders. In this case the Regiment as a paternal organization was defended, but the readiness to invoke an appropriate response was pursued with no less fervour or dedication than would one of the Regiment's officers. With the demise of class based societies in the western world and no real societal distinction between the officer and soldier, allowance for varying levels of conduct have diminished. Especially

when each and every action of each Regimental member might become a headline news story, it is even more imperative that care be taken to ensure that no activity or utterance bring discredit upon one's Regiment, or, by extension, the Army.

We should, perhaps, be more concerned with discovering if a 'sense of honour' is a learnable thing, or if some compensatory approach to duty is necessary. There may be "honour among thieves," but it is only to mutually protect the society of bandits, not to uphold their standing within the community at large, for they have no concern for the general opinion. The honour of a service member, however, must approach the Victorian ideal, it must not only uphold the Regiment, it must also ensure that the Regiment imparts no dishonour to the Army or to the nation as a whole.

"Another great and often perpetuated myth is the degree of participation by the Militia in the First and Second World Wars."

The desire by devotees of the Regimental System to justify its strength through the success of their own regiment has risen to the rise of myths and beliefs about regiments that do not necessarily stand up to scrutiny. Most common among these are the many claims of age of units. By definition, the origin of a unit is based upon its date of authorization within the Militia of the Dominion of Canada, or latterly, the Canadian Army. Based on this, the majority of Canadian Army units can trace their lineage back to the early or mid-1860s.

Formal and recorded changes in title, amalgamations and changes of role do not disrupt a unit's lineage where age is concerned. Disbandment does. Many units were formed from disparate local companies of militia, being formed for the first time in nationally authorized regiments or battalions. Before this combining by General Order, there is no justification to claim prior heritage as a regiment.

Another great and often perpetuated myth is the degree of participation by the Militia in the First and Second World Wars. A simple comparison of Reserve strength figures prior to each war to the numbers deployed overseas in 1914 and 1939 quickly dispels this claim. The number of trained personnel in the Canadian Militia for the year 1913 to 14 was only 57, 527 [28] while the Canadian Expeditionary Force saw a total of 628, 462 Canadians in its service.[29] While a better case may be made for the participation of the Militia in the mobilization of 1939,[30] their role was as often to form local defence units as it was to help generate battalions for the Canadian Active Service Force. Granatstein notes that "the Permanent Force had only 4,261 all ranks in mid-1939, every unit being under strength."[31] The Militia saw another 46,251 train in 1938-39.[32] So who, exactly, were the other men and women that made up the wartime strength of the Canadian Army, which saw the service of 730, 625 [33] soldiers and support personnel, in Canada and abroad, during the Second World War. They were Canadians, not the Regular Army of pre-war years, and equally not the Reserves to the degree some would advocate. They were Canadians, most of whom had given little thought to Army service before 1939.

The pre-war Second World Army, Permanent Force and Militia combined, may have provided a core of instructors and the poor expertise that their funding and training up to 1939 had permitted them to acquire, but it did not, as a discrete element, go off and 'win' any battle or war. How many pre-war reservists chose to remain in the Second Battalion in Canada, than to volunteer for the regiment's First Battalion destined for overseas duty and eventual combat? The influx of civilians, inculcated as swiftly in the application of violence as in the appropriate Regimental propaganda when time permitted, affected both Regular and Reserve units in the order of battle. And the Regimental spirit of those almost half-million overseas participants is undoubtedly stronger in hindsight than it ever was at the time of their recruitment and initial training. Particularly when the chequered pedigree of many of our Army units is considered,[34] what strength of Regimental pride based on corps can be claimed as responsible for good service when a unit may have re-roled two or more times during the war.

The old guard, well imbued with Regimental spirit, looks back on its more favourable memories with fondness. Fading memories, not necessarily limited to the aged, are bolstered by oft retold and well burnished tales told at Mess. Regimental historians write lengthy tomes upon the courage, honour and victorious gentlemanly conduct of all the Regiment's members. The more embarrassing anecdotes seldom find their way into works compiled by friends of the Regiment (or at least those in its pay), those that are will most often be braided into the whole as an amusing interlude or the sad tale of a lost sheep.[35] Those who have succeeded in Regimental life, either through career success or simply lifelong career stability, consider the Regiment to be comfortable surroundings. Those who have disappeared from the Regimental rolls over the decades bear little thought, except, of course, those who fell in its service. The Regiment, and those who have survived its capriciousness over a long career, form a mutual protection society, the Regiment has looked after them therefore they shall look after the Regiment.

On joining, a young soldier or officer is motivated by a desire to please and need to be accepted. Willingly, all tales of Regimental import are accepted at face value. Regimental pride is developed, less through an understanding of the regiment's values and mores, than through a relative ignorance of those of the remainder of the army. One would never dare ask: "If our Regiment is so good, and the others so bad, why do they remain on the order

Captain Mike O'Leary, CD

of battle?" To do so would be to greet a stony silence, or a brusque issuance of more mindless work to take one's attention away from such frivolous comparisons. Why indeed, our Regiment is better because it is the one we belong to! And so, the minds of the young are molded as surely as they might be in a secret CIA experiment, molded to believe in the intellectual, ethical and courageous dominance of one's own regiment over and to the exclusion of all others.

"It's time to define and establish a common understanding of the concept and role of the Regimental System in the Canadian Army of 2000 and beyond."

It's time to define and establish a common understanding of the concept and role of the Regimental System in the Canadian Army of 2000 and beyond. We must be prepared to completely and honestly divest ourselves of any historically perceived aspects of the Regimental System which do not support current Army missions. Some things will remain, some may go, to many observers, the outward signs of our Regiments may never change. But it is time – it was once unthinkable not to carry Colours in combat, for they were the embodiment of the Regiment's history and honour. The Regimental System got over that too.

As young officers and soldiers we are told to believe in the stability of the Regimental System. As the Army has taken away many of the traditional powers of the system, our Regiments have been reduced to defending the remaining overt symbols; protecting the Regiment's version of the Regimental history and supporting the Regiment at the kit shop until every object we own down to the ice bucket containing the ice we place in our straight soda water is emblazoned with the Regimental crest. The concept of "The Regiment" is much broader and less tangible than might be assumed from the traditionally perceived degrees of authority presumed to be held by Regiments but no longer supported by the Army. Further, Regimental *esprit*, per se, cannot be said to be embodied in the remaining Regimental trappings.

> Every trifle, every tag or ribbon that tradition may have associated with the former glories of a regiment should be retained, so long as its retention does not interfere with efficiency. [36]

As Regimental soldiers, we need to regain an understanding of The Regiment as an entity, as an equitable familial structure, and build this into a definitive notion independent of (but necessarily without) decoration. After all, S.L.A. Marshall was quite clear when he determined that soldiers, in the final decision, fought not for country, or for Regiment, but for that small band of brothers with whom and for whom they might have to shed their blood. That is the character of the Regiment at its core. It is not the simultaneous bashing of a hundred boot-heels in response to the stentorian tones of a Regimental Sergeant-Major, it is not the forgotten origins of the silver in the Officers' Mess, and it is not the dusty retired Colours laid up in the Regiment's chapel. The Regiment is that quiet spirit that lives in the breasts of men who decide to serve, and, if necessary, are prepared to lay down their lives for their country and the beliefs for which that nation stands. It is also soldiers' collective discipline and willingness to uphold those ideals through their personal conduct each day, because they understand the "idea of the Regiment …"[37]

ABOUT THE AUTHOR...

Captain Michael O'Leary has served with the Royal Canadian Regiment since 1983. He has completed unit tours with the Second Battalion in Gagetown and the First Battalion in London. Extra-regimental appointments include service with the Second Battalion, Nova Scotia Highlanders (Cape Breton), Subject Matter Expert - Mortars at the Royal Canadian School of Infantry, G3 Contingency Plans with Land Force Atlantic Area Headquarters and as the Second-in-Command of Soldier Skills Company with the Land Force Central Area Training Centre Meaford. Captain O'Leary is a graduate of the Land Force Staff Course and is currently employed as the Adjutant of The Princess Louise Fusiliers in Halifax.

ENDNOTES

1. A notable recent example of articles on the Regimental System is to be found in the *Armour Bulletin*, Vol. 32, No. 1, 1999
2. Once more, there are two sorts of discipline, distinct in principle although sometimes they may overlap in practice.

The one is born in coercion and sets the soldier outside the ring of homely sentiment which surrounds the ordinary citizen from his cradle to his grave. ... Coercive as the old discipline may be, it by no means despises the moral factor. It tries to make a religion out of something very near and real, yet, at the same time, high, intangible, romantic — the Regiment! ...

The other sort of discipline aims at raising the work-a-day virtues of the average citizen to a higher power. It depends:

(1) Upon a sense of duty (res publica).
(2) Upon generous emulation (force of example).
(3) Upon military cohesion (esprit de corps).
(4) Upon the fear a soldier has of his own conscience (fear that he may be afraid). - General Ian Hamilton, G.C.B., The Soul and Body of an Army, 1921

3. Quoted in Byron Farwell, *Queen Victoria's Little Wars*, 1972

4. In this context, is any major sports franchise with its players, support staff, owners, financial backers and fans any less intense about its sense of belonging and partisan loyalty to "the team"?
5. Gabriel, Richard A. and Savage, Paul A., *Crisis in Command, Mismanagement in the Army*, 1978
6. This attractor, however, was often more indicative of the generosity or vanity of the Regiment's Colonel than for any other cause.
7. As late as the First World War, the concept of the "gentleman-ranker" was still an eccentric though acceptable role.
8. Scott Taylor, controversial editor of *Esprit de Corps*, a Canadian Military magazine which inordinately focuses on public attacks on the Defence system without balanced reporting of initiatives or effective, affordable counter-proposals.
9. Peter C. Newman is one of Canada's leading authors with over 19 award-winning books to his credit. He is a contributing editor at *Maclean's* and specializes in studies of business and political power, and how it is used and abused in Canadian society.
10. Richard A. Gabriel (Major, US Army Reserve) and Paul L. Savage (Lieutenant Colonel, US Army, retired) wrote the pivotal general release analysis of the collapse of morale and performance of the US Army officer corps during the Vietnam War era: Crisis in Command (New York, Hill and Wang, 1978).
11. A sense of belonging to the Regiment is inherently a learned attribute, it is not necessarily anticipated through a geographic affiliation with a Regiment. – "New recruits quickly became part of their regiments. They not only accepted new hat badges and the accoutrements that identified them as part of the regiment, but they also learned its traditions and acquired its attitudes, mannerisms and regimental pride." – Major General (Retd) Clive Milner, OMM, MSC, CD, *Keynote Address, The Regimental System*, *Armour Bulletin*, Volume 32, No. 1, 1999
12. Major (later Colonel) C.P. Stacey was appointed Historical Officer, General Staff, at Canadian Military Headquarters in London on 11 October 1940. His task, as conveyed to him by Lieutenant-General H.D.G. Crerar, Chief of the General Staff was "the collection and preparation of material for future use of the official historian and the placing on the record of historical material not otherwise recorded or available." - C.P. Stacey, *A Date with History: Memoirs of a Canadian Historian*, (Toronto: Deneau, 1982)
13. "The Regimental System was devised at a time when the population was less mobile than it is today. It was not uncommon for a person, even up to the 1950s, not to travel more than 30 miles from his home in his entire life, and joining the local regiment was the obvious thing to do." – WO1 BM Shaw, *The Demise of the Regimental System and the Reorganization of the Infantry*, British Army Review, No. 116, August 1997 (Reprinted in the *Armour Bulletin*, Volume 32, No. 1, 1999)
14. See LCol Murray, *The Regimental System – A Reservist's View*, *Armour Bulletin*, Vol. 32, No. 1, 1999
15. The commanders of the 2nd, 3rd and 4th Divisions objected strenuously [to a proposal to resort personnel according to physical and psychological testing profiles]. The Canadian Army was modeled on the British system of distinct regiments, raised in specific areas of the country. While functionally the same, each Canadian infantry or tank battalion was the active component of a regiment with a treasured historical tradition and battle honours dating back to at least World War I. Each regiment treasured its distinctive dress and customs and its regimental lore. The army sports program, a vital part of training, began with competition between the companies or squadrons, but the best men competed for the regiment and became local heroes. Group identity and loyalty were based on these traditions. - Terry Copp and Bill McAndrew, Battle Exhaustion; Soldiers and Psychiatrists in the Canadian Army, 1939-1945, 1990
16. See S.L.A. Marshall, *Men Against Fire*, 1947
17. The best examples of this the author has seen were the brigade winter games of 5e Groupe-brigade mecanise de Canada during the winters of 1984 and 1985. For these years the slate of sports included events that required little particular expertise, balanced with a few months opportunity to practice basic skills. Teams for each sport were selected at random from each unit's nominal role, thus minimizing the effect of 'jocks.' The efforts of every soldier bore equal weight toward unit victory.
18. The recruit training Depot of The Black Watch (Royal Highland Regiment) of Canada was in Camp Aldershot in Nova Scotia from 1953 to 1970.
19. A Second World War style of camp building. Wooden framed, it featured two long open barracks connected in the centre by a common ablution and washroom area, forming an "H" outline as viewed in plan. Even in 2000, a few of these structures remain in the Land Force Atlantic Area Training Centre facility at Aldershot.
20. Standing Operating Procedures
21. While that sense of belonging was pervasive, it must also be realized that the practical application is another matter. There were regiments which could not be billeted near one another, for the risk of uncontrollable brawling and violence was too great. Alternatively, there were battalions of different regiments which held one another in such great accord that they were closer in state of mind and principle than any two battalions of the same regiment. Such mutual respect was usually gained by shared experience in battle, a situation which battalions of the same regiment seldom experienced in Britain's Victorian army.
22. Quoted in the Canadian Army Journal, Vol 1, No 6, 1947/48
23. "The better you dress a soldier, the more highly he will be thought of by women, and consequently by himself." - Sir Garnet Wolseley, quoted in "How Not To Do It"; A Short Sermon On The Canadian Militia, 1881
24. See Laurence J. Peter & Raymond Hull, *The Peter Principle*, 1969
25. Reiteration of this concept is not new, as the following example sets out:
Loyalty: (a) Own regiment or corps. An officer must never run down his regiment or corps in the hearing of outsiders. This is being disloyal. (b) Any other unit with which he may serve. An officer may have to serve in other units than his own and his behaviour should be the same as in his own unit. (c) Courtesy to other regiments. Esprit de corps must not tempt the officer into running down other regiments; it is bad manners and does harm. A junior officer should keep his opinions and criticisms to himself until asked for them. (d) The Army. Every officer must be careful not to decry the "Army" in the presence of civilians. There is a tendency to criticize the "powers that be" and, in particular, the "War Office" for any unpopular aspect of Army life. Such criticism is generally based on ignorance of the true facts and unjustified. In any case it is bad for the Army and achieves no useful purpose. - Customs of the Army, The War Office, February, 1956
26. "It is difficult at this remove to appreciate the strength of the social pressure which compelled otherwise rational, intelligent men to fight duels. No individuals could less afford to ignore reflections on their honour, bravery or breeding than the officers of the Army and Navy. 'A soldier's honour is as sacred as a woman's virtue … you can form no idea what trifles lead to among soldiers,' wrote George Simmons." (Footnoted: A British Rifleman) - E.S. Turner, Gallant Gentlemen; a portrait of the British Officer 1600-1956, 1956
27. Christopher Duffy, *The Military Experience in the Age of Reason*, 1987
28. C.P. Stacey, *The Military Problems of Canada*, 1940, this same volume notes that:
"No attempt whatever was made to use the Militia as such for service abroad. This might conceivably have been done under the provision of the Militia Act which ran (and still runs):
> 'The Governor in Council may place the Militia, or any part thereof, on active service anywhere in Canada, and also beyond Canada, for the defence thereof, at any time when it appears advisable to do so by reason of emergency.'

The official view in the beginning, however, was that the force to be sent abroad should be on a purely voluntary basis and it was

Captain Mike O'Leary, CD

organized as a Canadian Expeditionary Force distinct from the Militia, though it was raised through the agency of Militia units and largely from Militia personnel.
29. Ibid. "... of whom 424,589 went overseas and 60,661 did not return."
30. See George F.G. Stanley, *Canada's Soldiers 1604-1954, The Military History of an Unmilitary People*, 1954
31. Granatstein/Morton, *A Nation Forged in Fire*, 1989
32. Desomd Morton, *A Military History of Canada*, 1985
33. Ibid.
34. For example, the Prince Edward Island Regiment has its origins in the 'Prince Edward Island Highlanders' (organized as the Queen's County Provisional Battalion of Infantry in 1875), the '28th Light Anti-Aircraft Regiment' (organized as the Prince Edward island Provisional Brigade of Garrison Artillery in 1882), and the 17th (Reserve) Armoured Regiment (Prince Edward Island Light Horse) (organized as "L" Squadron Prince Edward Island Mounted Rifles in 1902). See *The Regiments and Corps of the Canadian Army*, Prepared by the Army Historical Section, 1964
35. "Clearly the military historian needs to beware in reading the regimental reports where the reputations of officers as well as their men are involved." - Geoffrey Regan, Fight or Flight, 1996
36. Colonel Cliford Walton, History of the British Standing Army, 1660-1700, 1894
37. The film "*Tunes of Glory*" (1960, Oscar won for Best Writing in a Screenplay Based on Material from Another Medium, novel and screenplay written by James Kennaway) effectively illustrates many aspects of a dysfunctional Regimental family and the damage that can be caused. The main character, Colonel Jock Sinclair, played by Alec Guinness, comes to realize what his long service in the Regiment, as soldier and officer, in wartime and peace, had not taught him: that the concept of the 'Regiment' is much stronger, and much more important, than the 'Regiment' itself.

A LAV III of H Company Group, 2nd Battalion The Royal Canadian Regiment at Camp Dunn, Senafe Eritrea. (Courtesy H Company, 2 RCR)

Warriors, Obedience and the Rule of Law[1]

by Colonel Kenneth Watkin, CD

INTRODUCTION

In the May 1999 edition of this publication Major Brent Beardsley, in an article entitled "*What Type of Warriors Are We*?", set out the professional and moral obligations that mandate the application of the Law of Armed Conflict (LOAC) by Canadian soldiers. He concluded that conducting operations in accordance with the LOAC would ensure the Canadian Army acts in a manner consistent with the values of our country, our Army and our people. [2] This article picks up on that theme by looking at the role we as professional soldiers perform in maintaining the rule of law both in Canada and beyond our shores. In doing so, the impact which the LOAC, discipline and obedience to orders plays in permitting the Army to fulfil this essential mission will be discussed.

THE RULE OF LAW

The importance of the rule of law to Canada as a democracy, and the commitment that the Canadian Army makes both in word and deed to ensure the existence of such public order cannot be understated. It is a commitment that must exist at all levels of the chain of command. In *Canada's Army: We Stand on Guard for Thee* [3] the very basis of the profession of arms is identified as service on behalf of the properly constituted civil authority, the conduct of operations within established norms such as the LOAC and the requirement for a high standard of discipline. A basis for Canadian Defence policy is identified in this publication as the belief that the rule of law must govern relations between states.[4]

What then is the rule of law and what does it mean to the individual soldier? It has been described as the very existence of public order. The rule of law "expresses a preference for law and order within a community rather than anarchy, warfare and constant strife".[5] The Supreme Court of Canada has referred to the existence of such order as "indispensable elements of civilized life."[6] The three main elements of the rule of law are:

- the law is supreme over both governments and private persons. There is one law for all;
- there is a requirement for creation and maintenance of laws, which embodies and preserves a general principle or order; and
- the exercise of all public power must find its ultimate source in a legal rule.[7]

The importance of the rule of law domestically is highlighted in the Canadian Charter of Rights and Freedoms, where it is identified as a principle upon which Canada is founded.

Traditionally the rule of law has not provided as strong an underpinning to international world order. International relations have been largely based on nation states wielding almost exclusive power. However, the past 50 years has seen an increase in the creation of treaties setting international standards, for example in the area of human rights.[8] In addition, the past decade has seen increased efforts by the United Nations and coalitions of states to authorize intervention, in an attempt to enforce international standards of treatment. In the words of the United Nations Secretary-General, Koffi Annan:

> What is different today, particularly since the end of the Cold War is the rapidity with which the balance is shifting away: away from indifference, away from acceptance of what might be called the misuses of sovereignty, and toward greater moral engagement, toward an international community based on shared norms and standards and a willingness to uphold those basic values.[9]

The relatively recent creation of ad hoc tribunals for the trial of genocide, crimes against humanity and war crimes arising out of conflict, in the former Yugoslavia and Rwanda indicates a growing international commitment to enforce the law. The proposed permanent international criminal court reinforces this commitment. Canadian courts have recognized that a particularly important aspect of the rule of law is the existence of an independent judiciary to adjudicate on the activities of government authorities.[10] This existence of an external power to enforce compliance with the law is a hallmark of the rule of law.

LAW AND OPERATIONS

Soldiers who have served in the years following the Cold War have personally experienced the degree to which the law has impacted on the conduct of operations and the actions of military leaders. On the international scene the Army has been involved in armed conflict (e.g., the Gulf Conflict), peacekeeping (e.g., Central America, the Former Yugoslavia, Haiti, etc.), and peace enforcement (e.g., Somalia, Bosnia, East Timor, etc.). Legal principles have often provided the rationale for mounting these operations (i.e., humanitarian intervention), and legal instruments have granted authority for military commanders to carry out

Colonel Kenneth Watkin, CD

operations (i.e., Security Council Resolutions, customary international law, etc.). The law directly impacts on how, and the degree to which, force is used by states, commanders and individual military personnel. Terms like "rules of engagement"(ROE) are firmly established in the military lexicon as an integral part of military operations. The operational goals assigned to Army commanders are often based on legal documents such as the Dayton Peace Accord, or the Arusha Peace Accord.

Within Canada the Army has seen significant involvement in domestic operations not only involving disaster relief, but also extending to increasing support to law enforcement authorities. The nature of the role in domestic law enforcement has shifted significantly from the historical one of primarily being a force of last resort, to one more often involving an augmentation of civilian law enforcement agencies. This shift in focus has been accompanied by the enactment of a number of legal instruments authorising and prescribing the involvement of the Canadian Forces.[11] Both domestically and internationally the Army has played an increasingly high profile and important role in maintaining the rule of law.

In many respects this increased profile and involvement of the law,in the conduct of operations, represents a true Revolution in Military Affairs. The degree to which political will could coalesce to create a legal prohibition on the use of anti-personnel mines, thereby directly impacting on operational readiness, caught a number of powerful nation states off guard. Unlike technological change, the military have sometimes been slow to recognize and embrace the need to alter doctrine and training, to address the significant change the role law is playing on the modern battleground. Major Beardsley's article indicates that the army is moving to address the need to prepare to fight in full compliance with the LOAC, by introducing a comprehensive Army LOAC Training Strategy.[12]

The role that soldiers play in maintaining the rule of law is not limited to conducting operations. The control that the properly constituted legal authority in Canada maintains over its armed forces depends upon leaders who both respect and demand compliance with the rule of law. As is stated in the Canadian Forces manual *Military Justice at the Summary Trial Level*:

> The military in a democracy is unique in that the most physically destructive power of the state is concentrated in the hands of a relatively small number of non-elected government officials. This unique status inevitably leads to a large number and variety of laws designed not only to control the armed forces, but also to assist in ensuring that the values of broader society are maintained within the social fabric of the military. Indeed one of the true dangers to any civilian government is an armed force that it does not adequately control, and which does not identify with broader societal goals.[13]

The past decade has highlighted the challenges facing military commanders in maintaining discipline and ensuring accountability in a fast changing operational and social environment. Somalia, and disciplinary incidents on other peace support operations, stand out as examples of how discipline, accountability and operations are inexorably intertwined.

". . .the very basis of the profession of arms is identified as service on behalf of the properly constituted civil authority. . ."

The discipline system is an integral part of the rule of law. Discipline has been defined as "the practice of training people to obey rules or a code of behaviour".[14] It is through the maintenance of discipline and compliance by military leaders with civilian direction, that control is maintained over an armed force, and the Army carries out the direction of the government. A lack of confidence by civilian leaders in the ability or willingness of military leaders to maintain control can have direct impact on an army. Indeed, the disbanding of the Canadian Airborne Regiment in 1995 was linked to a series of high profile incidents involving illegal actions by soldiers in that regiment.

The 1990s saw significant reviews of the discipline system and leadership in the Canadian Forces. The 1999 amendments to the *National Defence Act* maintained a significant role for officers and non-commissioned members in the operation of the military justice system. However, leaders at all rank levels cannot lose sight of the fact that the virtually exclusive powers commanding officers once held in overseeing aspects of the summary trial system, have been altered.[15] The Canadian Forces National Investigative Service has been granted charge laying powers, and Commanding officers and superior commanders now have to provide reasons in writing for not proceeding with charges once laid. This is a direct reflection of a perception that all actors were not maintaining discipline, control and ultimately the rule of law.[16] The chain of command will have to continue to be vigilant in the maintenance of discipline and the proper application of the military justice system, including ensuring that all cases of ill discipline are dealt with promptly and appropriately.

The rule of law also has relevance to the resolution of the deeply challenging moral situations that have confronted soldiers at all rank levels throughout the world over the past decade. The tragic incidents in Somalia combined with untold instances in which soldiers have confronted with stark moral choices, has placed an increased emphasis within

the military on providing guidance and instruction for resolving morally difficult situations. Initiatives like the Defence Ethics Program, special study sessions and course programming at training schools and institutions of military education, (e.g., The Royal Military College and the Canadian Forces College) have prompted essential debate about how to deal with the moral quandaries experienced in all aspects of operations and service life. Doing the morally right thing could have avoided many of the problems that have challenged the Canadian Forces in the past few years.

". . .involvement of the law, in the conduct of operations, represents a true Revolution in Military Affairs."

However, overemphasis on doing what individual leaders and soldiers think is morally right, without a full appreciation of what is acceptable within Canadian society as a whole, can also lead to problems of accountability. In this regard the existence of moral rules for guiding conduct must be assessed in comparison to the rule of law. One renowned international law academic approached this issue by highlighting that morality and law both lay down rules, and to a great extent the same rules, for the guidance of human conduct. A characteristic of the rules of morality is that it applies to conscience and to conscience only. The rules of law:

> …apply, of course, to conscience quite as much as rules of morality. But the latter require to be enforced by the internal power of conscience only, whereas the former requires to be enforced by some external power.[17]

The observation that the rules of morality and law often lay down the same rules is evident in the context of the LOAC. In *Canada's Army*, LOAC is referred to as rules which "are, in large measure, a codification of the customs and moral proscriptions on war."[18] This is not to suggest that the morality reflected in LOAC is necessarily superior to aspects of individual morality. Individual morality is often based on religious upbringing or convictions and held by soldiers in their personal capacity. It is, however, a reflection of strongly held beliefs not only agreed to by Canadians, as reflected in their government signing and ratifying LOAC conventions and treaties, but also by the world community as a whole.[19]

A significant difference, however, is that failure to follow the LOAC can result in prosecution under national laws (i.e., courts martial) or increasingly before international tribunals. No such framework exists to enforce moral accountability. The moral underpinnings of decision making are essential. Indeed they form an important part of the legal framework of LOAC. However, it is dangerous to place emphasis on moral imperatives without situating the discussion in the context of legal obligations. If decision making were based solely on the moral views of individual leaders and soldiers, an essential question would have to be asked, as to whose morality takes precedence. Is the morality based on a particular religion, the social upbringing of individual soldiers or the collective views of the majority of soldiers present? To borrow from an old phrase about tactics, the correct morality might become that of the most senior leader present. This could occur without a full appreciation for and application of national values.

Our nation has committed itself and its warriors to follow the internationally recognized rules of combat and standards for the treatment of war victims. It is those values reflected in the law that rule and must be demanded by leaders at all levels, and not simply the moral views of individuals or groups who find themselves leading fellow Canadians. Law and morality are not exclusive concepts to be dealt with in splendid isolation. In the extremely important debate about soldiers doing what is morally right, it is difficult to see how any meaningful professional discussion could be allowed to end without a dialogue and acceptance of legal obligations as well.

WHERE THE RUBBER MEETS THE ROAD

The recent impact of the law on modern operations has not always been warmly received. In many respects the problems are the ones that stem from adjusting to a quickly changing operational environment. The experience and doctrine of the army of the 70s and 80s did not always adequately address the legal motivation and parameters of humanitarian intervention. The application of legal theory, at times, ran up against the harsh realities of the conduct of operations. Inevitably, tensions grew between those in the field at the tactical level carrying out the missions, and personnel at the operational and strategic levels, grappling with interpreting the quickly changing policy and legal landscape.

Major Beardsley has identified the existence of a continuing skepticism among some officers and soldiers about the LOAC. In effect the existence of a view that LOAC applies to peacetime operations, and military orders are merely guidelines.[20] In a similar vein, lawyers instructing on operational law issues are occasionally confronted with comments by some soldiers that reflect a resistance toward restrictions in ROE, regarding the discretion to use force. These comments are usually uttered in the context of being frustrated with ROE that are perceived to provide unwarranted limitations on the freedom of action of soldiers at the tactical level. The concern quite naturally often extends from the fact that the soldiers are those with their and their comrade's lives directly on the line. The discussion is a healthy one. However, any preference for taking the action believed by individual soldiers to be right, for moral or other reasons, without acceptance that the authority to use force is governed by national direction is obviously problematic.

The view that ROE are too restrictive for legal reasons is often

Colonel Kenneth Watkin, CD

based on a misunderstanding of the nature of ROE themselves. ROE incorporate operational imperatives and political objectives as well as the law (such as LOAC or domestic law). However, since ROE are issued as orders, which must under military law be obeyed, they are sometimes misconceived as purely legal documents. Reluctance to be bound by ROE can potentially reflect a mistrust of the chain of command for issuing such direction as well as representing resistance to the effect of the law itself. Upon being made aware of perceived problems with the ROE, the chain of command can act decisively to deal with those concerns. Such steps could include immediate efforts to determine the validity of the concerns, and whether adjustments should be made to the ROE. It may become necessary to educate subordinates who may not have been fully briefed about, or have fully understood, the direction itself or the operational environment that shape the ROE. For any personnel who are simply insubordinate appropriate disciplinary measures can be applied.

". . .the discussion of disobedience in the mission command context has the potential to have an even more profound effect on discipline in a modern military."

Sometimes a negative reaction to LOAC or ROE reflects a reluctance to accept the impact of law on modern operations. Such reluctance can stem from ignorance of the law itself. As Mark Osiel comments in *Disobeying Orders* there is a view taken by some officers "jealous of their military prerogative" that ROE are "legalistic intermeddling in their legitimate sphere of tactical judgement":

> They insist that effective soldiering consists of judgement "all the way down". They view the law exclusively in terms of bright line rules, then—understandably—proclaim the inadequacy of such rules for many of their tasks. They rail against bureaucracy and defend the indispensability of its tactical subversion. But their resulting loathing of the law arises from a corrigible mistake about its inevitability rigidity. They become prisoners of their own jurisprudential assumptions.[21]

In effect a judgement rules attitude is touted as preferable in contrast to a misconceived view that the law consists of inflexible "thou shall not restrictions".

In reality the LOAC is not exclusively bright line rules. Certainly there is a place for clear prohibitions. For example, prisoners of war and detainees will not be abused or tortured regardless of the personal views of the senior leader at the point of capture. At the same time, many provisions of the law governing the conduct of operations outline standards of conduct, which provide for very flexible decision making. For example, the proportionality rules applicable to targeting require attacks should not be indiscriminate; be directed at a specific military objective; and not cause excessive civilian casualties or damage in comparison to the anticipated military advantage, applies equally from private soldier to the highest level of command.[22] It is the basis of modern targeting decisions whether in the land, sea or air environments and provides considerable flexibility at all levels of decision making.

The judgement rules school of thought appears to be based on a notion that the on-scene commander always knows better than rule making commanders and staff officers. In its extreme manifestation on-scene commanders, regardless of rank, background or experience, would be empowered to act according to their assessment of the local situation and their individual morality. This is in spite of what is in the ROE. Significant questions can be raised about whether any leader can ever be confident that each and every soldier under their command is always capable or willing to exercise the correct moral or professional judgement to make this theory work. Further, there would be an empowerment to make decisions at the tactical level without the actors necessarily having full knowledge or appreciation of operational and strategic goals. Finally, the judgement rules approach when exercised in isolation, appears inconsistent with Canadian Forces and Army doctrine in which ROE are orders issued by the Chief of Defence Staff to govern the use of force by all soldiers.

A fundamental problem from a systemic viewpoint in relying solely on the judgement of the senior leader present to justify operational decision making, is the lack of clear standards to apply in assessing the legally and often morally correct course of action. It is not uncommon to hear reference by proponents of the judgement rules school of thought to a "Warrior's Code" as the means by which their conduct should be judged. However, such a Warrior's Code appears to remain unwritten, ill defined and practically unenforceable in any meaningful sense,[23] to the extent it is based on romantic notions of military chivalry. Those notions and those concepts have long been incorporated into LOAC.[24] The lack of any enforcement mechanism does raise the question of whether reliance on such a Warrior's Code in lieu of the law, to regulate

"For soldiers in Canada's Army being a warrior must mean being a professional soldier subject to the directions and values of the country."

professional conduct, offers an avenue to avoid meaningful accountability. The use of the term "warrior" is in itself interesting in that it can have many meanings. In a modern professional setting it is a person "whose occupation is warfare; a fighting man, whether soldier, sailor or (latterly) airman."[25] A warrior can also be viewed in a poetic sense as a fighter "of the ages celebrated in epic and romance."[26] Finally the warrior can be the fighter "of uncivilized peoples for whom the designation *soldier* would be inappropriate."[27] Indeed modern battlefields are full of this latter type of ill-disciplined warrior. For soldiers in Canada's Army being a warrior must mean being a professional soldier subject to the directions and values of the country.

Clearly effective ROE cannot be based on either extreme of solely proscriptive bright line rules or rule by judgement alone. ROE are based on a legal framework of predominately permissive rules that take into account the requirements of mission accomplishment and self-defence, and which situate the exercise of professional judgement. Misunderstandings about the law, both in respect of LOAC and ROE, are best addressed by education and by incorporation of legal principles into realistic training scenarios.[28] At this point progress has been made in incorporating the legal aspects of operations into army doctrine as is evidenced throughout Canada's Army. Both the Army leadership and the operational lawyers of the Office of the Judge Advocate General have worked to improve the utility and the understanding of CF ROE doctrine within the Army. That is not to say that further work does not need to be done. Discussion and misunderstandings often continue to centre around issues such as defence of property and the limits on the scope of self-defence, both individually and in respect of missions themselves. Any residual resistance to and misunderstandings about LOAC and ROE will be largely put to rest as Army training fully incorporates such topics into instruction at all levels, from the highest to the lowest levels of leadership. A positive note in that regard can be found in the recent recommendation at a symposium on the non-commissioned officer, that in the future non-commissioned officers should be given greater responsibility in teaching military law.[29]

TO OBEY OR NOT TO OBEY: IS THAT THE QUESTION?

The increasing acceptance by soldiers of the impact of law on operations does not mean that significant challenges do not remain. One area of particular interest regarding the rule of law is the notion of disobedience in an operational context. In his article Major Beardsley refers to an authority to disobey orders in respect of the Army's mission command doctrine. In effect a subordinate can disobey orders in order to carry out the intent of the Commander. Such a doctrine puts a premium on initiative at the lowest levels of command. However, Major Beardsley expresses concern about a misinterpretation of this command philosophy that is likened to a "license to *disobey* orders."[30] An implied authority to disobey orders is also found in Lieutenant-Colonel Oliviero's article on the Army doctrine where he links this authority to the German concept of *Aufragstaktik*.[31] Interestingly the Army's doctrine on mission command is itself silent on this issue.[32] In an organization whose very effectiveness is first and foremost based on discipline, the notion of authorising disobedience must be carefully assessed. To countenance disobedience by subordinates potentially attacks the very basis of the rule of law.

". . . it is dangerous to both discipline and the rule of law to cloak tactical flexibility with the term disobedience."

Under both LOAC and Canadian military law there is an obligation to disobey manifestly unlawful orders. In the words of the Supreme Court of Canada orders can and must be obeyed unless they are manifestly unlawful. A manifestly illegal order is one that "offends the conscience of every reasonable or right thinking person. It must be an order which is obviously and flagrantly wrong."[33] Such an order must "wave like a black flag above the order given, as a warning saying forbidden."[34] A good example of a forbidden order would be one that breaches a bright line rule in the LOAC, such as - do not abuse prisoners. Under the rule of law the substantive law must triumph. Therefore, profoundly immoral utterances by a leader cloaked with the legal authority to issue commands, cannot prevail over the moral obligations established by law.

Throughout history there have been a number of highly visible instances in which military commanders have disobeyed orders. As identified by Professor Osiel some of those cases include General Creighton Abrams at Bastogne, Admiral Nelson at Copenhagen, and General Ulysses S. Grant in the American Civil War.[35] More often the line between disobedience and obedience to orders has been cast in terms of "creative compliance."[36]

The following statement by Lieutenant-General Dallaire's second in command in Rwanda, Ghanaian Brigadier-General Anydoho, when referring to a UN direction to reduce the UNAMIR force to 250 personnel, captures some of the complexity of assessing orders in the modern operational environment:

> We would not accept any closure of this mission because history would associate our names with this failure. The order has to be lawful. And I thought what they were telling us at that moment by the dictates of my conscience was not lawful, was not the right thing. And then if we have to disobey that in order to save lives then that was it. And we were prepared to face the consequences.[37]

Colonel Kenneth Watkin, CD

Was the UN direction manifestly unlawful? Is it unlawful simply because it goes against the dictates of the conscience of the officer involved? Ultimately this professional soldier did not have to face the consequences of determining if his view of the orders was in fact the correct one. UNAMIR was reduced to approximately 450 personnel and the question of disobedience was never addressed.

In assessing this issue it should be noted that statements by senior officers regarding disobedience should be viewed in the context of the greater degree of freedom that commanders often enjoy to debate and influence the direction they are given. It has been noted by the Supreme Court of Canada the lower the rank of soldier the less likely that individual will enjoy moral choice to question orders.[38] At the same time commanders should carefully consider the manner in which they discuss their own sense of having complied with orders. Influencing a change in orders on moral grounds is not disobedience. Such a dialogue appears to have occurred in 1995 when Major-General Forand serving as the Commander of South Sector, advised the Deputy Chief of Defence Staff, he was prepared to resign rather than withdraw Canadian troops from a multinational force confronting a Croatian Army attempting to recapture the Krajina region. Major-General Forand apparently received support from the chain of command and disobedience did not become an issue.[39] However, extensive dialogue with higher headquarters regarding the sufficiency and morality of orders is often a luxury that is exercisable only by those in command.

The authorized disobedience of a command is based on manifest illegality and not on a differing moral choice. Disobedience cannot be based on a subordinate simply having a different sense of morality than the person who issued the order. If subordinates are led to believe that differences in morality alone authorises disobedience than the discipline of the unit, the certainty that subordinates will comply with lawful direction and ultimately the rule of law will be adversely affected.

While there can be considerable debate about the manifest illegality test [40] the discussion of disobedience in the mission command context has the potential to have an even more profound effect on discipline in a modern military. Any claim to an authority to disobey orders in the exercise of mission command requires a careful assessment of exactly what is meant by such a proposition. As Major Beardsley has identified, mission command doctrine cannot authorize disobedience of the LOAC. The laws, to which Canada is bound or has agreed, will apply in the conduct of military operations bind all commanders. Therefore the commander's intent can never be to countenance disobedience of LOAC, and compliance with mission command requires a "fundamental responsibility to act within the framework of the commander's intention."[41] Similarly a cornerstone of the mission command doctrine is trust. The trust associated with command is based on professional competence, personal example and integrity.[42] Integrity is discussed in *Land Force Command* in the context of observance of values such as moral courage, honesty and loyalty, including "adherence to both military and civilian law."[43] Considering the integral nature of these principles to the exercise of command and mission command doctrine, it is difficult to see how considerable leeway to disobey orders could be supported under the Army doctrine as it is presently written.

Proponents of the argument that subordinates can act contrary to specific orders, as long as the subordinate is acting in accordance with the Commander's intent, might attempt to read such authority into the definition of intent in mission command terminology. In *Land Force Command* the commander's intent is described as providing an overall framework within which subordinates "may operate when a plan or concept of operations no longer applies, or circumstances require subordinates to make decisions that support the ultimate goal of the force."[44] However, being empowered to act in a void simply because the circumstances discovered on the ground were not covered by the commander's specific direction appears to fall short of disobedience of orders.

Similarly, empowering subordinates to make decisions to support the ultimate goal of the commander's orders does not on its face directly authorize disobedience. For example, if a commander directs a position is to be taken by a certain time by means of a left flanking it might not be unreasonable if a subordinate commander makes a right flanking to achieve the objective because the original route was blocked. Such low-level tactical decision making may not be disobedience at all if the commander expects and empowers subordinates to alter tactical level direction to meet the operational need. However, even here care must be taken. Subordinate commanders do not always have the freedom of action to make tactical or operational decisions independent of the overall military plan. As United States General Franks states:

> …to deliberately cross a boundary and get some of your troops killed by fratricide is a grievous breach of discipline, and in my judgement is cause for disciplinary action. In battle you just cannot have local commanders deciding when or when not to obey boundary restrictions.[45]

Mission command doctrine requires initiative and flexibility. However, it is dangerous to both discipline and the rule of law to cloak tactical flexibility with the term disobedience. Disobedience is too important and too powerful a concept to allow it to be implied as a part of doctrine. If it is meant to be a part of the Army doctrine of mission command then clearly there is merit to defining when it applies. To leave it unaddressed could lead to unintended erosion of discipline and ultimately the rule of law.

CONCLUSION

In conclusion, the Army is committed as a national institution to comply with the LOAC and other laws that bind this nation. A fundamental tenet of our democracy is respect for the rule of law. The Canadian Army operates as a force

to maintain or restore law and order internationally and on occasion domestically. Further, all leaders and individual soldiers perform an essential role in reinforcing the rule of law by fulfilling their obligations to maintain discipline, thereby effecting positive control over the armed forces of the nation.

The impact of the law on operations has received an increased profile over the past decade. Enhanced training programs, education and a commitment to conducting operations in a lawful manner has increased the discussion of the law at the lowest levels of command. As the discussion unfolds issues such as the interface between morality and the law; the proper role for the exercise of judgement within the legal framework of ROE; and compliance with orders in the exercise of mission command, are fruitful areas for professional discussion and debate. The discussion itself is a positive reflection on the maturity of the professional soldiers who make up Canada's Army.

ABOUT THE AUTHOR...

Colonel Ken Watkin holds a Bachelor of Arts degree from the Royal Military College of Canada and Bachelor of Laws and Master of Laws degrees from Queen's University. He commenced his military career as an infantry officer in The Royal Canadian Regiment. His service in the Office of the Judge Advocate General has included postings in the Training, Prosecution and Appeals, Human Rights and Information, Operations, and Claims Directorates. Colonel Watkin has served as the Special Assistant to the Judge Advocate General, the Assistant Judge Advocate General Atlantic Region and as a legal advisor to the Canadian Contingent IFOR. He was legal advisor to the Somalia Board of Inquiry, and has been legal counsel regarding inquiries arising from the Rwanda mission. Colonel Watkin is presently a Deputy Legal Advisor in the Office of the Department of National Defence and Canadian Forces Legal Advisor.

ENDNOTES

1. This article is based in part on a paper prepared by the author for the Officer Professional Development Program 2020 entitled "The Law and Future Officer Professional Development 2020".
2. Major B. Beardsley, "What Kind of Warriors Are We", The Army Doctrine and Training Bulletin 25, Volume 2, No. 2, May 1999.
3. *Canada's Army: We Stand on Guard for Thee* (Ottawa: 1 March 1998) B-GL-300-000/FP-000 at p. 31.
4. Ibid., at p. 57.
5. Wade and Phillips, *Constitutional Administrative Law*, 9th ed. (1977) at p. 89 as referred to by the Supreme Court of Canada in Reference Re Language Rights Under the Manitoba Act, 1870 (1985) 19 D.L.R. (4th) 1 at p. 23.
6. Ibid.
7. Reference re Secession of Quebec, [1998] 2 S.C.R. 217 at pp. 257-58.
8. The post Second World War era has seen the creation of numerous international human rights treaties including: The *Universal Declaration of Human Rights, 1948; The International Covenant on Economic, Social, and Cultural Rights, 1966; The International Covenant on Civil and Political Rights, 1966; The International Convention on the Elimination of All Forms of Racial Discrimination, 1966; The Convention on the Elimination of All Forms of Discrimination Against Women, 1979; and The Convention on the Rights of the Child, 1989.*
9. J. Moore, ed., *Hard Choices: Moral Dilemmas in Humanitarian Intervention* (New York: Rowan & Littlefield Publishers, Inc., 1999) at p. 58.
10. *Ref re Remuneration of Judges of the Provincial Court Prince Edward Island (P.E.I.),* [1997] 3 S.C.R. 3 at p. 84.
11. For example amendments to the National Defence Act, Bill C-25, s. 273.6, the Canadian Forces Armed Assistance Directions, P.C. 1993-624, and the Canadian Forces Assistance to Provincial Police Forces Directions, P.C. 1996-833. Examples of the use of Army personnel in an augmentation role include Gustafason Lake, the Manitoba Flood, the Ice Storm in Quebec and the planned use of Army personnel during Op Abacus (Y2K).
12. *Supra*, note 2 at p. 28.
13. At p. 1-2.
14. *The Concise Oxford Dictionary*, 10th ed. (Oxford: Oxford University Press, 1999) at p. 408.
15. The Report of the Special Advisory Group on Military Justice and Military Police Investigation Services, March 25, 1997 recognized that "frequently commanding officers, instead of charging members, will let a disciplinary matter pass, or deal with it administratively, or even request the convening of a court martial, in order to be relieved of the obligation of conducting a summary trial." It was also noted that part of the reluctance in using the military justice system stemmed from inadequate training (at pp. 40-1). To address this problem a comprehensive training program was developed and between 1 September 1999 and 20 March 2000, 2097 officers (including over 60 General Officers) completed presiding officer training conducted by the Office of the Judge Advocate General. In addition over 309 non-commissioned members attended the presiding officer training sessions as part of an initiative to enhance the discipline training available to non-commissioned members. See Annual Report of the Judge Advocate General, 1 September 1999 to 31 March 2000, Annex G.
16. *Queen's Regulations & Orders* 107.11(2).
17. Oppenhiem L., *International Law: A Treatise* 7ed. by H. Lauterpacht (London: Longmans, Green and Co. Ltd., 1948) at 8. Law is defined in that Treatise as "a body of rules for human conduct within a community which by common consent of this community shall be enforced by external power" (see p. 10).
18. *Supra*, note 3, at p. 81.
19. For example the Geneva Conventions have been signed and ratified by 188 nations, the same number of member states in the United Nations.
20. *Supra*, note 2 at p. 25.
21. Mark J. Osiel, *Disobeying Orders: Atrocity, Military Discipline and the Law of War* (New Brunswick: Transaction Publishers, 1999) at pp. 257-58.
22. Protocols Additional to the Geneva Conventions of 12 August 1949, art. 51.
23. D. Winslow, *The Canadian Airborne Regiment in Somalia, A Socio-Cultural Inquiry* (Ottawa, Minister of Public works and

Colonel Kenneth Watkin, CD

Government Services Canada, 1997 at p 52. An example of a "Warrior's Code" that carries with it a number of disturbing messages is set out in a poem taken from a soldier's wall and referred to by D. Winslow... While the poem speaks of the soldier being part of a warrior class dedicated to protect and serve society, it does so in the context of being isolated from society, unappreciated and at times unwanted. It is a warrior class "[s]eparate and distinct" rather than one reflecting the values of the civil society which governs the military to which that soldier belongs.

24. A classic example is the use of the white flag which is outlined in the Hague Rules Governing the Conduct of Hostilities on Land, art. 23.

25. *The Compact Edition of the Oxford English Dictionary*, Vol. II (Oxford: Oxford University Press, 1971) at pp. 120-21.

26. Ibid.

27. Ibid.

28. *Supra*, note 21 at p. 260. As Professor Osiel points out realistic training using case studies that promotes practical judgement assist helping soldiers deal with "hard cases". This is an approach that has been increasingly adopted within the Canadian Army.

29. Directorate of Army Training "The NCO: Backbone of the Army", The Defence Management Studies Program, 28-29 June 1999.

30. *Supra*, note 2 at 26.

31. Lieutenant-Colonel C. Oliviero (Retd)"*Trust, Manoeuvre Warfare, Mission Command and Canada's Army*", August 1998, Vol. 1, No. 1, The Army Doctrine and Training Bulletin.

32. B-GL-300-003/FP-00, Land Force Command 1996-07-21, Chapter 3.

33. R v. Finta (1994) 88 C.C.C. (3d) 417 at 511.

34. Ibid. at 512. Here the Supreme Court of Canada quotes from a decision of the Israel District Military Court in the case of Ofer v. Chief Military Prosecutor (the Kafr Qassem case) (Appeal 279-283/58, Psakim, J.D.C.I.,) vol. 44, p. 362.

35. Osiel, *Disobeying Orders, supra*, note 21 at 316.

36. Ibid., Chapter 20.

37. As quoted on the CBC program "The Magazine" on 02 July 1998.

38. R v. Finta, *supra*, note 33 at 516.

39. Major-General A.R. Forand, "Ethical Dilemmas of Commanders on Operational Missions: Four Views", *The Many Faces of Ethics in Defence* (Ottawa, Ontario Minister of Public Works and Government Services Canada, 1996) 30 at 31-2. Similarly, Major-General Forand offered refuge to civilians at risk despite entreaties from UN officials not to do so because liability would be incurred to look after the civilians. Doing the morally right thing in this case does not appear to have been done in opposition to an order to exclude the civilians and therefore the question of obedience or disobedience to lawful commands does not appear to have arisen. See also Colonel D.C. Tabbernor, *Operational Commanders: Orders and the Right to Choose*, 1998, Canadian Forces College AMSC Paper.

40. Professor Osiel in his book *Disobeying Orders, supra*, note 21, argues that the test is flawed because it protects soldiers who commit war crimes that don't fall within the manifest illegality threshold. It draws a bright line around atrocities and excuses other war crimes. He argues for a test based on holding soldiers accountable for unreasonable actions. This approach is interesting in that would make soldiers more accountable and would require even a greater understanding of LOAC than is presently the case. However, it could attract some criticism in respect of whether it accurately reflects the pressures confronted by soldiers during combat. In addition, he proposes an asymmetrical application of the test with soldiers from western industrialised democracies being held to this higher standard.

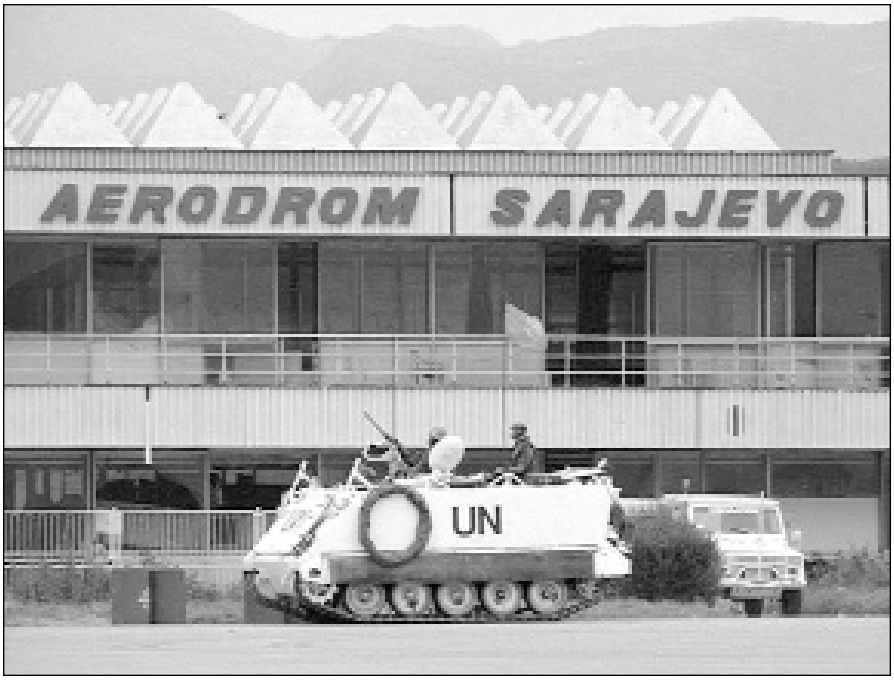
41. *Land Force Command* at p. 30.

42. Ibid., at 35.

43. Ibid., at 19.

44. Ibid., at 32.

45. T. Clancy and General F. Franks Jr., *Into the Storm* (New York: G.P. Putnam's Sons, 1997) at 383.



An armoured personnel carrier from N Company, 3rd Battalion The Royal Canadian Regiment drives by the main terminal of Sarajevo airport on 8 July 1992. Canada's commitment to the region has been ongoing for almost a decade. (Courtesy CFPU)

The Decision-Making Process and Manoeuvre Warfare for the Canadian Army:

Are We Teaching the Right Tools for Our Doctrine?

by Captain J.M.A. (Marc) LaFortune

INTRODUCTION

The Canadian Army has adopted a doctrine of manoeuvre warfare. All levels of leadership are still managing to embrace this doctrine, which is more a state of mind and a way of thought than a tangible set of drills and actions. In our attempt to understand and teach manoeuvre warfare, we must be certain to do it properly and provide an effective methodology, appropriate processes, and suitable tools. The aim of this article is to argue that our present decision-making process and our emphasis on synchronization[1] are incompatible with our doctrine of manoeuvre warfare. The study of the United States Marine Corps' (USMC) approach to intuitive decision-making and asynchronous operations will help us to implement this doctrine. This does not necessitate replacing our analytical decision-making process, but rather shifting our priority towards an intuitive one.[2]

The foundation of the argument will be laid by outlining two widely held key components of manoeuvre warfare: the inherent requirement for initiative and freedom of action at all levels of leadership and the need to create favourable tempo. A review of our present-day analytical approach to decision-making and an alternative intuitive approach will prove that the latter is more suitable to manoeuvre warfare. Examining the key elements of our Operational Planning Process (OPP), more specifically the wargame and the Plan, will provide the building blocks of the argument. An overview of the wargame will illustrate that we attempt to impose too much control on what truly cannot be controlled. A comparison of the advantages of asynchronous (modular) plans over the disadvantages of synchronised (coupled) plans will also prove useful in cementing the argument. The underlying theme of the paper maintains that, while useful to some degree, our analytical planning process stymies initiative, impedes tempo, and ultimately limits the freedom of action of subordinate commanders. The argument set forth is not a new one; the U.S. Army and the USMC are at odds over the issue, and each holds widely divergent views. While the Canadian Army has sided with the former, we must consider the views of the latter, in order to fully implement a doctrine of manoeuvre warfare.

KEY COMPONENTS OF MANOEUVRE WARFARE

There are a number of definitions of manoeuvre warfare, and the USMC provides one: "Manoeuvre Warfare is a warfighting philosophy that seeks to shatter the enemy's cohesion through a variety of rapid, focused, and unexpected actions which create a turbulent and rapidly deteriorating situation with which the enemy cannot cope."[3] Although definitions of manoeuvre warfare will vary, it is not difficult to argue that manoeuvre warfare cannot work without one of its key components, that of *Auftragstaktik*. Lieutenant-Colonel Oliviero defines *Auftragstaktik*, mission command, as a concept "based upon the pillars of the subordination of self to the superior goal, independent action, and freedom of action at all levels."[4]

Ultimately, mission command is an essential element of manoeuvre warfare where a commander tells a subordinate commander what his mission is, but does not detail how he must accomplish it. This is a concept that cannot be fully realized in an overly synchronised atmosphere where execution is centrally controlled. The highly coordinated and combined plans that we are taught to develop, severely limit a subordinate's ability to accomplish his mission in his own fashion, restrict his freedom of action, and ultimately stymie his initiative. Shobbrook states that if "battle staffs become so enamored with the matrixes plotted on boards before them that the initiative and flexibility that are the hallmarks of manoeuvre warfare are lost, then we should scrub synchronization out of our doctrine."[5]

Closely linked to initiative and freedom of action is a second key component of manoeuvre warfare: the need to maintain favourable tempo. Tempo comprises three elements and is the rhythm of activity, relative to the enemy. The elements of tempo are defined as "speed of decision, speed of execution, and the speed of transition from one activity to another."[6] All these elements are difficult to achieve in an overly synchronised plan. Speed of decision is difficult to achieve for subordinate commanders because their

"Our staff training does not nurture intuitive qualities."

Captain J.M.A (Marc) LaFortune

decisions will affect other parts of the plan. Speed of execution is difficult to achieve because subordinate commanders must wait for other parts to be in place before executing their missions, even though they themselves are in place. Speed of transition is also difficult to achieve, given that all parts are interconnected. Favourable tempo is achieved when we can get into the enemy's decision-action cycle. This requires all commanders to capitalize on fleeting moments; but can they do this when so many parts of the synchronised plan rely on their carrying out scripted actions?

The tightly coupled and synchronised plans that staff officers are taught to produce require compliance and do not necessarily allow the freedom of action necessary to capitalize on these fleeting moments. Worse still, tempo can be completely lost while subordinate commanders wait for the battlefield to synchronise in accordance with the details and co-ordination contained in the plan. A most recent example of this occurred during the Gulf War when the U.S. VII Corps allowed the Republican Guard to escape because the Corps Commander, General Franks, felt the need to halt and re-synchronise his plan. Gordon and Trainer write that, "The VII Corps commander saw the Iraqis as an Arab version of the Soviet Army and planned to fight them just as he would take on the Red Army, with massive firepower and careful co-ordination."[7]

Lieutenant-Colonel Oliviero continues the argument that the current philosophic underpinnings of our doctrine rely too heavily on the belief that war is more of a science than an art.[8] The many steps, formulas, and products of our present planning process seem to support his contention. Manoeuvre warfare, however, is a doctrine that sees war more as an art than a science. The contradiction between doctrine and process is quite apparent. With a doctrine that emphasizes the need for tempo, we are at odds with a decision-making process requiring so much time. Shobbrook adds that, "In manoeuvre warfare a good plan, even with some holes in it, carried out with speed and enthusiasm is better than a highly coordinated plan that cannot change fast enough to use operational tempo as a weapon."

ANALYTICAL VERSUS INTUITIVE DECISION-MAKING

Let us now review the two approaches to decision-making – analytical and intuitive – to determine which better supports the art of manoeuvre warfare. An analytical process[9] is not appropriate in most circumstances of war where chaos and uncertainty reign. Although one may argue that an intuitive approach offers no greater a guarantee of success, it is, however, quicker and provides us with the necessary tempo to get into the enemy's decision-action cycle. Proponents of the analytical decision-making process argue that intuition is gained through experience, and that the lengthy analytical process can be shortened with practice. With the constant rotation of staff officers through our headquarters, it is difficult to achieve this objective.

"What is the likelihood that a battle will unfold as we have wargamed it?"

Major Armour, in his article "Decision-Making Processes", describes the intuitive or heuristic approach to decision-making. Using this type of approach, timely decisions are made, and plans are quickly formulated.[10] This is the type of process the Canadian Army needs. The analytical process that our Army now practises demands certainty; moreover, leaders are continually waiting for one more piece of information before making a decision. Worse, a commander may suffer what John Adair refers to as a state of "paralysis by analysis" where no decision is made.[11] What is best about the intuitive process, apart from its inherent speed, is the fact that it more closely mirrors actual human thought. Lieutenant-Colonel Giguère, in his article "Le Coup D'oeil", believes that, "intuition will play a paramount role…the most successful leaders will be those who display the faculty to quickly perceive a truth that is usually hidden from the mind or discernible only after prolonged study and reflection…."[12]

Our staff training does not nurture intuitive qualities. An intuitive approach, more than an analytical approach, best achieves the tempo required for manoeuvre warfare. The caveat to the heuristic approach is that the viability of the resulting plan or decision is directly related to the experience of the commander or planner. Rogers suggests that, "Intuition is about sifting through your memory bank of past experiences in order to make decisions. You are, in fact, searching for familiar patterns and are not making decisions in a vacuum." This concept of practised and acquired intuition emphasizes the need to train on tactics, to read history, and not necessarily to train to plan. The emphasis on training at the Canadian Land Force Command and Staff College is to plan.

Major Armour states that, "In a crisis situation, if the training aspect has been correctly conducted, the heuristic selection will become automatic, and reaction time will be a fraction of that required of the untrained decision maker who is bogged down with uncertainty or is trying to muddle through some complex analytical process." Armour further argues that, "The weakness of this process [analytical] as a decision-making tool … [is that] one may be forced to exhaust enormous amounts of time and resources, thus producing a scheme that is not conducive to rapid decision-making in a crisis situation … war is replete with crisis situations." This is not to suggest that, when enough time is available, we should not use the analytical approach to decision-making. However, in the heat of battle, intuitive (heuristic) decision-making is required to maintain tempo.

HOW VALUABLE IS WARGAMING?

One method of attempting to maintain tempo that we now practice is the wargame. Here we plan

and prepare for likely enemy action. In the Course of Action (COA) wargame, we use the products of the Intelligence Preparation of the Battlefield Process to pit friendly and enemy COAs against each other. Due to inherent time constraints, the COA wargame process cannot address the infinite number of both friendly and enemy options. The manual *Command* states that, "The wargame serves as a rehearsal for the operation so when the enemy acts in an anticipated manner, an appropriate response has already been planned."[13]

"We must practise planning scenarios that require quick thinking in order to develop intuitive abilities."

This statement caters to anticipated actions, and assumes that the decision-making process has been accurate to this point. The enemy is not an inanimate object; it is an independent animate force with its own objectives and plans.[14]

Although we try to astutely interpret enemy doctrinal templates and make use of them, it is unlikely that we will be able to adequately gauge all his options. Proponents of the analytical decision-making process will argue that this is far better than simply guessing, or reacting to enemy actions. One might not refute this point, but have we estimated wisely? Would it not be preferable to simply assume the enemy has unlimited options, and begin to develop flexible friendly COAs best suited to deal with this multitude of possibilities? The likelihood of the enemy responding differently than anticipated, faced with a particular set of circumstances, is equal if not greater than the chance of him reacting doctrinally. The one variable we cannot plan for is the most important one: the human factor. "We must keep in mind that war is at base a human endeavour. In war, unlike in chess, 'pieces' consist of human beings, all reacting to the situation as it pertains to each one separately, each trying to survive, each prone to making mistakes, and each subject to the vagaries of human nature"(*MCDP 6-Command and Control*). If we cannot include the most important factor, then how accurately can we determine enemy COAs? If hope is not a method, then why do we hope that the enemy will react as we have planned he will? Wargaming does not stop here, but is further practised during the planned wargame.

During the planned wargame, we pit our COA against the most likely and the most dangerous enemies, and perhaps others if time permits. What is the likelihood that a battle will unfold as we have wargamed it? From a statistical perspective of combinations and permutations, it is certain that the likelihood is slim; and yet we produce products such as the Decision Support Template and the Synchronization Matrix.[15] These are decision-aiding tools, which can act as scripts with which to manage chaos. Should a battle be fought off a script? Can we manage chaos? Regardless, we gather around the wargaming table and compare blue versus red moves: action, reaction, and counter-reaction. We calculate losses based on what? Although we can try to gather all the information we want, we cannot gather it all. In war, it is this part that often comes into play, the part that we have not planned for. USMC doctrine defines the essence of war; "it is precisely this natural disorder which creates the conditions ripe for exploitation by an opportunistic will."[16]

We cannot hope to develop an opportunistic will if we try to impose control as we now do. An opportunistic will is essential to manoeuvre warfare.

". . .manoeuvre warfare cannot work without one of its key components, that of 'Auftragstaktik'."

This is simply neither taught nor practised. We try to manage the chaos, and are therefore unable to react quickly enough when it inevitably overtakes us. "Each encounter in war will usually tend to grow increasingly disordered over time. As the situation changes continuously, we are forced to improvise again and again until finally our actions have little, if any, resemblance to the original scheme."[17] Every time we take a turn in the wargame, we negate the multitude of other options available to both the enemy and us. Yet, after the wargame plan, we finalize and issue a detailed plan based on the questionable results of our decision-making process.[18]

A PLAN TOO DETAILED?

We pride ourselves on the fact that in the plan we provide a Commander's intent to focus and guide subordinates. We also, unfortunately, issue reams of paper and overlays to control the execution. The attainment of the Commander's intent is constrained by detail. General Sullivan warns that, "Plans tend to be overly complex, sometimes featuring intricate manoeuvres and relying on perfect execution for success … Complex plans often lead directly to failure … We can defeat ourselves before the battle even begins if our plans are too complex, requiring multiple intricate steps and flawless timing." On reception of the plan, a subordinate Commander must look in a variety of areas to see what role he will play and what tasks he must complete, i.e. grouping and tasks, co-ordinating instructions, ISTAR annex, engineer annex, etc. There is a danger in using synchronization as an approach to warfare.[19] If synchronization is used as the principal technique in preparing for battle, then we will have a tendency to use synchronization and its tools as a means of conducting warfare. These tools are anathema to manoeuvre warfare, and they do not allow for much freedom of action.

Less freedom of action means less variety of actions. We therefore become more predictable, and our imagination is dulled. Giguère writes that, "In my view more than forty years of cold war has had a dulling effect on the

Captain J.M.A (Marc) LaFortune

imaginations of Canadian strategists and tacticians… I am however convinced that the scientific aspect of our profession was given greater importance by the Cold War, itself a product of the industrial age. Doctrines and tactics were, in practice, immutable. Everything was decided in advance and leaders had only to carry out the directives emanating from higher Headquarters."[20] If it is true that we may succeed without planning and that we may fail with it, then why plan in such great detail?[21] Directing and co-ordinating are perhaps the most obvious functions of planning; however, over-emphasizing these functions can lead to micro-management. Under such conditions, if unexpected events occur which nullify the planned actions, subordinates may have difficulty adapting.[22] Planning attempts to shape the future, but even as we begin to develop a solution to a problem, the problem changes. Moreover, war is not a single problem, but a complex system of interdependent problems, each with a solution that affects the outcome of the others.[23] So what type of plans should we be intent on producing in order to parallel the doctrine we espouse?

SYNCHRONIZED VERSUS ASYNCHRONOUS OPERATIONS

Major Schmitt, in his article "If Not Synchronization, What?" proposes that we should plan asynchronous operations. He suggests that in such an operation the different tasks which make up that operation do not need to occur at the same time, the various units do not need to operate in unison, and the various components of the operation do not need to agree in time or rate. He does not, however, propose "antisynchronous" operations.[24] His concern is that synchronization restricts a commander's freedom of movement and action to such a degree that he will not act in a fashion that might upset the carefully planned synchronised battle. Plans with many tight couplings, where one or more parts of the plan depend on the others, are described as synchronised. Although this makes efficient use of assets, it lacks flexibility. These tightly coupled plans do not tolerate friction and disruption well. Loose coupling refers to plans in which the interaction between parts is not close.[25] These plans permit greater freedom of action and can be described as asynchronous or modular. This means that any part can be modified without significantly altering the other parts.

In war, disruption is inevitable. Tightly coupled plans are generally more complicated than modular plans. This is contrary to the fundamental of simplicity. "No plan survives contact with the enemy."[26] In order for manoeuvre warfare to work, plans must be flexible and therefore easily changed. Plans should be modular, or asynchronous, so that they do not require as much co-ordination and yet still work in harmony to support the Commander's intent.[27] A change in an asynchronous plan, not unlikely in war, will result in fewer difficulties and modifications and will allow the freedom of action necessary for subordinates to achieve the Commander's intent. In addition to modifying our decision-making process, we should also look at modifying the products, and consider the complementary merits of planning and executing asynchronous operations.

CONCLUSION

The aim of this paper was to argue that our present decision-making process and our emphasis on synchronization are incompatible with our professed doctrine of manoeuvre warfare. It has been argued that an intuitive decision-making process and asynchronous plans best achieve the manoeuvre warfare requirements for initiative and tempo. Furthermore, certain shortcomings of the wargame and the plan, as they are presently taught, have been outlined to further develop the argument. While our analytical planning process has some advantages, it is clear that in most cases it stymies the creativity, boldness, and initiative of both planners and executors. We must practise planning scenarios that require quick thinking in order to develop intuitive abilities; we must move away from laborious pedantic processes. Ultimately, the inclusion of the study of the Marine Corps approach to intuitive decision-making and asynchronous operations will help us to implement fully our doctrine.

If one agrees with the contention that war is more art than science, then our processes, tools, and products must reflect this premise. Because this doctrine is relatively new to us, it is critical that we implement it properly now. Major Morningstar, in his article "Creating the Conditions for Manoeuvre Warfare", maintains that, "Manoeuvre warfare… requires staff training in directive and detailed control techniques and knowing when to apply each."[28] It is essential that we teach both. In our quest to better understand and teach manoeuvre warfare, we must be certain to provide the most effective combination of methodologies and tools to subordinate commanders and staffs. Although one may not entirely accept Napoleon's approach of little or no planning, "I engage, and after that I see what to do;"[29] one must not advocate planning in explicit detail, as war, Clausewitz wrote, "is so continuously…bound up with chance."[30]

ABOUT THE AUTHOR...

Captain Marc LaFortune holds a BA in Political Science from the University of Maryland and is presently working on a Master's in Defence Management and Policy through the Royal Military College of Canada. His service includes a tour in the Former Yugoslavia with the 3rd Battalion, Royal 22e Régiment and two years as Instructor-in-Gunnery at the Artillery School. Captain Lafortune is presently employed as the G3 Army Individual Training (Coord) at CTC HQ.

ENDNOTES

1. T.J. Shobbrook, "Synchronization and Manoeuvre Warfare: There's a Place for Both." in *Marine Corps Gazette*, January 1997, p. 61. Shobbrook presents the *Field Manual 100-5, Operations* definition of synchronization: "...the arrangement of battlefield activities in time, space and purpose to produce maximum relative combat power at the decisive point." Of interest is that he further states synchronization started out as a defensive strategy to defend Western Europe. Times have changed. Shobbrook identifies the inherent contradiction: "Manoeuvre warfare's basic tenet is that warfare is filled with so many surprises, friction, and, on occasion, random chance that explicit coordination after contact with the enemy to any great degree is really unworkable." p. 61.
2. U.S. Marine Corps, *MCDP 6: Command and Contro*l, Department of the Navy, Headquarters United States Marine Corps, 4 October 1996. "Manoeuvre warfare requires a decision-making approach that is appropriate to each situation. We must be able to adopt and combine the various aspects of both intuitive and analytical decision-making as required. Because uncertainty and time will drive most military decisions, we should emphasis intuitive decision-making as the norm and should develop our leaders accordingly." p. 117.
3. U.S. Marine Corps, *MCDP 1: Warfighting*, Department of the Navy, Headquarters United States Marine Corps, 20 June 1997, p. 73.
4. Lieutenant-Colonel Oliviero (Ret'd), "Trust, Manoeuvre Warfare, Mission Command and the Canada's Army". *The Army Doctrine and Training Bulletin*, Volume 1, No. 1, August 1998, p. 25.
5. Shobbrook, p. 61.
6. B-GL-300-002/FP-000, Land Force, Vol. 2 – Tactical Level Doctrine for the Canadian Army, p. 2-6.
7. Michael R. Gordon and Bernard E. Trainor. *The Generals' War: The Inside Story of the Conflict in the Gulf*. Boston: Little, 1995. "The larger problem was that Franks had built an overly elaborate plan for a two-pronged attack that could not be easily adapted." p. 380.
8. Oliviero, p. 26.
9. Gary A. Klein, "Strategies of Decision-Making." *Military Review*, May 1989, pp. 56-64. "The culprit is an ideal of analytical decision-making which asserts that we must always generate options systematically, identify criteria for evaluating these options, assign weights to the evaluation criteria, rate each option on each criterion and tabulate the scores to find the best option." p. 56.
10. Major Michael D. Armour, "Decision-Making Processes." *Military Review*, April 1994, pp. 70-74. "The solution may not be 100 percent correct; however, the more knowledge the solver possesses, the higher the probability the solution will produce the desired effect." See p. 73.
11. Charles T. Rogers, "Intuition: An Imperative of Command." *Military Review*, March 1994, p. 44.
12. Lieutenant-Colonel Richard Giguère, "Le Coup D'oeil". *The Army Doctrine and Training Bulletin*, Volume 1, No. 1, August 1998, p. 31.
13. B-GL-300-003, *Land Force, Volume 3 – Command*, p. 134.
14. *MCDP 1: Warfighting*, p. 4.
15. H.T. Hayden, ed., *Warfighting: Maneuver Warfare in the U.S. Marine Corps*. London: Greenhill, 1995. Lt. Col. Hayden's sarcasm is apparent when speaking on the successes of the Gulf War, "The 'synchronization matrix' of the VII Corps and their failure to close the door completely on the Basra road notwithstanding...." p. 31.
16. *MCDP 1: Warfighting*, p. 11.
17. Ibid., p. 11.
18. Klein. For over a period of four years Klein and his colleagues studied a variety of decision-makers faced with real tasks that often had life and death consequences. In some domains more than 85 percent of the decisions were made in less than one minute. The concurrent option comparison hardly ever occurred.
19. Shobbrook, p. 61.
20. Giguère. pp. 32-33.
21. U.S. Marine Corps. *MCDP 5: Planning*. Department of the Navy, Headquarters United States Marine Corps, 21 July 1997, p. 6.
22. Ibid., p. 15.
23. Ibid., p. 22.
24. J.F. Schmitt, "If Not Synchronization, What?" *Marine Corps Gazette*, January 1997, pp. 54-60. "Antisynchronous (if there is such a word) would mean that operations are intentionally discoordinated or out of phase, whereas asynchronous means that the operations do not require synchronization to work." p. 54.
25. *MCDP 5: Planning*, p. 51.
26. Ibid., op cit. Helmuth von Moltke, p. 62.
27. Hayden. "We seek unity, not through imposed control, but through harmonious initiative and lateral co-ordination." p. 73.
28. James K. Morningstar, "Creating the Conditions for Manoeuvre Warfare." *Military Review*, March 1995, p. 43.
29. *MCDP 5: Planning*. op cit., p. 2.
30. U.S. Marine Corps, *MCDP 1-3: Tactics*. Department of the Navy, Headquarters United States Marine Corps, 30 July 1997, op cit., p. 8.

Captain J.M.A (Marc) LaFortune

The CH-146: An Armed Helicopter for the Canadian Army

by Major Danny Houde, CD

INTRODUCTION

The decision to replace the Chinook, Kiowa and Twin Huey helicopters by a single fleet of CH-146 Griffon utility helicopters had a significant and detrimental impact on the army's overall operational capability. Tactical aviation had done away with the assets that provided the army with a medium lift and aerial reconnaissance capability. That decision effectively limited tactical aviation support to the Land Force to those Combat Service Support and Combat Support tasks suitable for a light utility helicopter. Fortunately, the army and air force have both recognized this capability deficiency and are now cooperating in a program to procure a state-of-the-art Electro-optical Reconnaissance, Surveillance and Target Acquisition (ERSTA) system for the Griffon.[1] This positive development will bring the Griffon closer to its original Statement of Requirement and allow tactical aviation to take an active part in Information Operations and combat functions such as the provision of fire support. Nevertheless, although the ERSTA package will allow tactical aviation to make a substantial contribution to enhance the army's Combat Power,[2] a greater opportunity exists to optimize the Griffon's potential. If the crew of an ERSTA Griffon can acquire, identify and designate a target, the next logical request from a ground force commander will be: "can you engage the target?" Clearly then, the next desirable step is to provide the army with the means to project accurate firepower quickly throughout the depth of the battlespace. This is an ideal job for an armed helicopter.

This article argues that to be effective in the modern battlespace, the Land Force must be supported by armed helicopters; a role the current CH-146 could assume with the procurement of a relatively inexpensive and potent weapons package. The discussion begins with a look at the nature of conflict and its influence on the future battlespace. This is followed with a study of the role of armed helicopters within this battlespace, with the view of advocating the CH-146 as the only achievable candidate to fill this role. From there, the paper briefly addresses three key issues: the type of weapons that could be mounted on the CH-146, the potential missions that could be assigned to an armed Griffon, and the financial matters linked to the acquisition of weapons for the Griffon.

". . .a greater opportunity exists to optimize the Griffon's potential."

THE NATURE OF CONFLICT AND THE FUTURE BATTLESPACE

In the decade since the demise of the Former Soviet Union, a number of tragic world events have served to highlight the precarious nature of the international peace and security environment. The Gulf War and the conflicts in Haiti, Somalia, Rwanda, Bosnia, and now Kosovo illustrate the volatility of the new-world order. Looking ahead, the global geopolitical and economical environment is cause for concern. The fragile economies of Russia and of many South American countries, the growing power of communist China, and the large number of rogue regimes pose a real threat, either direct or otherwise, to Canada's security. As stated in *Canada's Army*, " the means to wage conflict and apply violence on a large scale will no longer be the exclusive preserve of nation states, thus presenting a major shift in the global security order."[3]

How does this affect the army? First, it strengthens an existing requirement that the army must be capable of operating throughout the spectrum of conflict and continuum of operations in spite of the end of bipolar conflict, and the remote possibility of all-out war. The army is now more likely to participate, either alone or as a member of a coalition force, in low to medium intensity conflicts where the opposing forces, even Third World countries, have a wide array of sophisticated weapon systems.[4] This demands that the army shift its mindset from emphasis on Warfighting to Operations Other Than War, where the line between combat and non-combat operations is all too often undefined.

The second consideration is that exponential growth in key technological sectors is revolutionizing the conduct of warfare. Powerful new information, guidance and precision weapons systems now provide the means to integrate soldiers and machines to apply synchronyzed combat power with an unprecedented degree of speed, accuracy and lethality. The result is that tactical battles will be fought on an "expanded battlefield that occupies greater physical depth and time."[5] This fact was summarized by General Sullivan, former Chief of Staff of the US Army: "We can conceptualize the battlefield as a cube with three dimensions – space, speed, and time. Today, the cube is expanding rapidly. Thanks to advanced technology, combat operations today take place in larger areas (greater width, depth, and altitude), rapidly and more continuously than ever before in the history of warfare. Enemy and friendly actions take place … at an astonishing

rate." [6] Consequently, the army must be prepared to operate in a complex environment that has evolved from a linear two-dimensional battlefield, to a non-linear three-dimensional battlespace.

The third and final point is that the army must be equipped with assets that are designed for, and capable of, operations throughout the non-linear battlespace. The same follows suit of the forces - like tactical aviation - that are tasked to provide support to the Land Force. To survive in this expanded three-dimensional environment, it is imperative that the army is able to fight beyond the close battle to include deep and rear area operations. Furthermore, it must be able to fight all three types of battles simultaneously; a difficult challenge that can only be met with balanced forces that are structured, trained and equipped for this purpose.[7] As discussed in the next part of the paper, currently and for the foreseeable future, no other modern weapon system can offer the land commander the ability to maximize the application of Combat Power, across the entire spectrum of conflict, as does the armed helicopter.

THE IMPORTANCE OF ARMED HELICOPTERS IN THE MODERN BATTLESPACE

At this juncture, it might be helpful to define what an armed helicopter is. In the broader sense of the term, it is a helicopter which carries a variety of weapon systems that are either an integral part of the helicopter or that can be fitted to the airframe when required. Within this category of helicopters, three sub-categories are often referred to: the anti-tank, armed reconnaissance and attack helicopters.[8] Although each type has unique capabilities, grouping them all under the general category of armed helicopters still achieves the aim of this part of the paper: to demonstrate why armed helicopters have become an essential component, if not the "centrepiece", of any modern army.[9] To ignore this fact would be akin to having ignored the significance of the airplane or the tank after the First World War.

Modern armed helicopters possess distinct characteristics that are well suited to combat in the three-dimensional battlespace. Foremost is their freedom of movement from natural or man-made obstacles which affords them unsurpassed mobility. Indeed, their speed (up to five kilometers per minute), range (as high as 1 200 kilometres), high performance sensors, capability for long range communications and precision weapons systems enables them to perform a variety of combat missions. Their versatility offers the army commander the capability to fix and strike enemy forces simultaneously, day or night, throughout the entire depth of his or her area of operations.

"...no other modern weapon system can offer the land commander the ability to maximize the application of Combat Power ...as does the armed helicopter."

Operation Desert Storm marked the first time armed helicopters (principally attack helicopters) were used in a conflict of this magnitude since the Vietnam War. Although their successes can be partly attributed to the nature of the environment in which they fought (air supremacy, virtually nil air defence, and vast desert expenses that are ideal for long-range sensors and weapons systems), the bottom line is that they performed brilliantly.[10] Despite the fact that these armed helicopters were designed to fight the Warsaw Pact countries in a more cluttered European theatre, it is doubtful whether they would dominate the ground battle in Europe to the extent they did in the Middle East.Whether employed as a stand-alone force, or better yet, in concert with other combat assets to generate synergy in the manoeuvre plan, armed helicopters are vital to the commander's ability to dictate the tempo of operations and establish dominance over the enemy.[11]

As Canada prepares to send ground troops and helicopters into Macedonia, and potentially Kosovo, one wonders how much more effective our contribution to the Coalition's show of force would be if the Griffon was armed with precision and non-precision weapons.

ARMING THE GRIFFON: A VIABLE OPTION

In his paper *Some Thoughts on an Army for the 21st Century*, Lieutenant-Colonel Cessford, from the Directorate of Land Strategic Concepts, urges the army to provide in the short-term "unstinting support to the development of ... armed GRIFFON variants". In the long-term, he suggests that the army "make every effort to acquire attack aviation" assets.[12] The harsh reality for middle powers like Canada is that the financial and political constraints, not necessarily the military's best interests, continue to dictate the procurement of military equipment. In this context, the probability of Canada purchasing expensive attack helicopters like the Apache or the Super Cobra in the next 25 years are essentially nil. Consequently, arming the CH-146 presents the only available solution to providing tactical aviation with this enhanced combat capability. This rather forceful statement raises a number of issues which are addressed, albeit in a condensed fashion, in the remainder of the paper.

Weapons package. Fundamentally, all models of helicopters can be armed with a variety of weapon systems. However, engine power, weight limitations and component fatigue are important technical factors that limit the choice of weapons. Admittedly, the Griffon is not the fastest or the most powerful helicopter in its category. Nevertheless, it has enough power and speed to be effective in this new role. It's manoeuvrability, stability, large capacity Data Bus[13] and advanced avionics combine to make the CH-146 a

Major Danny Houde, CD

good platform on which a variety of armament systems can be installed.[14] For example, the photograph on the cover page displays a Griffon on which two Hellfire laser guided missiles (a maximum of four can be installed on the CH-146), a GAU 19 gun (.50 cal, 1 000/2 000 rounds per minute) and the LR 30 (30 mm) low recoil canon were mounted.[15] This type of armament package provides the ground commander with the capability to unleash substantial firepower on the enemy with great speed and accuracy. Furthermore, the capabilities provided by ERSTA enhances the survivability of the helicopter by allowing the crew to fire the weapons from a stand-off distance as high as four to eight kilometres (10 kilometres or more in a completely permissive environment like the desert).

Missions. Before offering suggestions on the potential roles and missions for an armed Griffon on the modern battlespace, let me state the obvious. No matter what types of weapons are mounted on the Griffon, it will not transform into an attack helicopter. Therefore, any attempts to draw comparisons with that category of helicopters are futile. What then, are the types of missions that an armed Griffon could realistically accomplish? Depending on the nature and the intensity of the conflict, there are several tasks. In a high intensity conflict against a modern opponent, typical tasks would likely consist of rear area security, counter-penetration, flank protection, escorts for convoys and air mobile operations. In low to medium intensity conflicts, more offensive minded operations could be undertaken. The provision of fire support to the covering force, combat search and rescue, armed reconnaissance and anti-armour missions are potential options.

"without the support of armed helicopters, the army will find it increasingly difficult to be ... effective force on the modern battlespace."

Here, two important observations need to be stated. First, all of the above tasks could be accomplished by the same helicopter that, when unarmed, could still perform a number of useful missions like logistic airlift, casualty evacuations and airborne command post. Secondly, and most importantly, is that limited training resources and personnel will continue to have a direct bearing on the types of missions aircrew can be qualified to accomplish. Considering the existing aircrew training requirements to acquire and maintain the necessary skills to perform Combat Service Support tasks, the arrival of ERSTA, and potentially of weapon suites, will make it cost-prohibitive to qualify all aircrew to do all tasks. A compromise will have to be made which will necessitate the trade-off of mission coverage. Commanders must understand that with a single type of helicopter to execute all the types of missions, difficult decisions will have to be made on which type of Griffon support, armed or non, will be most

TACTICAL HELICOPTER MISSIONS			
COMBAT	**COMBAT SUPPORT**	**COMBAT SERVICE SUPPORT**	**OPERATIONS OTHER THAN WAR**
Direction and Control of Fire	Casualty Evacuation	Aeromedical Evacuation	Aid to the Civil Power
Reconnaissance and Surveillance	Command and Liaison	Logistical Transport	Counter-Drug Operations
Air Mobile Operations	Tactical Transport		Counter-Terrorism
Anti-Armour/ Attack Operations	Combat SAR		Peace Support
Flank and Rear Area Security			Humanitarian Assistance
Special Operations			

Limited Capability — Full Capability

Table 1: Tactical missions that can be accomplished with the addition of an ERSTA system and weapons package.

important to them and at which phase of the battle. In short, 1 Wing will be able to do it all, just not at the same time. Nevertheless, the Griffon's versatility offers the ground commander a degree of flexibility that the attack helicopter cannot duplicate.[16] The table below provides a graphical representation of the enhanced operational capabilities of the CH-146 with the addition of the ERSTA system and weapons package.[17]

Costs factors. Eventually, it always comes down to the following issues: How much will it cost to purchase this weapons package? And who will pay? Although this section is not intended to be an exhaustive cost analysis study, it addresses both issues. Using the weapons suite that was described earlier, the estimated costs of the items are as follows (US dollars):[18]

a. Floor plank on which all other weapons are mounted: $175 000
b. GAU-19 gun: $250 000
c. LR-30 canon: $350 000
d. Plank, Hellfire mount, launchers, and software ensemble: $450 000
e. Hellfire missile (each): $ 40 000
f. CRV-7 rocket with warhead (each): $ 8 000

Without an in-depth cost analysis study, it is extremely difficult to determine the price for the training of the aircrew and technicians. However, for approximately one million dollars (Cdn), the CH-146 flight simulator could be upgraded to include weapons simulation.[19] In addition to providing a better and safer training environment over the live-fire option (by simulating moving targets, variable light and visibility conditions, emergency situations, etc.), using the simulator would extend the life of the aircraft and the weapons, and lead to substantial savings from the unused flying hours and ammunition.

As to who should pay for this equipment, there is no simple answer. On the one hand, 1 Wing is an air force formation tasked to provide tactical aviation support to the army. As such, the air force bears the responsibility to ensure that tactical aviation is adequately equipped to carry out its mission in support of the army.[20] On the other hand, it is clearly in the army's best interest to gain the tremendous capabilities that an armed Griffon would bring to the new battlespace. As such, the army would be well advised to take a serious look at purchasing the weapons systems, or at the very least, be open to a cost sharing partnership with the air force. The need for this capability should transcend inter Capability Component bickering over who pays. Ultimately, both the army and air force must support the project including funding if necessary.

CONCLUSION

Global peace and security is being eroded further with the development of each new regional conflict. In this context, the international community will continue to turn to Canada for assistance. As a result, the army will continue to be deployed to increasingly dangerous corners of the world to conduct difficult combat operations in low, medium or even high intensity conflicts. Moreover, these armed disputes will be fought in a new environment described as the non-linear, three-dimensional battlespace.

Within this battlespace, the clear advantage rests with the ground commander who fully understands the unique capabilities that tactical aviation brings to his or her ability to fight simultaneously the deep, close and rear battles. Although 1 Wing is equipped with a fleet of modern helicopters, the current version of the CH-146 is limited to non-combat missions. The arrival in the next two years of the ERSTA system will greatly enhance its tactical capability to include reconnaissance, surveillance and fire support missions. Despite the enthusiasm within army circles over the added capability that ERSTA will bring, this paper argues that without the support of armed helicopters, the army will find it increasingly difficult to be a truly credible and effective force on the modern battlespace.

". . . the Griffon's versatility offers the ground commander a degree of flexibility that the attack helicopter cannot duplicate."

The time has come for the Canadian Forces to acquire this essential combat capability. Although financial and political realities will preclude the acquisition of high performance attack helicopters for the foreseeable future, the purchase of affordable, sophisticated and powerful weapons suites for the Griffon provides a cost-effective combat multiplier alternative. In fact, this paper contends that it is the only viable alternative. Regarding the important financial issue, this paper concludes that armed helicopters are of such importance to the army's Combat Power - a thought shared by many senior army officers - that the army should mount a strong campaign for the acquisition of this capability.

Major Danny Houde, CD

ABOUT THE AUTHOR...

Major Danny Houde joined the Canadian Forces in 1983 under the OCTP programme and holds a Bachelor of Military Arts and Sciences. He has served as a CH 135 Twin Huey pilot with 408 Tactical Helicopter Squadron and as an instructor with 403 Helicopter Operational Training Squadron. He also served as an exchange officer with the 6ème Escadrille d'Hélicoptères de Manoeuvre du 3ème Régiment d'Hélicoptères de Combat, in France as a Commandant-Adjoint d'Escadrille. During this time he qualified on the SA-330 Puma and SA-342 Gazelle helicopters. Upon return to Canada in 1995, he served as a Staff Officer within 10 Tactical Air Group Headquarters. Following the disbandment of 10 TAG HQ he moved to 1 Wing Headquarters where he was assigned as the 1 Wing Headquarters Business Planner until July, 1998. He then commenced full-time studies at The Royal Military College of Canada in 1999 and completed his undergraduate degree in the Batchelor of Military Arts and Science (BMASc) program in May 2000. Other overseas service includes a tour with the Multinational Force and Observers, Sinai, Egypt; and as Air Operations Officer within the Mission des Nations-Unies en République Centrafricaine (MINURCA) military force headquarters. Major Houde is a graduate of the Canadian Land Force Command and Staff Course and the Canadian Forces Staff College. He is currently the Deputy Commanding Officer of 400 Tactical Helicopter Squadron and is working towards a Masters degree in Defence Management and Policy with The Royal Military College of Canada.

ENDNOTES

1. A total of 10 systems with integrated Laser Target Designator will be purchased at a cost of approximately $15M. The delivery of the first systems should begin in 2001. ERSTA will facilitate the integration of precision guided munitions like the Hellfire missile and CRV-7 rocket.
2. B-GL-300-002/FP-000 *Land Force Tactical Doctrine* states that Combat Power is generated by the integration of six combat functions: Command, Information Operations, Manoeuvre, Firepower, Protection and Sustainment. The CH-146 equipped with ERSTA and weapons can contribute to any and all combat functions.
3. B-GL-300-000/FP-000 *Canada's Army*, p.113.
4. Army Aviation, October 31, p.8 (For the author, the author, article title and year of publication should be inc*luded)*
5. Major Putt's paper: *Canadian Manoeuvre Troops: a New Model Army for the Next Millennium*, p. 7. Paper written for Exercise New Horizons as part of the communications skills requirements of the Course of Studies of the Canadian Forces College, 1997-1998.
6. Army Aviation, May 31, 1992, p. 4. 8 (For the author, the author and article title should be included)
7. Lieutenant-Colonel Cessford M., CD. *Some Thoughts on an Army for the 21st Century*. Army Doctrine & Training Bulletin, Vol. 2, No. 1, Feb 99, p.32.
8. Anti-tank helicopters like the French Gazelle, British Lynx, American Cobra and Russian MI-28 are armed for use in the tank killing role. Attack helicopters like the American Apache, Franco-German Tigre, Italian Mangusta and Russian MI-24 Hind are designed to attack and destroy a wide range of targets. Armed reconnaissance versions like the American OH-58D, MD-500 and the German BO-105 are standard reconnaissance helicopters fitted with a limited number of weapon systems to attack and destroy targets of opportunity. The next generation of highly sophisticated combat helicopters like the American Comanche will give rise to a fourth category: the first truly Multi-Role combat helicopter. With their powerful ISTAR sensors, increased survivability due to stealth technology, and an astonishing array of high-tech weapons, these helicopters will dominate the battlespace.
9. In *Canadian Manoeuvre Troops: a New Model Army for the Next Millennium*, Major Putt emphasizes the importance of tactical aviation in modern conflicts. In particular, he describes the utility of the attack helicopter as being the "centrepiece of the 21st century army throughout the spectrum of conflict." He also offers an interesting construct for a Combined Aviation Attack Battalion (CAAB) within a new Force XXI Combined Arms Manoeuvre Brigade (CAMB).
10. As reported by Nordeen and Barnes in their article in Military Technology, "Helicopter-fired munitions accounted for the largest share of the ground force armour kills. About 2 880 HELLFIREs were fired with a probability of hit (Ph) greater than 75%, while Coalition GAZELLES fired 328 HOTs with an equally impressive Ph and COBRAS and LYNXs fired more than 600 TOWs. Helicopters cleared pathways for the rapid armour thrust deep into Iraq, and were instrumental in the destruction of Iraqi forces occupying Kuwait."
11. US Army Aviation manual FM-100 *Army Aviation Operations*, chap. 2, p. 1.
12. LCol Cessford, p.34.
13. The CH-146 Data Bus is essentially an "information highway" used to transport data to and from the various aircraft sensors, instruments, computer systems and auxiliary equipment systems. According to 1 Wing HQ technical experts, the GRIFFON's Data Bus is only used to 40% of its maximum capacity and could easily accommodate an armament package.
14. The CH-146 Data Bus is essentially an "information highway" used to transport data to and from the various aircraft sensors, instruments, computer systems and auxiliary equipment systems. According to 1 Wing HQ technical experts, the GRIFFON's Data Bus is only used to 40% of its maximum capacity and could easily accommodate an armament package.
15. This picture is authentic and was taken in 1998 when 1 Wing collaborated with US contractors to conduct a static trial only. It represents only one example of what is possible from a large selection of weapons on the international market. For instance, the Canadian-made laser guided, Mach 5, CRV-7 rocket in pods of 3, 7, 19 or 28 rockets could also be installed on the GRIFFON. On pages 166-167 of their book: *Hélicoptères de Combat*, Gunston and Spick illustrate more than 30 different types of weapons systems that can be installed on the British Lynx helicopter (size and performances similar to the CH-146).
16. Brassey's *Military Helicopters*, p. 88.
17. B-GA-440 *Tactical Helicopter Operations*, p.11.
18. The 1 Wing HQ A7 Requirements/Equipment Officer who was involved in the static trial provided the cost estimates. The Floor Plank is the essential component of the weapons system and would have to be purchased in sufficient numbers to equip the desired number of helicopters in accordance with the Concept of Operations for an armed Griffon. Other types of weapons would be purchased in quantities sufficient to meet the demands of the missions also in accordance with the same Concept of Operations.
19. The cost estimate was provided by the CH-146 Flight Simulator Life Cycle Material Manager at NDHQ's DAEPM (RNCS).
20. The air force's *Out of the Sun* doctrine manual covers tactical aviation operations and states clearly that its role is to provide aerial firepower, reconnaissance and mobility support to the Land Force.

BIBLIOGRAPHY

Canada, Department of National Defence, *B-GL-300-002/FP-000 Land Force Tactical Doctrine*. Issued on Authority of the Chief of the Defence Staff, 1997-05-16.

Canada, Department of National Defence, B-GL-300-003/FP-000 *Command*. Issued on Authority of the Chief of the Defence Staff.

Canada, Department of National Defence, B-GA-440. *Tactical Aviation in Operations*. Issued on the Authority of the Commander 1 Wing: 1998.

Gunston Bill and Spick Mike. *Hélicoptères de Combat*. France: Groupe Guilde Éditions Atlas s.a., 1989.

Everett-Heath E.J., Moss G.M., Mowat A.W and Reid K.E.. *Military Helicopters*. Canada: Permagon Press Canada Ltd., 1990.

Lieutenant-Colonel Cessford M., CD. *Some Thoughts on an Army for the 21st Century*. Army Doctrine & Training Bulletin, Vol.2, No. 1, Feb 99.

Nordeen Lon O. and Barnes Scott. *Armed Scouts and Attack Helicopters in the Gulf Conflict*. Military Technology, Vol.XV, Issue 8 (1991).

Major Putt T. *Canadian Manoeuvre Troops: a New Model Army for the Next Millennium*. Paper written for Exercise New Horizons as part of the communications skills requirements of the Course of Studies of the Canadian Forces College, 1997-1998.

Major General Grist R.D. OBE. *The Future: of the Armed Helicopter*. The RUSI Journal, Vol. 136, No. 2, Summer 1991.

Canada, Department of National Defence, *Out of the Sun - Aerospace Doctrine for the Canadian Forces*. Kelman Craig and Associates Ltd.

Major Danny Houde, CD

General Jacques Dextraze or "Jadex", Chief of the Defence Staff from 1972 to 1977, visits a 4 Canadian Mechanized Brigade Group exercise in West Germany.

Brigade ISTAR Operations

by Captain Dave Travers

Imagine, during the course of operations, that your brigade surveillance and target acquisition assets suffer heavy losses. You are left with minimal long range recce assets, your brigade recce squadron is operating with four car troops, only one troop of Electronic Warfare (EW) remains, and there is no Unmanned Aerial Vehicle (UAV), Tactical Air Recce (TAR) or Attack Helicopter (AH) support. This scenario sounds like a battlefield nightmare, however it is much worse: this is *reality* in a Canadian brigade. As a result of this situation, the method of conducting information gathering and targeting has evolved into what is known as Intelligence, Surveillance, Target Acquisition and Reconnaissance, or more commonly referred to as ISTAR. It is important to note that although ISTAR adds a new dimension to the way we conduct operations, it is by no means a revolutionary concept. ISTAR is simply an evolutionary manifestation based on the needs brought about by manoeuvre warfare and the financial reality of doing more with less.

In 1 Canadian Mechanized Brigade Group we have been operating an ISTAR Coordination Cell (CC) since 1997. As the G2, it has been my good fortune to implement ISTAR within the brigade and to watch it take root throughout the brigade on operations and exercises. The culminating point of my ISTAR experience at the Brigade level was during Operation Agricola/Kinectic with 4 (UK) Armoured Brigade. I was given the responsibility of planning and executing ISTAR operations during the air campaign and the entry into Kosovo, which resulted in a myriad of lessons learned about ISTAR. The concepts presented in this article are based on these various experiences, however they must not be viewed as the definitive answer on how to conduct ISTAR operations. Since ISTAR is still an evolving doctrine we must continue to adjust its functional attributes in such a way that ISTAR becomes second nature when conducting the Operational Planning Process (OPP), and is easily integrated into brigade operations.

THE ISTAR PROCESS

In order for ISTAR to be effective, it must be incorporated early in the OPP. When fighting an enemy who uses a manoeuvrist approach to battle, it is no longer plausible to assess enemy courses of action strictly based on its disposition, nor is it feasible to utilize Cold War doctrinal templates. The enemy we will fight on a modern battlefield will have studied our methods and designed doctrine to defeat us. On the same note, the enemy is not going to accommodate us by impaling itself on our bayonets while we staunchly defend the Autobahn. Today's enemy will conduct operations in a manoeuvrist fashion, trying to defeat us by thinking outside the box as it attempts to destroy our forces at their weakest point. In order to defeat a modern enemy (modern being defined in terms of the way the enemy thinks and not by the equipment it possesses), we must be able to think faster, hit harder, and exploit any advantage we gain to its maximum. Manoeuvre warfare is a mindset and does not only involve the movement of forces on a battlefield. A manoeuvrist battle incorporates every asset at the disposal of either side and includes EW, deception, Psychological Operations (PSYOPs), and Counter Intelligence. These elements are all part of the Information Operations plan, which is of paramount importance to the successful conduct of manoeuvre warfare.

One of the first lessons to come out of the air campaign over Serbia was that deception is crucial to the enemy's plan, therefore counter-deception is critical to ours. As Figure 1 demonstrates, deception methods do not have to be elaborate to be effective.

Figure 1. Black matting over bridge to deceive airborne surveillance assets and a dummy bridge to decoy targeting. (location: Route Duck, Kosovo)

Perhaps the most effective method to counter deception is through constant and overlapping coverage which is not possible with our limited assets. Therefore it becomes paramount to find key signature equipment or elements, also known as High Value/High Payoff Targets (HVT/HPT), that provide enough warning of the enemy's intention to allow a commander to defeat that intention. To do this we must shed some of our preconceived notions of the HVT/HPT, the most crucial being that a HVT or HPT does not have to be destroyed immediately. Through surveillance, HVT and HPT can provide

enough indicators as to enemy intention to allow us to choose the time and place to conduct an attack or execute counter-moves. As part of this surveillance, we can then decide when to destroy the HVT or HPT in order to inflict not only maximum damage, but also to engage it at a time that the loss of the target will have the most effect on the enemy. The ISTAR process used in 1 Canadian Mechanized Brigade Group (CMBG), and the variety of doctrine it incorporates, is best illustrated at Table 1.

Intelligence Preparation of the Battlespace (IPB) STEP	INT CYCLE	TARGETING CYCLE	ISTAR PROCESS
Step # 2 Describe the Battlespace			1. Draft placement of Named Area of Interest(NAI)/Targeted Area of Interest(TAI)/Decision Point(DP) on ISTAR Overlay.
Step # 3 Evaluate the Threat			2. Draft High Value/High Payoff Target Lists.
Step # 4 Determine Enemy Courses of Action			3. Amend NAI/TAI/DP on ISTAR Overlay. 7. Amend High Value/High Payoff Target Lists. 5. Draft Attack Guidance Matrix.
Wargame Courses of Action		DECIDE	6. Finalize NAI/TAI/DP Overlay. 7. Finalize HVTL/HPTL and Attack Guidance Matrix (AGM). 8. Preplan Close Air Support, Attack Helicopter, and Joint Air Attack Teams (JAAT) missions to extent possible.
	DIRECTION		9. Issue ISTAR Overlay, ISTAR Task Matrix, HVTL, HPTL, and AGM.
	COLLECTION	DETECT	10. All assigned NAI/TAI/DP are active and tasked units are collecting.
	PROCESSING		11. Collected data is processed into Situational Awareness for Commander and assessed for its applicability as targeting data.
	DISSEMINATION		12. Intelligence Reports (INTREPS) sent on Combat Net Radio (CNR) for all-around Situational Awareness (SA). Target data is concurrently passed to Fire Support Coordination Cell (FSCC), Brigade Artillery Intelligence Officer (BAIO), G3 Avn, G3 Air, EW
		DELIVER	13. Targets engaged based on AGM using Dual Source information.
		ASSESS	14. Battlefield Damage Assessment (BDA) missions, as per ISTAR Task Matrix used to confirm if re-engagement required.

Table 1: ISTAR Process

DENOTES THE CORE OF THE ISTAR PROCESS

Captain Dave Travers

As shown in Table 1, the ISTAR process itself is the result of a combination of doctrines. The process begins as part of the IPB process, incorporates aspects of the Targeting Cycle, then utilizes the Intelligence Cycle as a functional core, and then to complete the process, it reverts back to the aspects of the Targeting Cycle. To be effective, the ISTAR process must begin as early as possible. We have found that the ideal time to start the ISTAR process is during Step 2 of IPB. It is within this IPB step that we define the battlespace effects on both our operations and the enemy's by conducting terrain analysis, which leads to an assessment of how, when, and where an enemy may conduct operations. During this step we can begin to formulate HVT/HPT Lists, AGM, broad-based courses of action, and an outline of the ISTAR Matrix. It is also during this step that we know the least about the enemy intent and when the ISTAR process is most vulnerable to enemy deception. Even though we are faced with information overload from high-tech sensors which provide an abundance of information on enemy disposition, we still will not know an enemy commanders' intent. This planning dilemma is best described as the 30-90-60-90 process. Simply stated, we only know 30 per cent of the enemy intention when 90 per cent of their operations plan is complete. As the operation progresses, only 60 per cent of the operations plan is applicable, but we now know 90 per cent of the enemy intention. To alleviate some of this problem, ISTAR must be planned using the principals of flexibility and redundancy.

". . . ISTAR is still an evolving doctrine . . ."

Flexibility is achieved through matching the right sensor to the right target. How deep a brigade's ISTAR assets can sense must be balanced with force protection. An example of this is keeping the size and distance of a NAI to a manageable dimension while still keeping the sensor suite within the envelope of brigade fire support assets. The Coyote is a High Value Asset and when it is deployed in hostile territory, without fire support, the likely result is the loss of the Coyote: a loss that is difficult to reconstitute. The flexibility aspect is further defined when creating the ISTAR overlay. Deep NAIs/ TAIs should, whenever possible, be the responsibility of those assets with a longer range and with less vulnerability (UAV, EW, TAR). The bottom line is that any asset that is deployed forward and outside of the brigade fire support envelope might be lost, but those losses should not compromise the completion of the commander's mission. Added to the criteria of flexibility is low-tech versus high-tech. No matter how technologically advanced our sensor systems become, we must not lose sight of the fact that a soldier with a set of binoculars is still a very valuable asset to employ on the battlefield. It is how we mix high-tech and low-tech systems that gives us the flexibility to conduct successful ISTAR operations. Redundancy is found in the way that NAI/TAI are prioritized. If an NAI is deemed as critical to the commander's mission, then more than one asset should be providing surveillance. With this method, known as dual-source, we are able to provide continuous coverage even if we lose one of our surveillance assets on a critical NAI.

TARGETING

This dual-source also provides a confirmation of the target array and BDA, as well as assisting in the prevention of fratricide. It is standard procedure at the ISTAR table in 1 CMBG that any assets which are deployed forward of the Forward Edge of the Battle Area (FEBA) are plotted on the ISTAR overlay. This allows Blue SA to be incorporated with the targeting cycle and prevents the engagement of friendly elements. In Kosovo, fratricide was prevented on at least three occasions as the result of friendly surveillance assets being plotted on the ISTAR table.

There are many people who think that the ISTAR CC is nothing more than the old Divisional Intelligence Collection and Analysis Cell (ICAC) which was utilized in 1 Canadian Division. The ICAC was the fusion of intelligence, whereas ISTAR is the fusion of operations and intelligence and the coordination that brings these two entities together. Although the ISTAR CC has some organizational and functional characteristics of the ICAC, the process takes it one step further and allows engagements of targets from the ISTAR CC. This results in accurate and economic engagement of the enemy while drawing Operations and Intelligence closer together, which, on a modern battlefield, is crucial to the success of the mission. Given that ISTAR incorporates an inherent targeting function, the ISTAR CC must be joined at the hip with brigade operations and all brigade fire support assets. The officer in charge of the ISTAR CC must coordinate closely with the FSCC, Tactical Air Control Party (TACP), and Electronic Warfare Coordination Cell (EWCC) to ensure accurate and timely targeting, which in turn provides maximum effect with a minimum expenditure of assets. This is accomplished through coordination of the HVT/HPT Lists between intelligence and the FSCC, which results in a finely tuned AGM. As depicted in Figure 2, ISTAR is the fusion between operations and intelligence, incorporating Red, Brown, and Blue SA with the commander's mission. This fusion of operations and intelligence can be transposed at any level of command, and ensures an all-informed net during the conduct of operations.

"The rear area battle is just as important as the deep and close battles are in terms of mission success."

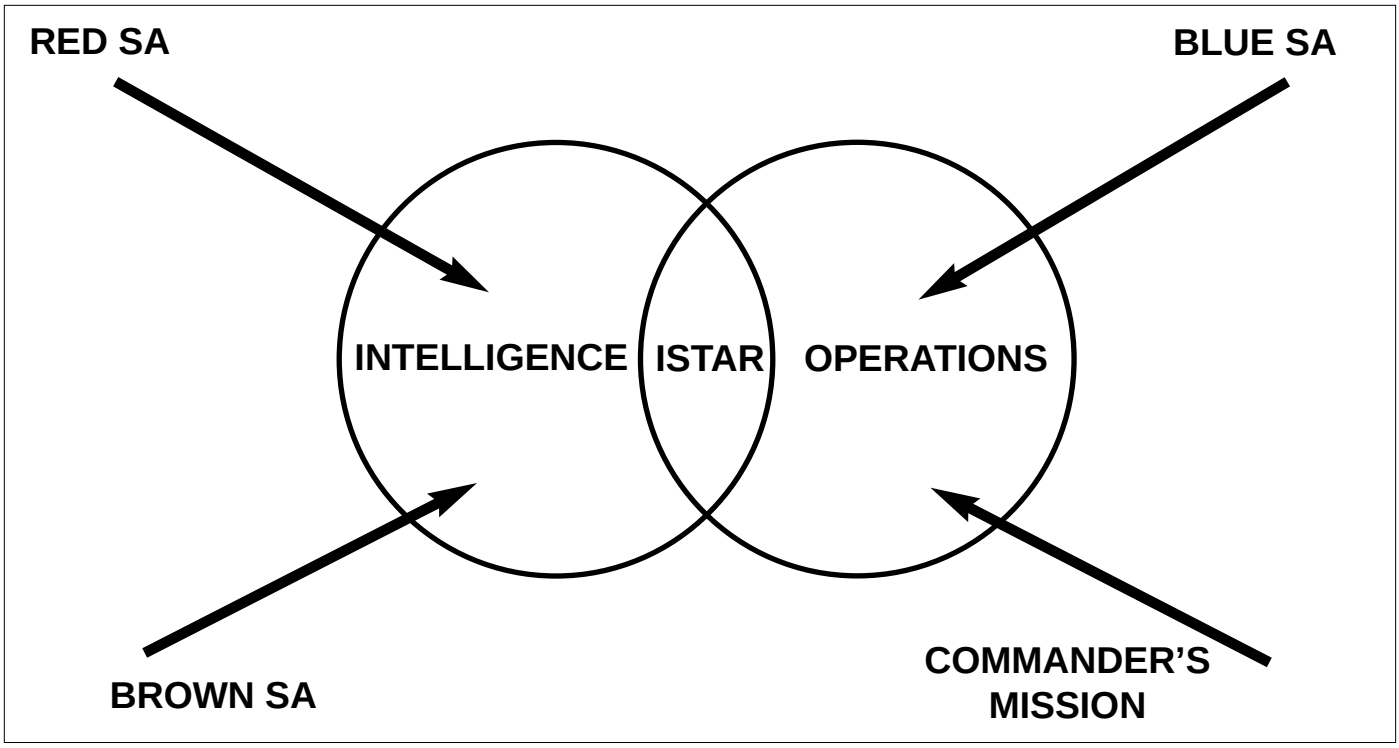


Figure 2: ISTAR can only function properly when operations and intelligence are fused together with the same goal in mind: success of the mission.

DEEP, CLOSE AND REAR

When ISTAR is planned and executed properly, it is readily apparent that a distinct line is drawn between the ISTAR battle and the hand-off to the brigade/Battle Group (BG) battle. An enemy who has either been forced to change its plans or conduct operations without the required combat multipliers, and does not catch us by surprise characterizes a successful ISTAR operation. In this concept ISTAR provides not only SA based on battlefield tracking, but does so at the longest range possible. From an SA point of view, this allows commanders to follow the enemy's actions throughout the battle, while from a fire support point of view it allows for earlier target engagements, enhances accuracy, and provides clear direction to those ISTAR elements responsible for conducting BDA. This combination of continuous battlefield SA and deep engagements results in an enemy losing its combat multipliers before they can be brought to bear on our assets, while allowing our commander to attack an enemy that is lacking its depth support. ISTAR endeavors to look and kill far enough forward to erode the enemy from back to front, culminating in BG attacks which will only have to deal with the enemy at hand. The hand-off occurs when the lead BGs are engaged by the enemy. It is at this point that ISTAR cannot affect the commander's immediate battle, but must once again be pushed forward to identify and engage enemy assets which may affect the commander's future plans. This leaves the onus of providing the commander's close battle SA to the BGs .

The fact that a unit does not possess any surveillance assets does not mean it should be excluded from the ISTAR plan. The rear area battle is just as important as the deep and close battles are in terms of mission success. Units such as the service battalion, military police platoon, and the field ambulance each possess a key surveillance asset: soldiers with eyes. These units travel throughout the brigade Area of Responsibility (AOR) and can be trained to notice indications of special forces or fifth column activity in the rear area and should therefore be included in the ISTAR Task Matrix.

TASKS

Tasks for the ISTAR plan are not assigned by the G2. Although the ISTAR Task Matrix is a product of the brigade G2, the authorizing signature on the matrix is that of the brigade commander. When we consider that the ISTAR plan utilizes every surveillance asset and fire support asset available to the brigade, it is essential that the commander know where, when, how, and in what priority his/her assets are employed to ensure the success of the mission. ISTAR elements should be tasked with the concept of mission orders in mind. Tell the unit where to look and what to look for, but do not tell them how to conduct the surveillance. The troops on the ground know the terrain and the operators know which equipment is best suited for a particular surveillance or recce mission. Tasking of elements is achieved through a simple and straightforward ISTAR Task Matrix, which corresponds to an ISTAR overlay. As a rule of thumb in 1 CMBG, and dependant upon the mission, we try to limit the number of NAIs. The recce squadron has to cover to between 10-15 NAIs, and 5-10 BGs. Table 2 illustrates the ISTAR Task Matrix we used for the entry into Kosovo, which is the same matrix 1 CMBG has been using since 1997.

Captain Dave Travers

NAI/ TAI#	Description	Indicator	Responsible for Surveillance	Provide Info	Fire Sp	Remarks
NAI 001 TAI 001, 001A	Kacanik Defile	Bridges @ Gr EM 2250-6922 & Gr EM 2274-6895 prep for demolition. Tunnels @ Gr EM 2195-6964 & Gr EM 2081-7325 also prep for demolition. Inf, AT, or MBT dug-in to cover approaches.	P Bty Phoenix EW	Engr Int CIMIC FHT	OSG	Kacanik Defile is a heavily mined area. 4 Armd Bde to provide STA coverage in support of 5 Abn Bde. Assets to start providing coverage at H-3. KFOR to provide between now and D-Day. 12 (GE) Panzer Bde to provide STA coverage when 4 Armd Bde passes through Kacanik.
NAI 002	Potential for alternate crossing sites.	Numerous tracks which wind NORTH and then hook-up with improved routes.	ON CALL	Engr Int CIMIC FHT		Rtes may be required to bypass Kacanik Defile.
NAI 003 TAI 003	T-Junction @ Gr EM 155-741	Choke point for forces with hostile intent. Possible bypass for Kacanik Defile.	Flanking Unit P Bty			
NAI 004 TAI 004	Rtes converge WEST of village of Kacanik	Area is heavily mined and the two highway overpasses are likely prep for demolition. 4 Armd Bde elements could be engaged by direct and indirect fire at this location.	Phoenix EW P Bty	Engr Int CIMIC FHT	OSG	G2 will coord with 5 Abn Bde ref coverage and timings.
NAI 005 TAI 005, 005A	Three rtes converge into one at the village of STROCE.	This rte could be used by hostile forces to reinforce the area SOUTH of UROSEVAC with MBT and AIFV, or as a withdrawal rte.	Flanking Unit			G2 will coord with flank units to verify coverage.
NAI 006 TAI 006	Two NORTH-SOUTH rtes converge with one EAST-WEST rte.	Area is mined and likely has defensive posns dug-in to cover with direct fire. After this NAI mobility improves as terrain flattens out.	Phoenix EW P Bty KRH	CIMIC FHT	OSG AVN	
NAI 007 TAI 007	Village of VITINA	Provides a Decision Point for hostile forces to either turn WEST into 4 Bde's flank orNORTH for a withdrawal.	Flanking Unit			G2 will coord with flank units to verify coverage.

Table 2: The ISTAR Task Matrix (pg. 1 of 5): used for the entry into Kosovo 12 June, 1999.

Bty – Battery Engr – Engineer Bde – Brigade Arnd – Armoured MBT – Main Battle Tank Abn – Airborne Avn – Aviation – CIMIC – Civilian-Military Co-operation	GR – Grid Posns – Positions Inf – Infantry AT – Anti-Tank OSG – Offensive Support Group Coord – Coordination Rte – Route

INFORMATION FLOW

The physical applications of an ISTAR operation are as important as the doctrinal methods employed to ensure a successful ISTAR operation. The mentality that information is power must be disposed of to ensure the continuity of effort required by intelligence and operations is seamless in its transition, and timely in its decision making. Intelligence is useless if it is not disseminated and it becomes detrimental to the operation if it is not disseminated in a timely manner. Figure 3 outlines the 1 CMBG Command Post layout, which incorporates all brigade assets into the command post, and allows for the unhindered interface between Operations and Intelligence.

Passage of information is crucial to the ISTAR function. Within the brigade command post a variety of key players take up position around the ISTAR table to coordinate ISTAR activities. These include the following:

- G2: responsible for the overall functioning of the ISTAR CC,
- BAIO: the BAIO is responsible for coordinating higher surveillance (UAV, counter mortar, counter battery) and fire support assets in conjunction with the brigade ISTAR plan,
- G3 Aviation / G3 Air: at the ISTAR table, they provide the advice and coordination for AH, Close Air Support (CAS), and JAAT. It is critical that these missions be coordinated with the FSCC and Airspace Coordination Centre (ASCC) to avoid duplication of

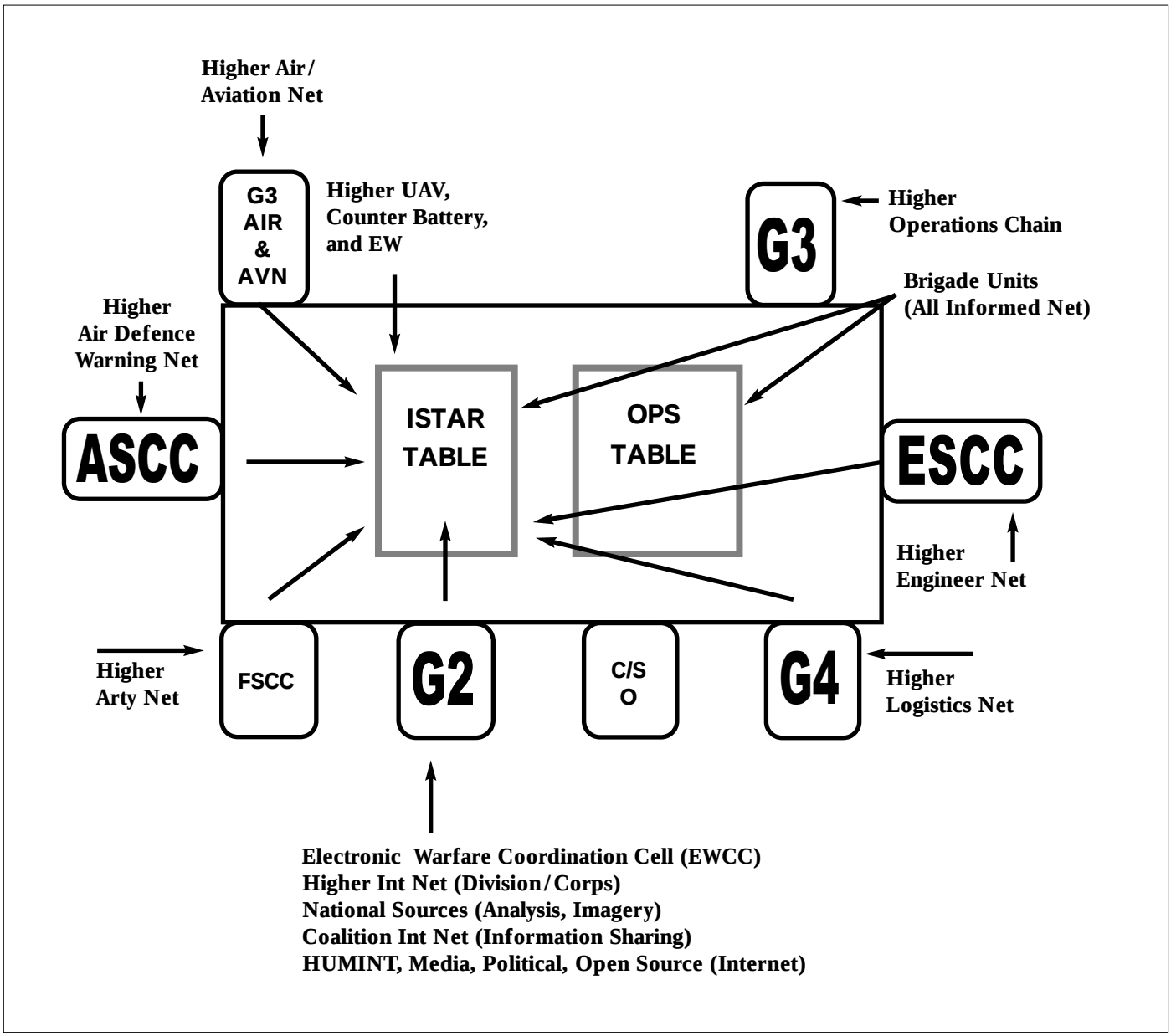


Figure 3: All ISTAR information is fed directly into the ISTAR table. Due to its proximity to the operations table, the G2 has up to the minute operations situation reports that allow the flexibility of ISTAR to be used to maximum effectiveness.

Captain Dave Travers

effort, prevent the scattering of targets, and nullify the risk of fratricide,

- Engineer Intelligence, Geomatics Team, Meteorological: provides both Brown and Blue SA and advice on Go/No Go areas, time to breach obstacles, engineer recce, and any other info required to execute ISTAR operations. This element represents the core of the ISTAR planning team, and

- Attached Assets: the multi faceted characteristic of the ISTAR cell allows any other asset (Human Intelligence (HUMINT) Teams, EW, STA Battery) to be plugged into the ISTAR cell with minimal disruption.

The information flow itself is one of simplicity. The ISTAR tasks are disseminated through the ISTAR Overlay and ISTAR Task Matrix. Sources and agencies then funnel information through the ISTAR cell which has communication links with brigade command net, higher command net, EW, FSCC, and depending on the mission, brigade recce net. This information is then plotted on the ISTAR table where a second level of analysis is conducted, and the information is categorized (targeting information, tracking information, order of battle information, etc…) and prioritized. The first level of analysis is conducted at the unit level. This is possible due to the Combat Intelligence Course conducted within the brigade, which concentrates on ISTAR, IPB, and enemy tactics and doctrine. If the information is deemed to have an immediate effect on brigade operations, it is sent as an intelligence report over the brigade command net (the day of the paper INTREP is over), maintaining an all-informed net. Targeting and BDA are then executed if the target array meets the parameters laid out in the AGM.

SUMMARY

As stated earlier in this document, ISTAR is not a revolution in military affairs, it is simply an evolution based on Army needs. For ISTAR to be effective we have to think outside the box, allow our soldiers to use their initiative and abide by the tenets of manoeuvre warfare. The Canadian Army is in the enviable position of having the capability of conducting ISTAR operations at brigade level while most countries are still struggling with the concepts involved with such a doctrine. ISTAR represents the foundation of a doctrine that can be applied from battalion to corps level while still utilizing the same principles of employment. ISTAR covers the spectrum of joint and combined operations, and can be employed in every scenario from peace support operations to high intensity conflicts. The Canadian Army has the people and the talent necessary to become worldwide leaders in the implementation and execution of ISTAR operations anywhere on the planet, and in any type of operation.

"Passage of information is crucial to the ISTAR function."

ABOUT THE AUTHOR…

Captain David J. Travers enrolled in the Canadian Forces in 1980 as a Gunner with the 3rd Regiment Royal Canadian Horse Artillery. He served with a variety of field and air defence units until 1993, when as a Warrant Officer, he was commissioned under UTPM. He graduated from the University of Waterloo in 1996 and was posted to Headquarters 1 Canadian Mechanized Brigade Group in 1997, where he has since been employed as the G2.

Manoeuvrist Operations:

Some Thoughts on Whether We Have Got It Right

by Major L.R. Mader, CD

INTRODUCTION

Listening to various conversations in the mess and at National Defence Headquarters (NDHQ) and reading the articles and commentaries in the Army Doctrine and Training Bulletin (ADTB) would have us believe some or all of what follows:

- The Manoeuvrist Approach to Operations is a set of semi-mystical incantations that has somehow changed the fundamentals of warfare. For example, for some folks the exhortation "There are no more frontlines!" might seem to imply that we should deploy our manoeuvre units and service support units without thought as to which ones could better stand up to enemy fire.

- These incantations will prevent the Canadian army from ever having to actually fight an opponent because we will invoke the sacred words "Revolution in Military Affairs (RMA)", "recce-pull", "data-fusion", "information operations", "silicon-chips" and "Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR)" as substitutes for battle. Implicit in such thinking is that we will always know exactly what is required, exactly where, and exactly when to cause every enemy to supinely surrender to our omniscient will.

- The Manoeuvrist Approach to Operations is a thought process that had somehow escaped every other military thinker in history until invented by the Canadian army.

- The Canadian army is actually preparing itself to carry out Manoeuvrist Operations on a grand scale in future operations.

It is not the intent of this paper to challenge each of these perceived tenets or to make a detailed case for the Manoeuvrist Approach to Operations. Other commentators, in the ADTB and elsewhere, have done an excellent job of bringing an element of common sense and understanding of history to the discussion of this topic.[1]

This author's own belief on the merits of the Manoeuvrist Approach to Operations is that only a fool seeks to destroy enemy forces physically when they can be defeated by a collapse of their will and their subsequent ability to fight. Even science fiction writers recognized this fact many years ago.[2] It seems evident that the basic concepts[3] of the Manoeuvrist Approach to Operations are valid and longstanding.

However, one must take pains to guard against the presumption that every potential enemy lacks the wisdom and the ability to shield his weaknesses and to exploit ours. This being so, we cannot base the structure of our military force on the assumption that every military situation will unfold in accordance with what we want to have happen, and in the offing, will be bloodless. Flexibility, common sense and an adequate capability must be part of the army's force structuring and equipping concepts.

"...one must take pains to guard against the presumption that every potential enemy lacks the wisdom and the ability to shield his weaknesses..."

Furthermore, military professionals must challenge any attempt to turn the tenets of the Manoeuvrist Approach to Operations into simplistic aphorisms that circumscribe serious reflection and informed judgement. Left unchecked, such sloganeering could lead to the needless defeat and possible death of Canadian soldiers in some future operation where the slogans' shallowness cannot stand up to the realities of conflict.

This article attempts to focus on whether or not the Canadian army is equipping itself properly for the types of operations, especially combat operations (in Operations Other Than War (OOTW) and warfighting), that are foreseen by its doctrine.

METHODOLOGY

Operational research has gained some useful insights on this topic in the recent past through a number of major studies. These studies have, in the main, focused essentially on the triumvirate of doctrine, tactics and equipment. Given the aim of this paper, some relevant studies that have dealt with the issue of army equipment are used for discussion. The studies were completed by the Directorate of Operational Research (Joint and Land) – DOR(J&L) – which resides within the Operational Research Division at National Defence Headquarters. In the main, the primary tool used for gathering data, and the subsequent analysis of that data, was research wargaming.

Although reliant on simulations, given the right tools, research wargaming has the ability to submit concepts and force structures to a rigorous military and scientific scrutiny

Major L.R. Mader, CD

in a milieu where combat conditions are dealt with as realistically as possible. No one working within this regime offers that war gaming can answer every operational research question that can be thought of, especially when such questions relate to human reactions to intensely emotional and stressful events such as combat. However, much can be done in the future, and has been done in the past.

". . . research wargaming has the ability to submit concepts and force structures to a rigorous military and scientific scrutiny. . ."

This article encapsulates some of the lessons gained during five wargame-based operational research studies and one additional wargame series conducted to train DOR (J&L)'s Research Wargame Team (RWGT). The studies were sponsored by a number of army agencies and they considered the use of different vehicles/systems that are either entering Canadian army service or have been proposed for service. The training wargame, Exercise SECOND CLASH, was developed to give the RWGT experience with manoeuvre warfare; the exercise consists of specifically striking into the enemy's lightly defended rear area against an isolated logistics base.

The first two studies that we have to consider are Projects IRON NOBLE and QUARRÉ de FER. These studies looked at the use of an Armoured Combat Vehicle (ACV) for, respectively, OOTW and warfighting.

In the IRON NOBLE study, the ACV did well against relatively poorly equipped opponents while conducting typical OOTW operations such as convoy escort, securing a supply route, and defending an enclave. This success was particularly striking when compared to that of the Cougar which was used in the baseline games of the same tasks. IRON NOBLE found that "... the ACV-equipped force suffers half the casualties and kills twice the number of enemy compared to a Cougar force."[4] However, once this same ACV was used in QUARRÉ de FER, in mobile flank guard situations against a modern enemy, it fared very differently. The ACV's weaknesses forced BLUE to defeat the enemy by setting up troop, squadron and battle group (-) sized ambushes. The inferiority of the ACV's 105mm gun against modern tanks like the T80U meant that these ambushes had to be sprung at close range from positions where there was a good chance of penetrating the T80U's weaker side and rear armour. The ACV's own weak armour determined that it "... cannot manoeuvre in the presence of the enemy."[5] These two ACV weaknesses meant that the Canadian force was decisively engaged once the ambush was sprung. It had to destroy the entire RED force in the ambush since the ACVs could not otherwise redeploy without serious losses. In the QUARRÉ de FER baseline case (fought using the M1A2 tank in lieu of the ACV) BLUE was more successful for lower losses. The M1A2's superior performance "... allowed BLUE to use it much more aggressively to set up favourable situations and *gave BLUE greater flexibility to react to unforeseen events* (emphasis added)."[6]

"Devoted proponents of the benefits of Manoeuvrist Operations might argue that precision manoeuvre, guided by an all-seeing/knowing ISTAR system, has replaced the need to fight tactical battles at all."

ACV proponents might argue that the ACV's weaknesses would be compensated for by the other systems found in a combined arms team. To some degree, this should be true; but then the question is whether the performance of the other systems is sufficient to make up for the ACV's shortcomings. Indeed, the ACV did operate as part of combined arms teams in nearly all the scenarios used in IRON NOBLE and QUARRÉ de FER. In only one of the 21 ACV vignettes in these studies was the ACV unsupported by any other BLUE systems. However, despite the support of other weapon systems, the ACV suffered heavy (17 percent / 57 percent) losses during combat team operations in OOTW, even when facing the less capable RED forces modelled in these scenarios. [7] When the ACV was employed against a more capable foe in QUARRÉ de FER's warfighting vignettes, the results were even more striking. "… the firepower and protection limitations of the ACV resulted in much heavier losses (than with the M1A2) … As a consequence of higher losses, the ACV battle group was considered combat ineffective following the battle…"[8]

QUARRÉ de FER also looked at the impact of placing various improvements on an ACV. Such improvements can be done in research wargaming, without being too limited by current technical feasibility, to determine whether the improvements are operationally worth the effort, assuming the necessary technical solutions can be found to incorporate them. "The most effective and practical enhancement to the ACV (found by QUARRÉ de FER) was the addition of a through-the-barrel missile. This enhancement allowed the ACV to engage and defeat heavy armour frontally and, where ground permitted, gave it a standoff capability improving its survivability. … However when forced to move, the ACV remained vulnerable. Enhancing the ACV with the equivalent of an additional 400mm of RHA (armour) protection proved insignificant as it did not overcome its firepower limitations."[9] It seems clear that it would be very difficult, if not impossible, to make the ACV, as currently conceived and modelled in QUARRÉ de FER, capable of manoeuvring in the presence of the enemy without significant losses.

The support afforded by the other elements of the combined arms team was further investigated by Project IRON RENAISSANCE. This study evaluated "... the infantry combat team equipped with the LAV III ... for conventional operations in war in the year 2006."[10] It considered combat team offensive and defensive operations against a modern enemy. In this study, the LAV III was supported by a Leopard C2 tank rather than an ACV. However, as modelled, the Leopard C2's performance was similar to that of the ACV, except that it had a larger ammunition stowage and physical size and a lower road speed. IRON RENAISSANCE supported the results of the earlier studies. The LAV III is a valuable addition to the Canadian combined arms team but "... limitations on its mobility, protection and firepower restrict its tactical flexibility and deployment."[11] Clearly, the LAV III does not have such a performance superiority over earlier armoured personnel carriers that it can "carry" the ACV.

Devoted proponents of the benefits of Manoeuvrist Operations might argue that precision manoeuvre, guided by an all-seeing/knowing ISTAR system, has replaced the need to fight tactical battles at all. DOR (J&L)'s experience with two other studies raises doubts about this belief. The first of these studies was Project BRONZE PIKE, which "... examine (d) brigade reconnaissance doctrine and tactics considering the introduction of Coyote."[12] The second study, Project IRON QUARREL, looked at the surveillance and target acquisition use of Unmanned Air Vehicles (UAVs) and Griffons to support an armoured battle group carrying out flank guard operations in warfighting or OOTW.

The BRONZE PIKE Sector Recce vignette represented the mobile use of Canadian ground forces, and indicated that it was not easy to manoeuvre unseen against a static, dispersed, concealed enemy. When advancing on mixed terrain, containing numerous covered routes, against an enemy security zone, the recce squadron detected RED systems, on average, some 27 times per battle. RED, on the other hand, detected recce squadron elements an average of at least 131 times per battle.[13] RED's superiority in detections meant that the squadron had great difficulty getting forward, even when it had many covered routes available to it. This difficulty led to the squadron losing, on average, some 52 percent of key vehicles per battle.[14] In the end, the squadron took such heavy losses that it was necessary "... to have the brigade's lead combat teams take over the advance in order to force a path through the enemy's Security Zone."[15] One could argue that the recce squadron would have done better if it had been supported by UAVs and helicopters. For study reasons, the sponsor excluded this possibility.

"Submit new concepts and doctrine to rigorous analysis before investing heavily in them and their associated equipment."

IRON QUARREL did, however, provide information relevant to this hypothesis. When using UAVs equipped with Herlis high-resolution sensors against a two-battalion RED force advancing on a front of 15 kilometres, BLUE had difficulty detecting and identifying, on average, more than 26 percent of the RED sub-units.[16] Using Griffons with roof-mounted Herlis sights from observation positions did not provide any greater success, and led, on average, to a high sortie loss rate.[17] Such losses and lack of success against a moving force causes one to reflect on how much UAVs or helicopters would have added to BLUE's success against a dispersed, concealed, static RED force, such as was encountered in BRONZE PIKE.

Due to specific (external) sponsor aims and requirements, no DOR (J&L) study has yet employed a complete ISTAR system in support of a force employing the Manoeuvrist Approach to Operations. However, Exercise SECOND CLASH (an internal training wargame) has provided some feel for how such a battle might unfold. In this scenario, an Royal Canadian Dragoons (RCD) battle group manoeuvred, as part of a larger force, in the RED rear area to destroy a critical, lightly defended supply point. RED tried to intercept the RCD using a reinforced tank battalion. The battle unfolded on rolling prairie terrain that offered long lines of sight. Although not supported by UAVs, BLUE had counter-battery radars and modern attack helicopters that permitted some manoeuvre and surveillance/target acquisition in the third dimension.

SECOND CLASH has been gamed six times using two different BLUE plans. In all cases, and despite the limited forces deployed over a large terrain containing few features, the RED and BLUE forces always ended up concentrated around the RED supply base, and on or around those few nearby terrain features – mainly hills – that offered an advantage to one side or the other. In some battles, BLUE was held up by a small number of dismounted anti-tank missile teams whose defeat necessitated combat team-sized operations.

CONCLUSIONS

The above discussion represents a synthesis of lessons learned from some recent wargames conducted within DOR (J&L). This author invites further review of the studies by those who are interested. The following personal conclusions are offered as food for thought and fuel for further discussion:

- The Manoeuvrist Approach to Operations leads generally to battles occurring near or around whatever key enemy assets are seen as centres of gravity or decisive points. If it does not, then friendly forces have either likely already won the battle, or one must wonder whether the enemy is setting up a larger victory by offering a "sacrificial lamb" as bait.

Major L.R. Mader, CD

- As forces come together for such battles, the battle space becomes less dense.

- If equipped with lightly armoured vehicles, Canadian ground forces probably have difficulty manoeuvring in these less dense conditions. Relatively few enemy armed with medium (and larger) calibre cannons and missiles could easily block such forces. Our forces are able to manoeuvre freely right up to the moment that they face opposition. At this point, they are likely to become bogged down trying to attack or threaten whatever vital asset is believed to be the enemy's weakness.

- The army would, thus, have a suite of systems that cannot manoeuvre effectively to be at the decisive point at the right moment.

- Supporting such forces with ISTAR assets does not always compensate for weaknesses in our combat systems. In fact, investing heavily in ISTAR assets to the detriment of the combat forces may make these surveillance systems near-helpless spectators to the defeat of the forces actually involved in battle.

- Lightly armoured forces can be more successful in OOTW missions.

- Key requirements of our stated doctrine are not supported by some of our currently planned primary combat systems.

Based on the foregoing conclusions, this author offers the following personal recommendations. The army should:

- Consider whether or not its Manoeuvrist Approach to Operations doctrine is supported by the capabilities of the equipment that it has or will have;

- Ensure that equipment and doctrine are consistent with each other;

- Ensure it maintains balance in its equipment investments; and

- Submit new concepts and doctrine to rigorous analysis before investing heavily in them and their associated equipment.

Thoughts from our readers on Major Mader's ideas and recommendations are most welcome. For example, should our army be capability or doctrinally based as suggested? What do you think? (Managing Editor).

ABOUT THE AUTHOR...

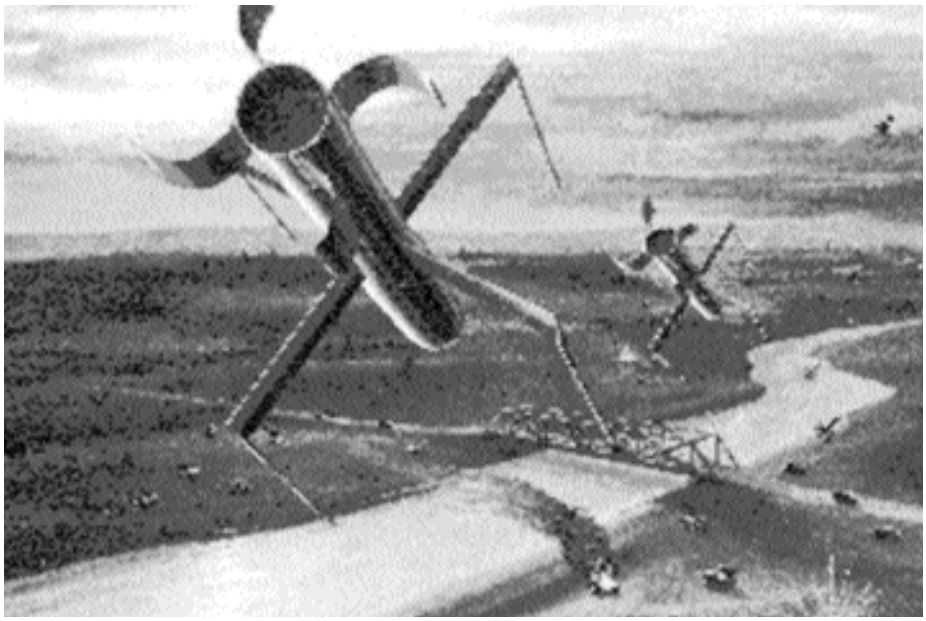
Major Les Mader is a graduate of Collège militaire royal. An artillery officer, his service includes tours with regiments in Germany, Cyprus and Valcartier. He has completed the Army Command and Staff Course Division II at RMCS Shrivenham. Major Mader has also been employed as an equipment desk officer in the Directorate of Land Requirements. He is currently serving with the Research Wargame Team in the Operational Research Division.

ENDNOTES

1. One very good example is LCol (Ret'd) Oliviero's delightful and thoughtful letter in the Stand-up Table of ADTB Vol. 2, No. 4 Winter 1999. Another is the Dispatches (Vol. 5, No. 1) devoted to Manoeuvrist Approach to Operations.
2. An example is Dickson Gordon R., *Tactics of Mistake*, New York: DAW Books Inc, 1970.
3. See B-GL-300-000/FP-000, *Canada's Army - We Stand on Guard for Thee*; B-GL-300-001/FP-000, *Conduct of Land Operations – Operational Level Doctrine for the Canadian Army*; and Dispatches Vol. 5, No. 1.
4. Wilkinson, Maj D.C. and Ormrod Mr M.K., ORD Project Report PR 9607 *IRON NOBLE: Armoured Combat Vehicle Study*, Ottawa: Canadian Government Publications, 1996, p. iii.
5. Ormrod Mr. M.K., Bender Mr P.R.S. and Noël de Tilly Maj J.J.L.C., ORD Project Report PR 9817 *QUARRÉ de FER: Analysis of the ACV in Warfighting Tasks*, Ottawa: Canadian Government Publications, 1998, p. 38.
6. Ibid., p. 19.
7. Extracted from IRON NOBLE Report Tables VII and XIX.
8. QUARRÉ de FER Report, p. 40.
9. Ibid., p. 40.
10. Ormrod, Mr. M.K., Bender Mr P.R.S. and Davison Maj D.T., ORD Project Report PR 9905 *IRON RENAISSANCE: Evaluation of the LAV III Combat Team in Conventional War Operations*, Ottawa: Canadian Government Publications, 1999, p. 2.
11. Ibid., p. 59.
12. Round, Major R.J. and Cameron Mr. F.W.P., ORD Project Report PR 9708 *BRONZE PIKE: LAV Recce Vehicle (Coyote) Study*, Ottawa: Canadian Government Publications, 1997, p. 3.
13. RED and BLUE detections were extracted from BRONZE PIKE Report pages G-8 to G-15.
14. Extracted from BRONZE PIKE Report Tables G-VI and G-IX.
15. Ibid., page 31.
16. IRON QUARREL Report, page 42.
17. Ibid., Table 10 and page 42.

The Revolution in Military Affairs: Approach with Caution

by Captain Simon Bernard



Observers constantly describe the warfare of their own time as marking a revolutionary break in the normal progress of making war. The fact that they base their analysis on their own times should put readers and listeners on their guard…it is a mistake, caused by ignorance of the technical and tactical dimensions of military history, to claim that the methods of making war have not made steady and relatively consistent progress. (translation)

Cyril Falls, A Hundred Years of War: 1850-1950 quoted in Eliot A. Cohen, "A Revolution in Warfare", Foreign Affairs (March/April 1996), p.#38

INTRODUCTION

Most soldiers would endorse the comments made by Cyril Falls, a military historian of the 20th century. Prudent military historians – and prudent soldiers – should view prophets of radical change with a critical eye.[1] A working document emanating from the Director General of Strategic Planning claims that "the nature of war is undergoing a process of change".[2] A key document in Canadian doctrine, *Canada's Land Force*, stipulates that "the rapid evolution of silicon chip technology, together with increasingly powerful computers, will transform the art of war".[3]

The term "revolution in military affairs" (RMA) is fashionable these days in academic and military circles.[4] The RMA concept passes the plausibility test, notwithstanding the lack of agreement on the number, specific characteristics or dates on which the revolutions occurred.[5] (See Table 1)

Technology and warfare have always been closely linked. From the first bone weapon to Star Wars, man has always combined his technical ingenuity with his propensity to kill.[6] Hans Otto, Alexander Graham Bell and Reginald Fessiden were of course unaware that the technological developments on which their fame rested would eventually contribute to the art of war.[7] The invention of the internal combustion engine was thus to lead to the birth of a new dimension in warfare, created by the advent of the aeroplane, and Alexander Graham Bell's contribution was to transform command and control on the battlefield.

History shows that technical superiority has often enabled one society to establish its dominance over another.[8] However, the past should put us on our guard. In some conflicts, including Vietnam, Afghanistan and Somalia, the "victory" went to the less technologically endowed nation. A superior strategy can compensate for significant technological inferiority.[9] Although their ideas are very different, Clausewitz, Jomini, Mahan and Liddell Hart agree on the fact that the nature of strategy and of war cannot change.[10]

The Americans are firm believers in the birth of an RMA. This belief clearly reflects American military culture and responds to the need for reorganization arising out of the collapse of the Communist Bloc. Clausewitz would remind us carefully that technology affects the *grammar* of war and not its logic.[11]

The aim of this essay is to analyze the current RMA and its relevance to the Canadian Forces. It draws on a multitude of different sources and presents a considered approach to this topic of current interest. It is intended for politicians, soldiers of all ranks and researchers in the defence field.

I shall begin by analyzing the origins of the current revolution and will define what constitutes a true RMA. A brief historical review of the 20th century is necessary in order to draw a number of lessons from history. I will subsequently analyze the prophets of

the current RMA, the evolutionist approach to the subject and will demonstrate that, although the innovations unveiled in the Gulf War were revolutionary in technological terms, we are a long way from a genuine RMA. In concluding, I will discuss military culture and demonstrate that, while this technological fantasy satisfies America's military culture, we should avoid such an approach.

ORIGINS

The concept of a military revolution first appears in Soviet writing in the 1970s and 1980s. A series of essays by Marshall Nikolai V. Ogarkov analyzed the revolutionary potential of the new military technologies.[12] He concluded at the time that the United States was engaged in what he described in a military technological revolution (MTR), which would give conventional weapons a level of effectiveness comparable to those of tactical nuclear weapons.[13] "Armoured columns in march formation could be detected and engaged by conventional missiles launching self-guided anti-tank weapons, in an operation conducted from several hundred miles away, with less than thirty minutes between the detection and the assault".[14]

In 1993, the term MRT was deemed excessively restricted to technology and evolved into the more holistic RMA.[15] The Americans conducted their own assessment, believing that the Soviets had limited their research to warfare in a single theatre of operations, presupposing an armoured confrontation in Central Europe. The 1991 Gulf War contributed further input along these lines among American military planners.[16] According to David Jablonski, this war made it clear that the military revolution, which had begun with an intense aerial bombing campaign, was still in its very early stages, and that in the future, despite budget cuts and increasingly unstable world peace, military doctrines worldwide would change in response to new technologies and new challenges.[17]

The generally accepted definition of what constitutes an RMA is as follows: "*A fundamental advance in technology, doctrine and organization which makes existing methods of warfare obsolete*."[18](translation) For Steven Metz and James Kievit, it is necessary to postulate the principle that, throughout history, warfare has evolved continuously, but certain ideas or inventions have combined to produce dramatic, decisive changes. This has not only had an impact on the application of military force, but has often tipped the geopolitical balance in favour of those who have mastered this new form of warfare.[19] Creating a revolution involves more than pushing back the limits of military technology, it requires an active process, which demands efficient adaptation by individuals and organizations in order for it to be exploited.[20]

Andrew Krepinevich, in his analysis of military revolutions, underscores the fact that in radically changing the nature of competition in peacetime or in wartime, military revolutions have changed the "rules of the game".[21] He also adds that the very essence of an RMA is not the speed of change in military effectiveness in dealing with an adversary, but rather the scale of the change in relation to existing military capabilities.[22] In analyzing previous military revolutions, we note that most of them took some considerable time to develop. For example, ballistic missiles, the doctrine and organizational structure required to sustain the advent of nuclear weapons, took some fifteen years. Some would say that, in talking about decades, we are dealing with a state of constant evolution rather than revolution. Andrew Krepinevich replies that what is revolutionary is the nature of the conflict, which changes dramatically, thus requiring doctrinal and organizational adjustments.[23]

"Creating a revolution involves more than pushing back the limits of military technology."

It is difficult to define exactly what an RMA entails. Jeffrey Cooper identifies three causes.[24] The first is driven by new, purely military technologies, influenced by scientific or technical developments or discoveries. This is the most common form and it has steered the popular belief that RMAs are born out of technological developments. One example of this is the radical change created by the breakthrough in aeronautics and the invention of the atomic bomb.

The second cause stems from an organizational or operational innovation which addresses a strategic problem. One example of this is the German Blitzkrieg in the inter- war period. Although this type of RMA did not imply a change in basic strategic objectives, it included fundamental changes in the conduct of war, emphasising not technology but organization or operational innovations.

Lastly, the third course stems from basic economic, political or social changes outside the military sphere. Such forces change the nature and conduct of warfare; the best example of this is the French *levée en masse*, the universal mobilization which dramatically changed the scale of land warfare.[25]

A revolution involves far more than the introduction of new technologies or operational concepts, adds Cooper. The organizational, operational context and decision making processes must also be modified so that innovation becomes an integral part of the service.[26] Before we look at the current RMA, let us briefly review the 20th century.

THE 20TH CENTURY

Prior to the 20th century, most warriors ended their careers with the same weapons they had at the start. The introduction of new weapons, if it occurred at all, came slowly and it was better to stay with proven weapons than to risk life and national security on new equipment.[27]

Of all the wars in history, the First World War must be considered the most revolutionary in military terms.[28] It combined the three previous revolutions: the strength of the entire nation, the capacity to mobilize society and the advent of numerous weapons and resources made possible by the industrial revolution.[29] Soldiers in that war were called upon to adjust to the discovery of the aircraft, or to the invention of motorized transport, tanks and gas.[30]

The years 1918-1939, the period between the First and Second World Wars, witnessed major changes in the way technologically advanced military organizations would fight.[31] The development of the Blitzkrieg by the Germans, of aircraft carriers by the Japanese and the Americans, the laying of the foundations for strategic bombing campaigns by British and American enthusiasts, the birth of submarine warfare against enemy shipping by the German and US Navies and the viability of approaching enemy territory by amphibious assault, all testify to the catalytic effect of this period.[32] In most cases, technological development basically made possible and facilitated new methods of fighting.

During the Second World War, the weapons used at the end differed significantly from those used at the start of hostilities.[33] The jet aircraft, the proximity fuse and the atomic bomb were developed in the relatively short period covered by the conflict. This war was one of industrial production, which gave rise to the widespread belief that the next major conflict would be one of research and development.[34] The victory, which went to the alliance that had produced the most war materiel, seemed to shift in favour of the one that produced the best war materiel. This, at least, was the NATO argument about technology: technological superiority would compensate for numerical inferiority in combat forces.[35]

The climate of the cold war was characterized by an intense period of research and development (R&D). The ratio of R&D expenditure to defence production increased from 5% at the end of World War II to 55% in the 1970s.[36] In the second half of the 20th century, the uncertainties of its earlier years gave way to an unparalleled enthusiasm. Many weapons were regarded as obsolete as soon as they entered service.[37] Research into ever more sophisticated weapons reached its climax in the decade (1965-1975) of Americas involvement in Vietnam's fight for independence.[38] Driven by the superiority of its weapons, the United States hurled itself into the Vietnam mission and tried to conquer a guerrilla force, using conventional weapons developed for a conflict on the plains of Europe. While the US arsenal undoubtedly frustrated and demoralized the enemy, in addition to causing a horrific number of casualties, it failed to win the war. In this case superior technology lost to superior strategy.[39]

Following the fall of the Communist Bloc, Andy Marshall, the prophet of the current RMA, suggested that the disappearance of the bipolar Cold War world had far- reaching similarities with the inter-war period. Although the United States had shown little interest in foreign affairs at that time, the period had seen the birth of numerous military revolutions, including the Blitzkrieg, amphibious operations, strategic bombing and the strategic use of aircraft carriers.[40]

It is true that the strategic environment in which our armed forces are operating today has many similarities with the inter-war period. At that time, institutions had to assimilate major technological and tactical innovations in a climate of limited budgets and support.[41] Some were successful and had an immense impact on the initial battles, while others became victims of their own weaknesses.

The arrival of new technologies and the Coalition's easy victory over Saddam Hussein's troops in 1991 leads us to believe that we are witnessing a new period of change in warfare. Some people believe that we are embarking on a period of continuous change in which it will not be possible to discern individual military innovations.[42]

A British artillery officer, Colonel Jonathan Bailey, believes that the 20th century has seen only one revolution. For him, the *modern style* of warfare was born out of the true military revolution that occurred in 1917-18: "*With the advent of the third dimension, indirect artillery fire became the basis for tactical, operational and strategic planning in war. The impact was so revolutionary that the advent of tanks, airforces and the subsequent information age have merely completed this modern style of warfare*."[43] (translation)

This approach shows how the armed forces of 1917-18 compared to those of 1914-15.[44] Let us now look at the prophets of the current RMA.

"Of all the wars in history, the First World War must be considered the most revolutionary in military terms."

"Some people believe that we are embarking on a period of continuous change . . ."

THE REVOLUTION IN MILITARY AFFAIRS

Randall Whitaker asserts that the current RMA is viewed as a change of paradigm created by information technologies. In his view, the three sources of inspiration are the advent of the information age, the Gulf war and the classic work and the *Art of War* by the Chinese writer Sun Tzu.[45] Let us look at these three sources.

Captain Simon Bernard

According to futurists Alvin and Heidi Toffler, only three revolutions have occurred to date. In their view: "*A true revolution does not change only the game itself, comprising the rules, equipment, size and organization of "teams", their training, doctrine, tactics and virtually everything else. Even more importantly, it changes the relationship of the game to society itself.*"[46] (translation) These *waves*, which is their term used to demonstrate their dynamism, create major upheavals when they smash into each other.[47] According to them, the agrarian revolution, characterised by the birth of organized agricultural society, was the first. The industrial revolution was the second and the third, which was born in the Middle East in 1991, was that of the information revolution.[48] Their main argument constitutes the foundation of the current RMA, namely that information technology will dominate the battlefield of the future, making the arsenals of the 20th century obsolete.[49]

In the early 1980s, the Russians were particularly interested in incorporating the information sciences into the military sphere and the idea of reconnaissance-attack as a single concept. The Gulf War convinced them of the validity of their hypotheses.[50] The military use of space and electronic warfare played a role with a multiplier effect, which they calculated at around 50%.[51] For Marshal Ogarkov, the most important capability that the United States displayed in this war was that of conducting highly synchronized joint and combined operations in depth over a vast theatre, hitting simultaneously strategic centres of gravity and operational forces to produce decisive results.[52]

There is a link between the belief common to the prophets of the current MRA and the radical theorists of air power dominance. For them, dramatic advances in the air force's power (through precision) and penetration (by means of stealth aircraft) became evident in the Gulf War. Thus, precision weapons will immobilize the enemy at great distances, by blinding him and destroying operational and strategic targets. The information war will paralyse the enemy's knowledge of his troops by creating an unprecedented fog. Manoeuvre warfare will deploy the ideal force at the ideal place and at the ideal time.[53]

The Americans advance the theory that this war was merely a foretaste of the current MRA. "DESERT STORM" was merely an indication of the potential of future systems and technologies.[54] The fusion of quasi-real time data and precision weapons will generate a lethality never attained before.[55] According to the enthusiasts of the new MRA, microprocessors and information technology will transform the tools, the conduct and eventually the nature of warfare over the coming decades.[56]

Several civilian strategists in the US Defence Department believe that, over the next five to ten years, the equipment available and various ongoing projects will indeed create this revolution.[57] The Gulf War, in this view, will be comparable to Cambrai in November 1917, where the British for the first time employed aircraft and tanks in large numbers. This attack by 500 tanks broke through the German lines along a 12 kilometre front within of a few hours.[58]

". . . war of attrition . . . will be replaced by shock warfare . . ."

The protagonists identify three elements of power: the *system of systems*, the dominance extended into information and information warfare.[59] The integration of a myriad of systems under what Admiral Owens has termed the *system of systems* will give us a dominant knowledge of the battlefield and the potential to seize a decisive military advantage.[60] Although Admiral Owens holds no copyright on the concept of information warfare and the RMA, he has gathered the political, bureaucratic and analytical leadership that enable him to influence this vision of change.[61] In less than ten year's time, the Americans will be able to locate virtually anything deemed to be of military importance in real time, regardless of the atmospheric conditions, at any time.[62] It is this system of detection, selection, visualization, target acquisition and attack that will revolutionize warfare, to the point of dissipating, if not eliminating entirely, the fog of war.[63] The principle of the war of attrition, which concluded that victory was possible through the gradual destruction of an enemy, will be replaced by shock warfare which, by contrast, will force the enemy to take the direction one wishes by eliminating those of his options which we consider less desirable.[64]

Information warfare could break the enemy's will to fight and oblige him to sue for peace. This would represent the attainment of Sun Tzu's ideal of victory without battle: "*The enemy must instead be subjugated without giving battle: this will be the case where the more you rise above the good, the closer you get to the incomparable and the excellent.*"[65] (translation) Although that could resolve the Americans' aversion to human losses, we are a long way from this situation and ground forces are still required to defeat the enemy on the battlefield.

Colin S. Gray notes that the prophets of this new RMA evoke a vision of how war will be waged in the future, or more precisely, a vision of the United State's ability to do so, in which "information is simultaneously the resource, the target and the weapon".[66]

THE EVOLUTIONARY APPROACH

The transition periods are so long that man is continually improving the way in which he wages war. Observers who are sceptical about the current RMA point out that the current fiscal environment and the absence of any significant strategic rival in the international system eliminate the possibility of radical changes in warfare.[67] It is perhaps worth pointing out here that the German Blitzkrieg was a relatively evolutionary development for the Germans, although it seemed revolutionary to the French holding the Maginot Line.[68]

As described by Williamson Murray, technological developments have made possible or have facilitated the emergence of new ways of fighting.[69] Technology on its own cannot create an RMA. The comparison of the development of the tank by the Germans and by the Allies offers a striking example of this.

The tank was a British invention, which drove the development of an armoured warfare technology during the inter-war period for the French, the Germans and the British. Although in 1940 the Allies' tanks had superior protection and armament, combined with a numerical advantage of 1.3:1,[70] the essence of the German victory lay in the innovative exploitation of the systems that were available on both sides: the tank, aircraft and radio.[71] German military culture contributed greatly to this success.

The influence of General Hans von Seeckt at the head of the German army from 1919 to 1926 led to improvements in its already excellent system of professional military education. He ordered a study of the lessons learned from the First World War and created an officer corps that was open to innovative thinking, debates on doctrine and unconventional solutions. The German army also retained its tradition of *Auftragstatik*, (mission-based tactics), an approach which encourages initiative on the part of subordinate commanders in exploiting opportunities to the full.[72]

In addition to their doctrine and training, the Germans recognized the importance of radio communications in their requirement for speed and decentralization, and they combined this technology with the tank. In contrast to the Allies, the Germans worked on developing close air support. In May 1940, these technological, tactical, doctrinal and organizational innovations resulted in an operational approach which produced one of the most crushing victories of the 20th century.[73]

Commander James R. Fitzsimonds and Commander Jan M. van Tol note that three conditions are necessary to achieve an RMA: technological development, doctrinal or operational innovation and organizational adaptation .[74] Let us now analyze the current RMA from the standpoint of these three prerequisites.

"Nations which seek to achieve strategic superiority through technological superiority must implement major organizational changes. . ."

There is no doubt whatsoever in my mind that the United States holds the leadership in terms of military technology. America's military superiority is substantial. I do not believe, however, as William E. Odom, the author of *America's Military Revolution: Strategy and Structure after the Cold War*, hypothesizes that the next twelve positions in the hierarchy are not held.[75] The ready availability of technology could allow an enemy to obtain sophisticated weaponry and to put up stiffer resistance than might be anticipated. While the developed countries have a decisive advantage based on their technologies, technologies can be stolen, copied or simply bought.[76]

Man has always sought ways of obtaining more "bang for the buck".[77] In the United States, more than half the federal budget for science and technology is allocated to military research and development. A budget averaging $30 billion per year during the Cold War and slightly more than that since its end, has allowed the Americans to launch a constant stream of innovations.[78] It is hard to see how the current situation differs from that of the 1960s or 70s, since the 20th century witnessed the constant evolution of technology.

The technologies used in the Gulf War were not themselves new. Satellite communications and precision-guided missiles made their appearance in Vietnam. The stealth bombers were developed in the late 70s. Precision guided missiles can be regarded as artillery shells, albeit ones that are more destructive, more precise, faster and longer-range. Information warfare is not new. Technology is now further advanced and the reduction in time has a multiplier effect, but information alone does not decide the outcome of wars. Although some may object to this way of looking at things, no new weapons comparable to the invention of the aircraft or the atomic bomb appeared during the Gulf War.

In areas of doctrine and operations, we readily admit that the pot is boiling among our neighbours to the south. Although some critics believe that budgetary constraints will limit the impact of the projects currently under development, a host of research and development programs aim to maximize the use of technology in future wars. *Joint Vision 2010* identifies the model of the future for the US forces. The Army has *Army Vision 2010*, the Navy *Forward…From the Sea*, The Air Force *Global Engagement: A Vision for the 21st Century Air Force* and the Marines: *Operational Manoeuvre from the Sea*. All these programs attempt to establish a new doctrinal approach for the future. However, as Michael O'Hanlon points out in his comments on *Joint Vision 2010*, many of its concepts are based on technological innovations which do not currently exist.[79] Considering that most major military systems take more than a decade to become available, numerous passages in this document risk of falling short.

Nations which seek to achieve strategic superiority through technological superiority must implement major organizational changes that will enhance adaptability.[80] Andrew Krepinevich, the Defence Budget Director, notes that the US Army appears to be investing its effort in making existing organizations more effective, rather than creating new organizations and doctrines to exploit the technological explosion.[81]

Captain Simon Bernard

Experiments such as *Sea Dragon* are ongoing. These tests assess the restructuring of the forces with the maximum use of new technology, such as, for example, a three man patrol which would be able to identify target and direct the fire of all the weapons of a large joint force. It is unlikely that these programs will be adopted in the near future. Let us now look at the technological fantasy, which fits in well with American military culture, but raises some important issues.

MILITARY CULTURE

Military culture can be defined as "the sum of the professional, intellectual and traditional values espoused by an officer corps".[82] It determines how officers assess the external environment and respond to the threat. It is also crucial in the way in which forces prepare for war and innovate.[83] Let us now compare the American and Canadian military cultures.

The RMA lends itself to the American culture. Technology is paramount for our neighbours. Most Americans, both inside and outside the military, identify technology as a decisive factor in war.[84] Their tendency is to seek technological solutions to problems related to warfare.[85] Barry S. Strauss has this to say on the subject: "*Assuming that technology is the solution to the problems of war is a dangerous mistake of the first order. A strategy designed by technocrats, based exclusively on superiority in armaments, reflects the absence of strategy. Machines do not win wars.*"[86] (translation)

Colin S. Gray notes that at the political level – the only one which gives any meaning to military actions – the Gulf War was far from a resounding success. The prophets of the current RMA show the same weakness as the theoreticians of strategic air power during the inter-war period; silence descends when the question is raised of the relationship between the bombing and the political results.[87] As Gary W. Anderson suggests, the way war is waged is undergoing a dramatic transformation, although the *system of systems* does not itself constitute a revolution: "*Our fixation on technology leaves us to believe that we are leading the revolution in military affairs. Nothing could be further from the truth, and we cannot afford such arrogance.*"[88] (translation)

In Canada, the revolution in military affairs arouses a degree of excitement in the strategic planning cell, as well as in research and development circles. This interest is healthy, but it is crucial that we not imitate the American model of viewing warfare. The Americans do not think of war as a continuation of politics involving the use of violence. They were better at building machines for war and applying them tactically, than at orchestrating tactical actions which had impacts at the operational level and operational successes leading to strategic victory.[89] The social, political and cultural dimensions of war seem to be neglected in the current approach.[90]

In contrast to the American approach where technology influences strategy and politics, it is essential that technology flow from strategy and politics. Our political masters must establish national defence objectives and define a global strategy appropriate to the 21st century.[91]

Technological development will be relatively easy when compared to changing the organization, doctrines, military education and training of our forces.[92] We must promote the participation of thinkers to avoid swimming in the Americans' wake. By focussing the training of our officers on strategic leadership and the profession of arms, we will be able to generate innovative ideas and thus take advantage of developing technologies, just at the Germans did between the two world wars. A system of professional educational and development focussed on the profession of arms and doctrinal publications promoting the exchange of new ideas will facilitate attracting experts. As Williamson Murray underscores, the greatest contribution that military culture has made to innovation was to allow officers to use their imagination.[93]

Andrew Krepinevich adds that "In the absence of a clear strategic direction from the White House, the Pentagon has proceeded as most bureaucracies would when left to themselves in a difficult environment; they tried to adjust the new situation to existing resource allocation and planning processes. The result is a defence program oriented towards the most familiar threat, rather than the greatest or the most likely one."[94] We must evaluate world trends with regard to warfare and prepare appropriately to meet that threat, and not the war we would like to fight.

CONCLUSION

History shows that it is not the advent of new weapons that changes the way war is waged. Even though the tank made its appearance during the First World War, it was only when the Wehrmacht used it in its Blitzkrieg manoeuvres two decades later that its advantage proved decisive.[95]

Thus, technology alone cannot lead to a revolution in military affairs. It was the absence of leadership, ideas, training and application, rather than the quality of their armoured fighting vehicles, that explains the mediocre performance of the Allies at the outbreak of hostilities.[96]

"Out political masters must establish national defence objectives and define a global strategy appropriate to the 21st century."

The Gulf War demonstrated the unchallenged air superiority of the Coalition forces. None the less, it must be noted that the United States employed a force built and trained to fight the Soviet Union in a world war,

was supported by most of the world's major military and economic powers, and chose the time and the place to begin hostilities in a theatre, moreover, that was ideal for air operations.[97]

Historically, soldiers have often proved wrong in their assessment of the fragility and vulnerability of a technological advantage. On the eve of the Second World War, the advocates of air power, who had predicted that the aircraft would make every other weapon obsolete, soon learned the error of their ways.[98] We must of course maximize the use of new technologies and avoid an approach similar to that of Field Marshal Sir Douglas Haig, who believed at the outset of the First World War that the machine gun was an overrated weapon and that two per battalion would be ample.[99]

The initiatives of such groups as *Force XXI* could create an over-dependence on technology that could be exploited by an adversary.[100] The easy availability of advanced technologies and the worldwide proliferation of weapons will give rise to new threats.

The current RMA fits well with the American way of going to war, but there are other priorities for Canada. The political level must identify the future strategic environment and the role of our forces. Technology must remain the tool in response to a strategy and not vice versa. In assessing the current strategic balance in the world, the likelihood of a large-scale war between two major powers is limited. The trends instead indicate conflicts similar to those in Somalia, Haiti, Rwanda and Kosovo.

Academic circles and research centres undoubtedly have everything to gain by pandering to the infatuation with a revolution in military affairs. However, a military institution which

REVOLUTIONS	Tofflers	Deudeny	Roland	Sullivan	Cohen	Krepinevich	Vickers	Goldman & Andres
Revolution in weapons 7th to 10th millennia BC			X					
Agrarian Revolution	X							
Professionalization of armed forces			X					
Mounted/chariot warfare			X				X	
Naval warfare			X					
Mongol army 13th century								X
Modern European infantry							X	X
Gunpowder		X	X	X			X	X
Italian footprint							X	X
Sailing ships with broadside-mounted guns							X	X
Modern military revolutions					X			
Napoleonic Revolution /Levée en masse(mass mobilization)					X		X	X
Industrial Revolution		X	X		X			
Railways/telegraph/rifles					X	X	X	
Steam-powered navies						X	X	X
Submarines								X
"Quantity of materiel"/Total war			X					X
Aerial warfare			X					
Blitzkrieg					X	X	X	X
Aircraft carriers					X			
Nuclear war		X	X	X		X	X	X
Mao Tse-tung/People's war			X					X
Microelectronics/genetic engineering				X				
Information warfare		X		X		X	X	X

commits itself body and soul to a revolution would appear rather to have committed to an effort to escape its own past.[101] What counts is that we draw on the lessons that history teaches us, and that we begin with the strategic problem and not with technologies or military hardware. War will remain " the continuation of politics by other means" and technology will affect the *grammar* of war and not its logic.[102] American military culture is very different from our own and our approach must respect the primacy of politics and strategy over technology.

ABOUT THE AUTHOR...

Captain Simon Bernard has a Bachelor's Degree in Administration from the Collège Militaire Royal Saint-Jean. He is currently completing a Master's in War Studies at the Royal Military College of Canada. He is a member of the Royal 22ième Régiment and currently holds the position of Executive Assistant to the Commander of ACE Mobile Force (Land) (AMF(L)) in Heidelberg Germany. AMF(L) is a NATO rapid reaction division.

ENDNOTES

1. Eliot A. Cohen, "A Revolution in Warfare", *Foreign Affairs* (March/April 1996), p. 38.
2. Department of National Defence, "Canadian Defence Beyond 2010", (Ottawa, DND Canada, March 99), p. 2.
3. Department of National Defence, "*Canada's Land Force*", B-GL-300-000/FP-000, p. 126.
4. Williamson Murray, "Thinking About Revolution in Military Affairs", *Joint Force Quarterly* (Summer 1997), p. 69.
5. Colin S.Gray, "The American Revolution in Military Affairs: An Interim Assessment", *The Occasional* (Strategic & Combat Institute, 1997), p. 17.
6. Ronald Haycock, *Men, Machines & War*, (Waterloo, Sir Wilfrid Laurier University Press, 1988), p. xi.
7. John Leggat and Ingar Moen, "Challenges and Opportunities posed by Emerging Technology" (DMC Discussion Paper, Intranet, CDS Issues Seminar, December 1998), p. 1.
8. Ibid., p. xii.
9. Martin Dunn, "RMA=Revolution in Military Acronyms", *Research and Analysis* (March 1996), p. 5.
10. Colin S. Gray, "RMAs and the Dimensions of Strategy", *Joint Force Quarterly* (Fall/Winter 1997-98), p. 50.
11. Antulio J. Echevarria, "War and Politics: The Revolution in Military Affairs and the Continued Relevance of Clausewitz", *Joint Force Quarterly* (Winter 1995-1996), p. 78.
12. Jeffrey R. Cooper, "Another View of the Revolution in Military Affairs", *U.S. Army War College*, Strategic Institute (1994), p. 27.
13. Cohen, p. 39.
14. Ibid.
15. Steven Metz and James kievit, "Strategy and the Revolution in military Affairs: From Theory to Policy", *U.S. Army War College, Strategic Studies* (June 1995), p. 2.
16. Cohen p. 39.
17. David Jablonski, "The Owl of Minerva Flies at Twilight: Doctrinal Change and Continuity and the Revolution in Military Affairs", U.S. Army War College, Strategic Studies Institute Fifth Annual Seminar, (May 1994), p. 9.
18. Ibid., p. 7
19. Steven Metz and James Kievit, "The Revolution in Military Affairs and Conflict Short of War", *U.S. Army War College, Strategic Studies*, (July 1994), p. 1.
20. Major Norman C. Davis, "An Information-Based Revolution in Military Affairs", *Strategic Review* (Winter 1996), p.44.
21. Andrew Krepinevich, "From Cavalry to Computer: The Pattern of Military Revolutions", *The National Interest* (Fall 1994), p. 30.
22. Ibid., p. 25.
23. Ibid, p. 31.
24. Cooper, p. 2.
25. James R. Fitzsimonds and Jan M. van Tol, "Revolutions in Military Affairs", *Joint Force Quarterly* (Spring 1994), p. 25.
26. Cooper, p. 37.
27. Alex Roland, *Underwater Warfare in the Age of Sail*, (Bloomington, Indiana University Press, 1978), p.145.
28. Murray, "Thinking", p. 72.
29. Ibid.
30. James S. Corum, "A Clash of Military Cultures: German & French Approaches to Technology between the World Wars", *USAF Academy Symposium* (September 1994), p.1.
31. Williamson Murray and Allan R. Millet, *Military Innovation in the Interwar Period* (Cambridge, Cambridge University Press, 1998), p. 371.
32. Ibid., p. 371.
33. Alex Roland, "The Transformation of Conventional War", (http://www.unc.edu/depts/diplomat/amdipl_4/roland2.html) p.1.
34. Ibid., p.2
35. Jonathan Alford, *The Impact of New Military Technology* (Westmead, Gower Publishing Company Limited, 1981), p. 16.
36. Jacques Ganlser, *Affording Defense* (Cambridge, MA: MIT Press, 1991), p. 215.
37. Roland, p. 3.
38. Ibid., p. 4.
39. Ibid., p. 5.
40. James R. Blaker, "Understanding the Revolution in Military Affairs", *The Officer* (May 1997), p. 262.
41. Murray and Millet, *Military Innovation*, p. 2.
42. *The Center for Strategic & Budgetary Asessments*, (February 1999, Internet: http://www.erols.com/csba/publicat.htm).
43. Colonel Jonathan Bailey, "The First World War and the Birth of the Modern Style of Warfare", *Information Warehouse* (Army Lessons Learned Centre, Version 7.0, September 1998).
44. Gray, "Interim Assessment", p. 13.
45. Randall Whitaker, "The Revolution in Military Affairs", (November 1995, Internet:http://131.137.255.5/vcds/dgsp/anlysis/tech_e.asp).
46. Metz and Kievit, "From Theory to Policy", p. 3.
47. Alvin and Heidi Toffler, *War and Anti-War* (New York, Warner Books Edition, 1993), p. 20.
48. Alex Roland, "Technology and War", (http://www.unc.edu/depts/diplomat/amdipl_4/roland2.html).
49. Ibid.
50. Cited in Fitzsimonds and van Tol, "Revolution", p. 27.
51. Stephen J. Blank, "The Soviet Military Views Operation Desert Storm: A Preliminary Assessment", *U.S. Army War College, Strategic Studies Institute*, (September 1991), p. 10.
52. Cooper, p. 1.
53. Strategic Assessment Center, "Revolution in Military Affairs", (http://sac.saic.com/rma/rmapaper.htm).
54. Andrew W. Marshall, "The 1995 RMA Essay Contest: A Postscript", *Joint Force Quarterly* (Winter 1995-1996), p. 81.
55. Major Norman C. Davis, "An Information-Based Revolution in Military Affairs", *Strategic Review* (Winter 1996).
56. Thomas G. Mahken, "War in the Information Age", *Joint Force Quarterly* (Winter 1995), p. 40.
57. *The Center for Strategic & Budgetary Assessments*, (February 1999, Internet: http://www.erols.com/csba/publicat.htm), p. 4.
58. Krepinevich, p. 40.

59. James Stavridis, "The Second Revolution", *Joint Force Quarterly* (Spring 1997), p. 9.
60. William A. Owens, "The American Revolution in Military Affairs", *Joint Force Quarterly* (Winter 1995-96), p. 37.
61. Gray, "An Interim Assessment", p. 14.
62. Blaker, p. 265.
63. Owens, p. 38.
64. Thomas G. Mahken, "War in the Information Age", *Joint Force Quarterly* (Winter 1995), p. 40.
65. Sun Tzu, *L'Art de la Guerre*, (Paris, Mille and Une Nuits, 1996), p. 23.
66. Cited in Gray, "An Interim Assessment", p. 15.
67. *The Center for Strategic & Budgetary Assessments*, (February 1999, Internet: http://www.erols.com/csba/publicat.htm), p. 4.
68. Williamson Murray, "Innovation: Past and Future", *Joint Force Quarterly* (Summer 1996), p. 52
69. Murray and Millet, *Military Innovation*, p. 371.
70. Ibid., p. 373.
71. Fitzsimonds and van Tol, p. 24.
72. Murray and Millet, *Military Innovation*, p. 373.
73. Ibid., p. 374.
74. Fitzsimonds and van Tol, p. 24.
75. Quoted in, A.J. Bacevich, "Preserving the Well-Bred Horse", *The National Interest* (Fall 1994), p. 46.
76. Mervyn Berrige-Sills, "Computers and Strategy: It's the Thought That Counts", in *The Changing Face of War: Learning From History*, (Montreal-Kingston, MCGill-Queen`s University Press, 1998), p. 185.
77. Alex Roland, *The Technological Fix: Weapons and the Cost of War*, (US Army War College, Carlisle Barracks, June 1995), p. 15.
78. Michael E. O'Hanlon, "Beware the RMA'nia", Foreign Policy Studies (September 1998), p. 2.
79. Ibid., p. 4.
80. Stephen J. Blank, "Preparing for the Next War: Reflections on the Revolution in Military Affairs", *Strategic Review* (Spring 1996), p. 18.
81. Cited in B.J.C. McKercher, and Michael A. Hennessy, "'The Revolution in Military Affairs': Its implications for Doctrine and Force Development Within the U.S. Army", dans *The Operational Art: Developments in the Theories of War*, (Westport, 1996), p. 178.
82. Murray, "Past and Future", p. 54.
83. Ibid.
84. Brian R. Sullivan, "Are We Really Ready for an RMA?", J*oint Force Quarterly* (Summer 1996), p. 112.
85. Garry W. Anderson and Terry C. Pierce, "Leaving the Technocratic Tunnel", *Joint Force Quarterly*, (Winter 1995-96), p. 70.
86. Cited in Colin S. Gray, *Weapons Don't Make War*, (Kansas, University Press of Kansas, 1993), p.1.
87. Ibid., p. 35.
88. Anderson and Pierce, p. 75.
89. Gray, "*Weapons Don't Make War*", p. 4.
90. Gray, "An Interim Assessment", p. 34.
91. Metz and Kievit, "*From Theory to Policy*" (US Army War College, Carlisle Barracks, June 1995), p. vii.
92. Ibid., p. 21.
93. Murray, "Past and Future", p. 54.
94. Cited in McKercher and Hennessy, p. 184.
95. David Shukman, *Tomorrow`s War*, (Orlando, Harcourt Brace & Company, 1995), p. 4.
96. Sullivan, p. 113.
97. Cohen, p. 40.
98. Cited in Maj Daniel S. Roper, "Technology: Achilles' Heel or Strategic Vision?", *Military Review* (March-April 1997), p. 4.
99. Bacevich, p. 44.
100. Cited in Roper, p. 4.
101. Bacevich, p. 49.
102. Echavarria, "*War and Politics*", p. 77.

The "Old Eighteen", the first class of the Royal Military College of Canada at Kingston in 1876. This year is the College's 125th Anniversary. Commemoration events are planned for throughout 2001. (Courtesy National Archives of Canada)

Captain Simon Bernard

Revisiting the Principles of War

by Major Mike Johnstone, CD

By knowing more about the enemy and his own force, the commander gained confidence and was able to move more rapidly. . . . the power of the microprocessor on the battlefield: the fact that shared information ***can compress time and increase effectiveness,*** *not by a little but by a lot.*

— General Sullivan
commenting on a
Force XXI exercise[1]

Canada's current set of principles of war are derived from multiple sources—the primary ones being our ties to the British and our experiences in the First and Second World Wars. They have provided Canadian Army officers with a checklist of things that commanders in those two wars thought were relevant and important. In the decades since the end of the Second World War, many aspects of warfighting have radically changed, thus rendering the current principles outdated. They need to be re-examined for possible revision to reflect the realities of modern operations.

The foundation and inspiration for this article is Robert R. Leonhard's[2] *The Principles of War for the Information Age*. Leonhard critiques the American principles of war and provides a new set of principles designed for the information age. These new principles are presented in the form of a dialectic, providing two extreme points of view. The commander determines the appropriate balance between these two extremes through the application of sound military judgment and discussion with key staff members. The principles are designed to stimulate thought and help foster creativity and flexibility of mind and action.

With the introduction of doctrine emphasizing the manoeuvrist approach to warfare and the arrival, or imminent arrival, of information age warfare, the Canadian principles of war should be re-examined. Leonhard's principles of war are a fresh initiative and offer a new and innovative way to examine conflict. The aim of this article is to examine this new approach to the principles of war.

BACKGROUND – USING THE PRINCIPLES OF WAR

Principles of war have been developed and changed many times over the last 200 or so years as warfare changed.[3] They were designed to help make better plans – plans that had a better chance of success – by learning the lessons of the past. They assisted commanders and their staff by providing a form of measure which plans could be judged against. Ideally, the lessons learned in the past would assist in the development of successful operations in the future. The application of the principles of war has varied significantly over the last 100 years. To some the principles have been a statement of truth, others have used them as a guide, and still others have used them as a form of argument. Some theoreticians have debated (and continue to debate) the very validity of principles of war. However, how the principles are perceived or used is much less important than whether they help create better plans.

A DOMINANT THEME OF WARFARE – KNOWLEDGE VERSUS IGNORANCE

Military doctrines ranging from the revered *Principles of War* to our latest army field manuals are based on a persuasive, immovable blindness. Generals, captains, sergeants, and privates – steeped in pre-Information Age truisms based upon the fog of war – can conceive only of an uninterrupted ignorance in battle. . . . instead, conceive of a radically different future for military operations – a future built around information and velocity.[4]

Armies are moving into the information age. Commanders of the future are going to know more than commanders of the past.[5] This is going to change how they plan and fight. Improved situational awareness provides commanders with an increased ability to pre-empt, dislocate and disrupt the enemy. Furthermore, it provides commanders more opportunities to get inside the enemy's decision-action cycle.[6]

Even if the promises of technology provide only half of what they claim, commanders will be able to "see" more of the battlefield then ever before. However, this increased knowledge of the battlefield does not produce omnipotent commanders. Significant information will remain unknown or partially known. The commander may "see" the locations of the majority of the enemy's formation, but the intentions of the enemy still need to be deduced. Commanders need to understand what information they have and what they do not. It is this interaction between ignorance and knowledge[7] that is one of the most dominant themes throughout the history of warfare. It is a continuum, with the balance between ignorance and knowledge continuously changing as forces clash. Commanders need to understand the balance and account for it as they initiate actions. The level of knowledge dictates the appropriate style of warfighting: as knowledge increases, the manoeuvrist approach becomes more applicable; whereas, as ignorance increases, the drive towards an attritional approach becomes more valid.

Commanders possessing high levels of knowledge about their opponents' dispositions have advantages.[8] They are able to produce more accurate and complete plans. During the execution of operations, they are better able to react to the developing situation.[9] Knowledge allows commanders who use it to exploit weaknesses while avoiding

The Canadian Principles of War

- Selection and Maintenance of the Aim
- Maintenance of Morale
- Offensive Action
- Surprise
- Security
- Concentration of force
- Economy of Effort
- Flexibility
- Co-operation
- Administration

- Canada's Army

Figure 1. Canada's Principles of War

the strength of the enemy. Knowledge should increase the tempo of operations, permitting commanders to more easily pre-empt, disrupt and dislocate the enemy – the essence of manoeuvre warfare.

On the other hand ignorant commanders must move slowly, feeling their way. Liddell Hart's "man in the dark" theory clearly illustrates how ignorant armies fight. Ignorant armies are slower and they use resources less economically than knowledgeable armies. They approach the enemy slowly with their recce assets out front trying to find the enemy. They have forces dedicated to flank and rear protection in case the enemy strikes there. Because they are not sure where the enemy is, they frequently attack his strength. Commanders of knowledgeable armies can better focus their activities and resources towards the achievement of their mission. Furthermore, knowledgeable armies should have more time since they can move faster, react faster and make decisions more quickly.[10] This time saving is often decisive on the battlefield.

Commanders make decisions on how they are going to fight depending, to a certain extent, on where they are on the scale of knowledge and ignorance. If the interaction between ignorance and knowledge is such a dominant theme throughout the history of warfare, then should it dominate the principles of war?

THE CURRENT PRINCIPLES

The current list of principles of war has served us well. They have been taught to aspiring young officers as things that commanders over the last century have discovered to be important during plan development. According to *Canada's Army*, our principles of war are the doctrinal roots for the conduct of all army operations.[11] They are developed not as immutable truths, but their purpose is to provide a frame of reference for stimulating thought and enhancing flexibility of action.

Do the principles help commanders make better plans? No. Structured as a simple list of things to include in a plan, they fall short of stimulating much thought or discussion. Instead, they are used like an ingredients list, with every plan requiring some, but not necessarily all, elements of the principles of war. This does not assist commanders preparing for war. The current principles of war are structured well for ignorant armies and commanders. They are not, however, very useful for knowledgeable commanders, as they provide little or no frame of reference. The current principles do not highlight the essential struggle between ignorance and knowledge. Thus, as we enter the Information Age, our principles need to change to reflect this new reality.

INFORMATION AGE PRINCIPLES

Leonhard proposes three "laws" that apply to all conflict and provide the framework for the principles of war. The principles of war are presented in the form of a dialectic (discussion or reasoned argument). At one end of the dialectic are principles that support knowledge based warfare, while at the other end are principles that support ignorance based warfare. Thus, this new set of principles highlights the dominant theme of warfare mentioned earlier. The proposed principles of war are listed in figure 2.

The principles of war listed above stimulate thought and creative

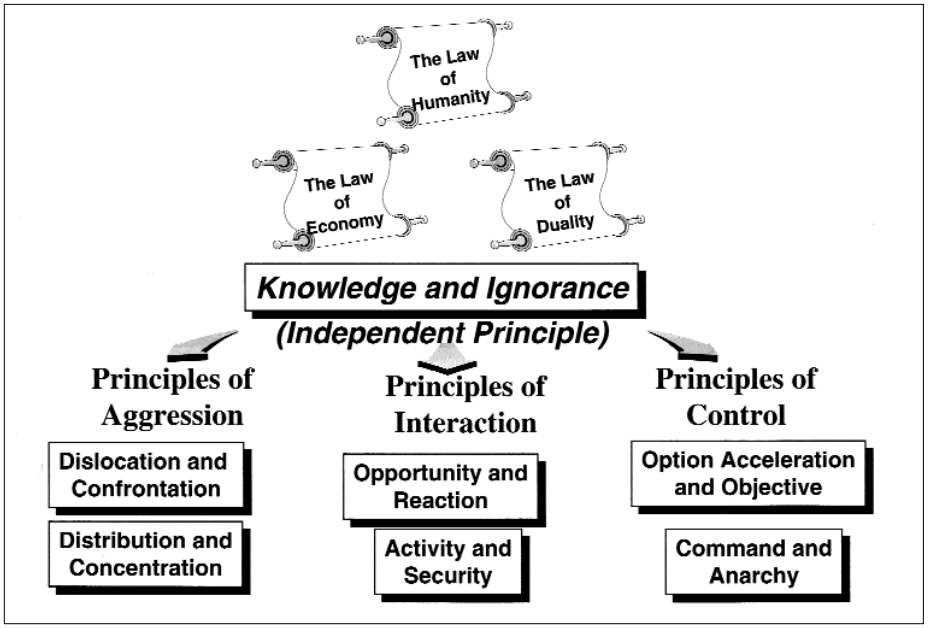


Figure 2. The Principles of War for the Information Age[12]

Major Mike Johnstone, CD

battlefield solutions through the questions that they raise for commanders and staffs. First off, commanders must determine that appropriate balance between the extreme views presented by each principle. Secondly, the principles are structured in a manner that supports commanders in determining how to accomplish their missions, interact with the enemy and control their forces. These principles help create a flexibility of mind by forcing commanders to reflect on their current situation and develop greater self-awareness and self-knowledge.

THE LAWS

The first law is that of **Humanity**. Warfare is an outgrowth of the human soul and is fought on the moral plane as well as the physical. It is a contest of wills fought between humans.[13] Commanders must understand this truth and apply it to their planning. This law reminds us that the enemy is intelligent and will modify his behaviour during a conflict in an effort to reduce the effectiveness of our strengths and attack our weaknesses. The Law of Humanity is the basis for all conflict. Studying or planning conflict without considering humanity is ridiculous.[14] This law fully reflects the Canadian doctrinal approach of conflict consisting of two planes—moral and physical.[15]

The second law is that of **Economy**. There are never enough resources to do everything. By its very nature conflict is wasteful, therefore "to prevail in conflict, one must economize as much as possible."[16] Leonhard states that "the context of warfare, then, is one in which our compelling need to economize collides with our overriding need to survive."[17] Ignorance leads to wastefulness as resources are applied to compensate for our lack of knowledge. As the level of knowledge increases, commanders have the opportunity to achieve more with greater economy. Information leads to precision. Precision in the application of resources leads to economy.[18] This aspect is partially understood within Canadian doctrine,[19] but needs to be more fully engrained.

The final law is **Duality**. There are two aspects to human conflict: subjective and objective. Subjective conflict is characterized as fighting a like opponent, whereas objective conflict is fighting an unlike opponent.[20] Subjective conflict is best understood by thinking of a contest of strength versus strength. Images of tank battles on the steppes of Russia come to mind, as two systems attack each other where they are both strong. Objective conflict revolves more around attacking an opponent where and when he is weak. Thus, if tanks can be diverted into terrain that favours the infantry, it would be considered objective conflict. Leonhard likens subjective warfare to attritional warfare and objective warfare to manoeuvre warfare. Both aspects are part of all conflict.[21] The fundamentals of manoeuvre warfare support this law, however, Canadian doctrine needs to more fully embrace this concept.[22]

". . .the Canadian principles of war should be re-examined."

THE PRINCIPLES

The three laws of war provide the framework for the principles of war. Leonhard has structured these principles with an Independent Principle and three categories of principles:

- The Principles of Aggression
- The Principles of Interaction
- The Principles of Control

In all cases, the principles of war are structured as an interaction of opposites – from knowledge based to ignorance based.

Knowledge and ignorance compose the Independent Principle, upon which all other principles rely for application. The balance attained between knowledge and ignorance affect the application of all other principles. The Law of Economy drives this new principle. Armies can either save time and resources today - by choosing ignorance - or they can save in all areas in war through knowledge - truth shall make you free.

All of the remaining principles are structured as arguments between knowledge principles and ignorance principles as the two extremes. Depending on the level of knowledge, the principles lean in one direction or the other. A close look at the principles also shows the knowledge based side of the principles leans toward a high tempo, manoeuvrist force, while the ignorance based side of the principles leans towards a slower more attritional force.

PRINCIPLES OF AGGRESSION

The principles of aggression address what to do to the enemy to permit us to accomplish our mission. The two principles of aggression are **Dislocation and Confrontation** and **Distribution and Concentration** and they focus on the means to defeat the enemy.[23]

The first principle, **Dislocation and Confrontation**, is based on the requirement to fix the enemy and then strike a vulnerable point.[24] Confrontation seeks to account for enemy strengths and intentions, while dislocation is the art of rendering the enemy's strength irrelevant. This principle is dependent upon knowledge and ignorance for application. The greater the level of knowledge, the greater the ability to dislocate an enemy's strength. The greater the level of ignorance, the more likely an army must confront enemy strength. Efforts to gain information should be aimed at increasing knowledge so that emphasis can be placed on dislocation.[25] Dislocation and Confrontationis well embedded in Canadian doctrine as the dynamic forces; the intent here is to suggest it be officially established as a Canadian principle of war.[26]

The second principle, **Distribution and Concentration**, describes how forces are employed. Where there is no purpose, there are likewise no forces. "Distribution apportions combat power to accomplish specific purposes." [27] Where there is a purpose to accomplish, there is just enough force to accomplish

it without wasteful excess against uncertainty (this is, admittedly, a revolutionary concept - unthinkable in the context of mass and ignorance, upon which our current notions of warfare are based). Concentration is the garnering of combat power with a view to apply it at a specific place and time to compensate for uncertainty.[28] This principle is linked to the Law of Economy and the desire to economize as much as possible.

"The current principles do not highlight the essential struggle between ignorance and knowledge."

There is a temporal dimension to distribution—pre-emption—which is the temporal converse of concentration. Pre-emption sacrifices combat power to achieve a temporal advantage, with a view to attacking an **unready** enemy.[29] Concentration sacrifices time to garner combat power. However, this also provides the enemy more time to prepare or to launch a pre-emptive attack of their own.

Knowledge permits the more effective distribution of combat power. Ignorance requires that combat power be concentrated to compensate for uncertainty.

PRINCIPLES OF INTERACTION

The principles of interaction deal with the interplay between the opposing forces. They take into consideration that the opponent is determined and capable and that we must account for his aggressive behaviour.[30] The two principles of interaction are **Activity and Security** and **Opportunity and Reaction**.

The principle of **Activity and Security**[31] recognizes that resources are limited and the commander has to juggle the allocation of these resources. Activity leans towards all actions that directly advance the commander's plan, while security leans towards measures taken to protect the friendly force from enemy action. The resources include time, soldiers and supplies. The Law of Economy drives this - the idea is to allocate precisely enough resources to provide security to counter enemy attacks and **no more**. The commander should seek to have as many resources as possible for activity - because this is how he will prevail in conflict.[32] This principle supports the manoeuvre warfare fundamental of focusing on the main effort.[33]

The principle of **Opportunity and Reaction** deals with the balance between taking the fight to the enemy and allowing the enemy to make the initial moves and then reacting to them. Opportunity is the freedom to act. This is increased through logistical stockpiling, increased knowledge and improved mobility.[34] As the level of opportunity is increased, the options available to commanders are increased, thus giving commanders more choices for attacking enemy weaknesses. Reaction is aimed at nullifying an enemy opportunity. This is done by restricting enemy mobility, controlling and limiting their knowledge and by disrupting enemy logistical preparations. The reaction portion of the principle is derived from the Law of Humanity – the enemy is an intelligent and able foe; he is not passive; he modifies his plans and operations to take advantage of weakness and vulnerabilities that he observes.[35] This principle supports many of the fundamentals of manoeuvre warfare, especially the exploiting opportunities and avoid enemy strength attack weakness.[36]

Knowledge and ignorance play an important role. The greater the level of knowledge, the more economically a commander can secure his force. As ignorance increases, the more a commander must secure against the unknown. Furthermore, the more a commander knows about the enemy, the better able he is able to exploit opportunities that arise. Ignorant armies spend most of their time reacting and trying to create opportunity. Modern armies need to be skilled in both ends of the spectrum: they need to be adept at exploiting opportunity when they have it[37]; conversely, they must be skilled in creating opportunity through the prosecution of reactive warfare.[38]

PRINCIPLES OF CONTROL

The management of the friendly force is governed by this principle. Success on the battlefield depends upon the methods used to control friendly forces. The two principles of control are **Option Acceleration and Objective** and **Command and Anarchy**.[39]

The first principle addresses the selection and maintenance of an overall aim. **Option Acceleration** lets commanders design and fight campaigns using combat power to rapidly create tactical, operational and strategic options at a rate that overturns enemy plans and reactions - thereby creating options for the end-state. The idea is that, if commanders wait to declare a final end-state as the operation progresses, they can gain a better understanding of the options available and then choose more effectively.

". . .there is a need to embrace a new way of looking at fighting."

Objective is the way we do it now - selecting and maintaining a desired end-state. This option assists in the creation of a focused and unified campaign but ties the hands of the political and military leaders.[40] This principle supports the Canadian command philosophy of mission command.[41]

The principle of **Command and Anarchy** deals with whether decisions are made in a centralized or decentralized manner.[42] **Command** is centralized command. It is the rapid and economical making of decisions. However, it suffers through the imposing of uneconomical constraints

Major Mike Johnstone, CD

upon the activities of subordinates. Anarchy is likened to mission command: better, more effective interaction with the enemy, but less economical decision making.[43]

Once again, the level of knowledge directly impacts these principles. Knowledge permits option acceleration while ignorance supports objective. The greater the level of knowledge, the more effectively an HQ can employ centralized command processes. The greater the level of ignorance of the higher HQ, the more it can effectively use anarchy. A disruption of control occurs when an army uses the incorrect techniques. Thus, if the higher HQ has knowledge and tries to use anarchy, then opportunities are missed. However, if an ignorant HQ tries to command, failure results. Command should accompany knowledge at whatever level it is found. Likewise, anarchy should follow ignorance.[44]

MANOEUVRE WARFARE VERSUS ATTRITION

The new principles of war are based upon three laws—Humanity, Economy and Duality—and are structured as a dialectic. They are balanced between knowledge and ignorance. Commanders and staff determine the balance required in each of the principles. A close look at the principles also shows the knowledge based principles lean toward a high tempo, manoeuvre force, while the ignorance based principles lean towards a slower, more attritional force.

CONCLUSION

> "When information technologies suddenly delivered remarkably clear and accurate reports concerning the enemy, experimental Blue Force commanders were hesitant in using the information. Having served previously with the men involved, I knew them to be bold and imaginative leaders, so what was the problem?"[45]

Principles of war are used to help understand the dynamics of war. According to Canadian doctrine, they are used to create flexible and creative solutions to the problems of the battlefield. Giving soldiers new technology or doctrine does not mean that they fight better. Training and professional development are essential cornerstones in the process. Without training commanders and staff to understand the new dynamics that knowledge brings to the battlefield, the tremendous potential will remain dormant. The proposed principles of war assist in developing this understanding.

Furthermore, the proposed principles of war fully support the doctrinal approach of the Canadian Land Force. They are firmly embedded in the fundamentals of manoeuvre warfare. Finally, the proposed principles of war stimulate thought, whereas the current ones do not. This means that proposed principles of war should assist both in the development and, because they reinforce manoeuvre warfare, in the execution of the plans.

The current principles of war have served Canada well, but they do not help develop an understanding of the central feature that knowledge and ignorance play in warfighting. The above quote shows that, despite given all the information in the world, commanders are not yet ready to employ it. They continue to move slowly, cautiously. Therefore, there is a need to embrace a new way of looking at fighting. Understanding the interaction of knowledge and ignorance and the impact it has on warfare is essential. The proposed principles of war highlight this interaction and provide commanders a better framework. In determining the appropriate balance within each principle of war, commanders are forced to think through the problem.

> …Information Age will also produce a new phenomenon: the aware enemy. Hopefully, it will continue to be our side that has the truth.[46]

One important aspect of warfare that all commanders need to understand is that war is the interaction of opposites. Canadian doctrine must demonstrate this fundamental truth. The principles of war need to not only recognize this aspect of warfare, they also need to enshrine it and permit commanders to use this essential duality to better approach warfighting. Thus, the Canadian principles of war need to use the knowledge versus ignorance theme so as to prepare officers and leaders for the challenges ahead.

ABOUT THE AUTHOR…

Major Michael Johnstone holds a BEng from The Royal Military College of Canada and a Masters in Engineering from the University of Ottawa. He has served in 5e Regiment d'Artillerie Légere du Canada, at the Artillery School and in other staff appointments. He is a graduate of the Instructor-in-Gunnery (Field) course and the Land Force Command and Staff Course 1. He is currently employed at the Directorate of Army Doctrine in the Firepower section.

ENDNOTES

1. Robert Leonhard, *The Principles of War for the Information Age* (Presidio Press, 1998), p. 25.
2. Robert Leonhard is an active duty army officer who has written three books—*Art of Maneuver* (1991), *Fighting by Minutes* (1994) and *The Principles of War for the Information Age* (1998). He has also contributed articles to other publications including a chapter in the recently released book *Digital War: A View from the Front Lines* (1999).
3. Major Craig Stone, "The Canadian Army's Principles of War in the Future: Are they relevant?" *The Army Doctrine & Training Bulletin*, Vol 3, No 1 (Spring 2000). This article presents a very interesting discussion on the relevancy and history of the Principles of War.
4. Robert Leonhard, "A Culture of Velocity," in Robert Batman

Ed., Digital War: *A View from the Front Lines*, (Presidio Press, 1999), p. 134.

5. LCol James E. Harris III, "To Fight Digitized or Analog," *Military Review*, Nov-Dec 1999, pp. 12-17. In comparing digitized exercises at the NTC with analog exercises at the JRTC, the author highlights that "leaders and soldiers were better informed about the current friendly and enemy situations" at the NTC.

6. For more information on the impact of technology and knowledge on the battlefield, look at the articles by some key American military thinkers in Robert Batman Ed., *Digital War: A view from the Front Lines*, Presidio Press 1999.

7. The terms ignorant and knowledge are used throughout this paper. An ignorant army or commander has poor battlefield visualization, whereas a knowledgeable army or commander has excellent battlefield visualization. Furthermore, this battlefield visualization is based upon the ability to answer three basic questions: Where am I? Where are my buddies? And where is the enemy?

8. James E. Harris III. Throughout the article, he stresses the advantages that a knowledgeable commander has. For example, he states, "As a result of increased situational understanding, the ability to reposition forces efficiently to known seams or gaps between units while on the defense was increased" (15).

9. Remember that commanders have knowledge about both enemy and friendly forces. This should allow commanders to rapidly respond to opportunities or threats. This supposition is supported by LCol Harris on page 15 of his article, where he stresses that improved situational awareness "facilitated C2 and the execution of tactical operations far greater than I had ever experienced in the past or would experience at the later JRTC."

10. John A Antal, "The End of Maneuver," in Robert Batman Ed., *Digital War: A View from the Front Lines* (Presidio Press 1999), p. 161. "Digitization brings attack helicopters into the fight faster and makes them more effective killers by providing better enemy and friendly situational awareness. Improved battlefield awareness allows faster digitized command and control. Maps, overlays, and orders can be transmitted quickly. Operation orders and especially fragmentary orders can be published and distributed in minutes as opposed to hours. In war, these minutes saved can be decisive."

11. B-GL-300-000/FP-000 *Canada's Army*, p. 95.

12. *The Principles of War for the Information Age*, p. 252.

13. B-GL-300-001 *Conduct of Land Operations – Operational Level Doctrine for the Canadian Army*, pp. 1-5: "Therefore, conflict remains ultimately an activity of human creativity and intuition powered by the strength of human will."

14. *The Principles of War for the Information Age*, pp. 207-216.

15. B-GL-300-001 *Conduct of Land Operations – Operational Level Doctrine for the Canadian Army* stresses the importance of the moral plane as one of the two planes of conflict. It goes on to state (pages 1-5) "moral forces exert a more significant influence on the nature and outcome of conflict than do physical."

16. *The Principles of War for the Information Age*, p. 217.

17. *The Principles of War for the Information Age*, p. 217.

18. *The Principles of War for the Information Age*, pp. 217-225.

19. B-GL-300-001 *Conduct of Land Operations – Operational Level Doctrine for the Canadian Army* deals with the issue of economy. The designation of a main effort supports the idea of economy in that efforts are driven to supporting the main effort and not just activity for the sake of activity.

20. *The Principles of War for the Information Age*, pp. 226-239. Counter battery fire conducted by the field artillery is an example of subjective conflict. It is an uneconomical method of attacking an enemy's artillery. An excellent example of an objective weapon is the attack helicopter. It is designed and employed to attack ground targets, not other helicopters.

21. *The Principles of War for the Information Age*, pp.226-239. Leonhard's discussion on this subject is very interesting, especially the sections on the use of simulations. He expresses a grave concern not for simulation, but against the structure of current simulations. The enemy in simulations should react like a real enemy (constantly looking for new ways to attack us; or breaking off the attack as casualties mount) not this inhuman enemy who ignores casualties and opportunities. By making these changes, the effectiveness of simulations will be increased significantly.

22. B-GL-300-002 *Land Force Tactical Doctrine*, pp. 1-10. One of the fundamentals of manoeuvre warfare is "Avoid enemy strength, Attack weakness." This grasps the overall concept, however the details of the concept have not been fully explained. Nor is there full agreement on this approach. Tankers still believe that they need to attack tanks first.

23. *The Principles of War for the Information Age*, p. 255.

24. B-GL-300-001 *Conduct of Land Operations – Operational Level Doctrine for the Canadian Army*, pp. 2-5. This is an accepted element of our doctrine through the discussion of the dynamic forces of fixing and striking.

25. *The Principles of War for the Information Age*, pp. 255-256.

26. B-GL-300-001 *Conduct of Land Operations – Operational Level Doctrine for the Canadian Army*, pp. 2-5.

27. *The Principles of War for the Information Age*, p. 256.

28. *The Principles of War for the Information Age*, pp. 256-7.

29. *The Principles of War for the Information Age*, pp. 256-7. For more information on temporal distribution and the idea of an unready army, refer to Robert Leonhard, Fighting by Minutes – Time and the Art of War (Praeger: Connecticut, 1994).

30. *The Principles of War for the Information Age*, p. 258.

31. In discussion with other officers, using the words Action and Caution might better represent this term. However, for this article, I will stick with the term Leonhard proposed.

32. *The Principles of War for the Information Age*, p. 258.

33. B-GL-300-002 *Land Force Tactical Doctrine*, pp. 1-10.

34. Although Leonhard does not promote this concept, Opportunity is also fostered by mission command. As opportunity arises, subordinate commanders can initiate actions to seize the fleeting chance.

35. *The Principles of War for the Information Age*, pp. 258-9.

36. B-GL-300-002 *Land Force Tactical Doctrine*, pp. 1-9 to 1-11.

37. This means that commanders need to be trained to observe and understand opportunities as they arise. This has implications for how we develop and train officers.

38. *The Principles of War for the Information Age*, pp. 258-9.

39. *The Principles of War for the Information Age*, p. 259.

40. *The Principles of War for the Information Age*, p. 259-260.

41. B-GL-300-003 *Command*, Chapter 3. Mission command permits objective acceleration as subordinate commanders identify opportunities. The unifying effect of the Commander's Intent supports the Objective portion of the principle.

42. *The Principles of War for the Information Age*, p. 179. This is a very interesting discussion on Mission Command examining the link between manoeuvre warfare and mission command.

43. *The Principles of War for the Information Age*, p. 260.

44. *The Principles of War for the Information Age*, pp. 260-1.

45. *The Principles of War for the Information Age*, p. 40.

46. *The Principles of War for the Information Age*, p. 90.

Major Mike Johnstone, CD

Challenge and Response:
Innovation and Change in the Canadian Army

by Dr. Scot Robertson

There is nothing more difficult to conduct, or more uncertain of success, than to take the lead in the introduction of a new order of things. Because the innovator has for enemies all those who have done well under the old conditions, and lukewarm defenders in those who may do well under the new.

Machiavelli, The Prince

INTRODUCTION

Canada's Army is in the throes of change. As one analyst noted recently, "the combined effects of the post-Cold War security environment, coupled with the rapid evolution of doctrine and technology (not to mention budgetary requirements) has placed a severe burden on the Canadian Army as it struggles to not only adapt to the new environment, but to plan for the future…".[1] Canada is not unique in this circumstance. Armed forces in general, and land forces in particular, are faced with a multitude of challenges, some new and some very familiar. What is common to all is the need to change, for as Maurice Tugwell commented, "armies must adapt or perish".[2]

It is one thing to acknowledge the need for change, or even to extol the virtues of innovating to meet new circumstances. It is quite another to embark upon a course of innovation for, as Machiavelli suggests, the process is difficult and the result uncertain. Hence, organisations frequently confront change with a mixture of timidity and trepidation. While understandable, in that success is uncertain, excessive caution can only bring about that which it seeks to avoid, namely irrelevance or failure. How then, can institutions – like an army – balance the need to change or innovate, with the tendency to caution? This has been an enduring question, one that has received considerable attention over time.[3]

The aim of this paper is to develop a context for the activities currently under way in the Canadian Army. It will begin with a review of some of the schools of thought on institutions and change, particularly military institutions. It will then turn to a more specific examination of the current attempt to grapple with innovation and change. In framing this study, two constraints have been consciously imposed. First, no attempt will be made to explore the many real and incipient developments in military art and science that have, at least in the minds of some, compelled armed forces to change.[4] Second, only fleeting attention will be paid to the substance of the rich body of historical examples of military change and innovation, successful or not.[5] Without these constraints, the study would have quickly become unmanageable, either bogging down in discussions of military developments, or becoming lost in the weeds of historical inquiry.

INSTITUTIONAL RESPONSES TO THE NEED FOR CHANGE

To thrive, or simply to succeed, institutions need to be open to innovation and change. This is particularly so during times of ferment, but ferment is itself unsettling, and often can result in an institution drawing in on itself, to re-trench, and wait for stability and predictability to return. This may be an option, but equally, it may be an invitation to disaster. Rather than draw in on itself, the institution should seek to exploit times of ferment by actively pursuing innovation and change. That this is so should be axiomatic. However, it runs up against a number of difficult obstacles. Not least of these is the apparent conundrum posed by the notion of institutionalised innovation.

Most institutions, be they military, government, or corporate, have tended towards hierarchical organisational models. Hence, institutions have a vested interest in perpetuating themselves in their current form. In that sense, innovation is both unsettling and difficult to achieve. Yet, at the same time, to ignore the requirement for innovation and change may be to ensure the ultimate demise of the institution. In a noteworthy article on the need to innovate, Bradd Hayes summed up the situation thusly: "To say that an [organisation] should be open to innovative ideas is all well and good, but how is an institution to foster innovative technological, doctrinal and organisational change? More to the point, can innovation be institutionalised at all?"[6] To begin to answer this and related questions demands developing some common understanding of the various components of the problem.

COMPONENTS OF INNOVATION

It is important to stress that innovation is about more than technology. While technology has often been a driving force, equal attention needs be paid to the doctrinal and organisational implications. Another issue concerns the impetus for innovation. The eminent physicist Lord Rutherford was once moved to remark that "We are short of money so we must start to think". In a similar vein, Stephen Rosen, suggested that "rather than money, talented military personnel, time and information have been the key resources of innovation."[7] A third aspect to the larger question turns on how institutions respond to a

perceived need for innovation or change. How can institutions approach the challenge of ensuring that they wrestle with the problem of innovation. As Hayes suggests, this can be a significant problem. "An institution cannot order a pedestrian thinker to be either creative or innovative."[8] Rather, the best it can do is foster a climate that is conducive to innovation. While simple to state in the abstract, what, in fact, constitutes such a climate? What are the organisational or institutional values that encourage innovation? Most writers suggest that strong staff morale, the feeling that the institution is listening, and some means of reward are the most important factors.

". . .armies must adapt or perish."

ORGANIZATIONAL MODELS

Assuming, for the moment, that the climate is conducive to innovation, what are some possible organisational models that would facilitate innovative activity? According to Hayes and others, there are several that have proven to be worthy of emulation, although at root, each depends on "small groups of individuals [that] can freely and frankly exchange ideas".[9] The real challenge is to find a home inside the larger institution.

The following generic models have, over the years, been more or less successful in facilitating innovation.

- Ad hoc groupings assembled to tackle a specific problem or issue.
- A standing group outside the normal hierarchical chain but responsive to the chain. Such a group is best removed from, or insulated from the daily grind and should not be concerned with programmatics. It is best that such a standing group have a rotating membership, although there must be a degree of continuity.
- A think-tank within the larger organisation. Success depends on attracting and retaining the right people, and ensuring that they are given access to the necessary information and access to the higher decision-making authorities. Otherwise, a think-tank runs the risk of being marginalised over time.

Each of these models has inherent strengths and weaknesses. For instance, an *ad hoc* group is, as the term implies, assembled for a specific purpose. In that regard, it is very focused towards a single problem or group of problems. Once the problem has been addressed, *ad hoc* groups are normally dissolved. While an *ad hoc* group might be very successful in its deliberations, the fact that it dissolves tends to perpetuate the notion that innovation is something that can be addressed fitfully.

In the case of a *standing group* outside the normal chain of activity and command, it sometimes falls prey to the out-of-sight-out-of-mind problem. To be successful, a standing group requires sponsorship, stewardship and access. It needs to connect, as it were, with the rest of the organisation and its processes. Otherwise, it will come to be seen as either an expensive luxury that can be dispensed with in times of financial straits, or as a potentially threatening alternate source of power and ideas.

The *think-tank* model, while often successful, is sometimes viewed as out of touch with reality. If a think-tank comes to be characterised as such, individuals will steer away from it, perceiving it as a potentially career-limiting assignment or posting. Branded as a "dead-end" posting, the think tank will then fail where it needs most to succeed, namely in attracting "good" people.

COMMON ATTRIBUTES

Whatever model an organisation pursues, the factor common to all is attracting and retaining the right people – that is to say "good" people. Another common factor is the need to avoid alienating the larger institution. This can be difficult, in that innovation is, almost by definition, threatening to tried and true practices. Hence, innovation, particularly radical innovation, is frequently viewed with suspicion, especially in large, conservative and hierarchical institutions. In that sense then, incremental or evolutionary innovation may be seen as *better*, or at least less disruptive, than radical innovation. Evolutionary or incremental innovation tends to minimise the uncomfortable rivalries fostered by revolutionary or radical change.

While evolutionary or incremental innovation may be potentially less disruptive, it is not clear that it produces better results. Rosen argues that the desire to avoid rivalry within an organisation may actually discourage innovation. In his view, innovation is fostered by ideological struggles within and between organisational units and sub-units. As such, the organisation must foster a climate that encourages such debate, and protect people who put forward unconventional, radical or even heretical ideas.[11]

OPPORTUNITIES FOR INNOVATION

Another issue that arises from any discussion of innovation and change concerns timing and opportunity. When, if ever, is it best to embark down an innovative path? Hayes, writing in the mid-1990s, asserted that "the present post-Cold War interregnum marks a moment in history during which the nation should take advantage of newly available time and resources for experimentation … this is the period of least risk if wrong choices are made."[12] While few would dispute the wisdom of this general proposition, it does not simply follow that innovation, radical or evolutionary, will take place. As one observer caustically commented, "you can't design an

". . .can innovation be institutionalized . . .?"

Dr. Scot Robertson

organisation for advocacy and innovation because the bureaucracy will stomp it out every time".[13]

There are, however, other less pessimistic views. Ronald Kurth, for instance, argues that certain organisational arrangements can be instituted to foster and reward creative, productive, perhaps even innovative activity.[14] In his view, the ideal situation is one in which an innovator is permitted the freedom to work unencumbered by the deadening hand of the bureaucracy. Kurth argues that in such circumstances, there would be no difficulty in attracting the right people to such an organisation. The challenge, however, and one that Kurth himself recognises, is that creating what amounts to an institutional structure for innovation may stifle innovation itself. He alluded to this potential dilemma when he wrote that "attempting to systematise … may destroy the circumstances under which … dedicate themselves to innovative endeavours … a myth that innovation is institutionalised by organisational design. It is doubtful that the innovative function can be bureaucratised."[15]

TACKLING INNOVATION

If bureaucratising or institutionalising innovation is a questionable proposition, what then, can be done? How can an institution approach the very necessary task of innovation and change? A number of general *desiderata* suggest themselves for further consideration. The first is to develop and sustain centres of excellence. These should be seen as hot-houses for ideas. Not all ideas will be worthy of pursuit. Some may be downright silly. However, there is some intrinsic value in allowing ideas to flow. A second is that the organisation **must** encourage and accept risk-taking. While this is often stated, it is less-often honoured. In many organisations risk-taking is discouraged and punished. Risk takers and innovators should be accommodated, and not, in the words of Vice Admiral Williams, stomped out.[16] Third is to recognise that ideas can take years to bear fruit. This may, however, be the most difficult to grapple with. Fourth, and perhaps most important is that organisations must accept that in confronting innovation and change, it is often difficult, especially at the outset, to see an idea in its larger perspective. It is impossible to "connect all the dots" as it were. It is, therefore, important to acknowledge that an all-encompassing perspective may not evolve for some time, and that the institution will need to live with the ambiguity this entails.

THE CANADIAN ARMY AND INNOVATION

> *There are two great difficulties with which the professional soldier … has to contend in equipping himself as a commander. First, his profession is almost unique in that he may only have to exercise it once in a lifetime, if indeed that often. Secondly the complex problem of running a [military service] at all is liable to occupy his mind and skill so completely that it is easy to forget what it is being run for.*[17]

How can the Canadian Army confront the challenges of innovation and change in a period marked by severe budgetary constraint and continued uncertainty? In the first instance, it is important to recognise that innovation and change are not to be feared. This is not to say, however, that they should be approached in a cavalier fashion. Armed forces are, for many reasons, conservative organisations, not least because the consequence of "getting it wrong" is paid in blood. By the same token, the consequence of not changing may also be a failure measured in blood and treasure. This dichotomy suggests that armed forces must approach innovation and change in a disciplined and systematic fashion.

"Simply putting in place a process to grapple with the substance of innovation and change, however, is no guarantee of success."

If a cautious and systematic approach to innovation and change is desirable, what would such an approach that could guide the Canadian Army in period ahead look like? One possibility is to consider the process as driven by the following series of questions:

- What might be done?
- What can be done?
- What should be done?
- What will be done?

In this formulation, the problem is structured in such a way that it moves from the general through to the specific. It does not become prescriptive until the final question (What Will Be Done?) is posed. Even then, however, one must recognise there is no permanent end-state. In that sense, change, or at least thinking about change, is a permanent condition.

The Canadian Army has recently established just such a process by which it can confront change and seek to make appropriate innovations in everything from equipment technology, to organisational structure to doctrine. Termed the Future Army Development Plan, it consists of three overlapping reviews or studies. The first of these, now largely complete, explored the emerging future security environment.[18] The second sought to consider future army capability requirements derived from the judgements and assessments flowing from the future security environment review. In exploring future army capability requirements, the main objective was to consider how the army might need to adapt or change in terms of technology, organisation and doctrine. The third set of reviews or studies aims at developing concepts for how to implement necessary change. This may be the most difficult, yet at the same time most essential piece of the puzzle. It is difficult in the sense that it seeks to address the *what might be done*, *what can be done* and *what should be done* questions without having a coherent picture of what the result will necessarily be. In some instances, the concepts may prove to be ill-conceived or beyond the realm of what is feasible. In other instances, the concepts may challenge the existing *status quo* to such an extent that deeply entrenched

interests forcefully attack them. It is essential in that it sets the stage for attempting to tackle the *what will we do* question.

Simply putting in place a process to grapple with the substance of innovation and change, however, is no guarantee of success. It requires people, time, effort and the appropriate analytical tools. It also requires, perhaps most fundamentally, the proper perspective. The Canadian Army has of late demonstrated a commitment to innovation and change. It has created organisations specifically tasked to consider the future and what this may mean for land warfare – specifically the Director of Land Strategic Concepts (DLSC) and the Army Simulation Centre (ASC). These organisations have been given the time, and to some extent, the tools to carry out this exploration. What may be missing from the equation, is a sense of perspective or context. In this regard, the obstacle stems largely from the understandable desire to see all the dots connected prior to moving beyond the conceptual level.

How, then, is one to develop the sense of perspective or context that is so essential to a process of innovation and change. One possibility is to explore previous instances of how armed forces confronted periods of change. Most analysts and commentators point to several classic examples of innovation and change. One such example – the development of *Blitzkrieg* – is often touted as the quintessential instance of successful army innovation. At the end of World War I, there existed precursors of what would later come to be known as *Blitzkrieg*. Each of the major combatants emerged from the World War I with the same basic experience and technologies, and with largely similar organisational and doctrinal approaches. However, following the war, it was Germany that was most successful in building upon these lessons. Rather than simply grafting the lessons and technologies to the existing force model, the German's undertook a radical re-think. As *de facto* Chief of Staff of the German Army from 1919 to 1926, General Hans von Seekt embarked upon a thorough and serious study of the "lessons" of the Great War.[19] These were embodied in the force design of the German Army that launched the devastating Blitzkrieg attacks in the opening phase of the Second World War.[20] In contrast to the German Army, other combatants did not adapt nearly so readily. For the most part, new technology was merely grafted on to existing organisations in a piece-meal fashion. Doctrinal precepts did not evolve markedly. As such, there was an incremental increase in combat power, and an incremental change in approach, but nothing as revolutionary as that of the German *Blitzkrieg*.[21] Rather, the result was one that simply automated the *status quo*.

"How can an institution approach the very necessary task of innovation and change?"

What led, in the German case, to a successful change, while other major powers seemed either content with the *status quo*, or unable to address the new realities of land warfare? Many historians suggest that the German approach was the product of a number of unique factors. Perhaps most significant of these was the tradition of the German General Staff and the presence of a strong personality who was able to impose his will on the institution – General von Seekt. In the General Staff, Germany had an institution with a long tradition of serious and rigorous study of the phenomenon of war. In General von Seekt, it had an individual who was able to foster a spirit of intellectual inquiry within the General Staff and the Army. Perhaps the best indication of this was von Seekt's deliberate and thorough effort to study the lessons of the Great War. He created an elaborate and extensive committee system to explore virtually every aspect of the war with a view to developing new methods.[22] In addition, von Seekt laid the foundation for a prolonged period of experimentation with these new methods that ultimately formed the foundation for the combined arms approach.[23]

It is one thing to note past examples of successful innovation, particularly when they tend to be situation dependent. It is equally important, however, to identify the factors that aid in the process. As Williamson Murray has suggested, it is a case of "military planners endeavouring to prepare for a war that will occur at some indeterminate point in the future against an unidentified opponent, in political conditions that cannot be accurately predicted and in an arena of brutality and violence which one cannot replicate."[24] Faced with this, what factors and influences are central to the process of translating a notion of future, perhaps even revolutionary developments, into a capable force structure in the face of external and internal constraints? Clearly, experimentation plays a key, if not critical role in this endeavour. The degree to which one is successful is dependent, to a certain extent, upon developing an overarching approach to guide the process of experimenting with innovative force development concepts. Andrew Krepinevich suggests that experimentation is critical to any effort of transformation or innovation; is as much philosophical as it is tangible; and must be part of a larger process.[25]

In Krepinevich's view, the value of experimentation stems from its utility in addressing the following:

- The ability to explore aspects of a *vision* through wargaming;
- Identifying and solving practical problems;
- Identifying technological entry barriers;
- Avoiding false starts or premature lock-in;
- Determining the mix of emerging and legacy systems;
- Identifying breakpoints;
- Allowing for serendipitous events;
- Narrowing the range of uncertainty; and

Dr. Scot Robertson

- Enhancing organisational agility by creating options.

As part of the Future Army Development initiative, the Army has recently established the ASC. The primary objective of the ASC is to provide a facility for streamlining the process of capability development of the Army through objective assessment and optimisation of proposed change across multiple battlefield operating systems and over a range of capability development issues from force structures to technology insertion. The ASC will integrate and coordinate geographically dispersed specialist facilities, providing a more efficient and effective process for addressing capability development options. Although its activities will be focused primarily on the Future Army, its roles will include:

- Developing, experimenting with and validating new and innovative concepts for the Future Army;

- Conducting requirements definition and doctrine and training development concurrently with concept development, and compress the time frame for fielding doctrine, organisations and equipment for the Army of Tomorrow; and

- Examining the needs of the combined arms and services team in a variety of scenarios in both operations and garrison for the Army of Today.

It would appear then, that the ASC plays a vital role in the larger process of innovation and change in the Army. It provides the means to explore new ideas, seeking to determine whether concepts under consideration are worthy of further pursuit. It also provides a link to the more detailed work of translating concepts into doctrine organisation and equipment.

NEXT STEPS

What can one say about the Army's effort to embark upon a course of innovation and change? First, the Army has consciously recognised the need to actively pursue an agenda of change. This recognition is absolutely vital to ensuring that the Army will be able to support the nation's interests in the future. To some extent then, the Army has met the general test that the first step towards successful innovation is the acknowledgement that change is necessary. Secondly, the Army has put in place some of the means and mechanisms to press ahead with a change agenda. It has created organisations that also meet some of the conditions necessary to change, including providing the people, resources and tools to pursue innovative ideas and concepts. Thirdly, the leadership of the Army has provided valuable support to the initiative. Overall, it would appear that the Army's commitment to innovation and change is tangible and meaningful.

Despite this positive situation, there are several challenges ahead. To date, the efforts have largely been restricted to the conceptual level. They have not, except in the remotest sense, run up against the hard reality of either affordability or organisational intransigence. Will the resources be made available to push ahead, and will the leadership support potentially disruptive organisational and hierarchical changes? This will be the true test of the larger institutional commitment to innovation and change.

ABOUT THE AUTHOR...

Scot Robertson holds a PhD in Military History from the University of New Brunswick. He has worked as a Strategic Analyst in Policy Branch at NDHQ and on the Force Development Staff for the VCDS. His current post is as a Strategic Analyst in the Directorate of Land Strategic Concepts. He also teaches in the graduate programme in War Studies at The Royal Military College of Canada.

ENDNOTES

1. Sean Maloney, "An Identifiable Cult: The Evolution of Combat Development in the Canadian Army 1946-1965", *DLSC Report 9905*, (Kingston, ON.: Directorate of Land Strategic Concepts, 1999.) p. 1.
2. David Charters and Maurice Tugwell, *Armies in Low Intensity Conflict: A Comparative Analysis*, (Toronto: Brassey's Defence Publishers, 1989), p. 1.
3. See for example, Stephen Rosen, *Winning the Next War: Innovation and the Modern Military*, (Ithaca NY.: Cornell University Press, 1991).
4. The entire debate centred on the notion of a Revolution in Military Affairs (RMA) is, at root, about developments and possibilities in military art and sciences. There is a veritable cottage industry that daily produces monographs, articles and reports on the putative RMA. A simple search on the world-wide web would turn up a vast list of possible resources.
5. Only slightly less numerous than monographs and articles on the RMA are historical studies of previous instances and periods of military innovation. For a recent example see Williamson Murray and Allan Millett (eds.), *Military Innovation in the Interwar Period*, (Cambridge: Cambridge University Press, 1996).
6. Bradd C. Hayes, Capt, USN, "Institutionalising Innovation: Objective or Oxymoron?" ,*Naval War College Review*, Vol XLVIII, No. 4, Autumn 1995, p. 7.
7. Stephen Peter Rosen, "New Ways of War: Understanding Military Innovation", *International Security*, Summer 1988, p. 134. Rosen later expanded upon his ideas in *Winning the Next War: Innovation and the Modern Military*, (Ithaca, NY.: Cornell University Press, 1991).
8. Hayes, p. 8.
9. Hayes, p. 9.
10. An excellent example of a successful think-tank is the RAND Corporation in the early 1950s. To a considerable extent, RAND was instrumental in shaping and influencing USAF and DoD

thinking in a number of areas related to nuclear strategy. See Mark Trachtenburg, *History and Strategy*, (Cambridge Mass.: MIT Press, 1991) ,Chap 2.
11. Rosen, "New Ways of War", p.141.
12. Hayes, p.14.
13. J.D. Williams VADM (Ret'd) USN, cited in Hayes, p.15.
14. Ronald Kurth, *The Politics of Technological Innovation in the United States Navy*, (Cambridge Mass.: Harvard University, unpublished Ph.D. dissertation, 1970), cited in Hayes, p. 15.
15. Kurth, cited in Hayes, p. 15.
16. J.D. Williams VADM (Ret'd) USN, cited in Hayes, p.15.
17. Sir Michael Howard, "The Use and Abuse of Military History", *Journal of the Royal United Services Institute*, Vol 107, February 1962, p. 6.
18. DLSC Report 99-2, *The Future Security Environment*, (Kingston ON.: DLSC, Aug 1999).
19. For a discussion of this see James S. Corum, *The Roots of Blitzkrieg: Hans von Seekt and German Military Reform*, (Lawrence KS.: The University Press of Kansas, 1992).
20. This is but one example, although by far the most frequently cited, of what was a period of intense military development and innovation. Other examples were the advent of carrier aviation, and strategic bombardment to name but two. See for example, Commander Jan van Tol, "Military Innovation and Carrier Aviation: An Analysis", *Joint Force Quarterly*, Autumn/Winter 1997-98, pp. 97-109; and Murray and Millett (eds.), *Military Innovation in the Interwar Period*, (Cambridge: Cambridge University Press, 1996).
21. This portrayal is somewhat stark and simplistic. However, it is curious that of the three European powers that engaged in combat along the Western Front, the post-World War I models diverged so radically. France, for example, took as the major lesson of WWI the apparent power of the defensive, which, when combined with the national trauma it suffered, led it to embrace a strategy exemplified by the Maginot Line. Britain, perhaps reflective of its historical tendencies to see itself as a maritime and imperial power, sought to avoid the prospect of large-scale land combat in Europe, relying instead on naval and air forces to provide security. The fact that the British Army, which led in the development of the tank and in the evolution of doctrine for its employment, later abandoned any pretence of serious thought and experiment with armour, is telling.
22. For a recent analysis of von Seekt's initiatives, see Corum, *The Roots of Blitzkrieg*.
23. For a thorough discussion see Robert Citino, *The Path To Blitzkrieg*, (Boulder CO.: Lynne Reiner, 1999).
24. Murray, *Military Innovation*, p. 301.
25. Andrew Krepinevich, "Military Transformation: The Role of Experimentation" presentation at US Atlantic Command, Norfolk VA., n.d. In the presentation, Krepinevich focused on four examples of experimentation, Germany and the Blitzkrieg, the USN development of carrier aviation, the RN and the Dreadnought, submarine and torpedo and the Prussian Army and the railroad, rifle and telegraph.

A Leopard C2 tank enroute to the Canadian War Museum for a public display. (Courtesy CFPU)

Dr. Scot Robertson

The Stand-Up Table

Commentary, Opinion and Rebuttal

Commentary on "ISTAR Sensor Integration: a Non-melting Pot Option" by Captain Martin Rivard, Volume 3, No 3.

Captain Jim Greengrass of the Canadian Forces Joint Signal Regiment writes…

While I am not one of that tribe which reads the future in a goat's entrails I did spend several years in the ISTAR field as the Project Director of several Army ISTAR/RISTA/STANO projects during what I refer to as "my previous life." Consequently, I read Captain Rivard's article with great interest. While I agree, to some extent, with his sentiments I have some significant concerns with his proposed solution, which appears to be to regroup "most of the staff found in the G2 cell with the Intercept and Analysis section of the Electronic Warfare (EW) troop…" then adding a "UAV/Drones Section" to this organization. He asserts that this produce "a more powerful intelligence organization…" I don't agree.

Captain Rivard correctly points out that "the role of ISTAR within the mechanized brigade group is to provide the commander with *the information* required to gain battle space awareness…" [italics mine.] This is, I believe, the key to the problem. As the Cognitive Hierarchy set out in B-GL-300-005 shows, information is produced by processing data. Analysis, that process by which data is turned into information, is the "critical path" activity in this entire process and Captain Rivard notes correctly that brigade intelligence staffs are severely limited in their ability to perform analysis.

My primary concern with the proposed solution is that, while the fundamental problem is a lack of analysis capability, the proposed solution focuses on increasing the number of sensors, thereby compounding the analysis problem. The net result will be less reliable information, delivered more slowly than under the current system (which is already barely acceptable).

Captain Rivard's sensor of choice appears to be the UAV. While I certainly applaud his insight, he makes a number of overt and implicit assumptions regarding them that are not completely correct. First is the statement that "airborne assets like…[UAVs]…tend to be controlled by air forces." This is true in some militaries (notably the Swiss and the Israeli) but is not true of the British Army. Nor is it true of the American military, where tactical UAVs (but not strategic) are controlled by ground forces. The term "control" also needs to be carefully defined. Do we mean tasking authority, flight control, sensor control, maintenance authority or what? When I left the ISTAR world a couple of years ago it was becoming increasingly apparent that ground force commanders did not necessarily require total control of the entire UAV system to achieve their aims.

The statement is also made that "By regrouping UAV [sic] with the ISTAR unit, we are giving the commander direct access to all of these capabilities, improving information gathering capability over the battle area and beyond it." A UAV, like any sensor, gathers *data*. Analysis is required to turn that data into information and unless significant improvements are made in the Brigade's capacity for analysis, the UAV will be a liability, not an asset.

Finally, I have some concern with the statement "with modern technologies [UAVs] can be readily and easily available to land force commanders all the way down to battle group" and the inclusion of a ÚAV/Drones Section within the proposed 'ISTAR Troop" organization. Having devoted several years of my career to this issue I can assure you that the problem is not nearly as simple as Captain Rivard presents it. Making UAVs available to brigade and battle group commanders is technologically feasible and there are compelling tactical reasons for doing so. However, the problem is anything but simple. Airspace coordination alone will be a significant problem, to say nothing of the requirements for real-time coordination resulting from "on the fly" re-tasking of UAV assets in response to rapidly changing tactical situation. Can UAVs be made available at the lower tactical level? Yes, most certainly. Can they be made "readily and easily available"? No, most certainly not. Finally, a "UAV/Drone Section" is simply not a viable organization, no matter what the contractor's brochures may say. Tactical UAV technology of the moment and near future demands an organization of approximately 50 personnel to sustain 24/7 operations in a tactical setting.

In conclusion, although I take issue with some of Captain Rivard's paper, I support his efforts to define exactly how we are going to implement ISTAR within the Canadian Army. I agree with him that ISTAR is too important to be a victim of cap-badge tribalism. However, I caution that the issue needs to be thought through in agonizing detail before any organization changes can be recommended. To paraphrase Field Marshal Slim "the problems of the army will not be solved simply by drawing a new organization chart."

Commentary on "Which Way to the Beach? The Case for "Amphibiosity", Volume 3, No. 3, Fall 2000.

Sergeant Arthur Majoor of 31 Canadian Brigade Group Headquarters writes…

THE INFRASTRUCTURE FOR "AMPHIBIOSITY"

I read Major William's article with interest, but came away a bit unsatisfied. Major Williams makes a good case for amphibiosity, and the integrated joint service doctrine it would induce, but Amphibiosity could only be achieved at the end of a long "infrastructure" program. Selling such a program would be the political shoal upon which such a scheme would founder.

Consider the following shopping list:

- The core components of a battle group would have to be moved and stationed close to the relevant naval facilities on each coast.
- A further range of LAV family vehicles would have to be fielded, such as a direct fire support vehicle, LAV gun tractor and light 155 towed artillery (or LAV self-propelled artillery), and logistics variants, in order to conduct operations ashore.
- The Navy would have to undertake a major rebuilding of its warships, to protect the task force against enemy anti-ship missiles, and provide surface bombardment capabilities that are currently lacking. As well, a new class of ocean-going minesweepers would be needed to accompany the task force to the littoral regions in question.
- Once ashore, the Canadian Forces has no means of providing air support to the task force. Aircraft carriers are far too expensive to contemplate, nor do we have attack helicopters that could at least launch off the flight decks of the task force ships.

We should remember that amphibiosity is a robust form of power projection. The Government of Canada has been an unenthusiastic player in this game, limiting it's contributions to alliance actions to the mostly symbolic: a handful of ships and planes, a field hospital and a company of Infantry for the Persian Gulf War; another handful of airplanes for Kosovo, and so on.

Canada has been more enthusiastic in spending military resources in support of "soft power", but the military is a rather blunt instrument for "agenda setting" or demonstrating the attractiveness of Canadian or Western culture. Amphibiosity is more than the Government seems willing to do in the first case, and rather more than required for the second.

Another point to consider is the speed of naval task forces compared to the time frames crisis often happen in. Sending a task force on a month long journey makes little sense if they will arrive too late to make a meaningful contribution. The purchase of used amphibious assault ships; or the conversion of existing classes of Ro/Ro or container transport ships would become a constant source of irritation to the Government. All that expensive hardware, never able to arrive in time for dramatic news footage. Amphibiosity would become a target for cutbacks, if it were unable to prove its worth on a constant basis.

If we do want to make the tremendous investment involved in becoming involved in power projection, we might as well consider spending extra to acquire advanced technology. High speed container/transport ships (such as proposed by FastShip Corporation), or even heavy lift airships, are the twenty-first century technologies needed in order to arrive on time.

Amphibiosity, in other words, requires a huge restructuring of the Canadian Forces. In the current climate of budgetary austerity, and lack of Government or citizen interest in defence matters, this would require a sales and education effort of epic proportions. We need to find a way to achieve the same result in a more economical manner.

More on the Educated Officer Corps. (See "Commentary from the Managing Editor, Volume 3, No. 1 and comments from Major Bill Beaudoin, Volume 3, No. 3)

Major Pierre Royer of the Canadian Forces Support Training Group writes…

I have been reading with interest the debate on the "university educated officer". Every time this issue comes up, I cannot help but think about Sir Arthur Currie – the high school educated militia Colonel from British Columbia (and admitted embezzler) who later as a major-general, commanded the 1st Canadian Division on 9 April 1917 when it captured a share of Vimy Ridge. Today, without a degree, unilingual and with questionable financial habits, Currie would be lucky to make it past the rank of Captain, assuming he could pass his Express Test.