THE OPERATIONAL ART: CANADIAN PERSPECTIVES

CONTEXT AND CONCEPTS

EDITED BY

Allan English, Daniel Gosselin,
Howard Coombs, and Laurence M. Hickey

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FOREWORD

I am delighted to write the foreword for this very important volume on the operational art, specifically because it is set in the Canadian context. Too often, our professional development is focused on the writings and practices of other nations, not because we lack the expertise or experience, but rather because we have failed to articulate our own unique Canadian perspectives and practice. In a small measure, this offering moves towards correcting this problem.

In addition, this book demonstrates the dynamic nature of the Canadian Defence Academy (CDA). Created in 2002 to champion and manage professional development reform initiatives in the Canadian Forces, CDA has moved the yardsticks considerably. This project is just one small example, yet it speaks to CDA's growing capacity, which has been achieved through the synergy of the combined effort of all its subordinate organizations. For instance, the manuscript was created by the Canadian Forces College through the efforts of both faculty and students. The manuscript was then passed to CDA's Canadian Forces Leadership Institute, who is tasked with managing the newly formed CDA Press. CDA Press was established to publish scholarly and professional works that contribute to the creation of a distinct Canadian body of operational leadership and profession of arms knowledge that can be used for professional development purposes within the Department of National Defence (DND) and the Canadian Forces (CF). It is also a mechanism to educate the public in regards to the significant contribution of DND, the CF and the Canadian military experience in general.

As such, this volume, put out under the banner of the CDA Press, represents not only another of the innovative ideas and services that CDA is providing to foster intellectual development and critical thinking within Canada's military, but also the transformation of the CF into a learning organization. Professional development is the cornerstone of the profession of arms and the Canadian Defence Academy strives to play a vital role in the reformation and transformation of our professional standards and competencies.

FOREWORD CONT...

I trust you will find this book of great interest and I hope that it stimulates debate in regard to the profession of arms in Canada. I invite you to join in this discourse and make your own contribution to military professionalism in this country.

Paul Hussey
Major-General
Commander, Canadian Defence Academy

INTRODUCTION

In the seven years that have passed since the inaugural Advanced Military Studies Course (AMSC) was held at the Canadian Forces College (CFC) in Toronto, a great deal of knowledge about the operational art has been acquired by staff and students at the College. While the AMSC was the catalyst for this effort, a number of other programs at CFC have also contributed to our knowledge of the operational art, notably the Command and Staff Course and the new Masters of Defence Studies program. Much of this knowledge has been made available in various forms on the CFC web site through the work of Cathy Murphy, the head of the Information Resource Centre at CFC, and her staff. However, it was sometimes difficult for researchers to find specific material on the operational art because of the vast amount of information available to them on the web site.

To address this issue, the College has undertaken two initiatives to make its knowledge of the operational art more accessible. The first is a web site called "The Operational Art – Canadian Perspectives," which has been created to provide a knowledge base that can be easily accessed by those looking for information about the operational art from a Canadian perspective. The second is the publication of a series of books, of which this is the first volume, to make selected material from the web site available in print form.

This book begins the publication series because it lays the foundation for those that will follow. When we first engaged in the serious study of the operational art at CFC, it was recognized that the Canadian military had borrowed most of its concepts and doctrine in this area from its allies, particularly the United States. Over time, however, through study and reflection, we have realized that there are distinct Canadian approaches to the operational art that are based on our national and military culture and historical experience. This book offers to its readers these Canadian perspectives and also some insight into how they were developed.

The book is divided into two parts: the first part puts the study of the operational art into a Canadian context, while the second part offers the reader operational art concepts from Canadian senior officers. The first

part of the book starts with an overview of the evolution of the operational art from a Canadian perspective by Allan English. This is followed by Howard Coombs' essay on the evolution of operational thought in Canada. In the next essay, Gordon Peskett offers a new, comprehensive and graphical model of the levels of war that can frame the full spectrum of military operations in the 21st century. The final paper in this part of the book, by Daniel Gosselin, establishes the context for understanding the operational art in Canada by describing the tension between the concepts of unification and strong services that has been in evidence for 50 years and that continues to this day. The intent of the first part of this book is to give the reader the necessary background to understand the context in which the concepts that follow were developed. Furthermore, we believe that this context will also be relevant to future Canadian Forces (CF) transformation initiatives, including the most recent ones instituted by General Rick Hillier since his appointment as Chief of the Defence Staff in February 2005.

The second part of the book presents a number of concepts related to the operational art developed by Canadian senior officers with extensive experience in command and staff appointments and produced in written form while they were students at CFC. The concepts are presented here for several reasons: to share them with a wider audience, to give the reader a sense of how ideas about the operational art have evolved in the CF, and to demonstrate how the authors have built upon the ideas of their predecessors at the College. The first essay, by John Dewar, shows that as early as the first AMSC in the fall of 1998, there was already a realization that there were problems with the way the concept of operational art was being applied in Canada. It is interesting to note that a number of Dewar's ideas are still very relevant to the CF's most recent transformation initiatives. The second essay in this part of the book is an examination, by Gerald Pratt, of a specific case of a serious deficiency in joint doctrine caused by a "clash of service doctrines" over how air and land power should be used in the joint campaign. His study illustrates why it can be difficult to write joint doctrine when fundamental assumptions about how to conduct operations are very different. Christopher Kilford provides one approach to resolving this conundrum in the next essay. He suggests a new way of applying the operational art to focus on the creation of the right conditions to allow military forces to depart the field of battle sooner rather than later by designing campaigns to achieve the

best possible military and civil end state. In the fourth essay in this part of the book, Jonathan Vance argues that Canada's distinct "way of war" is "contribution warfare," and that, recognizing this fact, the CF must widen its doctrinal foundation to include a sound basis explaining how Canadian tactical forces contribute to Canadian strategic objectives in "contribution warfare." James Simms then proposes a "functional" model of the operational art, based on an analysis of Canadian participation in a recent United Nations peacekeeping operation in East Africa. Simms' model is quite different from traditional models of the operational art, but it is designed to be flexible and responsive to the types of operations the CF may face in the future. The sixth essay, by Craig King, uses another case study, a recent Peace Support Operation in Bosnia-Herzegovina, to examine the operational art in the context of Effects Based Operations (EBO). He concludes that the CF will need to carefully study the concept of EBO to ensure that it is correctly understood and applied in Canadian doctrine related to the operational art. Pierre Lessard's essay completes this part of the book by proposing a new model for campaign design in the post-9/11 era using the operational art to reunite strategic ends with operational-level means to seek ways of winning both the war and the peace. Concluding remarks by the editors end the book and attempt to synthesize the key issues raised in the essays presented here.

This book was conceived, as part of the CFC outreach program, as a way of disseminating knowledge acquired at CFC and to engage those who are interested in the study of topics relevant to professional military education. Therefore, we see this book as the catalyst for a debate to which we encourage readers to contribute.

PART I

Operational Art
in the Canadian Context

CHAPTER 1

THE OPERATIONAL ART: THEORY, PRACTICE, AND IMPLICATIONS FOR THE FUTURE[1]

Allan English

PART 1 - INTRODUCTION

GENERAL

The operational art is at the heart of the practice of the profession of arms today. Virtually every staff college or war college in the Western world devotes a significant part of its curriculum to the operational art. And yet the context in which the operational art has developed, especially over the past 20 years, is not well understood by many practitioners. Likewise few practitioners appreciate how the concepts that underpin the operational art originated and have evolved over time. Therefore, the aim of this chapter is to explore the theoretical and historical roots of the operational art to better understand its context and key concepts, and to see how they might affect the practice of the operational art now and in the future. This chapter is based on a series of lectures I gave at the Advanced Military Studies Course at the Canadian Forces College (CFC) over the past seven years. For more detailed information on any of these issues, readers are invited to consult the online bibliographies provided by the Information Resource Centre (IRC) at CFC or electronic versions of essays written by CFC students, also available online from the IRC.

This chapter has five main parts. The first introduces readers to some basic concepts related to the study of the profession of arms; the second explores the origins of the operational art in its modern form; part three provides an analysis of the varying interpretations of the concept of manoeuvre and how they affect the operational art; part four looks at how future trends in war fighting and conflict might affect the operational art; and part five provides a summary and some concluding thoughts on the implications of this analysis for the future of the operational art.

Commonly defined as "the use of military forces to achieve strategic goals through the design, organization, integration, and conduct of theatre strategies, campaigns, major operations, and battles,"[2] the application of the operational art allows military professionals to orchestrate campaigns that link tactical actions with strategic objectives. Because of its importance, the operational art is a topic that has been debated widely in the past 20 years. Until recently, however, the debates have focussed around concepts developed by land forces. Now air forces and navies are challenging many of these concepts and devising their own to explain how they might practice the operational art. Many of the ideas used in this debate have their origins in theories of war and in historical experience.

Before starting this exploration of the operational art, it is necessary to address a question posed by some military personnel who may read it- why should I study the theoretical and historical aspects of my profession? According to Canadian writer and filmmaker Gwynne Dyer, war (the word "war" is used in this paper as a shorthand for the entire spectrum of conflict) is a central institution in human civilization.[3] War is not an interminable series of historical accidents, nor the result of some simple single cause such as capitalism, overpopulation, or the acts of evil people. In fact, war has been more or less a functional institution in human society because it provided benefits for societies that were good at it, although the cost of the benefits could be high.[4] For those who were not proficient in the art of war, the outcome could be catastrophic. Machiavelli (1469-1527), who wrote amid the ruins of his land ravaged by wars fought badly by outsiders, penned his ideas so that rulers and conquerors might do their work well.[5] Therefore, it behoves military professionals to study their profession so that they might do it well and, like a skilful surgeon, minimize the effects of necessary surgery on the body politic. The military profession, like other professions, uses theories to explain why and how things work. Just like the professional engineer, who studies both the theoretical and practical aspects of his discipline, the military professional must understand the theories of his field of practice before he can be called a true professional. The US military has recognized this reality, and all operational-level US doctrine, upon which we rely heavily, is rooted in theories of war. If the Canadian Forces (CF) is to maintain its mandated seamless interoperability with US forces, its officers must also master this body of knowledge.

The phenomenon of war has been studied for centuries and this study has produced both literature and theories that are available to military professionals to assist them in improving their knowledge of their profession, but war is a difficult phenomenon to study because the subject itself changes constantly with changing technology, cultures, and economic and political circumstances. Despite these difficulties, "historical experience is infinitely longer, wider and more varied than individual experience,"[6] and thus, it gives those who study it access to a much larger database than personal experience alone. But there are pitfalls on the road to historical enlightenment. First of all, every age is unique in its combination of conditions, issues and personalities; therefore, the past rarely offers direct lessons to us today but rather an educated memory of what has gone before. It provides us with analogies, composed of lessons learned, themes, mistakes to avoid, practices that consistently work well, and evidence that can guide us in our study of the present and the future. History also records practical experience that can be used to evaluate and modify current doctrine. For example, the US military has developed a large history program to record, analyze, and disseminate lessons from past operations. A number of these programs interview current leaders to capture their experiences while they are fresh in their minds. A program to systematically record senior leaders' experiences from past operations is just beginning in Canada, but as yet little analytical work has been done in this country. History can also be used to illustrate and to explain doctrine, and to make the dry prescriptions of doctrine manuals more relevant to actual practice. New US doctrinal manuals have adopted this technique, and they contain historical vignettes to bring doctrinal principles to life with real examples from the past.[7]

As useful as the study of the past can be, its students need to be aware of the context in which historical events took place. An important part of this context is the background and character of theorists of war because they are subject to the same variables as the phenomenon of war itself. For example, the personal experience of theorists, their ideology, religion, culture, and economic circumstances (i.e., who pays them), all have some influence on their theories. And while some theories may stand the test of time, others do not apply very well across temporal and cultural boundaries. Furthermore, our views of some theorists change according to our own context. For example, Machiavelli is usually portrayed today

as the consummate realist, but, according to O'Connell, to his contempo-
raries in 1513 he was a rather hopeless idealist.[8] Good students of war will
be aware of these factors and consider them in their studies.

THEORY AND PRACTICE

Another important idea that we shall use in examining the operational art
is "theory." A number of commentators have noted how frequently the
military theoretician Clausewitz is cited in the doctrinal writings of the
US services, and that his theories appear to guide the formulation of much
of US doctrine.[9] Even so, theory is not always well-articulated or
described in operational-level doctrine, and yet theoretical constructs are
integral parts of the operational art, as we shall see.[10]

One of the reasons that theory is not often well articulated in operational-
level doctrine is that there are differences of opinion about how it should
be used. For purposes of illustration, I have chosen some of the main
definitions of "theory."[11] One definition, "abstract knowledge of any art as
opposed to the practice of it," explains why some military officers disdain
the study of theories of war. For example, some students on advanced
courses at CFC question the need to study warfare theory and history as
part of their course. They hold a view, still found among some officers,
that abstract theory is not useful in the real world of war. However, they
do not realize that much of the operational art is based on abstract
concepts, e.g., synchronization, integration, manoeuvre, centres of
gravity, etc.

The principal dictionary definitions of the word "theory" encompass
some of the ideas of two of the most influential writers on military
matters. The definition "an integrated view of the fundamental principles
underlying a science or its practical applications," might be used to
characterize the approach of Jomini (1779-1869) to the study of war.
Jomini emphasized decision-making rules, operational results and
conceptualizing warfare as a huge game of chess. His conception of war
has been surprisingly durable in the present age of computer-mediated
warfare where the Jominian paradigm underpins much of the Western
approach to modern warfare. Therefore, according to John Shy, Jomini
more than Clausewitz deserves the dubious title of founder of modern
strategy.[12]

Another definition, "a speculative or conjectural view of something" accords closely with Clausewitz's (1780-1831) understanding of how theories should be used. Clausewitz's approach was strongly influenced by Kantian philosophy, and he used the dialectic approach of thesis, antithesis, and synthesis to study the subject of war. In his book *On War*, he constantly revised his hypotheses and he moved back and forth between the ideal and the real states of war. Many of the writings found in the American professional military literature on operational art quote Clausewitz out of context, as if he had written a book of instruction on the conduct of war. But he did not; he wrote a treatise to help us better understand the phenomenon of war through debate and the synthesis of competing concepts. According to Young, this gives *On War* its timeless quality, but by the same token, it is not strictly correct to describe a strategy or doctrine as "Clausewitzian."[13]

In today's world, where our lives are strongly influenced by scientific notions, we usually expect a theory to be able to explain causality or why things happen.[14] However, Williamson Murray argues that while theories and models can aid analysis, they can offer no formulas for the successful conduct of war, because its reality is far too subtle and complex to be encompassed by theory. At best, he claims that theories can provide a way of organizing the complexities of the real world for studying war because, as Clausewitz suggests, "principles, rules, even systems" of strategy must fall short in a domain where chance, uncertainty, and ambiguity dominate. And yet, while variables have different effects from one situation to another, some of them recur with impressive regularity.[15] Recently, some writers have suggested that the Chaos Theory will offer new insights into war, and this may be a promising line of inquiry in the future.[16]

Finally, theories are an important part of the process of creating doctrine. Along with an analysis of technological advances and recent historical experience, theory is one of the key ingredients to developing effective doctrine.[17] Therefore, theory and history are essential adjuncts to military professionals in the study of their craft.

PART 2 - THE OPERATIONAL ART

ORIGINS

Now that some important concepts have been examined, it is time to turn to the origins of the operational art in Western militaries today. This section of the chapter will examine the context behind current interpretations of the operational art and discuss the implications of this context for practitioners of this art.

Definitions. One problem in studying the operational art today is a lack of consensus about the meaning of the term "operational," especially when it is used to describe a level of war, as in the phrase "operational level of war." Brigadier-General Shimon Naveh, an Israeli Defence Force (IDF) reservist and fellow of the Cumming Center for Russian and East European Studies at Tel Aviv University, goes so far as to claim that the wide diversity of interpretations of what constitutes the operational level of war raises grave doubts about its validity and whether a distinct operational theory is needed.[18]

Part of the problem is that the word "operational," as used in the English-speaking militaries of the world has a number of meanings. According to Bruce Menning, the term "operation" has been in use since at least the 17th century to describe what European armies did in the field, and the conduct of operations in that context was an integral part of strategy.[19] During the first half of the 20th century "operational" came to mean: "engaged in or connected with active military operations as distinct from being under training or in reserve" or "in a condition of readiness to perform some intended function."[20] In this context, Canadian and other Commonwealth aircrews in the Second World War used it to indicate that someone was ready to go on "ops" (what were referred to as missions in the United States Army Air Forces).[21] Operational is still used in that context today in the CF, in the expression Operational Training Units (OTUs), describing organizations whose purpose is to take graduates of ab initio aircrew training programs and prepare them to fly with "operational" or front-line squadrons.

The more recent use of the term "operational" in expressions such as "operational level of war" and "operational art" has given another mean-

ing to the word in a new context. There is some consensus about the meaning of "operational level of war" in the main Canadian and US joint publications. Key themes found in most Western joint publications are that the operational level is a link between strategic goals and the tactical employment of forces, and that its practice involves the planning, conduct, and sustainment of major operations or campaigns.[22]

Official Canadian definitions reflect these different uses of the word. For example, "A CF Operation is defined as *the employment of an element or elements of the CF to perform a specific mission.* [emphasis in original].[23] And the operational level of conflict is defined in Canadian joint doctrine as:

> the level at which campaigns and major operations are planned, conducted and sustained to accomplish strategic objectives within theatres or areas of operations. Activities at this level link tactics and strategy by establishing operational objectives needed to accomplish the strategic objectives, sequencing events to achieve the operational objectives, and initiating actions and applying resources to bring about and sustain those events. These activities imply a broader dimension of time and space than do tactics: they ensure the logistic and administrative support of tactical forces and provide the means by which tactical successes are exploited to achieve strategic objectives.

> The operational level is not defined by the number and size of forces or the echelon of headquarters involved. In a large scale conflict, a corps may be the lowest level of operational command. However, in smaller scale conflict, operational level activity can take place at much lower levels. Regardless of its size, a military force tasked to achieve a strategic objective, is being employed at the operational level.[24]

Despite the general consensus about the use of the term "operational" in Western doctrine, the definition of key terms related to the operational art in official sources is sometimes inconsistent. Peskett offers this assessment of the differences in interpretation of some aspects of operational-level doctrine found in selected Western publications:

A blend of US and NATO doctrine, Canada's capstone joint publication *Canadian Forces Operations* is generally consistent with the levels and definitions in those publications. There are minor terminology differences between all three doctrines, however, that create significant labeling challenges. NATO doctrine refers to 'Levels of Operations' and classifies them as Military Strategic, Operational, and Tactical. US doctrine refers to 'Levels of War' and classifies them as Strategic, Operational, and Tactical. Canadian doctrine, in Canadian Forces Operations, refers to 'Levels of Conflict' and classifies the levels in the same way as the US.[25] The re-titling of 'Levels of War' to 'Levels of Operations' and 'Levels of Conflict' by NATO and Canada respectively, was presumably to infer a broader applicability than war alone. While technically more correct, universal acceptance of either new title will likely be problematic due to the long traditional reference to 'Levels of War.' Also, there is potential for confusion associated with NATO's 'Levels of Operations' title and the actual 'Operational Level.' The US has addressed the problem by simply qualifying that the 'Levels of War' title applies to both war and military operations other than war (OOTW).[26]

These differences in usage are also found in definitions of the operational art. US joint doctrine defines the operational art as follows:

Operational art requires *broad vision, the ability to anticipate, and effective joint, interagency, and multinational cooperation.* Operational art is practiced not only by JFCs [Joint Force Commanders] but also by their *staff officers and subordinate commanders*. Joint operational art looks not only at the *employment of military forces* and the threat but also at the *arrangement of their efforts* in time, space, and purpose. Joint operational art, in particular, focuses on the fundamental methods and issues associated with the *synchronization and integration of air, land, sea, space, and special operations forces* [emphasis in original].[27]

The Canadian definition of the operational art reflects the same general concepts as those found in her allies' doctrine:

Operational art is the skill of translating this strategic direction into operational and tactical action. It is not dependant on the size of the committed forces, but is that vital link between the setting of military strategic objectives and the tactical employment of forces on the battlefield through the skilful execution of command at the operational level. Operational art involves the design, planning, and conduct of campaigns and major operations. It requires a clear understanding of the consequences of operational-level decisions, their tactical results, and their impact on strategic aims. Operational art requires commanders with broad vision, the ability to anticipate, and a careful understanding of the relationship of means to ends. Using operational art, the commander applies intellect to the situation to establish and transmit a vision for the accomplishment of the strategic objective.

No specific level of command is solely concerned with operational art. In its simplest expression, operational art determines when, where, and for what purpose major forces will fight. It governs the deployment of those forces, their commitments to or withdrawal from battle, and the sequencing of successive operations to attain operational objectives.[28]

Perhaps the most controversial part of the Canadian definition is that the operational level is not defined by the size and number of forces involved, but on the outcome of an action, and that no specific level of command is solely concerned with the operational art. These meanings have been championed by Canada, which is unlikely to field what the US considers operational- (or theatre-) level forces (i.e., multi-corps formations, numbered fleets or air forces) to allow the CF to claim it works at the operational level. Nonetheless, given the theatre-level and campaign focus of much of Western operational-level doctrine, this Canadian interpretation is not widely recognized.

Despite the superficial consensus about its meaning found in Western publications, and its having achieved buzzword status within the US Army and among joint communities, a good deal of confusion still surrounds the connotation and significance of the word "operational."[29] In his seminal 1987 article on the operational level of war, Edward

Luttwak noted that the absence of any term in Anglo-Saxon military terminology to describe what happened between the tactical and strategic levels of war meant that most English-speaking military professionals were unable to think about or practice war at the operational level.[30] Luttwak's conclusion has been challenged by those who assert that the US practiced the operational art in both the Second World War and Korea,[31] but it raises the question of whether today's confusion in terminology leads to confused thinking about the operational level of war. Be that as it may, according to Luttwak, once the term "operational" was adopted, albeit from a foreign setting, by the US military, the ability to conceptualize at that level of war followed. He stressed the importance of the integrative nature of the term because he believed that it bridged and combined unique qualities of each level of war, i.e., the abstract contemplation at the strategic level of war and the mechanical action at the tactical level of war.[32] While this interpretation of the operational level of war might hold true for some, it is not universally accepted, as we shall see later. But first, we will examine how the term "operational" became a buzzword in Western military doctrine at the end of the 20th century.

INTERPRETATIONS OF THE OPERATIONAL LEVEL OF WAR

There are various ways of explaining the evolution, and therefore the meaning, of the operational level of war and the operational art, but whatever interpretation one accepts, as John (Jack) English noted, its roots are "deeply Eurocentric" and land-centric.[33]

Orthodox German. The most orthodox interpretation of how the operational art evolved, is based on its practice in Germany. Those who subscribe to this interpretation acknowledge that it may have begun with Napoleon, due to his masterful manoeuvre of numerous corps on a grand scale and may even have been practiced, in a limited way, during the American Civil War. However, it truly came into existence under Helmuth von Moltke by his use of a flexible command system co-ordinated by the Prussian General Staff during the Austro-Prussian (1866) and Franco-Prussian (1870-71) Wars. According to this interpretation, Moltke's operational approach to troop mobilization, railway movement, and logistics completely transformed the nature of war.[34] Menning says that the key to understanding this transformation was an appreciation of how the nature of warfare had changed during the late 19th and early 20th

centuries. The sizeable forces involved meant that for the first time in history strategy had to take into account the not only the movement of forces in-theatre, but also their mobilization and movement to the theatre of war Campaigns were no longer finite affairs leading to a single, decisive battle, and the sum of tactical successes was no longer a sure predictor of larger strategic success.[35]

However, it has been suggested that the German General Staff may have introduced the operational sphere of war less to ride the rails to victory than to exclude political interference in military operations, a concern of all militaries at the turn of 20th century, according to Michael Geyer, and an issue that has been highlighted in a number of recent campaigns, like Operation Allied Force.[36] In any event, according to the orthodox interpretation, the German Army subsequently consolidated proficiency at the operational level of war during the First and the Second World Wars, where it culminated in the use of the blitzkrieg to conquer most of Europe between 1939-42. The result of this focus on the operational level of war, however, meant that German strategic thought devolved downward toward the tactical and operational levels rather than upward to meet strategic aims. Therefore, German grand strategy ultimately became a military strategy to the point of denying political and diplomatic factors. For some this did not detract from the fact that the Germans had mastered the operational level of war.

This view has been challenged by Geyer, who claimed that during the Second World War, the Wehrmacht's main operational method evolved into an ad hoc and opportunistic use of force, which by 1940 had replaced the heritage of Schlieffen and military professionalism. Geyer described blitzkrieg as "operational opportunism"- a creed with no standard methods. Pitting staffs and commanders against each other in a quest for optimal performance and Hitler's favour, its only guiding principle became the fullest exploitation of local success with all means to overthrow the enemy by breaking the will of its leadership. Blitzkrieg, according to Geyer, was not a coherent doctrine, but it initiated the last phase of the long transformation of the German Army into an organization led by commanders who knew no other principle of war than the optimization of force at any cost.[37] Naveh endorses Geyer's analysis, and claims that the blitzkrieg concept was the brainchild of opportunistic technocrats. It therefore became an amorphous concept,

lacking unity, which degenerated into a wide variety local of local patterns developed by officers competing to realize Hitler's strategic intentions, as they understood them. The complete absence of coherent blitzkrieg theory, according to Naveh, meant that blitzkrieg was the opposite of doctrine; it was merely an avalanche of actions that exploited success not by design but by tactical success.[38] With hindsight and with some help from theorists such as Liddell Hart, Geyer claims, this torrent of action was squeezed into something it never was: an operational design.[39]

Another criticism of the German blitzkrieg method was that it lacked the intellectual underpinnings of the Soviet "Deep Operations" technique. This has led to a whole revisionist school of thought on operational art based on Soviet practices.

Soviet Revisionism. The fundamental difference between the German blitzkrieg concept and the Soviet theory of "Deep Operations," according to Naveh, was that the Soviets recognized that the focus of the operational level of warfare was to disrupt, rather than destroy, enemy forces as a system. The basic Soviet proposition was that the way to defeat a modern military was not by aiming at its destruction, but through operational shock. The aim of Deep Operations, as developed by the USSR in the 1930s, therefore, was to disorient the system's "cognitive compass" or decision making ability through operational manoeuvre. Despite the importance of the concept of the operational shock, its significance has only recently been grasped in the West, Naveh asserts.[40]

Menning claimed that the Soviet approach to war was distinctive because it maintained consistent focus on the conduct of large-scale ground-oriented operations, and produced an entire school of thinkers including Tukachevsky, Svechin, and Triandifilov. Yet despite its intellectual superiority, the USSR did poorly in the opening stages of the Second World War. Stalin's purges of 1937-38 had enormous repercussions for the Red Army: 60 percent of the officers at the divisional commander level or above fell victim to the NKVD (Soviet secret police), and the officer corps as a whole was depleted by 20-35 percent. Many of the Soviet Union's best military thinkers (including Tukachevsky) were executed. These purges cut short the military reform process, based on Deep Operations, and threw Soviet military thought into chaos.[41] The catas-trophic failures of the first years of the war forced Stalin to allow those

who could practice Deep Operations back into positions of authority, but changes were not implemented widely until 1943, because of the need to assimilate huge numbers of new troops and new technology. Only then did the Red Army return the operational art to the battlefield, demonstrating a mastery that compared favourably with earlier German successes.

The spectacular Soviet victories of 1943-45, which focussed on the German Army as the Third Reich's centre of gravity, were "not the product of brute force and ignorance" as had long been thought in the West, according to Sandhurst Sovietologist Charles Dick. They reflected the application of a highly refined operational art aimed at disrupting the enemy on a large scale, depriving him of the ability to react to changes, breaking up his organization and control of higher formations, and ultimately preventing him from accomplishing his aims. This mastery of the operational art, according to Jack English, meant that it was the Soviets, with their 300-400 divisions on the Eastern front, who almost single-handedly brought about the defeat of Third Reich. The 100 or so Allied divisions eventually deployed in Europe after 1944 could not have defeated Germany's 285 divisions without the Red Army. According to this revisionist interpretation, it was the Soviets who truly formalized the theory and practice of the concept of the operational art as a distinct level of warfare in terms of mission, scale, scope, and duration.[42]

Whatever interpretation one accepts, we can see that Germany and the USSR inherited different military legacies and worked from different philosophical bases in developing their versions of the operational art. One of the key differences was in their command philosophies and cultures. The Soviets relied on a system that had its origins in the close order drill practiced on the battlefield in the 17th, 18th and early 19th centuries. This system, sometimes referred to as *normaltaktik* or *befehlstaktik* by the Germans, emphasized restricting subordinates' initiative by issuing detailed plans and orders, to which all were expected to adhere. On the other hand, Germany, under Moltke, pioneered *auftragstaktik*, a command philosophy that allowed subordinates considerable latitude to achieve results with the guidelines set by his superiors' intent.[43]

What seems to be overlooked by many advocates of the operational art and manoeuvre warfare today, is that both systems achieved success.

Rather than insist that mission command (*auftragstaktik*) is essential to executing the operational art, practitioners should recognize that different command philosophies may work depending on the characteristics, historical experience, and culture of an armed force. For as Paul Johnston has demonstrated, these factors have a vital impact on both how armies plan to fight and how they actually perform on the battlefield.[44]

In fielding some of the largest armies ever seen, Germany and the USSR were the first to encounter the challenges associated with the operational art on this scale, but our present understanding of the operational level of war rests on its interpretation by the American Army in the last two decades of the 20th century.[45]

American Army Renaissance. The US Army has had, until recently, a disproportionate influence on the development of joint doctrine, particularly at the operational-level A key person in the creation of modern US Army doctrine was General Donn Starry, who, according to his most avid admirers, was almost exclusively responsible for the transition of US military thought from the "technical shallowness of an incoherent tactical doctrine to an advanced operational consciousness." Furthermore, by institutionalizing scientific patterns of research, criticism and constant change, he determined the dynamic nature of American military thought for the future.[46] To establish the context for the evolution of the operational level of war at the end of the 20th century, a brief summary follows of the development of American military thought according to Starry, who as Commandant of TRADOC (1977-81) at the height of the renaissance in American military thought, had a considerable impact on joint doctrine today.[47]

According to Starry, up until 1945 (with very few exceptions), the US military system was designed to overwhelm potential enemies by mass in a battle of military and national annihilation, using the production techniques of the Industrial Revolution. This approach was shared by many of America's allies at the time. As Canadian historian Bill McAndrew put it: Allied commanders in the Second World War framed their campaigns on the attritional model of 1914-18. They were inclined to use technical means to meet operational problems and usually attacked an opponent at his strongest point "after burying him with tons of high explosive."[48]

Following the Second World War, American doctrinal revisions were drawn from their own experience and from preliminary evaluations of the operations of Soviet forces. But the most important influence was their perception of the performance of the German Wehrmacht, which became an "obsession with blitzkrieg cult" among some.[49] American officers also tended to overlook the Soviet experience because Allied forces had less scope for manoeuvre in Western Europe due to much higher troop densities (e.g., in Normandy 2.5 times higher than the Soviets on the Eastern Front).[50] Not to mention the fact that the Soviets were the "enemy" during the Cold War.

Immediately after the Second World War, according to Starry, the offence was portrayed as the dominant form of combat in American military thought, and the Jominian precept of massing at the decisive point was the preferred operational technique. With the advent of the Cold War, however, the US Army could no longer be assured of superiority of numbers against the Soviets in Europe, and various doctrines for the use of nuclear weapons (the so-called Pentomic Army with nuclear warheads mated to every conceivable weapon, e.g, the Davy Crockett mortar) were put forward to redress the balance. Therefore, the operational level of war was neglected by both the Americans and the Soviets during the Cold War until the US became involved in a large hot war in Vietnam. The American experience in Vietnam, where the US Army believed that even though it had won the war at the tactical level, this did not translate into strategic level victory, was one of major catalysts that precipitated the renaissance in the American military thought of 1970s and 1980s. The outcome of the Middle East War of 1973, with the importance of command and control (C2), all-arms combat, the integration of technical advances (anti-armour missiles, PGMs etc,) into war fighting doctrine, and the fact that the outcome of battle now rested on factors other than numbers, also helped to drive US Army doctrinal change.[51]

These circumstances produced the doctrine of "active defense" (as expressed in the 1976 version of FM 100-5, the US Army's doctrinal manual titled "Operations") designed to stop the Soviet hordes in Europe. But, as Starry noted, it went against the American "fixation" with the offence as the decisive form of combat, and, therefore it was challenged by both the military and academic communities almost immediately after its publication. From this debate emerged the "AirLand Battle" concept,

which Starry describes as merging active defence with the deep attack of the enemy's follow-on echelons into one battle. It embraced the need to seize and hold the initiative through manoeuvre and fire, and he described it as "a grand offensive defence" in the tradition of Washington, Lee, Jackson, and MacArthur. However, the AirLand Battle concept was at odds with historic American perceptions of how to win based on the American Army's "Napoleonic heritage, its obsession with mass concepts of the Industrial Revolution," and what Starry described as "our fixation of substituting technology for numbers." Some commentators noted that the 1982 version of the AirLand Battle was still a flawed operational doctrine because with statements such as: "the object of all operations is to destroy the opposing force," like blitzkrieg, it still confused tactical destruction with operational disruption.[52]

Dissatisfaction with the AirLand Battle concept led to further revision of the FM 100-5. The principal difference between the 1982 and 1986 manuals was the extent to which the new volume addressed campaigns and sustained multi-engagement operations. The 1986 version of the FM 100-5, the US Army's final pre-Desert Storm operational-level doctrine manual, was hailed by many observers as the perfect example of operational-level doctrine. The essence of the operational art, in the 1986 FM 100-5, was held to be the identification of the enemy's operational centre of gravity and the concentration of superior combat power against that point to achieve decisive success. This manual was dominated by an attempt to redefine the operational level of war to create a doctrine of a holistic and integrated view of warfare. And, for the first time, an Army capstone manual actually defined the operational art. The key ideas behind the concept of the operational art, the "employment of military forces to attain strategic goals in a theatre of war or theatre of operations" through the design and conduct of campaigns and major operations, remain the basis for today's definitions of the operational art.[53]

Naveh claims that the US Army based its new operational-level doctrine on the Soviet "Deep Operations" model, although it was the US Army that pioneered the application of system theory to the field of operational manoeuvre. In so doing, Naveh claims that the US Army rejected many previous Clausewitzian concepts and blitzkrieg doctrine.[54] This contrasts with Swain's account of the development of the 1986 version of the FM 100-5, in which he claims that the operational art was defined in

Clausewitzian terms and that, even if the theoretical readings behind the 1986 FM 100-5 were drawn from Triandafillov and Tukhachevsky, the exemplars of the operational art were taken to be Patton, Rommel, Guderian, and Manstein, because the developers of the 1986 version were "fascinated with practitioners of German blitzkrieg." Swain also claims that in writing the 1986 version of the FM 100-5, considerable effort was made to harmonize US Air Force's a *priori* theatre-level view of war with the desire of army corps commanders for reliable air force assets in support of their own activities. Corps commanders were apparently told that they could not expect to receive air support independent of theatre priorities. Swain says that they accepted this premise philosophically, but that it remained a highly emotional issue for corps commanders in the Gulf War regardless of army doctrine.[55]

What is most striking to Swain about the US Army's adoption of operational art was that the process was almost entirely synthetic, abstract and imitative, and that the process required substantial negotiation among the Army's various competing interests (or tribes).[56] For example, one of the authors of the 1986 FM 100-5 indicated that early drafts made no reference to centres of gravity because its authors did not think that this was a valid theoretical construct; however, the authors were ordered by their superior to include the concept, which now enjoys widespread currency. Naveh asserts that the official historiography, as summarized here, has spared no effort to conceal the role played by civilian group of operational reformers in generating the cognitive crisis that led to the development of operational theory.[57]

FM 3-0 "Operations," published 14 June 2001, replaced the 1993 version of FM 100-5. It was re-numbered to bring it in line with the US joint publication series, and it contains some new features. For example, there is more focus on the mental processes of the commander, which are defined as - visualize, describe, direct. Operational art is described as the conceptualization of the commander's vision by translating it into planning guidance/intent, and then issuing plans and orders, followed by the preparation and execution of the operation. The manual also has a new section on how to tailor a force for a particular operation, and how to go to the decisive point with decisive force. Furthermore, there is an increased emphasis on centres of gravity in FM 3-0. There is also a shift away from the 1986 AirLand Battle model, based on its mature Cold War

framework that assumed contiguous areas of operation, to the full spectrum of operations (from war to MOOTW) based on non-contiguous areas of operations. In addition, the old spatial orientation of the 1993 version (deep, close rear) has been replaced by a focus on decisive effects, irrespective of where they might occur. Finally, there is more attention given to personnel issues, so as not to distract the soldier from his/her mission and to reduce the long-term effects of stress, such as unforecast attrition due to release and illness.[58]

Yet despite its modifications, the current operational-design construct has been unable to provide planners and commanders with the means of designing the types of campaigns and major operations that "full-spectrum operations" require, according to Greer. Planners of the "ongoing counter-terrorism campaign face the same challenge as planners of peace-support operations in the Balkans"; however, concepts of logical and physical lines of operations in the 2001 version of FM 3-0 "hamstring planners' and commanders' abilities to design and conduct effective, coherent campaigns for operations across the spectrum of conflict in today's security environment." Greer concedes that the "current conventional campaign-planning construct must be retained" for "campaigns against state opponents with primarily conventional military forces," but that for different kinds of operations a new construct of operational design must be devised. This will be discussed in more detail later.[59]

Impact of the American Renaissance. The exact origins of current US operational-level doctrine, as we have seen, are still the subject of debate, but whatever its origins, the US Army school of thought has had a considerable impact on the practice of the operational art today. Perhaps the most visible impact is its emphasis on manoeuvre warfare. The linking of battlefield manoeuvre with success at the operational level has sparked a lively debate among students of war, the subject of Part 3 of this chapter.

The introduction of the terms "operational level" and "operational art" into the Western military lexicon was another crucial effect of the American Renaissance. The broad definitions of the three levels of war were introduced in the 1982 revision of FM 100-5, even though, according to Swain, "the principal Leavenworth authors resisted the

addition of the 'operational level of war,' arguing that the concept was too difficult for the army to grasp…"[60] The 1986 revision of FM 100-5, besides emphasizing the operational level of war and introducing the term "operational art," "curiously re-labelled the levels of war as 'military strategy, operational art, and tactics.'[61] While this re-labelling did not alter the broad conceptual basis of the levels of war framework, it did introduce confusion in US terminology for several years."[62] The levels of war were re-stated in their traditional way (strategic, operational, and tactical) in the 1993 version of FM 100-5; however, by associating the levels of war with geographical locations, like theatres of war, rather than "categories of action," and tying the concept of an "operational art" to one level the US Army imparted a distinctive land-based flavour to these concepts. Despite the conceptual and semantic difficulties implicit in the US Army view, they have remained intact in successive revisions of FM 100-5 after 1993, and have been incorporated in US joint doctrine since the original version of JP 3-0 in 1995.[63]

Another important impact of US Army operational doctrine has been on the education and training of a new generation of practitioners of the operational art. In 1986, four years after the publication of the 1982 edition of FM 100-5, an author of the manual, L.D. Holder, argued, in an article in a leading army publication, that operational-level command called for capabilities distinctly different from those traditionally valued by the army.[64] According to Naveh, the operational art as explained in the 1986 manual marked the recognition of creativity as a basic quality required of operational-level commanders. This new operational art, it was argued, posed intellectual challenges previously unrecognized in traditional military practice Operational level commanders now required broad vision, the ability to anticipate, and a careful understanding of the relationship between means and ends to be effective in executing joint and combined operations.[65] This new manoeuvrist operational art, according to a former Assistant Chief of the Defence Staff of the UK, Major-General John Kiszely, calls for commanders who are adept at deception, elusiveness and scheming; are focussed on getting into the minds of their opponents and mentally outmanoeuvring them; can apply originality and imagination to problem solving; and are risk takers happy in the chaos and uncertainty of war. But he admonished that "This may require a change in ethos greater than that which is achievable" given peacetime promotion policies.[66]

A further impact of the new US Army school of thought, that in fact comprises the essence of the evolution of the operational art in the US armed forces and the community of military theoreticians, is a shift from a paradigm of attrition by means of superior technology and tactics to one of advanced operational manoeuvre, according to Naveh. He goes on to say that in the Gulf War the new operational art proved, for the first time in modern warfare, that the deterministic predisposition towards attrition, so common in Western military culture, had been replaced by a manoeuvre approach.[67]   But not all would agree with this assessment, as we shall see later.

Implicit in US Army operational-level doctrine is the belief that: "Wars are won on the ground. Success or failure of the land battle typically equates to national success or failure. The culminating or decisive action of a war is most often conducted by land forces...The application of military force on land is an action an adversary cannot ignore; it forces a decision."[68] This assertion that land forces are the pre-eminent weapon in the nation's arsenal, relegates air and naval forces to a supporting role to land forces in the "decisive action of a war." This is still a contentious issue that will be examined in more detail shortly.

Perhaps the most enduring impact of the US Army's school of thought is its view that the operational art "provides a framework to assist comman-ders in ordering their thoughts when designing campaigns and major operations. Without operational art, war would be a set of disconnected engagements with relative attrition the only measure of success."[69] This view has permeated virtually all joint doctrine and the operational-level headquarters has become, for many, an indispensable adjunct to military operations. However, this view has been challenged recently as air forces and navies have articulated their doctrine more clearly.

HERETICAL INTERPRETATIONS OF THE OPERATIONAL ART

Naval and Air Force Challenges. In response to the US Army's doctrinal dominance at the operational level, there has been the rise of what might be called heretical[70] challenges to joint doctrine founded on land-centric concepts. Grant puts it this way:

Joint doctrine today carries forward a land-centric focus because it is still largely based on dominant surface maneuver. Key air concepts – and some naval concepts – receive short shrift. Differences between land and air components generally are resolved in favor of the land commander. Most of all, it is striking how closely joint doctrine runs parallel to the Army doctrine of maneuver, fires, and force protection. As a result, major conflicts in the joint-doctrine process most often erupt over differences between air and ground views of operational strategy, command, and organization.[71]

One challenge to land-centric joint doctrine, articulated by Rear Admiral J.C. Wylie, attributes differences in the way war is perceived by the army, navy, and air force to the different environments in which these services fight. This, he claims, leads to fundamentally different ways of conceptualizing how war might be fought in dissimilar environments:

Where the sailor and the airman are almost forced by the nature of the sea and the air, to think in terms of a total world or, at the least to look outside the physical limits of their immediate concerns, the soldier is almost literally hemmed in by his terrain.

From this fact of terrain as a limiting element has come the concept of 'theatre' in the soldier's strategy, a terrain division somehow arbitrary to the sailor or the airman but sound and logical if we move to the soldier's headquarters.[72]

Official US Air Force doctrine supports Wylie's view but frames it in an air force context: "Air and space power is intrinsically different from either land or sea power, and its employment must be guided by axioms different than those of surface forces."[73] The intrinsic difference between air and surface power is illustrated in Pratt's comparison of US Air Force and US Army doctrine. He concludes that the US Air Force focuses on the integration of air power across the entire joint theatre of operations, whereas the US Army thinks geographically and emphasizes the synchronization of actions in time and space. The Army approach contrasts with the more holistic US Air Force perspective that focuses on the effects that massing forces through integration can achieve. These two services also have different perspectives on the selection of centres of

gravity and the depth of the battlespace that contribute to the current disagreements over how joint operations should be conducted.[74]

Wylie presents the naval challenge to the concept of the operational art with this argument: "The operational art is an artifice appropriate to ground force doctrine but the navy (and the air force) have no need for such a concept." In fact navies have generally avoided the term "operational" preferring the term "doctrine" instead to indicate what lies between maritime strategy and tactics.[75] Hughes puts it somewhat differently, arguing that the "three prongs of the naval trident have long been called strategy, logistics and tactics."[76] Specific definitions aside, navies have traditionally seen doctrine in a different light than armies. Grant notes that for 200 years the US Navy has kept doctrine at arm's length for fear that a binding set of principles might restrict the initiative and independence of the captain at sea - the very foundation of naval combat. Therefore, strategy and tactics were the domains where naval officers concentrated their attention, and until recently, the bulk of US Navy doctrine was "found in the unwritten shared experiences of its officers."[77] But Desert Storm's joint-force air attack procedures jolted the US Navy out of its complacency, and it established a Naval Doctrine Command in 1993 in part to provide the doctrinal basis for its statement of maritime strategy.[78] According to Tritten, "With the formation of the Naval Doctrine Command (NDC), the Navy now has its first centralized command responsible for the publication of doctrine for the fleet." But even with the formation of NDC, basic US Navy doctrine is dated, compared to US Army and Air Force doctrine as the most recent version of NDP 1 Naval Warfare was published 28 March 1994.[79] The naval approach to doctrine reflects its view of warfare at sea. Navies produce much less written doctrine than armies because of their view of doctrine as "a common cultural perspective of how the naval Services think about war...and how they will act during time of war...[therefore] Navy doctrine is the art of the admiral."[80] In theory, USMC doctrine is congruent with US Navy doctrine, but the Marines have generated their own interpretations of the US Navy's Operational Maneuver from the Sea and ship-to-objective maneuver (STOM) because some in the USMC believe that the US Navy has concentrated too much on maritime doctrine and neglected aspects of the land battle. This issue will be examined in more detail in the section on manoeuvre and the operational art.[81]

While US Army was struggling to re-define its role based on the opera-tional level of war in the 1970s and 1980s, the US Air Force and many other Western air forces maintained their strategic orientation. Unlike the US Army, the principal lesson that the US Air Force (and some in the US Navy's naval aviation community) drew from the Vietnam War was that the massive application of strategic air power, during the Linebacker II campaign (18-29 Dec 1972), had single-handedly brought the war to a successful conclusion and that if air power had been used correctly (i.e., strategically) in that conflict, it could have been ended eight years earlier.[82] Yet, to the chagrin of air power advocates, US Army doctrine continues to emphasize the use of air forces in support of the land mission as demonstrated by this quote from FM 3-0: "Air Force air plat-form support is invaluable in creating the conditions for success before and during land operations. Support of the land force commander's concept for ground operations is an essential and integral part of each phase of the operation...Fires from Air Force systems create the conditions for decisive land operations. In addition, the Air Force pro-vides a variety of information-related functions - to include intelligence, surveillance, and reconnaissance - that support land operations."[83]

Western air forces have challenged this army notion of how air forces should be used in a campaign as we can see from Air Commodore Andrew Vallance's 1996 statement: "There is no factual basis to the belief that, in land/air campaigns, the purpose of aviation forces must always be to support the land forces. Airpower can act, and often has acted, as lead element in land/air as well as maritime/air operations, and - as capabilities grow - is likely to do so with increasing frequency."[84] Current US Air Force doctrine puts it this way: "Unlike surface forces, modern air and space forces do not normally need to sequentially achieve tactical objectives first before pursuing operational or strategic objectives. From the outset, air and space forces can pursue tactical, operational, or strategic objectives, in any combination, or all three simultaneously. From an airman's perspective, then, the principle of the objective shapes priorities to allow air and space forces to concentrate on theater or campaign priorities and seeks to avoid the siphoning of force elements to fragmented objectives."[85]

These views represent conventional wisdom in many Western air forces, which has been reinforced in their view by air operations in the Balkans

and in the recent Afghanistan campaign. The current US administration seems to be favouring force structure changes that embrace this air force view. Mackubin Thomas Owens, professor of strategy and force planning at the US Naval War College, stated in late 2002 that high ranking US government officials have accepted that: "traditional ground combat is a thing of the past and that future US power will be based on precision strikes delivered by air or space assets, perhaps coordinated and directed by a handful of special operations forces (SOF) soldiers."[86] The air force view of war is also being used to challenge the army's concept of the operational level of war as the focus for war fighting. But this is a relatively recent phenomenon, because air forces have traditionally focussed on technology to the neglect of doctrine. As early as 1945, US air forces espoused three categories of doctrine - basic, operational, and tactical, and these three categories are still reflected in the most recent statement of air force doctrine.[87]   However, as James Mowbray has shown, enduring problems in institutionalizing the writing of US Air Force doctrine resulted in the air force paying little attention to its development, until the last decade of the 20th century. This has meant that until very recently the US Air Force, and other Western air forces, have been obliged to follow the lead of the most doctrinally up-to-date service, the US Army. Unlike the US Air Force, which has lately invested a great deal in its doctrinal renewal, the Canadian Air Force has still not put its doctrinal house in order.[88]

When compelled to support the army's campaign plans, as in the Gulf War, the air force fell back on ways it had used in the past to deal with what it saw as army incursions into the proper application of air power. For example, the high level of co-ordination between land and air forces achieved in the Second World War was founded on the creation of joint staffs. But the creation of the joint air support staff, by the Royal Air Force and later the US Army Air Forces, to enable army-air force co-oper-ation was designed as much to maintain air force control over air resources as to give close support to soldiers, according to Bill McAndrew.[89]   One way of viewing the Joint Forces Air Component Commander (JFACC) in the Gulf War was that it was the airman's customary way of maintaining control of air forces in the theatre of operations - a sort of "if we have to play the army's game, we will control all air resources, including US Navy and USMC air assets." This notion was codified in US Air Force doctrine published in 1997: "It is a basic

principle of air and space doctrine that C2 of air and space forces be centralized under one officer—an airman."[90] The concept was further refined two years later when a draft US Air Force Command and Leadership manual stated the following: the JFACC is a commander not a co-ordinator; the JFACC should control all air resources in a theatre, including air defence, surveillance, reconnaissance, and space assets (read Army and Navy assets as well); "airmen must work for airmen"; and that when the operation is "air dominant" the commander should be an airman.[91]

These visions of war fighting recently articulated by the US Navy and US Air Force have presented a serious challenge to current land-centric joint doctrine. However, in addition to these challenges, some writers have raised conceptual challenges to the prevailing US Army interpretation of the operational art.

CONCEPTUAL CHALLENGES

No Coherent Strategy. In the new American version of the operational art, the universal aim has switched from the destruction of enemy forces to the achievement of strategy and policy aims, according to Naveh.[92] But what if no rational policy aims exist or if the aims are only rational in the context of domestic politics, but not necessarily in the context of an enduring national strategy? Jack English reminds those who expect that supporting objectives will cascade with logical precision from war aims, that national strategic goals are often difficult to select and that British politicians refused even to permit rigorous debate of war aims in the First World War.[93] There have been parallels in a number of recent campaigns and the articulation of mission aims have been missing more often than not in recent CF operations, as we shall see in more detail later.[94]

Are the Levels of War Just Labels? Martin Dunn, Chief Research Officer of the Australian Directorate of Army Research and Analysis, suggests that the levels of war may be no more than a set of labels, especially for armed forces that are relatively small in size. He also claims that in Communist revolutionary warfare and in successful counter-guerrilla campaigns (e.g., Malaya) military and political decision-making were impossible to separate "at the local level, let alone the national" level.[95]

Is Technology Merging the Levels of War? Richard Simpkin has argued that technological advances coupled with manoeuvre theory have lowered the threshold of what previously constituted the operational level of war.[96] Douglas Macgregor has taken this hypothesis further and suggested that new lethal PGMs and greatly enhanced surveillance capabilities will allow smaller combined-arms combat formations to operate in a dramatically deepening battlefield. Because actions at every level of war instantaneously affect each other, the net result might be that the current three levels of war will be collapsed into one level where the tactics of fire and movement are linked directly to the strategic goal. In this scenario, the three levels of war, as separate and distinct levels of command and functional responsibility, will be "spaced and timed out of existence."[97]

Nuclear Warfare. Steven Metz claims that nuclear proliferation in the Third World means that the controversy over the use of nuclear weapons did not die with the Cold War. He maintains that the nature of nuclear weapons "means that even operational-level doctrine must be totally imbued with what are usually considered strategic-level issues..."[98] Metz's comments, made over a decade ago, have been given renewed relevance today by the threat of the use of nuclear, and other, weapons of mass effect by terrorist groups, rogue states, and non-state actors.

The End of the Operational Art? Robert Leonhard has recently argued that the Jominian paradigm upon which current concepts of the operational art are based are no longer valid. He contends that America's adversaries will not fight "campaigns of predictable and relatively short duration" based on geographical areas, but will "prosecute unconventional campaigns that unfold over long periods of time" in disparate areas of the globe. In these circumstances, the operational art as it is practiced today will "wither away." As political, economic, cultural, and other factors "exceed the grasp and authority of regional combatant commanders and their staffs," campaign planning, "once easily confined to military operations in a given theatre," will become almost synonymous with strategy, according to Leonhard.[99] If Leonhard is right, then the expression "operational art" may be consigned to history's dustbin, and the term "operation" will revert to the meaning it had in the 17th and 18th centuries when operations were an integral part of strategy.

IMPLICATIONS FOR ARMED FORCES IN THE 21ˢᵗ CENTURY

These challenges to fundamental concepts of the operational art, as it is currently enshrined in joint doctrine, have a number of implications for the future. Next, we will look at some of the implications for armed forces today and in the near future that the competing interpretations of the operational level of war may produce.

Real Jointness...Is It Possible? The 1986 Goldwater-Nichols Department of Defense Reorganization Act mandated jointness in the US armed forces, and in theory, the American military vision of the future is guided by this Act and a series of documents supporting "Joint Vision 2010" (June 1996) and updated by "Joint Vision 2020"(May 2000). But, as we have seen, there are competing visions among the US armed services about how "joint" warfare should be conducted. Elinor Sloan indicates a number of other problems in achieving the jointness legislated by Goldwater-Nichols. For example, there is little focussed effort on joint experimentation activities and over 90 percent of US military experimentation is carried out by the services individually. Furthermore, the "dominant military service cultures" continue to focus on legacy equipment as reflected in procurement budgets that do not fully reflect service visions. Finally, there is resistance to the changes required in the Joint Vision documents by some in the US Air Force and US Navy who feel these documents were, and remain, a thinly disguised attempt by the army to gain pre-eminence among the services, and to relegate the air force and navy to support roles on the battlefield.[100]

This view was graphically described by General Anthony C. Zinni, US Marine Corps (USMC) retired, a former CinC of US Central Command:

> We teach our [junior officers] to recognize that sister service as the enemy…we fight each other for money, programs, and weapon systems. We try to out-doctrine each other by putting pedantic little anal apertures…in doctrine centers…to ace out the other services and become the dominant service in some way…Interservice rivalry... [is] going to kill us if we don't find a better way to do business.[101]

The foregoing raises the issue of what jointness is, beyond the simplicity of the definition, and how can it be achieved. The late Carl Builder, a leading American analyst of the US defence establishment, asserted that the US Army, Navy, and Air Force have "distinct and enduring personalities," and that despite minor evolutionary changes these personalities would remain essentially stable "for a very long time."[102] He described the differences among the American services as follows. The touchstone of the US Army's organizational culture is the art of war and the profession of arms; in other words concepts and doctrine are the glue that unifies the army's separate branches. For the US Navy, the heart of its organizational culture is the navy as an institution, based on tradition plus a maritime strategy that provides coherence and direction to the navy. Builder does not discuss the US Marine Corps culture in detail, but it has been described as worshipping "at the altar of its uniqueness."[103] The US Air Force, Builder declared, has identified with platforms and air weapons, and is rooted in a commitment to technical superiority that has transformed aircraft or systems into ends in themselves. Builder claimed this lack of an air force vision has had serious repercussions for it. Writing in the early 1990s, he maintained that, because the US Air Force had no integrating vision like the US Army's AirLand Battle or the US Navy's Maritime Strategy, it had conceded the intellectual high ground to the other services, particularly the Army.[104]

However, according to Builder, the US Air Force lost more than the intellectual high ground; it also lost the all important budget wars. Prior to 1950 it had been accepted that whatever US defence money was available would be divided equally among the three services. But in the early 1950s, the US Air Force engineered a national security paradigm shift based on the primacy of nuclear weapons to be delivered by the air force. By 1953, budget allocations had changed dramatically with the US Air Force getting the lion's share, $22 billion, compared to $14 billion for the Army and $13 billion to the US Navy. With its loss of the intellectual high ground in the early 1990s, US Air Force spending as a percentage of the DoD total dropped to two thirds of its 1958 high.[105] Now there are suggestions that the US Air Force, given its space and missile defence roles, should regain its budgetary preeminence.[106]

Thus we can see that interpretations of how wars should be fought are not merely of academic interest; budgets and force structures are often a direct

outcome of the "vision" reflected in each service's doctrine and in joint doctrine. This message has been clearly received by at least one of Canada's three environments. In one of its blueprints for the future, "Adjusting Course: A Naval Strategy for Canada," (the predecessor to the current "Leadmark") Canada's navy was explicit in how it intended to win the budget battles of the future: "This future debate cannot be left to the Navy's critics. Naval capabilities will be placed at risk unless the Navy gets in front of the agenda with an ongoing pro-active media and public education strategy. The Navy's future battles will be lost first in the living rooms of the Canadian public."[107] Others have been less successful in Canada's defence budget wars as defence cuts have hit the Air Force harder than the other environments, with the Air Force suffering personnel cuts of 45 percent in the 1990s, for example.[108] Some Canadian academics at the 1998 Security and Defence Forum conference suggested that these cuts to the Canadian Air Force were a direct result of the lack of an institutional vision to match the army's (peacekeeping) and the navy's (sovereignty protection). The Air Force's publication in 2004 of a number of documents such as "Strategic Vectors" can be interpreted as its attempt to voice an institutional vision in the lead up to the impending defence review. [109]

Future Options. Colonel James K. Greer, director of the US Army's School of Advanced Military Studies (SAMS), argues that a new "operational-design construct" is required to address some of the challenges articulated above and to permit "the effective planning and execution of future campaigns and major operations." He describes five alternative approaches for re-designing US approaches to the operational art. First, refine current doctrine by re-examining the concepts of "centers of gravity, lines of operations (both physical and logical), and decisive points." Second, base changes on the systems approach that "views all military organizations as complex systems. This approach "would apply emerging systems and the science of chaos and the theory of complexity to developing an operational-design construct with which to execute the military equivalent of forcing opposing systems into either chaos or equilibrium." Third, consider an effects-based approach based on John Warden's work, *The Air Campaign*. "The effects-based approach describes what effects are required to secure strategic objectives and then conduct military actions that would bring about the required effects. The USAF champions the effects-based approach and has developed it as a concept

nested in a broader 'Rapid Decisive Operations' concept by Joint Forces Command." Fourth, investigate the destroy-dislocate-disintegrate approach. While still largely theoretical, it "seeks as rapidly as possible to conduct military operations and apply combat power to successively (ideally simultaneously) destroy, dislocate, and disintegrate opposing military forces. During the 1990s, TRADOC gained an appreciation for this approach during its series of mobile strike force experiments." Fifth, focus on the "center of gravity (CoG) to critical vulnerabilities" approach. "The US Marine Corps is examining an innovative doctrinal approach that seeks to translate the theoretical construct of the center of gravity into a practical approach to applying combat power. This approach is to find the critical vulnerabilities of an opposing force—those that will cause its center of gravity to fail—then attack and defeat critical vulnerabilities."[110]

A recent analysis of the concept of centre of gravity by Antulio Echevarria II, the Director of Strategic Research at the US Army's Strategic Studies Institute, complements Greer's study. Echevarria concluded that "each of the services—shaped by different roles, histories, and traditions— [has] tended to view the CoG [centre of gravity] concept in their respective images." He argues that attempts by joint doctrine writers to achieve consensus on the meaning of this concept have failed because joint doctrine "defined CoGs too broadly and offered no real method for determining them." Echevarria suggests the following ways to make the concept relevant to today's practitioners of the operational art. He offers this definition to start: "Centers of Gravity are *focal points* that serve to hold a combatant's entire system or structure together and that draw power from a variety of sources and provide it with purpose and direction [emphasis in original]. But he cautions us the concept cannot be applied to every kind of war or conflict because in the post-industrial era, "networked" opponents may not have an identifiable CoG. Echevarria enjoins us to "focus more effort on identifying the specific *effect(s)* to be achieved by attacking a CoG" [emphasis in original]; to "resist 'salami-slicing' the adversary into tactical, operational, and strategic CoGs"; and to concentrate "the bulk of our efforts" on identifying and destroying the enemy's single CoG.[111]

Based on these analyses, it appears as though, despite efforts to provide unifying concepts to support the application of the operational art, the US armed forces are continuing their traditional, disjointed approaches to

war. This may not necessarily be a bad thing, as we know that warfare in each of the services' different environments sometimes requires different views of and approaches to war. But it is clear that these trends will have an impact on how the operational art is practiced in the future.

The Canadian Situation. Despite the recent CF predilection to think of just about any military activity as having operational dimensions, Canadians have had very little experience in operational-level leadership roles. Arguably, the only Canadian to have held operational command, in the sense understood by American doctrine, is Admiral L.W. Murray in the Northwest Atlantic area in the Second World War.[112]   This state of affairs has been attributed, by Bland, to Canada's "legacy of post-colonial military dependence, strategic thought bound to alliance and coalition structures, successive governments with little interest in the military, ineffective organizational and command structures post-unification, and generally weak communication at the political-military interface…it is the immaturity of Canada's political culture and the nation's profession of arms that allowed the strategy of commitments to usurp Canada's sovereign right to build its own military planning and command system in order to serve its own strategic interests."[113]

While some progress has been made since the mid-1990s, particularly in the Canadian Army, towards examining operational concepts from a theoretical and doctrinal point of view, Peskett concurs with McAndrew's assessment that there is no "sound intellectual base" in this country on which to base the operational art. Rather "a bureaucracy arbitrarily directed that operational art was to be adopted" from largely American sources.[114]

By importing most of its joint doctrine from the US, the CF has imported the problems and deficiencies, as well as the strengths, associated with it. In addition, structural problems in co-ordinating defence policy affect operational issues in this country. At the strategic level, Bland contends that the Canadian defence structure is "a bargaining arena rather than a command structure." It is guided by declaratory policy but it produces operative policies through a combination of "muddling through, satisfying, compromise, and accommodation." It is a "random management system" in which decisions are driven by immediate needs that appear haphazardly on the defence agenda rather than a so-called rational

management system. Canadian defence policy often reflects the bargaining strength, and therefore, the policy preferences of whichever part of the defence structure commands the strongest consensus between major actors and interests.[115] A number of the CF's senior leaders have challenged this view pointing to documents such as *Strategy 2020* as indications of more rational ways of providing strategic leadership. And even if Bland's criticisms still hold true, given the Quadrennial Defense Review (QDR) process in the US, it would be unfair to suggest that Canada is the only nation whose strategic leadership process exhibits these characteristics. Nevertheless, they are present to some degree and must be taken into account when considering the interface and overlap between the operational and strategic levels that are the purview of practitioners of the operational art.

Coombs claims that this situation has caused a "fragmented" approach to operational thought in Canada, which explains why operational thought in this country does not always follow the tenets of prevailing Western doctrine. He also notes that Canadian use of the operational art in peace support operations within the context of an alliance or coalition has strongly influenced the use of the operational art by Canadians. Therefore, unlike many other militaries, the CF perception of the operational level of war is not focused on operational manoeuvre or operational logistics, nor is it tied to a theatre of war. Rather Canadian commanders seek to coordinate operational-level systems appropriate to a multi-agency environment and the force structures under their command to achieve operational-level objectives. These ideas are discussed in greater detail in the next chapter.[116]

Gimblett has suggested that the commander of Task Force 151 (a Canadian commodore) in Operation Apollo/Enduring Freedom was a rare example of a Canadian exercising operational command in a coalition. As the commander of a task force of coalition forces, numbering about 12 ships, in a theatre of operations these naval officers could be considered as operational commanders because they were assigned a clear geographical area of responsibility, commanded a relatively large force, and co-ordinated tactical actions that had strategic implications.[117]

Based on preliminary research into recent CF operations, it has been suggested that the operational art may be practiced by Canadian comman-

ders if they: 1) exercise command in an area with clearly defined geographical boundaries; 2) have the authority to employ forces within this area (this implies normally exercising operational command or operational control of the forces in the area); and 3) undertake objectives directly linked to strategic aims. According to these criteria then, the Deputy Chief of the Defence Staff (DCDS) Group, despite claims to the contrary by some, does not exercise operational command in overseas taskings. Rather, for these taskings, the DCDS is a "force deployer." In domestic operations the DCDS might be an operational commander, but it has been suggested that as a NDHQ organization, the DCDS Group really functions at the strategic level.[118]

THE OPERATIONAL ART IN CONTEXT

In this section we have looked at various ways of interpreting the operational art and the operational level of war. They are complex concepts with varying interpretations depending on the context in which they are used. Their most recent variations have their origins in the US Army doctrinal renaissance after the Vietnam War, and are based on European theoretical constructs and American, as well as European, experience. This land-centric focus, upon which most current joint doctrine is based, has been challenged by navies and air forces in recent years based on the assumption that the nature of war in different environments calls for different interpretations of the operational art. While the concept of the operational art as a means of linking strategy and tactics appears to have some utility in many cases, the debate over its applicability in all cases continues.

For example, Jack English reminds us of the dangers of the inflexible compartmentalization of war into discrete levels like strategic, operational, and tactical. He argues that it can lead to a proprietory tendency of those working at one level to decry importance of other levels. He also warns us that for soldiers to focus exclusively on the operational art, to the detriment of tactics, while leaving the field of strategy to civilian academics, would be unwise. Finally, he warns us that, given that the operational art originally sprang from the need to manoeuvre large formations, it remains to be seen if it can be properly applied to small armies in pursuit of strategic objectives, and that to attempt to relate the concept to everything from internal security

to peacekeeping, to drug wars and more, as Canadian doctrine suggests, may invite only muddle.[119]

Another criticism of current applications of the operational art, is that they are excessively focussed on its mechanical and planning aspects. General Montgomery Meigs, Commander US Army Europe, reminds us of the importance of the human dimension of the operational art: "Operational art draws from the mind and personality of the commander...Success requires of the commander that he anticipate and recognize opportunity and that he have the intellect to assess the risks of doing so and the competence to minimize those risks...Operational art entails a feel for the troops, a human touch, a psychological connection between leader and led."[120]

It may be a long time before these issues are finally resolved, but if we understand the context and complexity of the concepts associated with the operational art and the operational level of war, then our study and practice of it may be more effective. The next section will examine one of the most controversial and problematic issues in the current doctrinal debates - the nature and role of manoeuvre in the theory and practice of the operational art.

PART 3 - MANOEUVRE AND THE OPERATIONAL ART

INTRODUCTION

Manoeuvre, or manoeuvre warfare, is a concept that has at least as many interpretations as the variations on the spelling of the word. Despite these variations, it has become a driving concept behind many theories of war at the operational level, and almost an obsession with some military professionals who study or practice the operational art. There is, nevertheless, a lively debate among students of war about the linking of manoeuvre on the battlefield with success at the operational level. As Jack English has noted, the current origins of this idea can be traced to the US Army during the Cold War which assumed that manoeuvre at the operational level could make up for inferior numbers when fighting against larger Warsaw Pact forces. He goes on to say that for many, the operational art implied having the dynamic character associated with

manoeuvre theory. He credits these factors with propelling the US Army in the direction it took in interpreting the operational level of war. Coincidentally, it also fanned a manoeuvre warfare school that may have first originated at the tactical level in the USMC, and that is now being debated by all Western military forces.[121]

Manoeuvre, as such, is not directly linked to the practice of the operational art. However, it has become another buzzword that is used in many references to war at the operational level. When used as an adjective, "manoeuvrist" is often used to represent all that is good in modern warfare, conversely any approach that is not manoeuvrist is assumed to be bad. For example, as Wayne Hughes points out, advocates of manoeuvre describe it as a rapid, violent, co-ordinated, intelligent and decisive attack. Yet the opposite (or antithesis) of manoeuvre has not been adequately explored; surely no one would advocate a slow, feeble, disorganized, stupid, and indecisive attack.[122]

One of the strongest proponents of the link between manoeuvre and the successful application of the operational art, Naveh, asserts that the transition from a paradigm of attrition by means of superior technology and tactics, the recognized American way of war in the 19th and 20th centuries, to the paradigm of advanced operational manoeuvre comprises the essence of the evolution of the operational art in the US armed forces.[123] The aim of this part of the chapter is to examine the concept of manoeuvre as it applies to the theoretical and practical aspects of the operational art.

BASIC CONCEPTS

Manoeuvre vs. Attrition. One of the most common ways of thinking about manoeuvre at the operational level is to contrast it with attrition. Some advocates of manoeuvre claim that manoeuvre warfare can result in relatively bloodless victories; therefore, the opposite of manoeuvre warfare is attrition warfare.

Attrition has been central to settling the outcome of virtually all major wars, according to Johnston, and yet it has been characterized as the absence of strategy or a lack of imagination since at least the First World War. Those of this opinion claim that attrition is wasteful of lives and

materiel, but it does not have to be. Attrition is not necessarily a tactical "bottom up" grinding down of the enemy or "positional warfare."[124] Furthermore, Hughes argues that sometimes attrition is impossible to avoid: "when the enemy is magnificent, casualties at the decisive points are indicators of sound strategic thought on *both sides.*"[125]

For their part, advocates of manoeuvre claim that manoeuvre theory is more than just moving forces around on the battlefield; it is a whole approach to fighting. Leonhard contends that manoeuvre theory seeks, in descending order, to achieve: 1) preemption by defeating or neutralizing the enemy before the fight has begun; 2) dislocation by rendering enemy strength irrelevant by removing the enemy from a decisive point or preferably by removing the decisive point from the enemy; and 3) disruption by neutralizing the enemy by attacking or threatening his centre of gravity. The cardinal precepts of this methodology are: attack enemy weakness rather than strength, reinforce success, hold the initiative through speed of operations, and use mission command (*auftragstaktik*) instead of detailed command methods. Manoeuvrists promise decisive results without long, attritional struggles, but "decisive" can be defined in different ways. Two of the most common are: *temporal* (defined by the length of the war, e.g., the First World War vs. the Austro-Prussian War) and *finality of result* (e.g., Waterloo as the end of Napoleon's career vs. the Arab-Israeli Wars). However, Johnston warns that decisiveness can be elusive because it is hard to compel large states and some non-state actors to "fulfil our will" in the Clausewitzian sense. As long as a state or group is committed to a struggle, they may continue to resist unless exhausted and beaten down in long, attritional struggles. For example, the Arabs have "lost" a long series of wars against Israel, and despite the IDF's many brilliant "manoeuvre" victories, Israel has no lasting security. This, argues Johnston, is why attritional conflicts are so common and non-attritional victories have such a transitory impact. Therefore, while manoeuvre-based fighting can be pursued at the tactical and operational levels, evenly matched opponents who are determined to fight will in the end find victory only in attrition at the strategic level.[126]

Those debating the merits of manoeuvre versus attrition often call upon the example of Desert Storm to buttress their arguments, but it remains to be seen whether this campaign was a victory for manoeuvre or for the

attritional effect of firepower. Naveh reflects a view common among advocates of manoeuvre when he says that in the Gulf War, the new operational art proved, for first time in modern warfare, that the deterministic predisposition towards attrition, so common in Western military culture, had been replaced by a manoeuvre approach.[127] Yet others would dispute this point. Hughes argues that Desert Storm was only partially a manoeuvrist campaign, depending on how one defines the terms manoeuvre and attrition. Some would say that the bombing campaign before the ground war was attritional because General Schwarzkopf's goal was to destroy 50 percent of Iraqi vehicles in theatre. Yet Hughes claims that the bombing campaign was manoeuvrist because of its other effects: enemy movement was suppressed, the enemy in theatre was demoralized, the enemy was denied intelligence, and a 40 percent attrition of materiel caused a 90 percent reduction in enemy combat potential along the Saudi border. [128] On the other hand, a number of other commentators have noted that the "Hail Mary" sweep through the desert did not constitute true manoeuvre warfare because it was neither flexible nor probing, but featured rigidly controlled phases whose objectives were not centres of gravity but arbitrary geographic points. Therefore, the US armed forces once again proved themselves masters of firepower and logistics, and retained rigid C2 systems that preferred the use of fires over manoeuvre.[129]

The Gulf War is one of many conflicts that raise important issues about the nature of contemporary definitions of manoeuvre. Yet the nature of the conclusions that are drawn from the study of these conflicts often depends on how we phrase our questions. For example, when attempting to assess whether a particular campaign was manoeuvrist or not, is manoeuvre defined by *ends* or *means*? Or, are contemporary ways of characterizing a war or a campaign as manoeuvrist or attritionist a valid or a false dichotomy?[130] Given these uncertainties, perhaps other ways of looking at war, such as offensive or defensive and limited or unlimited, may still have their uses.

Power Warfare. Hughes has argued for a different characterization of the manoeuvrist-attritionist dichotomy by proposing the concept of "power warfare" as the true antithesis of manoeuvre warfare. The alternatives are then between manoeuvre and power warfare. For Hughes, power warfare "achieves success by exhibiting the capacity to destroy the enemy's forces

and their support faster than they can destroy ours...power warfare promotes superior firepower over maneuver but it shares with maneuver warfare the aim of dominating the enemy and his will to fight." Power warfare emphasizes advantages in detection and targeting, weapon range and accuracy currently available to US forces and some of their allies. It also emphasizes the capacity to destroy people and equipment reducing them to a "useless rabble," and takes advantage of the "permanence of attrition." This new concept gives us a clearer view of the character and limits of manoeuvre warfare, according to Hughes. These include achieving dominance by swift actions; using lethal force to suppress and demoralize an enemy rather than destroy him; and dominating by manoeuvre to place the enemy in a position where he cannot or ought not to fight back because destruction is inevitable. Hughes concludes that each type of warfare (power and manoeuvre) has its own time and place of application, and that neither one should be eliminated from consideration when planning campaigns.[131] As Jack English reminds us, there will be times when armies will not be able to manoeuvre and times when it will be prudent to wait - these are the times when the current propensity in some circles to use manoeuvre in any circumstances will need to be constrained.[132] Now that we have a better idea of some of the basic concepts of the debate, let's look at the evolution of manoeuvre theory.

MANOEUVRE IN THE FIRST DIMENSION - ON LAND

Most commentators trace the origins of all-arms manoeuvre warfare to the end of the First World War and the mobile battles of the last 100 Days of that war. While a number of writers attribute Allied victory to "the tank," recent studies of this phase of the war have shown that other factors were more important. The Canadian Corps made significant contributions to some of the other factors that were part of the evolution of all-arms mobile warfare, the precursor of land manoeuvrist theory. As early as September 1914 Canada had created a Motor Machine Gun Brigade, which by 1917 could concentrate 40 heavy machine guns, manned by 330 men, when a division (of 10,000 men) only had a total of 64 heavy machine guns. This unit was very effective in mobile defence against the German offensive of March 1918, but less effective in the 100 Days campaign because its wheeled vehicles could not overcome obstacles put up by the retreating German forces.[133]

In the 100 Days, the Canadian Corps proved it had mastered the type of mobile warfare that was one of the inspirations for inter-war manoeuvre theorists. For example at the Battle of Amiens (8 August 1918), the Canadian Corps was used as elite shock troops in an assault by three Canadian, two Australian, and three British divisions, supported by 1,400 field guns, 684 heavy artillery pieces, 324 heavy tanks and almost 2,000 Allied aircraft. In this battle, air power was integrated into a combined arms team by the Canadian Corps, which had devised a sophisticated command and control organization, called the Counter Battery Office, to manage most heavy firepower on the battlefield. It used visual reports, radio direction finding, sound ranging, and other means to locate enemy artillery and to direct guns and aircraft to silence them. It also used air attacks to suppress German anti-tank guns. But whatever their expertise in the practice of mobile warfare, Canadians contributed very little to the theory or practice of this form of war between the First and Second World Wars.[134]

A great deal has been written about the evolution of manoeuvre theory in the inter-war years. There is still considerable debate over which theories have been most influential on modern manoeuvre theory, as we have seen. Besides the German and Soviet approaches to manoeuvre warfare, others like Liddell Hart, Fuller, and DeGaulle made their contributions. A number of scholars have argued, however, that these three had relatively little effect on the practice of mobile war in the Second World War, and that much of the credit, and blame, for how manoeuvre forces were employed in that war should go to relatively obscure military officers.[135] Unlike their stereotype, not all serving officers were conservatives or reactionary when it came to adopting manoeuvrist concepts. Most were cautious or moderate progressives, who realized that armoured forces would play an increasingly important part in future wars, but who tended to stress the numerous problems and uncertainties associated with the practical use of these forces that were often overlooked or glossed over by the theorists. Perhaps more important though, Bond and Alexander note that political attitudes, priorities and constraints can exert a dominating influence on force structures and doctrines, as we can see today in both Canada and the US.[136]

The Canadian Army, using Lind's precepts, has articulated its vision of manoeuvre warfare for land operations in its doctrine manual *Canada's Army*. In this vision, manoeuvre warfare should focus on enemy

vulnerabilities not ground; avoid enemy strengths and attack his weaknesses; focus on the main effort; and be agile. In order to achieve these ends, the manoeuvrist commander should support manoeuvre with fire; exploit tactical opportunities; act boldly and decisively; avoid set rules and patterns; use mission type orders; and command from the front.[137]

The Canadian Army's concept of manoeuvre emphasizes that the defeat of the enemy can best be achieved by "bringing about the systematic destruction of the enemy's ability to react to changing situations, destruction of his combat cohesion and, most important, destruction of his will to fight." Nevertheless, Canadian Army doctrine recognizes that "attrition may not only be unavoidable, it may be desirable," depending upon "the commander's intent for battle." The use of the operational art by land forces in Canada is founded on the command philosophy of what they call "trust leadership." Using this philosophy, commanders at all levels are expected "to issue mission orders along with their intent and then allow their subordinates to get on with their tasks." However, it is recognized that this philosophy may be difficult to achieve in practice, "since it is inherent to the nature of the military to over-control its subordinates, and with modern information and communication facilities, it is becoming increasingly easy to do so." Canadian Army doctrine cautions us not to confuse the concept of manoeuvre warfare with manoeuvre. While manoeuvre is defined as "the *employment of forces through movement in combination with speed, firepower, or fire potential, to achieve a position of advantage in respect to the enemy in order to achieve the mission,*" [emphasis in original] manoeuvre warfare is described as "a mind set." Canadian Army doctrine goes on to say that "There are no checklists or tactical manuals that offer a prescribed formula on how to employ manoeuvre warfare. Leaders at all levels must first understand what is required to accomplish a superior's mission and then do their utmost to work within the parameters set out for that mission." It concludes by describing manoeuvre warfare as "an attitude of mind; commanders think and react faster than their foes in order to mass friendly strengths against enemy weaknesses to attack his vulnerabilities be they moral or physical."[138]

MANOEUVRE IN THE SECOND DIMENSION - AT SEA

Until recently, very few students of naval warfare thought of applying the term manoeuvrist to naval operations. In fact, Hughes categorically states,

"there is no such thing as navy maneuver warfare at sea." From a Western perspective, he argues, the core navy functions of securing or preventing communication and commerce are conducted through power warfare, because blockade and interdiction are manifestations of this type of warfare. The closest one sees to a campaign of manoeuvre at sea is *guerre de course*, a type of guerrilla war at sea, conducted by an inferior navy against the commerce of a larger navy's state. Hughes subscribes to Corbett's analysis of sea power, namely that command of the sea is based on control of maritime communications; therefore, all navies are concerned with the movement of goods and services[139] rather than "the purchase of real estate." However, because sea control is a means not an end in itself, it should be linked to a nation's land strategy, and a maritime strategy should be carried out in joint operations. To make this link, littoral operations often feature prominently in naval operations, and this is the connection between navies and manoeuvre warfare, Hughes argues. He defines naval manoeuvre warfare as: the "objective-oriented deployment and sustainment of combat potential on both sides of a coastline." By this definition, Hughes asserts that even if joint littoral operations, such as the US Pacific strategy in 1944 and Inchon in 1950, are generally manoeuvrist in nature, they do not constitute naval manoeuvre warfare.

Hughes offers these deductions about manoeuvre from his study of naval operations: 1) naval manoeuvre warfare applies only at the operational level of war; 2) the absence of bloodshed is not the defining characteristic of manoeuvre warfare; it is the freedom to apply combat power where it counts; 3) small scale operations can be Navy-Marine operations; larger operations require the army and air force as equal or superior partners, nevertheless the entire operation rests on freedom of manoeuvre at sea; 4) the defining characteristic of manoeuvre in this context is a secure sea-land interface.

The contribution of naval manoeuvre warfare to the operational art, Hughes contends, is to confront the enemy with the question: "where will they strike next?" But there are limits to naval manoeuvre warfare. Because the defence is stronger tactically, manoeuvre must be towards a superior position that cannot be ignored by the enemy. For the US Navy, manoeuvre as a core doctrine must be tempered by the pragmatism of stationary operations in littoral waters off an enemy coast - ships are

operationally mobile but not tactically nimble, and are at greater risk when engaged in littoral operations. Therefore, Hughes does not believe that the US Navy and USMC should adopt manoeuvre as a theme that unifies doctrine at all levels. He contends that manoeuvre warfare is risky, and rather than engage in unnecessarily risky operations, the US Navy should use its superiority to prosecute power warfare whenever possible. At the operational level, history validates the worth of naval manoeuvre, but, Hughes argues, naval tactics are inevitably attrition-oriented.[140]

Operational Maneuver from the Sea (OMFTS). If one accepts Hughes' argument that navies only really apply the operational art in a manoeuvrist sense during littoral operations, then the doctrine of Operational Maneuver from the Sea (OMFTS) becomes significant in this context. Hughes claims that OMFTS is, at its heart, the delivery and sustainment of combat potential. But to allow ground forces to be agile in littoral operations, naval forces are likely to lose their agility by being tied to a single location for fire support and logistic sustainment of troops on the ground. Ideally, OMFTS has the following characteristics: it focuses on operational objectives, it uses the sea as a manoeuvre space, it generates overwhelming tempo and momentum, it pits strength against weakness, it emphasizes intelligence, deception and flexibility, and it integrates all organic joint and combined assets. Yet, according to Oliver, this 1996 concept contains nothing new. OMFTS is really just part of the evolution of USMC amphibious warfare that began in 1934 and whose antecedents can be traced back to at least the British in the 18th century (for example Wolfe at Quebec). Oliver warns that the danger with current OFTS (and STOM) doctrine is that it is tied too closely to expensive and technically risky (e.g., the MV-22 Osprey) systems. If these are not funded or prove too expensive to produce in quantity, the whole concept of OMFTS (or STOM) could fail and this would be a disaster for the USMC as an institution. Therefore, he argues, OMFTS should be used to define future USMC capability sets and should not hinge on specific technologies.[141]

In summary, navies do not see manoeuvre in the same light as land forces. For navies, manoeuvre warfare is predicated on deploying and sustaining combat potential on both sides of a coastline. Its efficacy rests on the swift movement of large quantities of goods by sea relative to movement by

land. Therefore, maritime operational art is almost synonymous with operational logistics, according to Hughes.[142]

MANOEUVRE IN THE THIRD DIMENSION - IN THE AIR

Theories of air warfare were developed for the first time in an organized fashion during the years between the First and Second World Wars based on war experience and fears about how future wars might be waged. Much of what was written has been personified by three leading theorists who are still quoted widely today: Guilio Douhet, "Billy" Mitchell, and Sir Hugh Trenchard. Their ideas evolved to a point where their supporters claimed that wars of the future could be won by destroying the enemy's will to resist instead of the enemy's military and naval forces. Victory was to be achieved by bombing major enemy cities with vast fleets of aircraft until the people demanded that their government sue for peace.

These early theorists have continued to influence modern air power theorists. For example, John Warden, sometimes referred to as Douhet's disciple, has emerged as the current leading advocate of force application in third dimension. In his writings, he asserts the dominance of aerospace power over surface forces, and contends that the most effective application of air power is in the strategic realm. He aimed to develop a coherent theory of air power where the aim of an attack against an enemy is strategic paralysis, which aims to physically disable and mentally disorient the enemy to induce moral collapse. The theory, based on a model of five concentric rings, is explained in his book *The Air Campaign,* published in 1988. The central theme of this book is that the most effective strategic plan always focuses on the innermost ring, the enemy's leadership, and even if the enemy's leadership is unavailable as a target set, when selecting target sets in other rings, the air strategist must focus his effects on influencing the enemy's will to continue the conflict. Warden's supporters believe that his ideas and those of John Boyd (who will be examined later) have helped to usher in era of inflicting strategic paralysis by means of what they call control warfare. Warden's ideas are primarily Jominian in character, content and intent, according to Fadok, as his theory of swift, simultaneous attack against an enemy's physical form as represented by five rings is practical, concrete and linear.[143]

Air power theorists have provided the intellectual underpinning for air forces in their struggles with armies and navies for funding and resources, and they are still cited today to provide the rationale for trying to win wars with air power alone.[144]   Like the naval theorist Alfred Thayer Mahan, some of whose ideas inspired air power theorists, their theories were not anchored in empirical evidence, but in their grand visions that imprinted on Western society an image of the war dominated by the aviator. The methods to be used in this new type of war were sometimes horrible, but always quick, clean, and mechanical, and they provided decisive, impersonal solutions for problems others had struggled with for centuries. The role of air power in future war is still a very controversial subject.[145]   Nevertheless, the spectacular results of the air campaign in the Gulf War, the less dramatic effects of Operation Allied Force, and the results of the air campaign in Afghanistan (even though a large portion of it was carried out by naval aviation) have been used to justify the claims of even the most vocal air power enthusiasts.

In theoretical terms, modern proponents of air power have characterized warfare in the third dimension as the ultimate in manoeuvre warfare: "Maneuver is inherent in aerospace power… *Aerospace power alone possesses the capability to bypass the bulk of enemy forces and maneuver directly to their vital targets, whether the targets be critical-fielded forces or key strategic centers.*" [emphasis in original][146] Its means, as in Douhet's original vision, comprise the use of the air as a manoeuvre space to avoid enemy strengths. Furthermore, its means are fast, emphasize intelligence, deception and flexibility, and they can be used to strike directly at the enemy centre of gravity. Its *ends* are the attainment of victory by demoralizing the enemy and destroying his will to resist. Perhaps most importantly, as described in theories of strategic paralysis by John Warden, many air power advocates, while paying lip service to the synergy of all arms in the joint campaign, believe that air power should predominate in plans to defeat the enemy.

This air force view of the way campaigns should be planned is in stark contrast to US joint doctrine which explicitly states that most types of aerospace forces are not manoeuvre forces. For example, the following statement could be found in a document issued by the Chairman of the US Joint Chief of Staff in 1992: "Aerospace Power (except air assets organic to the surface force) is not included as a type of maneuver

force."[147] This concept still seems to be in vogue in US joint doctrine which states that: "The land and naval force commanders are the supported commanders within the areas of operations (AOs) designated by the JFC. Within their designated AOs, land and naval force commanders integrate and synchronize maneuver, fires, and interdiction."[148]

Critics like Pivarsky argue that the land-centric interpretation of manoeuvre found in US joint doctrine conceptualizes manoeuvre forces as entities on a two dimensional battlefield. This has important consequences, as Pivasky notes, because only manoeuvre force commanders can "own" and therefore command parts of the battlespace, and this implies that only air force assets are not maneuver forces.[149] Air power advocates see joint doctrine as reinforcing the US Army position that land force commanders should normally be joint force commanders and that they will be supported by the other services. Pivarsky puts it this way:

> Let us take off the gloves and face facts. The underlying issue is 'who controls the battle field?' A maneuver force has boundaries with other maneuver forces. Within its boundary, a maneuver commander owns the battlefield. Since this … specifically excludes the Air Force as a maneuver force, the AF [Air Force] owns no portion of the battlefield. This disregards the fact that the AF (and to a limited degree the Navy) has the ability now to see, control, and provide the preponderance of force beyond the indirect fire range (Army Tactical Missile Systems excluded) of surface forces inside the surface maneuver commander's boundary.[150]

While the US Air Force has taken concrete steps to redress what it sees as a doctrinal imbalance in the US services by creating its own well thought out doctrine, the Canadian Air Force has been unable to produce coherent, up-to-date aerospace doctrine. For example, at the 1984 Air Doctrine Symposium, the Chief of the Defence Staff, an Air Force officer, criticized the participants' use of self-serving arguments for specific doctrine to justify new equipment acquisitions.[151] And in 1989 the policy of the CF Aerospace Doctrine Board still used ad hoc methods and temporary working groups "to review and resolve doctrinal issues on behalf of the Board."[152] The proceedings of the 2002 Air Symposium and a recent study of CF air doctrine indicated that over a decade later little

has changed.[153] The implications for CF joint doctrine are that without a strong and clearly articulated aerospace doctrine to balance extant land force doctrine, CF joint doctrine will continue to be based on land-centric concepts, which as we have seen, are inappropriate in some ways for aerospace forces. The Air Force's only consolation in this situation may be that the US Air Force will gradually introduce some balance into future US joint doctrine, which will in due course be adopted by the CF. Now that we have examined the service (or environmental) dimensions of manoeuvre, we will now look at the final dimension of manoeuvre that will be discussed here - a dimension more related to time than space.

THE FOURTH DIMENSION OF MANOEUVRE - THE OODA LOOP

Current concepts of manoeuvre embraced by the US Army, and other services, have been strongly influenced by a model developed by US Air Force Lieutenant-Colonel John Boyd. Boyd, who retired in 1985 and died in 1997, had little in the way of command or combat experience, and he based his model on observations of fighter pilots in training and in the Korean War. His OODA (observation-orientation-decision-action or Observe, Orient, Decide, Act) Loop model was designed to enable US forces to fight smarter, employing mission-type orders (*auftragstaktik*) to effect a sort of "military judo" on the enemy by creating friction and exploiting enemy mistakes.[154]

Boyd's model, which has been referred to as the "Boyd Theory," was not a novel concept, but a synthesis of much of what had been written before by other theorists of war, according to some. Others characterize it as a profound new theory of warfare that is simple but elegant, even if it has only recently been recognized as such. Boyd's model is simple but elegant. In it, every decision occurs in time-competitive OODA cycles. This process implies that military decision makers need a psychological and temporal orientation instead of the usual physical and spatial orientation. There is a need for mental agility and creativity, comfort with ambiguity, and the confidence to allow subordinates to use their initiative. Boyd's model portrays the most important manoeuvres as taking place inside the enemy's mental processes (the enemy's OODA loop); therefore, the most important manoeuvre space is in the fourth dimension of time.[155]

Polk asserts that the Boyd Theory along with German blitzkrieg is the backbone of modern manoeuvre theory, but that it was the German operational philosophy, not their tactics, that was vital to Boyd's analysis. According to Polk, the entire German operational and tactical leadership method hinged on a rapid and concise assessment of the situation, quick decision and quick execution. A unifying aim guided decentralized execution, and, therefore the Germans constantly operated inside their opponents' OODA loop. At the strategic and operational levels the key to being faster than the enemy is to fight only when and where necessary to strike at his centre of gravity. At the tactical level, units should emphasize "bypass and collapse" instead of "close with and destroy," with the emphasis on striking at the enemy centre of gravity as directly as possible at all times. Boyd argued that his theory also applied to guerrilla warfare because, like blitzkrieg, it sought to exploit surprise and shock to generate confusion, disorder and panic, which shattered an adversary's cohesion, paralyzed his effort, and eventually brought him to the point of collapse.[156]

Boyd's model calls for commanders and their staffs to constantly revise their mental models to stay inside an opponent's OODA loop. This process also has the effect of creating a mind-set more predisposed to fight the enemy rather than fighting according to a pre-set plan, as is common with plan-based methods currently in use. Boyd's model is therefore congruent with pattern recognition theories of decision making, such as those of Gary Klein, which advocate naturalistic or intuitive decision-making in time-sensitive situations.[157]

Boyd never attempted to publish his ideas, but William S. Lind codified them in his *Maneuver Warfare Handbook* specifically tailored for the USMC. In it, Lind posited that those who could decentralize actions, and accept confusion and disorder while avoiding all patterns and formulas of predictive behaviour would dominate future ground combat.[158] Proponents of manoeuvre, like Lind, based on the Boyd Theory advocate a more dynamic approach to strategy and operational thinking than is currently found in some US military circles. Critics of the current system point out that the OODA model contrasts with the inherently analytical nature of US Army planning and decision making which neglects the role of synthesis as an enabler of intuition in the Boyd Theory. This has caused rifts in the US Army where some advocate radical and bold culture shifts

to allow for true mission command, while others suggest that the present model of centralized planning and decentralized execution is sufficient to meet future needs. Polk argues that the US Army cannot practice true manoeuvre warfare, as described by the Boyd model, because toleration of mistakes and the use of initiative are antithetical to US Army culture today. This may not bode well for the future because in a culture where conformity is rewarded more than initiative, those who rise to command the Army are being selected on criteria that will not allow them to be proficient practitioners of the operational art as it was envisioned by Boyd.[159]

This situation is exacerbated, according to Polk, because one of Boyd's most important insights, his emphasis on the importance of time, has been lost in a doctrinal "dumbing down process." Too often, Polk claims, the OODA loop process is portrayed as one of making decisions more quickly than an enemy. But "out-OODAing" an enemy is more a process of achieving temporal effects than just being faster (or slower) than an enemy in decision making. Fadok argues that Boyd's approach, is predominantly Clausewitzian because manoeuvring inside the enemy's mental processes as depicted by the OODA loop is more a more philosophical, abstract and nonlinear approach than the approach advocated by Warden. In other words, Boyd's theory is about "err-power"- how to make the enemy lose versus how to win ourselves.[160]

A SUPPORT CAVEAT

As important as the concept of manoeuvre may be to an understanding of the operational art, most treatises on the subject pay scant attention to its support aspects. Jack English reminds us that the staggering logistics and staff planning required during the Gulf War should alert us to the fact that these dimensions, as much as sweeping battlefield manoeuvre, character-ize the operational art. Therefore, "the mundane business of movement calculation" still seems to lie at the heart of the operational art.[161]

In a seminal article titled, "Combatant Logistics Command and Control for the Joint Force Commander," David Schrady provides one of the few analyses that addresses this topic in a systematic way. Noting that "operational planning is about 90 percent logistics planning," he observes that joint doctrine says that: "to exercise control at the strategic,

operational, and tactical levels of war, commanders must also exercise control over logistics." Yet, while current logistics doctrine says that logistics is a command function and that there should be a single command authority responsible for it, this doctrine also says that each service is responsible for logistics support of its own forces.

Information is the key to achieving logistics command and control, Schrady says. Even in the Gulf War where General William Pagonis as head of 22nd Support Command represented the single point of contact for Army logistics, he had little information on the other services' logistics state and absolutely none about the US Navy or coalition forces. Thus, despite some claims to the contrary, the joint force commander had no comprehensive logistics picture during the Gulf War, Schrady claims. For example, much more ordnance was shipped into theatre than was used. The US Air Force believes it expended 69,000 tons of the 350,000 tons of ordnance it shipped in theatre; other services used even less. This drove up force structure, cost money, and 90 percent of the ammunition shipped in-theatre by the US Army was backhauled. It is clear that today it would be almost impossible to move such large quantities of materiel. Therefore, a new logistics C2 system should be capable of prediction to allow interaction between logistics and operational planning and the execution of the plan.[162]

Canadian lessons from Task Force Aviano (TFA) illustrate a different type of support problem - one with a human dimension. The support for TFA was described by some participants as "a highly disorganized effort." Those tasked to support the operation lacked the cohesion and efficiency generated by people who have trained and worked together because of the ad hoc method of creating TFA. And too much of a "can do" attitude to overcome deficiencies led to unacceptable risks. In terms of logistics and technical support, many of those involved felt that the "depth of expertise to mount such operations in the future will decline as trade restructuring evolves" and people with experience retire. The current Air Force Support Capability Project is designed to rectify some of these problems, but it remains to be seen if they will be addressed in a comprehensive fashion by the CF.[163]

Solutions to human problems in the support domain begin with a philosophy. As Frank Pinch says in his article on human resources in peace support operations, there must be an acknowledgement of the

complexity and diversity of roles, functions and interactions and the need for cooperation among the major players to achieve successful support at the operational level. At the organizational level, he talks about such concepts as: integration, coordination, cooperation, collaboration and conflict. Pinch concludes that coordination of functions and cooperation among the organizational players involved are basic requirements. Yet neither can be taken for granted, and both require substantial effort by each of the partners involved because the organization is subjected to various types of strain, including inadequate resources to perform the required task(s); ambiguous, unclear or inappropriate direction or coordination of activities; overlapping and/or conflicting roles and responsibilities; political pressure; and cleavages and frictions within and among organizations and groups. These are all essential considerations for practitioners of the operational art to ensure that their manoeuvrist plans are not foiled by inadequate support.[164]

MANOEUVRE IN CONTEXT

Most theorists of manoeuvre agree on the ends of manoeuvre warfare: to defeat the enemy quickly, decisively and with minimum loss. The *means* of achieving these ends; however, are varied and depend largely on which war fighting community the "manoeuvrist" comes from. Theorists tend to focus on the means they know best, and true joint manoeuvre theory is handicapped by the largely single-service approach taken by the US services. Furthermore, support and logistics, for some the heart of the operational art, is often overlooked in manoeuvre theory.

Few would argue that manoeuvre is not a necessary part of the operational art, but a number of commentators remind us that manoeuvre today has been portrayed as a solution for problems that are beyond its capacity to solve. First, it is often portrayed as a solution for the perceived predisposition for casualty aversion in the West, when in fact manoeuvre warfare between roughly equal opponents (e.g., the last 100 Days battles of the First World War and the Eastern front in the Second World War) has resulted in very high casualty rates indeed.[165] Second, it has become a mantra for some that automatically excludes other possibilities for fighting, like defensive attrition, which are then not fully explored when devising operational plans. In today's climate of doctrinal flux, perhaps it is best to keep an open mind. Remember that the word

"manoeuvre" conjures up many possibilities in different warfighting communities, but that a great deal more study is required before all its possibilities are clearly understood.

PART 4 – FUTURE WAR AND THE OPERATIONAL ART

DESCRIBING CHANGE IN FUTURE WAR

In the last decade of the 20th century, the term Revolution in Military Affairs (RMA) was the buzzword used to symbolize how change would affect future war. More recently, terms like "transformation" and "network-centric warfare" have begun to replace RMA in dialogues about the future of war. This part of the chapter will examine these concepts to establish a context for understanding how changes in warfare might influence the operational art in the future.

In the 1990s, the idea that we were in the midst of a Revolution in Military Affairs that would transform war, and, therefore the operational art was a view that was endorsed by the senior leadership of the CF. [166] The US Office of Net Assessment defines a RMA as "a major change in the nature of warfare brought about by the innovative application of new technologies which, combined with dramatic changes in military doctrine and operational and organizational concepts, fundamentally alter the character and conduct of military operations."[167] Even though factors such as doctrine and organization are mentioned in this definition, many champions of the RMA point to the primacy of technology in driving change in future war. While there is no doubt that the RMA will change warfare in many ways, there is still significant disagreement over whether the changes are either revolutionary or technology-based. Some have suggested that if we look around the globe we see nothing unprecedented in human conflict, as nationalist, religious and ethnic conflicts are hardly a distinctive late 20th century or early 21st century phenomenon. These types of war have existed since at least the Middle Ages, and exhibit significant continuity with the evolution of warfare over the past 100 years. So, according to some, if we are in the midst of a RMA we can make a strong case that it has been unfolding for a long time.[168] The dangers of focussing too much on the technical determinants of change in warfare have been discussed by a number of commentators.

Recent events in Iraq have brought to the fore once again ideas that have been part of the debate about future war for some time.

For example, in 1989, William Lind and four co-authors coined the term Fourth Generation Warfare, and this term (now abbreviated as 4GW), despite its shortcomings as a model as identified by some,[169] has gained some currency in debates about the future of war. At that time Lind et al. identified three historical generations of warfare with two possible future fourth generations. The authors categorized the first three generations of war as follows: First Generation War (1648-1865) was fought by state armies using line and column tactics; Second Generation Warfare relied on firepower to cause attrition and was described as "war by body count"; and Third Generation Warfare they portrayed as a German product, fought more in time than in place, and based on speed and manoeuvre.[170] Lind characterizes the American way of war, even today, as Second Generation Warfare because its goal is still "victory through attrition," and because the new technology (like the B-2 Stealth bomber and the Predator UAV [unmanned aerial vehicle(s)]) in the current US transformation strategy is only designed to make firepower more efficient or more "precise."[171]

In the 1989 article, Lind provided two possible models for 4GW: Technology-Driven warfare and Idea-Driven Future Warfare. The first type of Fourth Generation Warfare Lind hypothesized was Technology-Driven warfare where technologies like directed energy weapons and robotics would allow small, highly mobile forces combined with information operations to attack an enemy's centre of gravity defined as the enemy population's support of its government and the war. This type of 4GW posited a state versus state conflict, but recent events have caused Lind and others to focus on his second hypothesis for 4GW.

Noting that the events in Iraq in 2003-2004 have marked "the end of the state's monopoly on war,"[172] Lind and others have turned their attention to Idea-Driven Warfare, which according to Wilson et al. was cited in an al-Qaeda-affiliated internet magazine as the foundation of al-Qaeda's military doctrine.[173] In the 1989 article, Lind et al. asserted that even though terrorism is neither new nor particularly effective, if combined with new technology it could be extremely potent. Based on this type of analysis many were aware pre-9/11, in general terms, of possible terrorist

threats. For example, in the early1990s Martin van Creveld observed that since 1945, most wars were fought by small, concealed, dispersed groups of terrorist organizations without a clear territorial base and which could not be targeted by modern technology.[174] Even on the first AMSC (in 1998) the name of Osama bin Laden was used as an example of a non-state actor who might change the nature of war, but it took the tragic events of 11 September 2001 to clarify just how such a threat could be actualized. Many observers now agree that Idea-Driven Warfare is commonplace around the world and that 4GW foes can attack the entire social order by using the target society's very organization, laws, technology, conventional forces and tactics against that society. Opponents are therefore using 4GW concepts to leverage the Western dependence on technology and to avoid a decisive fight using "4GW judo" to keep large Western security, military, and legal bureaucracies off balance.

Yet how the West can deal with foes using 4GW concepts, where the tactics of the weak confound the tactics of the strong, is still not well understood. A number of commentators argue that Western targeteers (using 2GW) are defining and attacking artificial, physical enemy centres of gravity with precision weapons (bringing to mind an old adage that when your only tool is a hammer, all your problems look like nails) when the real centre of gravity is a shared religious/ideological goal where common purpose and zealotry replace military equipment and command structure. Wilson, one of Lind's co-authors in the 1989 4GW article, concludes that: "…as technophiles Westerners are enraptured by weapons of great precision but have lost sight of the fact that people and ideas are the essence of why wars are fought and for how long."[175] Therefore, advocates of a technical revolution in warfare may be using a dated 20th century paradigm to interpret change in war, when the problems of linking technology and doctrine are much the same as they have always been.

Transformation. Despite the warnings of the those who coined the term 4GW and others, many of the predictions of change in future war continue to be based on technology as the driving force behind change, and transformation is the latest buzzword in the debate.

The latest approach to transformation in Western armed forces began when the US Secretary of Defense, Donald Rumsfeld, established the Office of Force Transformation in October 2001 and gave it the mission

of synchronizing all the US services' transformation efforts. The Office's first Director, retired Admiral Arthur K. Cebrowski, put his imprint on US transformation efforts; therefore, a brief look at his background is important to understand the concept. Cebrowski had 37 years of service in the US Navy that included combat experience in Vietnam and Desert Storm, command of a carrier battle group, and president of the US Naval War College. Kagan characterizes his new vision as resonating with his operational experience as a naval officer used to operating in a fluid medium against limited arrays of targets. Perhaps most importantly, Cebrowski was instrumental in developing and publicizing Network-Centric Warfare (NCW), a distinct vision of future warfare. Therefore, not surprisingly, Cebrowski "enshrined NCW as the goal" of transformation and has declared that the "transformation programs in the services will be judged by the extent to which they approach the NCW ideal."[176] NCW was originally developed by the US Navy, but the concept has now been endorsed by the US Joint Chiefs of Staff as a way to implement Joint Vision 2020. There is still some confusion as to what the concept actually entails, but it appears to advocate a fully integrated information network with all platforms being nodes in the network. The aim is to produce a "common operating picture" so that all players will be working from the same computer-mediated visual presentation.[177] The potential of NCW is huge: commanders having access to all the information that could affect their missions is the condition all militaries have strived to achieve. Although primarily an issue that will be settled by the US armed services, the implications for America's coalition partners are huge. However, problems with NCW were already pointed out as early as five years ago. However, there are problems with NCW that have been pointed out as early as five years ago.

Thomas Barnett, a Professor and Senior Decision Researcher at the US Naval War College, offers a number of criticisms of NCW, but he is particularly critical of the strain the common operating picture could put on commanders at all levels. It may push too many commanders, fed by an almost unlimited data flow, into being control freaks, making the common operating picture into a sort of non-stop internal spin control by commanders trying to influence what others see. It also risks becoming a command-manipulated virtual reality, at worst degenerating into the senior command staff engaging in a heavy-handed enforcement of the commander's view of the situation all in the name of shaping and

protecting the common operating picture. In any event, the developers of NCW may have fallen into the technology trap of providing information for information's sake, without considering the real needs of commanders.[178]   William Lescher, who reminds us that in large organizations, the pace of innovation is constrained more by organizational culture than by technology, offers another caution. He argues that unless the US military gets past its fascination with technology to address critical issues such as a zero-defects mentality, risk aversion, poorly designed war fighting experiments, and widespread contentment with current performance, expectations for NCW will not be realized.[179]

More recent criticism of NCW has addressed its conceptual origins. Kagan argues that the underlying flaw in NCW is that it reflects an effort to translate a business concept of the 1990s into military practice. The basis of NCW is drawn explicitly from the examples of companies like Cisco Systems, Charles Schwab, Amazon.com, American Airlines and Dell Computers among others. It has been claimed that all of these companies attained dramatic competitive advantages in their fields by creating vast and complex information networks, and using these networks to predict inventory needed to meet customer orders permitted them to become "maximally adaptable," building products to the exact specifications of each customer only when the customer wanted them. This information technology allowed these companies to make enormous efficiencies because they could make accurate predictions, minimize risk and adapt to rapidly changing circumstances. The key to NCW, according to its advocates, is to achieve information dominance over the enemy in much the same way that successful corporations use information to dominate their markets.[180]   However, recent experience and past history should remind us that war is not business; enemies are not customers to be serviced; and the type of information dominance this approach to war demands is unlikely to be achieved with enemies who are adaptable and able to foil attempts, especially using technical means, to gather intelligence.

Effects Based Operations. Another buzzword in the current debate on the future of war is Effects Based Operations (EBO). Originally championed by the USAF; it is now a term used frequently in the joint arena. The USAF has continued to embrace EBO and has developed it as part of the broader "Rapid Decisive Operations" concept.[181]

EBO focuses on casual explanations to see if actions that are planned or taken actually result in the desired effects. The key to achieving success with EBO is in predicting how physical actions can result in behavioural outcomes. In many ways, EBO is a new way of describing an old concept because it has been at the heart of theories of air warfare since the earliest air power theorists who were almost always concerned with the effects as much as the means of applying air power. In fact, Douhet's theories were based on the notion of using the physical action of bombing to effect behavioural changes in the leadership of a nation. Critics of EBO have, therefore, used the failures of air power theorists to accurately predict the outcomes (effects) of aerial bombardment to illustrate why true EBO may not be possible.[182] In other words, given the chaotic nature of warfare, it may not be possible to achieve the effects desired by the advocates of EBO, as Chaos Theory tells us that second and third order effects, especially those associated with human behaviour, cannot be predicted with the accuracy necessary to achieve the results EBO enthusiasts have claimed. The challenge for them will be to see if modern theories, methods of analysis, and technology can make true EBO possible.[183]

NCW and EBO, as well as "Shock and Awe," "Rapid Decisive Operations," and dominant (or predictive) battlespace awareness, are related, critical concepts in current visions of US military transformation. However, because they rely on having essentially perfect intelligence to be able to predict what enemies will do and to destroy whatever targets will "shock and awe" an enemy, they are unlikely to succeed, Kagan argues. The most important problem with these concepts, Kagan says, is that they leave out the most important component of war, that which distinguishes it from organized but senseless violence, namely translating the destruction of the enemy's ability to continue to fight with achieving the political objectives of the conflict. He notes that the true centre of gravity in a war of regime change is not the destruction of the old system: "*Combat* is characterized by breaking things and killing people; war is about much more than that."

Kagan concedes that the advocates of transformation are facing an old problem in the history of war, how to secure critical population centres and state infrastructure. However, by not carefully studying previous attempts to destroy an enemy's will to resist without destroying all his infrastructure, and without physically occupying his territory, such as the

strategic bombing theorists and the strategic bombing campaigns of the First and Second World Wars, they have underestimated the obstacles to achieving their goals. Like the advocates of 4GW, Kagan asserts that "shock and awe" enthusiasts ignore that fact that the destruction of targets and resultant killing of civilians necessary to achieve the desired effect may undermine the political objectives of the campaign.[184]

Confusion in Terminology Can Lead to Confusion in Thought. One of the biggest problems with trying to understand and apply the terms most frequently used in the debate about the future of war is that there are a number of different interpretations of these terms, and that there is, as yet, no overarching theory to link them together. As Andrew Krepinevich Jr. has noted: "One of the problems with the transformation effort is that, three years into it, there is not a clear understanding at the Pentagon of what the term means….It's become more a generic buzzword for ill-focused change."[185]

Even Cebrowski does not provide a clear definition of transformation. He is quoted as saying this about transformation on his Office of Force Transformation Pentagon Website: "'Some say it is about injecting new technology into the military…Others believe transformation is about new ways of buying weapon systems. Still others hold that transformation is about the wholesale change of organizations…Frankly, I don't care which one is used,' as long as it is understood to be a process that keeps the U.S. military changing and competitive in warfare." Cebrowski said that "there was a good reason not to dwell on what exactly is meant by transformation: 'I've watched senior leaders get knotted up in the definition of transformation' and lose their focus on substance…His bottom line, he said, is that 'what we're really talking about is changing behavior.'"[186]

However, changing behaviour may not be enough. The real problem as Elinor Sloan has observed is that the "dominant military service cultures" continue to focus on legacy equipment as reflected in procurement budgets that do not fully reflect service visions. This observation has been recently reiterated by Krepinevich, who noted that: "'There are efforts in transformation in some areas -- like UAVS [unmanned aerial vehicles] and networked Navy battle groups -- but if you look at the overall budget, what you see are the legacy programs'…Most of the spending, he said, goes to large ships, submarines, fighter aircraft and other programs that

he calls 'the traditional force structure items,'"[187] as efforts to modernize the services' major budgetary decisions have essentially failed.

Technology and Human Factors. A fundamental policy and budget issue for many armed forces today is what balance to strike between technology and human resources in force structures of the future. Often the question is framed as: what proportion of expenditures should be allocated to new equipment versus training? Stephen Biddle's iconoclastic interpretation of Coalition success in the Gulf War offers a model that incorporates both factors. He uses it to support his premise that "future warfare is an incremental extension of a century-long pattern of growth in the importance of skill differentials between combatants," and that outcomes between highly skilled opponents have changed relatively little in spite of major changes in technology. His explanation of Coalition victory in the 1991 Gulf War posits a powerful synergistic interaction between a major skill imbalance and new technology to account for its outcome. He theorizes that it was only the extremely low skill level of Iraqi forces compared to Western forces in the Coalition plus the technical preponderance of the Coalition that allowed it to win a near bloodless victory. Biddle claims that higher Iraqi skill levels, even with their technological inferiority, would have resulted in significant Coalition casualties; likewise, lower Coalition skill levels, even with technological superiority would also have resulted in significant Coalition casualties.

Biddle maintains that his theory has important policy implications, because most current net assessment and force planning methodologies focus on numbers and the technical characteristics of adversaries' weapons. These methodologies run the risk of producing a serious misjudgement of the real military power of opponents and could result in major errors in estimates in the forces needed to meet future threats. Biddle claims that arguments that modernization should be protected at the expense of training and readiness overestimate the value of technology and underestimate the effects the role of skill in using technology has on the outcome of a conflict. He concludes that a more systematic study of opponents' skills is needed because little research has been done on the relationship between weapons effects and the skills of the operators.[188] Biddle's ideas have important implications for Canada and other medium powers, as potential US coalition partners must consider the trade off between numbers and quality of troops and quantities of sophisticated equipment.

CHANGE IN CONTEXT

Writing at the end of the 20th and at the beginning of the 21st century Sloan concluded that an RMA was underway and that it has the potential to dramatically change warfare in the next two to three decades. She argued that despite the challenges of expensive equipment and small budgets, Canada and other similar countries can, by making selective investments in the RMA, maintain some capabilities that will allow them to be interoperable with or to provide niche capabilities to American and other coalition forces. She suggests that Canada invest in capabilities that can respond to both high- and low-intensity tasks, e.g., advanced C4I, intelligence, surveillance, and reconnaissance systems, UAVs, strategic lift, PGMs, and highly lethal yet rapidly deployable and mobile ground forces. Sloan echoes Biddle's concerns when she advises that Canada must consider the trade off between personnel and technology. She concludes that to ensure that this trade-off is set above the line of operational and political marginalization increased defence spending is required.[189]

In her post-September 11 epilogue, Sloan argues that the Afghanistan campaign left almost no area of the RMA untouched, especially the use of precision munitions and disengaged combat. She notes that 60 percent of the munitions dropped on Afghanistan were precision-guided compared to 35 percent for the Kosovo campaign and 6 percent for the Gulf War. Furthermore, the first use of unmanned combat vehicles on a large scale has led to the prediction that by 2025, 90 percent of combat aircraft will be unmanned.[190] Yet despite all these technological advances, some parts of the campaign were not much different than those waged 85 years ago on the Western Front. A recent lessons learned brief from Afghanistan pointed out that, like their First World War ancestors, US (and Canadian) ground troops were still lugging into combat 80 pounds of equipment on their backs.[191]

Owens cautions us against putting technology ahead of other considerations and he labels that phenomenon as "technophilia." He argues that: "Technophiles contend that a 'revolution in military affairs' based on emerging technologies has so completely changed the nature of warfare that many of the old verities no longer hold true. The technophiles argue that the US must do what is necessary to ensure its dominance in military technology even if it means accepting a

substantially reduced force structure." But Owens cautions us against technophilia because he says the future is unknowable and that the US has confronted at least one strategic surprise per decade since Pearl Harbor. He recommends not relying too heavily on technology and maintaining alanced forces that work together like the blades on scissors.[192]

Others suggest that the very nature of technology has changed at the beginning of the 21st century. Leonhard asserts that future war will be characterized by prototypes rather than mass production. Because of the rapid evolution of technology, he argues that there will be no "technological end state," but that in an era of technological flux it will be the side that can adapt and field workable prototypes based on changing permutations and combinations of technology that will succeed. This will be a major challenge to the American warfighting culture, long based on quantity as much as quality, because the new "prototype warfare" will require "unprecedented levels of innovation and flexibility among warfighters."[193]

Christian Carrier provides some useful perspectives on transformation from a Canadian perspective. He argues that DND has essentially followed the approach adopted by the US Department of Defense, and that like the US *Joint Vision 2010*, the Canadian *Strategy 2020* was designed to provide a vision for the desired future. But Carrier argues that one of the biggest obstacles to transformation in both Canada and the US is the single-service approach to transformation being adopted in both countries as indicated by this quote from the June 2000 *Strategic Capability Planning for the Canadian Forces:*

> However, force generation…is still almost exclusively undertaken by the three Services, with minimal guidance from the commander that employs them on actual operations, the DCDS. Arguably, this situation places undue emphasis on maintenance of the status quo, and does not foster a more uni-fied approach amongst the services. In particular, programs that would benefit the CF as a whole but which are of only marginal utility to single services often find it difficult to gain support.[194]

Advocates of transformation in the US have stated that some of the keys to achieving transformation will be to have a Unified command structure,

Unitary military war-fighting organizations, consolidated global mobility, consolidated logistics, and a consolidated medical service. According to Carrier, the Canadian military is fairly well postured to proceed with its transformation because the CF already have a unified command structure and rivalry between the various services is arguably less acute in Canada than in the US. Possibly the most important factor in favour of the successful transformation of the CF is that our forces are small, hence theoretically more amenable to fundamental change.[195]

However, it is still not clear which road the CF should choose in adapting to future warfare. A key question from warfare in the last decade is - what is the trend in future warfare, or is there one? Will investing in the technologies that were so successful in Afghanistan and the early parts of Operation Iraqi Freedom be like preparing for the last war? Or is it the way of the future? There is no clear answer to these questions.

To put the change in future war in perspective, perhaps one should think of technology as just one of many factors, including training, experience, organizational culture, and doctrine, that influence the effectiveness of any armed force. The wisest course may be to not put too much emphasis on any one factor, especially technology, because no matter how pervasive technology becomes in war, victory or defeat will still depend on the ability of the military leader. Or as the distinguished Canadian historian Donald Schurman put it in a Royal Canadian Air Force Staff College journal article on "Science and Military Decisions" published 40 years ago:" The proper commander's most valuable qualities will not be determined by his specialist training, but by his reflective intelligence, his moral strength, and his quality of will."[196]

PART 5 - CONCLUDING MATERIAL

SUMMARY AND CONCLUSIONS

The aim of this chapter was to explore the theoretical and historical roots of the operational art to better understand its context and key concepts, and to see how they might affect the practice of the profession of arms in the future.

A fundamental problem for those studying the operational art is the lack of consensus about the meaning of the term "operational" when it is used to describe a level of war. The terms operational art and operational level of war are complex concepts with varying interpretations depending on the context in which they are used. Their most recent variations have their origins in the US Army doctrinal renaissance after the Vietnam War, which was based largely on that experience and European experience and theoretical constructs. This land-centric focus, upon which most current joint doctrine is based, has been challenged by navies and air forces in recent years based on the assumption that the nature of war in different environments calls for different interpretations of the operational art. While the concept of the operational art as a means of linking strategy and tactics appears to have some utility in many cases, the debate over its applicability in all cases continues. Other challenges to the current construct of the operational art rest on conceptual grounds. One of the most trenchant is that current doctrine portrays the operational art as bridging the gap between national strategy and tactics in the field. However, there are many historical examples where Western nations either had no coherent national strategy for a particular conflict (the Vietnam War) or were not prepared to articulate it (Britain in the First World War). Canada is particularly susceptible to this criticism, as successive Canadian governments have often deliberately avoided creating or articulating national strategies for fear that they might cause rifts in the fabric of the nation or that politicians might be held account-able if they did not achieve strategic goals.

The difficulties the US has had in achieving the jointness mandated by the Goldwater-Nichols Act due to dissimilar service cultures and due to certain bureaucratic processes, like the QDR, that encourage inter-service rivalry and work against jointness have been mirrored in Canada with some of the same systemic bureaucratic hurdles to jointness that the American forces have encountered. In addition, a lack of resources has compelled Canada to take most of its operational-level doctrine directly from it allies. While this facilitates interoperability, it causes other prob-lems as other countries' doctrine is often written with domestic or nation-al inter-service issues in mind and these are not readily transferable to, or understandable in, a Canadian context. This has led to some predictable difficulties with Canadian joint doctrine that have been exacerbated by cuts to staffs charged with creating our own doctrine. Finally, the CF

should be cautious about trying to apply the operational art, a concept that came from the need to manoeuvre large formations, to virtually everything it does, as this may only create confusion. The complexities inherent in the operational art are not always fully described in official publications, but an understanding of them is required to understand the operational art well and to practice it effectively.

The intimate connection between manoeuvre and current interpretations of the operational art is worrisome to some commentators. In explaining the concept of manoeuvre, many of today's theorists contrast it with attrition. This is not always a valid contrast, as we have seen, and Hughes' concept of power warfare may be more appropriate, in certain cases, as the opposite of manoeuvre. The US Navy and US Air Force have recently challenged the articulation of manoeuvre in joint doctrine based on new theoretical concepts that explain how manoeuvre can be conducted in the air and at sea in ways that are different from the army's traditional depiction of manoeuvre. These issues go beyond theory and impact directly on who is allocated command in joint operations based on who is defined as the "manoeuvre force" in US doctrine. Boyd's OODA "Theory" takes the discussion of manoeuvre beyond its usual physical and spatial orientation and into psychological and temporal realms. Proponents of the Boyd Theory say it creates a mind-set more predisposed to fight the enemy than to follow fixed plans, as is currently done by many practitioners of the operational art. However, its proponents also note that to effectively use Boyd's ideas, those who practice the operational art must institute major culture change in their organizations to facilitate a more dynamic approach to operational thinking, new ways of decision making using synthesis to enable intuition, and true mission command. Some critics believe that organizations, like the US Army today, are not capable of practicing the operational art as Boyd advocated, because they have rigid cultures based on conformity where the ability to tolerate mistakes and to use initiative are not developed systematically.

Most practitioners and theorists of the operational art agree that the defeat of the enemy quickly, decisively and with minimum loss is the aim of manoeuvre warfare. But how to achieve these ends varies depending on their background and service culture. The land-centric manoeuvre theory in current US joint doctrine is being challenged by very different

views of how manoeuvre should be conduct by air and naval forces. At the moment there is no clear joint manoeuvre school of thought, but one may emerge from a synthesis of the debate currently underway in the US military.

One of the greatest weaknesses in current manoeuvre theory, and to a certain extent in current theories of the operational art, is the relative neglect of support and logistics issues. History shows that these issues often dominate operational-level planning, and yet there are serious deficiencies in existing and planned future logistics C2 systems. Part of the problem is caused by the single-service approach taken to support and logistics in the US military. A significant part of the problem is also a lack of appreciation of the importance of these issues on the part of many practitioners. This attitude is often reflected in exercises where it assumed that logistics and support needs will be met automatically and where restrictions to manoeuvre caused by logistics and support requirements are ignored in the interests of not impeding the exercise.

At the beginning of the 21st century, buzzwords like "transformation," "network-centric warfare," and "effects-based operations" are being used as a shorthand for how change might affect future war. A great deal of confusion in both concepts and terminology makes it impossible at this time to know which, if any, of these buzzwords will be the real harbinger of change in future war. However, based on the history of change in warfare it is possible to predict that the human dimension of command, including such things as education, doctrine, training, leadership, and culture, will continue be a vital component of the operational art. Successful practitioners of the operational art must, therefore, be aware of these aspects of their profession as much as the technical aspects.

SOME IMPLICATIONS FOR THE FUTURE

Today's joint doctrine has a clear lineage. It evolved from US Army operational-level doctrine that aimed to bridge the gap between strategy and tactics that existed in American doctrine after the Second World War. Therefore, one part of joint doctrine's inheritance is the conceptual compromises necessary to gain acceptance from the US Army "tribes" and another part is its land-centric base. These are the hallmarks of joint doctrine today. To address what they perceived as army doctrinal domi-

nance, both the US Navy and the US Air Force institutionalized doctrine writing in the 1990s in ways unprecedented in their histories. The result has been that the past practical air force and navy challenges to joint doctrine have been supplemented by theoretical challenges that are increasing in frequency and strength. In the short term, this will lead to more compromises in the re-writing of joint doctrine and to some inevitable confusion in its application. Students of the operational art need to take these factors into account when learning their craft. Those who seek clear, unequivocal answers will look in vain. Nonetheless, Canadian officers are well placed to acquire an excellent understanding of the operational art. Unlike their American cousins, they work with members of the other environments frequently during their careers, such as on courses like the Command and Staff Course, and thereby have the opportunity to get a good feel for how other environments work. However, the lack of serious study of the operational art in this country has led to some dangerous myths being perpetuated in the CF that interfere with the acquisition of a proper appreciation of this subject.

One of those myths that has become a mantra to some in the CF today, is that "everything is joint." This expression is used to justify their belief that every activity the CF does, from operations to planning to Professional Military Education (PME), must be considered in a joint context. For example, it has been argued that all doctrine needs to be joint or that all PME activities must be taught in a joint environment. This philosophy runs counter to the joint philosophy of the US forces, as we have seen. The American view of jointness is that each service brings its capabilities to the joint planning table and that the necessary capabilities are then selected and integrated into the joint plan. Therefore, only at the operational level and above does real jointness exist in the sense of integrating and synchronizing service (or environmental in Canadian parlance) capabilities. This approach depends upon each service having finely honed capabilities and doctrine that, while capable of being integrated into a joint operation, are, nevertheless, predicated on environmental expertise. Writers often use the metaphor of the symphony orchestra to illustrate how the operational art should be practiced. The commander is often portrayed as the conductor who visualizes how a piece of music should sound. After sharing his intent with the orchestra, the conductor then integrates, harmonizes, and synchronizes the activities of the various sections, e.g., strings, winds and percussion, to

achieve the desired end state. In other words, conductors tell the various sections the desired effect they wish to achieve, leaving it to the experts in each section how to achieve it. The parallel with the operational art is that war-fighting expertise resides in each service or environment, like the sections of the orchestra. The role of commanders and their staffs is to bring this expertise together in the most effective manner. The operational art, therefore, is the art of co-ordination.

In the US, this philosophy is supported by four single service PME systems that in Canadian terms go from Development Period (DP) 1 to 4, and complement the separate American joint PME system. The CF tends to neglect the higher levels (DP 3 and 4) of environmental PME because of the "everything is joint mantra." This could lead to a serious erosion of environmental capabilities, especially at the operational level. Practitioners of the joint operational art depend on those who are masters of single service capabilities to bring their capabilities to the fight. The CF has demonstrated its ability to do this at the tactical level, but, as we have seen, has very little experience with the operational art at higher command levels.

A frequent criticism of the CF approach to the operational art is that, because of a lack of theoretical knowledge or debate, it is excessively focussed on its mechanical and planning aspects. This criticism has been partially addressed by courses at CFC where students not only discuss and debate these issues, but also research, write and publish first-rate essays on topics related to all aspects of the operational art. This is a good first step, but until this type of activity is institutionalized in the CF, both in the joint and environmental communities as it is in the US forces, we will continue to be dependent on American, and allied, doctrine and concepts for the practice of the operational art. This carries with it many risks because we know that the armed forces of each nation are unique, and, therefore must be able to apply the operational art in their own national context. The Canadian military has a proud record of service both to the nation and to the world. Its performance in supporting its allies in the exercise of the operational art has been widely praised. However, in order to avoid being "hewers of wood and drawers of water," only doing the mechanical aspects of the operational art, we will need to spread the spirit of intellectual inquiry into this concept beyond the halls of our professional military educational institutions and more widely into the CF.

NOTES

1   This chapter is based on paper written for the Canadian Forces College 15 March 2003. It has been updated in a number of areas, particularly Part 4.

2   US Army Field Manual 3-0 (FM 3-0), *Operations* (14 June 2001), 2-5

3   In this paper, as in US joint doctrine, I shall use the word "war," as a shorthand for the entire spectrum of conflict in which armed forces are involved, including what the US armed services call Military Operations Other Than War (MOOTW), US Joint Publication 3-0 (JP 3-0), *Doctrine for Joint Operations* (10 September 2001), p. II-2. Canadian joint doctrine divides its notional spectrum of conflict into three "levels of conflict" - tactical, operational, and strategic, *Canadian Forces Operations,* B-GG-005-004/AF-000 (18 December 2000), pp. 1-4 to 1-5.

4   Gwynne Dyer, *War* (Homewood, IL: Dorsey Press, 1985), xi, 13.

5   Robert L. O'Connell, *Of Arms and Men: A History of War, Weapons, and Aggression* (New York: Oxford Univ. Press, 1989), 114.

6   B.H. Liddell Hart *Why Don't We Learn From History?* (New York: Hawthorn Books, 1971), 15.

7   See for example the US Army's FM 3-0, *Operations,* p. 2-14. This practice was suggested in I.B. Holley, "A Modest Proposal: Making Doctrine More Memorable," *Airpower Journal* 9, no. 4 (Winter 1995), 14-20.

8   O'Connell, *Of Arms and Men*, 114.

9   See Richard J. Young, "Clausewitz and His Influence on US and Canadian Military Doctrine," in Allan D. English, ed., *The Changing Face of War* (Montreal & Kingston: McGill-Queen's Univ. Press), 1998, 9-21, for a summary of this issue in a Canadian context.

10   Daniel E.Liddell, "Operational Art and the Influence of Will," *Marine Corps* Gazette 82, no. 2 (February 1998), 50-5.

11   These definitions are taken from *Funk & Wagnalls Canadian College Dictionary* (Toronto: Fitzhenry & Whiteside, 1986), 1389.

12   John Shy, "Jomini," in Peter Paret, ed., *Makers of Modern Strategy* (Princeton: Princeton Univ. Press, 1986), 143-85.

13   Young, "Clausewitz…," 14-15. Like Clausewitz, the Chinese writer on military strategy, Sun Tzu, is frequently quoted out of context to support or "validate" modern doctrine.

14   According to conventional wisdom, science is a strictly logical process. However, while objectivity is the essence of the scientist's attitude to his/her work, in the acquisition of knowledge scientists are not guided by logic and objectivity alone, but also from such non-rational factors as rhetoric, propaganda, and personal prejudice. Therefore, science should not be considered the guardian of rationality in society, but merely one major form of its cultural expression. See for example William Broad and Nicholas Wade, *Betrayers of the Truth* (New York: Simon and Schuster, 1982).

15   Williamson Murray, *The Making of Strategy: Rulers, States and War* (Cambridge: Cambridge Univ. Press, 1994), 1, 7.

16   See for example John F. Schmitt, "Command and (Out of) Control: The Military Implications of Complexity Theory," *Marine Corps Gazette* 82, no. 9 (September 1998), 55–8.

17   Holley, "A Modest Proposal," 14-20.

18   Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory* (London: Frank Cass, 1997), 2.

19   Bruce W. Menning, "Operational Art's Origins," *Military Review* 77, no. 5 (September-October 1997), 33.

20   *Oxford English Dictionary* (1989), 849-50.

21   Tom Langeste, *Words on the Wing*, (Toronto: Canadian Institute of Strategic Studies, 1995), 204.

22   W. A. March, "Joint Doctrine Precis," (Exercise New Horizon) Toronto: Canadian Forces College, 1998.

23   *Canadian Forces Operations*, ii.

24   *Canadian Forces Operations*, p. 1-5.

25   Gordon R. Peskett, "Levels of War: A New Canadian Model to Begin the 21st Century," paper written for AMSC 5, (October 2002), notes that some Canadian doctrine publications still refer to "Levels of War." This paper appears in this volume. He cites R.K. Taylor, " 2020 Vision: Canadian Forces Operational-level Doctrine," *Canadian Military Journal* 2, no. 3 (Autumn 2001), 39.

26   JP 3-0, *Doctrine for Joint Operations*, p. II-2; and Peskett, "Levels of War," 9.

27   JP 3-0, *Doctrine for Joint Operations*, p. II-3.

28   *Canadian Forces Operations,* p. 3-1.

29   Menning, "Operational Art's Origins," 32.

30   Edward N. Luttwak, "The Operational Level of War," *International Security* 5, no. 3 (Winter 1980/81), 61.

31   David M. McFarland, et al., "Joint Operational Art is Alive," *Naval Institute Proceedings* (October 2002) 2 to 5 of 8 (online version).

32   Naveh, *In Pursuit of Military Excellence*, 8.

33   John English, "The Operational Art: Developments in the Theories of War," in B.J.C. McKercher and Michael A. Hennessy, eds. *The Operational Art: Developments in the Theories of War* (Westport, CT: Praeger, 1996), 7.

34   John English, "The Operational Art," 9; and Gunther Rothenberg, "Moltke, Schlieffen, and the Doctrine of Strategic Envelopment," in Peter Paret, ed., *Makers of Modern Strategy*, 300.

35   Menning, "Operational Art's Origins," 35.

36   John English, "The Operational Art," 11; and Michael Geyer "German Strategy in the Age of Machine Warfare, 1914-45," in Paret, ed ., *Makers of Modern Strategy*, 531.

37   Geyer in "German Strategy in the Age of Machine Warfare, 1914-45," 582 585-8.

38   Naveh, *In Pursuit of Military Excellence*, 121, 128.

39   Geyer, "German Strategy in the Age of Machine Warfare, 1914-45," 586.

40   Naveh, *In Pursuit of Military Excellence*, xviii, 14, 16.

41   Menning, "Operational Art's Origins," 36, 40. See also Milne, "An Example of Force Development: Tukhachevsky and the Soviet Art of Deep Battle," in Allan English, ed., *The Changing Face of War*; and Condoleezza Rice, "The Making of Soviet Strategy", in Paret, ed., *Makers of Modern Strategy*, 648-76.

42   John English, "The Operational Art," 14-15, 19; and John A. English, *Marching Through Chaos: The Descent of Armies in Theory and Practice* (Westport, CT: Praeger, 1996), 125.

43   John English, "The Operational Art," 14. The debate over the merits of the two command systems and how applicable they are in differing military cultures continues today. The following articles are recommended for those who would like to pursue these issues in more detail: Werner Widder, "Battle Command: *Auftragstaktik and Innere Fuhrung:* Trademarks of German Leadership," *Military Review* 82, no. 5 (Sep-Oct 2002), 2-9; and Chuck Oliviero, "Auftrafstaktik and Disorder in Battle," *The Army Doctrine and Training Bulletin* 4, no. 2 (Summer 2001), 57-9. I am grateful to LCol (retired) Chuck Oliviero for his assistance with these concepts.

44   Paul Johnston, "Doctrine is not Enough: The Effect of Doctrine on the Behavior of Armies," *Parameters* 30, no. 3 (Autumn 2000), 30-9.

45   John English, "The Operational Art," 19.

46   Naveh, *In Pursuit of Military Excellence*, 251.

47   Donn A. Starry, "A Perspective on American Military Thought," *Military Review* 69 (July 1989), 6-10.

48   Bill McAndrew, "Operational Art and the Northwest European Theatre of War 1944," *Canadian Defence Quarterly* 21, no. 3 (December 1991), 20.

49   Naveh, *In Pursuit of Military Excellence*, 175.

50   John English, "The Operational Art," 15, 25 n 65.

51   Menning, "Operational Art's Origins," 42.

52   Richard Swain, "Filling the Void: The Operational Art and the US Army," in McKercher and Hennessy, eds., *The Operational Art*, 159; and Naveh, In Pursuit of Military Excellence, 300.

53   Swain, "Filling the Void," 162-6.

54   Naveh, *In Pursuit of Military Excellence*, xviii-xx.

55   Swain, "Filling the Void," 164, 166.

56   Swain, "Filling the Void," 166.

57   Naveh, *In Pursuit of Military Excellence*, xix.

58   Lieutenant Colonel Tilley, US Army School of Advanced Military Studies, briefing to Canadian Army Futures Conference, Fort Frontenac, Kingston 13 July 2000. Many of the issues related to releases, illness, and stress are discussed in a Canadian context in G.E. (Joe) Sharpe, *Croatia Board of Inquiry: Leadership (and other) Lessons Learned* (Kingston, ON: Canadian Forces Leadership Institute, 2002).

59   James K. Greer, "Operational Art for the Objective Force," *Military Review* 82, no. 5 (September-October 2002), 23-4, 29.

60   Cited by Peskett as Michael McCormick, "The New FM 100-5: A Return to Operational Art," *Military Review* 77, no. 5 (September-October 1997), 4. See also Swain, "Filling the Void," 160.

61   Cited by Peskett as Ralph Allen, "Piercing the Veil of Operational Art," *Parameters* 25, no. 2 (Summer 1995), 111.

62   In much of the US military literature from the mid-1980s to the early 1990s, the terms "operational level of war" and "operational art" were used interchangeably. It has been suggested that this was a result of the confusion caused by the US Army use of the term in its doctrine during 1986-1993 period. See Peskett for a more detailed discussion of the confusion between operational art and the operational level of war.

63   Peskett, "Levels of War ," 6-7. I am grateful to Cdr Peskett for drawing the issues in this paragraph to my attention.

64   L.D. Holder, "Educating and Training for Theatre Warfare," *Military Review* 70, no. 9 (September 1990), 85-99.

65   Naveh, *In Pursuit of Military Excellence*, 11, 307.

66   John Kiszely, "Meaning of Manoeuvre," RUSI 143, no. 6 (December 1998), 36-40.

67   Naveh, *In Pursuit of Military Excellence,* 251, 329.

68   "A Statement on the Posture of the United States Army - Fiscal Year 1996" (Washington, DC: Dept of the Army, 1995), 26-7, cited in Richard P. Hallion, "Airpower and the Changing Nature of War," *Joint Forces Quarterly* (Autumn/Winter 1997-98), 42. This is still the US Army's view, see for example Stephen Aubin, "Stumbling Towards Transformation," *Strategic Review* 28, no. 2 (Spring 2000), 39-47.

69   US Army FM 3-0, *Operations*, p. 2-6.

70   Heretical is used here in the sense of beliefs or opinions contrary to established doctrine/opinion.

71   Rebecca Grant, "Closing the Doctrine Gap," *Air Force Magazine* 80, no. 1 (January 1997), 52.

72   Wylie cited in Wayne P. Hughes, "Naval Maneuver Warfare," *Naval War College Review* 50, no. 3 (Summer 1997), p. 12 of 19 (internet version).

73   US Air Force Doctrine Document 1 (AFDD 1), *Air Force Basic Doctrine* (September 1997), 21.

74   Gerald M. Pratt, "A Clash of Service Doctrines: Integration Versus Synchronization in Joint Operations" paper written for AMSC 5, (Nov 2002). This paper appears in this volume.

75   Robert H. Thomas and Richard Gimblett summarize more of the naval approach to these issues in their bibliography AMSC Bibliography: Maritime Doctrine at the Operational Level of War which is available on IRC website at http://wps.cfc.dnd.ca/bib/bibmaritime.html.

76   Hughes, "Naval Maneuver Warfare," 13 of 19.

77   James J. Tritten, "Naval Doctrine…From the Sea," (Norfolk, VA: Naval Doctrine Command, December, 1994), 1-2.

78   Grant, "Closing the Doctrine Gap," 48-52.

79   See the US Joint Electronic Library, http://www.dtic.mil/doctrine/service_publications_

navy_pubs.htm. Accessed 22 December 2004.

80   Tritten, "From the Sea…," 7, 14.

81   Grant, "Closing the Doctrine Gap," 50; and Elinor C. Sloan, "The United States and the Revolution in Military Affairs," Directorate of Strategic Analysis, DND, Ottawa, Project Report No. 9801, February 1998, 9.

82   Raymond W. Leonard, "Learning from History: Linebacker II and US Air Force Doctrine," *Journal of Military History* 58 (April 1994), 267-303.

83   FM 3-0, *Operations*, p. 2-19.

84   Andrew G.B. Vallance, *The Air Weapon: Doctrines of Air Power Strategy and Operational Art* (London: Macmillan, 1996), 91, cited in Hallion, "Airpower and the Changing Nature of War," 42.

85   AFDD 1, *Air Force Basic Doctrine*, 13.

86   Mackubin Thomas Owens, "Reshaping Tilted Against the Army?" *The Washington Times* (24 Nov 2002), http://www.washtimes.com/commentary/20021124-22611196.htm.

87   AFDD 1, *Air Force Basic Doctrine*, 2.

88   John Westrop, "Aerospace Doctrine Study," unpublished report dated 30 April 2002, copy at Canadian Forces College library.

89   McAndrew, "Operational Art and the Northwest European Theatre of War 1944," 22.

90   AFDD 1, *Air Force Basic Doctrine*, 54; and US Air Force Doctrine Document 2-1 (AFDD 2-1) *Air Warfare* (22 January 2000), 16.

91   US Air Force Basic Doctrine - Command and Leadership, "Comment Resolution Draft" dated 14 June 1999; and AFDD 2-1 *Air Warfare*, 23-4.

92   Naveh, *In Pursuit of Military Excellence*, 306.

93   John English, "The Operational Art," 20.

94   "Command and Control: A Lessons Learned (LL) Analysis," (version 11) prepared by J7 DCDS Group, [2002], 6-7.

95   Dunn, Martin. "Levels of War: Just a Set of Labels?" *Research and Analysis* no.10 (October 1996), 2, 4.

96   John English, "The Operational Art," 17.

97   Douglas A. MacGregor, "Future Battle: The Merging Levels of War," *Parameters* 22, no. 4 (Winter 1992-93), 41-2. See also his *Breaking the Phalanx : a new design for landpower in the 21ˢᵗ century* (Westport, CT: Praeger, 1997).

98   Steven Metz, "Operational Level of Nuclear War Fighting: Missing or Unnecessary?" *Airpower Journal* 7, no. 1 (Spring 1993), 19.

99   Robert R. Leonhard, "Factors of Conflict in the Early 21ˢᵗ Century," *Army Magazine* 50, no. 1 (January 2003) online version, 1-2 of 4.

100   Menning, "Operational Art's Origins," 45; and Elinor C. Sloan, *The Revolution in Military Affairs* (Montreal & Kingston: McGill-Queen's Univ. Press, 2002), 33-4, 35-7, 45-7. See Paul K. Van Riper and Robert H. Scales Jr., "Preparing for War in the 21ˢᵗ Century," Parameters 27 (Autumn 1997), 4–14, for a summary of the US Army and Marine Corps focus on surface warfare and the concept of air power as a battlefield support function.

101   General A.C. Zinni, "Verbatim," *The Washington Post Online*, 16 July 2000, p. B02.

102   Carl H. Builder, *The Masks of War: American Military Styles in Strategy and Analysis* (Baltimore: Johns Hopkins Univ. Press, 1989), 3, 39.

103   Walter F. Ulmer, Jr. et al., *American Military Culture in the Twenty-First Century* (Washington, DC: CSIS Press, 2000), 13.

104   Carl H. Builder, *The Icarus Syndrome: The Role of Air Power Theory in the Evolution and Fate of the US Air Force* (London: Transaction Publishers, 1994), 5-6.

105   Builder, *The Icarus Syndrome*, 8, 149.

106   See for example, George F. Will, "Realistic Readiness," *Washington Post* (20 December 2001), p. A43.

107   "Adjusting Course: A Naval Strategy for Canada," (Ottawa: DND, 1997), Executive Summary.

108   LCol V. McPherson (for LGen A.M. DeQuetteville, Chief of the Air Staff), presentation to the Security and Defence Forum, Ottawa, 29-30 April 1998, powerpoint presentation.

109   The documents are: "Security Above All: Transforming Canada's Air Force," http://www.airforce.forces.gc.ca/vision/index_e.asp; "Strategic Vectors," http://www.airforce.forces.gc.ca/vision/strategic_e.asp; and "The Aerospace Capability Framework," http://www.airforce.forces.gc.ca/vision/acf_e.asp.

110   Greer, "Operational Art for the Objective Force," 26.

111   Antulio Echevarria II, *Clausewitz's Center of Gravity: Changing our Warfighting Doctrine—Again!* (Carlisle, PA: Strategic Studies Institute, U.S. Army War College, September 2002), v-viii.

112   Desmond Morton, *A Military History of Canada* (Edmonton: Hurtig Publishers, 1990), 200. The detailed evolution of Murray's command in the context of its development of Canadian joint doctrine has recently been described in Richard Goette, "The Struggle for a Joint Command and Control System in the Northwest Atlantic Theatre of Operations," unpublished MA thesis, Queen's University, 2002.

113   Bland cited in Peskett; and Peskett, "Levels of War," 20.

114   McAndrew cited in Peskett; and Peskett, "Levels of War," 7-8.

115   Douglas Bland, *Chiefs of Defence: Government and the Unified Command of the Canadian Armed Forces* (Toronto: Canadian Institute of Strategic Studies, 1995), 5-6.

116   Howard G. Coombs, "Perspectives on Operational Thought," paper written for the Canadian Forces College (4 June 2004), 8, 10. This paper forms the basis for Coombs' chapter in this book.

117   Richard Gimblett, *Operation Apollo: The Golden Age of the Canadian Navy in the War Against Terrorism* (Ottawa : Magic Light, 2004), 108-12, 114, 120-2, 134-6.

118   These ideas are a product of discussions held by an informal Operational Art Working Group sponsored by CFC, the CF Leadership Institute and DRDC – Toronto. The details of the work of this group can be found in Howard G. Coombs, "Leadership, Command and Operational Art Project Progress Report – March 2003 To March 2004," report written for the CF Leadership Institute, available at the IRC, CFC.

119   John English, "The Operational Art," 20.

120   Montgomery C. Meigs, "Operational Art in the New Century," *Parameters* 31, no. 1 (Spring 2001), 5.

121   John English, "The Operational Art," 16.

122   Hughes, "Naval Maneuver Warfare," 1 of 19

123   Naveh, *In Pursuit of Military Excellence,* 251.

124   Paul Johnston, "The Myth of Manoeuvre Warfare," in Allan D. English, ed., *The Changing Face of War*, 23.

125   Hughes, "Naval Maneuver Warfare," 6 of 19.

126   Johnston, "The Myth of Manoeuvre Warfare," 24-5, 27, 29-30.

127   Naveh, *In Pursuit of Military Excellence*, 329.

128   Hughes, "Naval Maneuver Warfare," 11 of 19.

129   Johnston, "Doctrine is not Enough," 4-5 of 10.

130   John English, *Marching Through Chaos*, 168

131   Hughes, "Naval Maneuver Warfare," 1-2 of 19.

132   John English, "The Operational Art," 20.

133   Jamie W. Hammond, "The Pen Before the Sword: Thinking about `Mechanization' between the Wars," *Canadian Military Journal* 1, no. 2 (Summer 2000), 95-104.

134   S.F. Wise, *The Official History of the Royal Canadian Air Force. Vol.1: Canadian Airmen and the First World War* (Toronto: Univ. of Toronto Press, 1980), 572.

135   See for example Brian Bond and Martin Alexander, "Liddell Hart and DeGaulle," in Paret, ed., *Makers of Modern Strategy*, 598-623; and James S. Corum, *The Roots of Blitzkrieg* (Lawrence, KS: Univ. Press of Kansas, 1992).

136   Bond and Alexander, "Liddell Hart and DeGaulle," 601, 623.

137   I am grateful to Colonel Eric MacArthur, Chief of Staff of CFC, for providing me with this summa-

ry. A more complete version can be found in *Canada's Army*, B-GL-300-000/FP-000 (Ottawa: DND, 1998), 100-105.

138   *Land Force Tactical Doctrine*, Vol. 2 (B-GL-300-002/FP-000), pp. 1-4 to 1-5.

139   Goods and services include such things as commercial shipping (including fishing, commercial exploitation of the sea) and combat potential (land forces, aircraft, weapon, ammunition, fuel & other sustainment) Hughes, "Naval Maneuver Warfare," 2-3 of 19.

140   Hughes, "Naval Maneuver Warfare," 2-5, 8, 10-11, 13-16 of 19.

141   Lawrence J.Oliver, "Operational Maneuver From the Sea: Realizing a Concept," *Marine Corps Gazette* 84, no. 9 (September 2000), 44-48; and Hughes, "Naval Maneuver Warfare,"14-15 of 19.

142   Hughes, "Naval Maneuver Warfare," 15 of 19.

143   See David S. Fadok, "John Boyd and John Warden: Airpower's Quest for Strategic Paralysis," in Phillip S. Meilinger, ed., *The Paths of Heaven: The Evolution of Airpower Theory* (Maxwell AL: Air University Press, 1997), 370-89 for a fuller explanation of Wardens theories.

144   Claudio Segre, "Giulio Douhet: Strategist, Theorist, Prophet?" *Journal of Strategic Studies* 15 (Sept 1992), 351-66.

145   There is a large number of sources on this topic. Some useful ones are James S. Corum, *The Luftwaffe: Creating the Operational Air War: 1918-1940* (Lawrence, KS: Univ Press of Kansas, 1997); Richard Overy, "Doctrine and Dogma: Lessons from the Past," *Royal Air Force Air Power Review* 3, no.1 (Spring 2000), 32-46; Robert A. Pape, B*ombing to Win: Air Power and Coercion in War* (Ithaca, NY: Cornell Univ Press, 1996); W. Hays Park, "'Precision' and 'Area' Bombing: Who Did Which, and When?" J*ournal of Strategic Studies* 18 (March 1995), 145-174; and Robert D. Poynor,."'Organic' Versus Joint: Thoughts on How the Air Force Fights," *Strategic Review* 29, no. 1 (Winter 2001), 58-62.

146   AFDD 2-1 *Air Warfare*, 4.

147   Cited in Major Jacques Boudreau, et al., "The Relevance of the Concepts of Operational Level of War and Operational-level Command For Aerospace Forces in the 21ˢᵗ Century," in Douglas L. Erlandson and Allan English, eds. *Air Force Command and Control* (Toronto: Canadian Forces College, 2002), 14. The ideas in this paragraph are based on a portion of this paper.

148   JP 3-0, *Doctrine for Joint Operations*, p. II-10.

149   Boudreau, et al., "The Relevance of the Concepts of Operational Level of War and Operational-level Command For Aerospace Forces in the 21ˢᵗ Century," 13-14.

150   Cited by Boudreau, et al. as Carl R. Pivarsky, Jr, "Dangerous Doctrine," *Military Review* 73, no. 9 (September 1993), 46.

151   General G.C.E. Thériault, (the Chief of the Defence Staff at the time) cited in "Air Doctrine Symposium: Minutes of the Discussion Period," 1180-3 (SSO C&D) dated 22 February 1984, in Air Doctrine Symposium Summary of Proceedings, copy at CFC Library, 3.

152   Aerospace Doctrine Board: Terms of Reference and SOPs, copy at CFC Library, 1-2, 2-1.

153   The study is Westrop, "Aerospace Doctrine Study."

154   John English, *Marching Through Chaos*, 167; and Robert B. Polk, "A Critique of the Boyd Theory – is it relevant to the Army?" *Defense Analysis* 16, no. 3 (December 2000), 257-8.

155   Polk, "A Critique of the Boyd Theory," 257-60.

156   Polk, "A Critique of the Boyd Theory," 265-7.

157   Polk, "A Critique of the Boyd Theory," 271.

158   Polk, "A Critique of the Boyd Theory," 258.

159   Polk, "A Critique of the Boyd Theory," 265, 267, 270. See Allan English, *Understanding Military Culture: A Canadian Perspective* (Montreal and Kingston: McGill-Queen's Univ. Press, 2004), especially chapters 4 and 6 for more detail on dysfunctional aspects of US Army culture.

160   Polk, "A Critique of the Boyd Theory," 272; and Fadok, "John Boyd and John Warden," 388-9.

161   John English, "The Operational Art," 19.

162   David Schrady, "Combatant Logistics Command and Control for the Joint Commander," *Naval War*

College Review 52, no. 3 (Summer 1999), 49-50, 53-4, 61-2, 65, 69, 72-3.

163   "Ethics and Operations Project - Project Report," Chief of Review Services (9 March 2000), 14.

164   Franklin C. Pinch, "Support Requirements for Peacekeepers," in *The Human Dimension: Personnel Support for Peacekeepers* (Clementsport, Nova Scotia: The Lester B. Pearson Canadian International Peacekeeping Training Centre, 1996), pp. 2-1/4 to 2-4/4.

165   For example, the highest casualty rates suffered by the Canadian Corps occurred during the mobile warfare phase of the last "Hundred Days" of the war. The 45,830 casualties it incurred between Amiens and Mons represented 20 percent of the Canadian Expeditionary Force total for the entire war and more than the 44,735 casualties suffered by Canadian Army in the Northwest Europe campaign in the Second World War. In addition, in the Second World War the mobile campaigns on the Eastern front claimed more lives than all the other theatres of that war combined. John English, *Marching Through Chaos*, 62-4.

166   See for example Gary Garnett, "The Canadian Forces and the Revolution in Military Affairs: A Time for Change," *Canadian Military Journal* 2, no. 1 (Spring 2001), 5-10.

167   Richard Szafranski, "Peer Competitors, the RMA and New Concepts: Some Questions," *Naval War College Review* 49, no. 2 (Spring 1996), 116.

168   Eliot A.Cohen, "A Revolution in Warfare," *Foreign Affairs* 75, no. 2 (March/April 1996), 52-3.

169   See for example Kenneth F McKenzie, Jr. "Elegant Irrelevance: Fourth Generation Warfare." *Parameters* 23, no. 3 (Autumn 1993), 51-60.

170   William S. Lind et al. "The Changing Face of War: Into the Fourth Generation," *Military Review* 69 (Oct 1989), 1-11.

171   William S. Lind, "All War All the Time: The military game has changed and the US isn't ready," *San Franciso Chronicle* (6 July 2003), www.sfgate.com.

172   Lind, "All War All the Time."

173   G.I. Wilson, John P. Sullivan, and Hal Kempfer, "4GW Tactics of the Weak Confound the Strong," Military.com (8 September 2003) http://www.military.com/NewContent/0,13190,Wilson_090803,00.html.

174   Martin van Creveld, "High technology and the transformation of war, Part 2," *JRUSI* 137 no. 6 (December 1992), 61-4.

175   Wilson et al. "4GW Tactics of the Weak Confound the Strong."

167   Frederick W. Kagan, "War and Aftermath," *Policy Review Online* 102 (August/September 2003). Available at http://www.policyreview.org/aug03/kagan.html, 3.

177   Bill Gregory, "From Stovepipes to Grids," *Armed Forces Journal International* 136, no. 6 (January 1999), 18.

178   Thomas P.M. Barnett, "The Seven Deadly Sins of Network-Centric Warfare, *US Naval Institute Proceedings* 125, no. 1 (January 1999), 38-9.

179   William K. Lescher, "Network-centric: Is it worth the risk?" *US Naval Institute Proceedings* 125, no. 7 (July 1999), 60, 62-3.

180   Kagan, "War and Aftermath," 4, 6.

181   Greer, "Operational Art for the Objective Force," 26.

182   There is an extensive literature on this topic. See for example Robert A. Pape, *Bombing to Win: Air Power and Coercion in War* (Ithaca, NY: Cornell Univ Press, 1996); and W. Hays Park, "'Precision' and 'Area' Bombing: Who Did Which, and When?" *Journal of Strategic Studies* 18 (March 1995), 145-74.

183   For a discussion of this issue see Christopher D. Kolenda, "Transforming How We Fight: A Conceptual Approach," *Naval War College Review* 56, no. 2 (Spring 2003), 100-21.

184   Kagan, "War and Aftermath," 5-8.

185   Andrew Krepinevich Jr., a leading commentator on military affairs and a member of the 1997 National Defense Panel, cited in Thomas E. Ricks and Josh White, "Scope of Change in Military Is Ambiguous," *Washington Post* (1 August 1, 2004), p. A06.

186   Cited in Ricks and White, "Scope of Change in Military Is Ambiguous," p. A06.

187   Ricks and White, "Scope of Change in Military Is Ambiguous," p. A06

188   Stephen Biddle, "Assessing Theories of Future Warfare," *Security Studies* 8, no. 1 (Autumn 1998), 140, 162, 178-9.

189   Sloan, *The Revolution in Military Affairs*, 152-3.

190   Sloan, *The Revolution in Military Affairs*, 149.

191   For example, Rudy Romero, "Afghan ARR Notes," email in author's possession.

192   Owens, "Reshaping Tilted Against the Army?"

193   Leonhard, "Factors of Conflict in the Early 21ˢᵗ Century," 2 of 4.

194   J.L. Christian Carrier, "Transformation of the Canadian Forces: Is Aerospace Power Relevant?" paper written for NSSC 5 http://wps.cfc.forces.gc.ca/papers/nssc5/carrier2.doc , 19.

195   Carrier, "Transformation of the Canadian Forces," 20.

196   D.M. Schurman, "Science and Military Decisions," *Air Force College Journal* (Toronto: RCAF Staff College, 1964), 42.

CHAPTER 2

PERSPECTIVES ON OPERATIONAL THOUGHT

Howard G. Coombs

When national direction must be transformed into military activities, military leaders and their staffs exercise operational thought throughout the process. The doctrinal underpinnings pertaining to this area of expertise vary from country to country, dependent on military culture and historical experience; however, for the most part, operational thought in the west has originated from American sources.[1] This may have been the result of the efforts the US Army to advance its construct of the operational level of war through the auspices of the North Atlantic Treaty Organization (NATO) in the late 1970s. During the Cold War America's allies recognized that using these ideas enhanced cooperation, and like many other NATO partners at that time Canadian Land Forces in Europe used American operational concepts beginning in 1979.[2]

Governments throughout recorded history have used military activities to further policy.[3] By the early 19th century the military theorist, Carl von Clausewitz, formalized Western views of this association: "…war is not merely an act of policy but a true political instrument, a continuation of political intercourse, carried on by other means."[4] Clausewitz strove for broad explanatory concepts of war and viewed the connection between policy and the violence of war as modified by various gradients of strategy and tactics.[5] In the 20th century this linkage developed as a hierarchy that included state policy, military strategy, operations and tactics. This sequencing permitted an orderly and methodical transformation of strategic objectives to attainable and measurable tactical goals. Heads of states and their principal advisors normally formulate national policy. Military strategy is derived from political direction and results in the application of the military power through force or a threat of force to achieve policy goals. Operations involve the creation and implementation of military campaigns to achieve strategic ends. Tactics are the detailed techniques and procedures that military units and formations use to achieve victory in battles and engagements. These ideas are illustrated in

Figure 1. The concept of the operational level of war, where the conversion of policy to action transpired, was a new paradigm in Western military thought and achieved widespread acceptance only in the 1970s and 1980s. This was accomplished mainly through the efforts of General William E. Depuy, Commander of the US Army Training and Doctrine Command (TRADOC) who was the champion of operational thought in the United States and amongst her allies.[6]
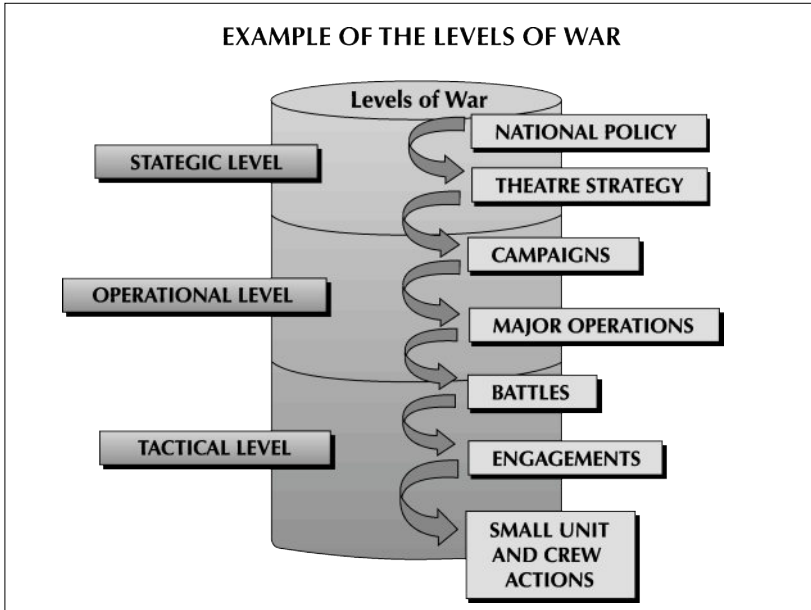

FIGURE 1. EXAMPLE OF THE LEVELS OF WAR [7]

Despite the recent acceptance of operational thought as a distinct process by Western armies, we should not forget that in the past national policy objectives were transformed into military action without formal recognition of the process; therefore, it can be argued that due to *de facto* existence of this process operational thought has existed for quite some time.

The operational level of war exists between the politics of strategy and the violence of tactics and is considered to have various gradients ranging from the interface of operations and tactics to the interface of strategy and operations. These echelons are depicted in Figure 1 and range from individual battles, through major operations to culminate in campaigns. The operational level of war has two main components, campaign planning

and operational art. The former is the process of translating strategic objectives in a way that can be understood and utilized at the tactical level, while the latter is a far more complicated skill and refers to the creative aspects of arranging engagements, battles and campaigns to achieve national ends. Clausewitz describes this creativity with terms such as "genius" or *coup d'oeil.* [8]

OPERATIONAL THOUGHT IN CANADA

The experience of the Canadian Forces (CF) seems to belie the existence of operational thought. The Canadian military expanded rapidly at the beginning of the Second World War and experienced problems that impacted negatively on its operational performance.[9] There is no evidence that perspectives of operations had changed after the end of the Second World War.[10] The positional warfare of Korea was a return to the sanguine struggles of the First World War and was the CF's last experience of sustained conflict in the 20th century.[11]

As the Cold War progressed, NATO operational plans for forward defence shaped concepts of operational thought by forcing the formulation of defensive strategies based on holding terrain regardless of losses, until reinforcements could arrive. These plans hindered full implementation of the doctrine contained in FM [Field Manual] 100-5 *Operations of Army Forces in the Field,* in the potential European theatre of operations, and the conceptually limiting ideas of forward defence endured in one form or another until the collapse of the Soviet Union and end of the Cold War in 1992.[12]

Canada's involvement with peacekeeping also had implications for the construction of operational thought in this country. Traditional peacekeeping does not lend itself to the constructions required for operational thought as it requires centralized control and resolution of problems at the highest level. An unfortunate side effect of this perspective is a tactical focus that absorbs commanders at the operational and strategic levels. Peacekeeping does not develop officers to command in a fluid environment, as the highly directive nature of these operations militates against the development of Clausewitz's *coup d'oeil*.[13] However, the peace enforcement operations that have become more prevalent since the 1990s are less restrictive than the earlier peacekeeping missions.

As a result of this legacy, there is debate over the existence of operational thought in Canada. Some military officers and theorists have argued that the actions conducted at the operational level of war neither occur nor are needed within the CF, that operational thought is applied piecemeal by tactical and strategic commanders and staffs, without an overarching campaign vision. Be that as it may, one can contend that the mental constructs required for operational thought have been used in the past and continue to be implemented today in Canada, albeit not always in a doctrinally coherent or orderly manner. It is because of the exercise of these elements of the operational art that the CF does function at the operational level of war. Moreover, recent instances of Canadian officers commanding at the operational level of war within coalitions in Bosnia, the Persian Gulf and Afghanistan demonstrate the continued requirement of converting policy to military actions.[14]

In order to achieve this translation of strategic direction to definable activities, operational-level commanders create "campaign plans." These plans arrange military and other activities to enable the sequential or simultaneous attainment of strategic objectives and to fulfil a set of conditions visualized as the ultimate goal of that campaign.[15] Practitioners of the operational art use theory and doctrine to dissect complex military problems and to develop and sequence campaigns.[16] Commanders, regardless of nationality, must exercise operational art as a method to translate strategic aims (ends) into campaigns (ways) using elements of operational design that will ultimately permit the allocation of resources (means) to be utilized at the tactical level to achieve the original strategic objectives. Elements of operational design are used to create a practical expression of operational art- the campaign plan. These elements include concepts like military end state, or the desired conditions that are required to fulfil the strategic objective. Ideas such as centre of gravity, decisive points and lines of operation assist in determining the manner in which the military end state will be achieved. The centre of gravity refers to the physical or moral quality that is considered to be the centre or hub of power for an opponent. It is essential to attack the centre of gravity to cause defeat. Normally it is unwise to attack the centre of gravity directly, as it is strongly protected, so it becomes crucial to discern decisive points. Decisive points are intermediate objectives whose attainment would enable one to circuitously affect the centre of gravity. The line created by joining a series of decisive points in the order that

they will be influenced is a line of operations. This permits the construction of a model that permits the sequencing of military activities in time and space. It is very important, whenever possible, to arrange military events so that they occur simultaneously in order to overwhelm an opponent. When that is not possible, it is necessary to complete these activities in a continuous, sequential manner, without creating a pause that would enable the other side to gain a respite. This idea of sequencing is also an element of operational design.[17]

Most modern Western visions of operational thought take their outward form from those practised by the US. In main this is due to the considerable amount of research conducted by American theorists into the area of study, and the relative paucity of discussion of this topic among other nations, with the exception of Russia.[18] Therefore, the American viewpoint tends to dominate the field and is accepted as the Western manner and form of operational thinking. It is a body of knowledge that is inherently about large forces, has a global perspective, and is created for accomplishing decisive combat operations. Nevertheless, Canada, NATO and the United Kingdom have modified the American approach to suit their requirements. While outwardly the terms used by each nation may be similar, the application is not.[19]

Differences in operational thought amongst Canada, NATO, the United Kingdom and the United States can be viewed as the result of differing histories and cultures.[20] Perhaps of more importance is that they are a reflection of the processes that are used in the conversion of policy to military strategy. In the conduct of operational activities the strategic-operational interface is of the utmost significance. A recent Pentagon report cites this as critical shortcoming of operational design in Iraq:

> There is no mechanism for top-level decisions to be translated into action. Thus, there is a gap between strategic intent and tactical execution. There's no one checking anyone's work. There is no mechanism to ensure top-level decisions are followed through by staff echelons. Thus, there is a lack of internal unity of action. Resources, particularly personnel, are unavailable or poorly matched to needs.[21]

While this failing is recognized as an aberration by American pundits, a similar issue lies at the centre of the fragmentary application of operational thought in Canada. But unlike the recent occurrence of this strategic deficiency during current operations in Iraq, the lack of coherently formulated and applied policy has plagued Canadian operational thought for over 50 years.

By the end of the Second World War it was evident that acceptance of Canada's status as a middle power lay in its ability to establish relevancy on the international stage by participating in constructive international action through multilateral organizations.[22] Canada's membership in various organizations, particularly NATO and the North American Air Defence Command (NORAD),[23] and to a lesser extent the United Nations (UN), as well as the necessity of constructing saliency within these organizations determined how Canada would use its military. While the broad strokes of immediate post war Canadian foreign policy did chart an initial course, early in the Cold War emphasis moved from multilateral to bilateral arrangements for defence. In the absence of coherent and durable political guidance during succeeding decades, the use of the Canadian military as an instrument of national power became fragmented and disjointed.[24] By default, the unifying factor in Canadian defence activities became support of a Cold War *Pax Americana*. The employment of Canadian military forces from 1946 until 1991 shows the impact of this approach to defence in Canada. It can be also argued that in the unipolar world of the post-modern era this trend has continued.

Canada had, and has, no formal systemic national strategy formulation process such as that contained within the American National Security Act of 1947. This American legislation ensures there is a methodical linking of security objectives to national policy and that those aims are eventually transformed into actions that support policy goals. It also ensures that there are mandated periodic reviews and assessments of the effectiveness of US National Security Strategy. This body of legislation was designed to capitalize on the lessons of political-military coordination learned during the Second World War and makes certain that the authority for policy making is vested in the civilian departments of government, particularly the State Department.[25] At the same time, Canada maintained a Cabinet Defence Committee[26] and now and again initiated defence reviews to provide oversight over the Canadian military. This ad hoc process did not

result in an encompassing methodical approach to formulating lasting and durable defence plans that were in keeping with foreign policy. Instead, Canada has evolved an informal approach to the employment of military forces that is determined by factors other than a coherent body of national policy.

During the initial decades of the Cold War, the heads of the Royal Canadian Navy (RCN), the Canadian Army and the Royal Canadian Air Force (RCAF) formed the Canadian Chiefs of Staff Committee, which provided all military advice regarding defence policy to the Minister of National Defence and the Cabinet Defence Committee. The Chairman of the Chiefs of Staff Committee was our representative to NATO and NORAD and had immense influence in Canada's relationship with her allies. In the absence of a centralized and coordinated strategic policy mechanism, the Chairman "became the real arbitrator on defence policy tendered to government," with the ability to prompt desired defence and consequently foreign policy. Conversely the authority of the Defence Council dwindled to matters of administration, budgets, manning and logistics.[27] One could argue that in the light of these circumstances the "tacticization" of strategy come to pass, or more simply put, "the tail was wagging the dog."[28]

Without a coherent and durable national security policy and a systematic way of converting strategy to tactics, operational methodology in the CF has been applied in a piecemeal, functionalist manner. For example, the Canadian use of the operational art in the last decade has often been conducted during peace support operations, in the context of an inter-agency environment, with the military in a supporting or, at times, lead role. This Canadian approach to the operational art is not predicated on the size of force structures or even a specific geographical area, but is about the allocation of resources to achieve objectives directly linked to strategic aims. Thus, the current Canadian version of the operational art seemingly attempts to coordinate the actions of participating agencies throughout a specific campaign and links these measures across the conceptual levels of war. While Canadian commanders attempt to link policy to actions, this could occur without an overarching long term vision of the campaign.[29]

The CF Operational Planning Process (OPP) is the practical expression of this philosophy. It is the application of the commander's estimate process,

which is conducted to solve a complex military problem. The OPP formalizes the coordination of supporting and subordinate commanders and staffs to produce workable plans and directives. However, within the CF OPP one can discern an uneasy mix of approaches, of systems, and of command-led approaches- from the mechanistic application of Intelligence Preparation of the Battlefield (IPB) to the incorporation of the commander's involvement in all stages of the OPP. This is the result of a mix of military cultures within the CF, from the command centric processes of its British roots to the increasing influence of the systems approach advocated by American allies.[30] Among its other characteristics, however, the CF OPP is distinctly command-centric.[31]

Due to the form that operational thought takes within the CF, the doctrinal separation of operational and tactical level planning and terminology seems to have blurred. The OPP is designed to produce a campaign plan that coordinates military efforts to achieve a desired strategic objective. It orchestrates the sequencing of operations, battles and engagements to achieve that effect. Tactical planning is concerned with creating orders and directives that pertain to the deployment and employment of forces in specific battles, engagements, or tasks to attain the goals of the overall mission.[32] A recent Canadian document from Afghanistan originating with the International Security and Assistance Force Multi-National Brigade uses operational concepts, terminology and the OPP to determine tactical actions and effects:

> As part of our Operational Planning Process (OPP) we developed
> a campaign plan that was based upon an endstate, own centre of
> gravity, military objectives, lines of operation and several decisive
> points. That led us into the development of our mission, intent
> and concept of operations.[33]

Since its inception in 1949, NATO, has utilized the Military Sub-Committee of the North Atlantic Council to provide a cohesive method of translating the political objectives of the Alliance into military strategy. The Military Sub-Committee is collocated with the Council in Brussels and provides the necessary oversight of NATO forces to facilitate operations.[34] NATO has provided broad overarching doctrine to meet the needs of alliance partners. This doctrine serves to provide sufficient guidance for alliance and other partners but avoids being prescriptive:

> The successful planning, execution and support of military operations requires a clearly understood and widely accepted doctrine, and this is especially important when operations are to be conducted by Allied, multinational or coalition forces. The primary objective of Allied Joint Publication-01(A) (AJP-01(A)) is to provide 'capstone' doctrine for the planning, execution and support of Allied joint operations. Although AJP-01(A) is intended primarily for use by NATO forces, the doctrine is equally applicable to operations conducted by a coalition of NATO and non-NATO nations within the framework of a NATO-led Combined Joint Task Force (CJTF) or for Western European Union-led operations using NATO assets and capabilities.[35]

NATO operational doctrine is meant to serve as general guidance for operational-level commanders, and the emphasis is placed on the adherence to policy directives of the NATO military committee and maintenance of the coalition or alliance throughout operations. To this end, the planning process is command-centric allowing the commander to guide the process and ensure these objectives are upheld. This doctrine is designed to be flexible and easily adopted by all participants.[36]

Operational art and campaign design in the United Kingdom is also command-centric and applied in a completely different manner than the systems approach advocated by the United States. It reflects the techniques used at the political and military strategic levels in the UK, where the Defence Council, which consists of key political and military appointees, makes defence policy decisions. The Cabinet and Operational Commanders are linked by a series of committees and headquarters that provide consistent and durable policy and guidance. This system, while acknowledging the political mechanisms of defence, emphasizes the human dimension of organizing military forces.[37]

In a similar manner to the political and military strategic levels of war, operational thought in the United Kingdom is conducted with an emphasis on the human factors of command. While acknowledging the necessity of coordinating the operational-level functions of large forces, the need to capture the "spark of brilliance"[38] of the commander is a primary requirement of operational methodology as indicated by this excerpt from UK doctrine:

> Modern joint operations are always complex and usually fast moving. They demand a web of procedures, systems and processes in order to bring some sort of structure to a diverse and dynamic set of circumstances. But in themselves these mechanisms are not enough and high command still requires what Moltke referred to as 'talent' and T.E. Lawrence as the *'irrational tenth.'*[39]

The concept of "operational ideas" is a uniquely British paradigm, which represents the fusion of the processes of operational thought and a command-centric approach. They are characterized in British doctrine as: "the output of Operational Art and are the source of the Commander's Intent and subsequent Concept of Operations. They represent the basis of the Campaign Plan and are further refined by the process of Operational Design.[40] This approach produces a vision of the operational level of war that is constructed by the operational commander and implemented by a command-led staff system, utilizing a planning process that reflects the outcome of the commander's estimate.[41]

In contrast to the approaches used by Canada, NATO and the United Kingdom is the process oriented operational planning systems embodied in the American Joint Operational Planning and Execution System (JOPES):

> The joint operation planning process is a coordinated joint staff procedure used by commanders to determine the best method of accomplishing assigned tasks and to direct the actions necessary to accomplish those tasks. Joint Operation Planning and Execution System (JOPES) is used to conduct joint planning. JOPES facilitates the building and maintenance of operation plans (OPLANs) and concept plans (with or without time-phased force and deployment data). It aids in the development of effective options and operation orders through adaptation of OPLANs or plan creation in a no-plan scenario. JOPES provides policies and procedures to ensure effective management of planning operations across the spectrum of mobilization, deployment, employment, sustainment, and redeployment.[42]

While campaign planning is not part of JOPES, its products must conform to the deliberate and crisis action planning processes. Elements of the

campaign plan must be able to be translated into the JOPES format for execution. This results in an operational-level planning process that must conform to the larger system, and becomes oriented on creating a product, as opposed to harnessing the commander's intuition and experience. The process is staff-led with much less command involvement than one habitually receives during the CF OPP.[43]

In the final analysis, operational thought and planning in the CF is neither completely systems oriented, like the United States, nor command-centric, as in the United Kingdom, but in application seems to be a combination of these differing perspectives. It reflects the lack of a coherent mechanism for the creation and translation of national security strategy into military strategic objections. The fragmentary application of CF operational thought also mirrors the lack of a strategic coordination apparatus at the strategic-operational interface to ensure operational objectives are attained in the most efficient manner possible. Signs of this fragmentation of operational methodology are evident from the manner in which the concepts of operational design are applied across the levels of war and the use of operational concepts at the tactical level. While the CF OPP does reflect to some degree the "Americanization" of the CF, in the final analysis it exists as a staff tool to translate the commander's estimate into workable plans and orders. It is a command oriented, staff supported planning process akin to that of our British allies, rather than a reflection of the systems approach of our American neighbours.

CURRENT OPERATIONAL LEVEL CHALLENGES AND THE IMPLICATIONS FOR CANADA

Unfortunately, current doctrinal attempts to define the methodology of campaign planning do not reflect the reality of the complex environment in which it must be applied. The reliance on the construction of lines of operations, through a number of decisive points to a much debated and often misunderstood centre of gravity, in order to satisfy the conditions required for a specific military end state, may no longer work in the contemporary operational environment. For example, the theoretical construct of centre of gravity utilized in traditional campaign planning is of limited effectiveness in the context of some current conflicts where campaigns must not only be multidimensional, encompassing synchro-

nized use of all instruments of national power, but must also provide for simultaneous coordinated action throughout the levels of war.[44] Even though the lines of operation methodology is an easily taught model that lends itself to dissemination in the form of briefings, plans, and orders, perhaps this approach should be re-examined to find approaches that can resolve the complex problems that lie within the reconstruction and regeneration of societies in post-conflict environments. Joe Strange of Marine Corps University posits one alternative model. He has suggested that Clausewitz "viewed centers of gravity as sources of moral and physical strength, power and resistance" and as such the concept can be expanded to encompass multiple centres of gravity at all levels of war. Strange has proposed that these centres of gravity can be analyzed in terms of critical capabilities, critical requirements, and critical vulnerabilities.[45] By prompting an extremely detailed analysis of the components of the theoretical centre(s) of gravity and the conditions necessary for the desired outcomes, one is better able to translate theoretical concepts into concrete actions. The identification of a number of ways in which to affect the centre of gravity can permit the planning of simultaneous operations appropriate to post-conflict situations, as opposed to the use of linear lines of operations. Ultimately, an argument could be made that the era of sole reliance on this traditional model that orients the campaign plan along a succession of decisive points to enable the destruction of the cohesiveness of the enemy force, its centre of gravity, has passed and that the problem cannot be defined simply in terms of coherent enemy forces. It is necessary to approach the complex dilemmas posed by post-conflict nations, such as Afghanistan and Iraq, holistically and identify points that must be addressed at the same time across elements of national power in order to achieve the desired result. The focus of activities during the campaign planning process in post-conflict, unstable, and violence ridden states should not be on these traditional views of decisive points and centre of gravity, but instead focus on the attainment of the end state by linking the conditions necessary for success throughout the length and breadth of a campaign.[46]

In this context commanders and staffs must address the necessity for security, as political stability and viable infrastructure determine the likelihood of large scale outside capital investment. Both Iraq and Afghanistan pose different challenges in the establishment of a secure environment. Operational level planners need to understand these issues

in order to determine and encourage the economic and political conditions required for large-scale donor participation in the rebuilding effort. Economic outlay occurs when there is a reasonable expectation of good return on investment. This will happen when the situation is reasonably safe and there is a prevailing sense of stability for the populace, entrepreneurs, and the international and non-governmental organizations.

The provision of a secure post-war environment must be designed during the pre-conflict planning because a durable and lasting resolution of conflict cannot be treated as an afterthought. This sentiment was best captured by J.F.C. Fuller when he said, "…the true aim of war is peace and not victory; therefore that peace should be the ruling idea of policy, and victory only the means toward its achievement."[47] The most significant lesson of Operation Iraqi Freedom is that the successful conclusion of combat operations within a theatre of war does not necessarily lead to a strategically certain result or a complete cessation of hostilities between the nations or groups involved. Despite the success of the military campaign, a tenuous peace in Iraq has highlighted the difficulties inherent in the re-establishment of a nation and confirmed the importance of the link between strategy and operations. In the absence of a previously constructed coherent strategic plan or a strategic level interagency task force to marshal the victors' resources in nation building, the Combined Joint Task Force is attempting to visualize and implement a campaign plan that will result in a durable and lasting peace. Not surprisingly, during the post-conflict phase of the operation, planning staffs have come to realize that in the construction of the campaign plan, military efforts must be subordinate to the imperatives of multiple non-military agencies. Campaign planning has become an effort to link the diverse efforts and these multiple organizations in a similar manner to which one would link engagements, battles and operations to attain the objective of a military campaign. Also, it has been observed that, similar to the Canadian experiences in Bosnia during Operation Palladium and domestic operations, such as those conducted during the Winnipeg flood or the Year 2000 (Y2K) contingency planning, in the absence of any coherent inter-agency organization it is contingent on military organizations to plan the operation. Military headquarters are trained, structured and resourced to provide the necessary planning functions, which will encourage the establishment, maintenance and coordination of all efforts. Linked to these considerations is the realization that the campaign plan,

formulated to ensure a solidly constructed peace, requires a great deal of perseverance and patience to carry out successfully. This determination is extremely difficult to sustain over great lengths of time, and military commanders and planners must be prepared to provide moral and physical support to the other non-military agencies involved in this effort. Incidents such as the riots at Drvar, Bosnia in April 1998 pose great challenges to international and non-governmental organizations and without perseverance and determination to carry out the plan may result in a temporary or even permanent cessation of activities.[48] Planning the peace prior to the commencement of the conflict assists greatly to prepare military forces for the challenges posed in post-war environments and establishes a hierarchy of critical missions.[49]

However, to keep a plan on track, it is of vital importance to determine the measures of effectiveness by which one gauges the progression of the post-conflict campaign plan. These benchmarks of the campaign cannot be arbitrarily chosen but must be deduced from the conditions required to produce the end state or purpose of the campaign. The danger is that in the absence of relevant measures of effectiveness commanders and staffs become fixed on easily measurable criteria which may be irrelevant to success. Determining operational progress by the number of kilometres of roads deemed clear of mines or amounts of friendly propaganda distributed while easily measurable is, in most cases, an inappropriate point of reference to judge operational success.[50] However, at the same time, current operational planning challenges regarding measures of effectiveness in operations other than high intensity warfare have resulted in the acknowledgement of the necessity for a reassessment of the implications of tactical inputs. Operational commanders and staffs need to be more sensitive to the operational-tactical interface when assessing the efficacy of the campaign as indicated by this email from an American Officer in Iraq in July 2003:

> From my foxhole, we should start at the macro level by crafting micro measures of effectiveness. What looks, tastes, feels, and smells good to the little guys should be what we define as good at the start. Slowly we can move into true free market economies and migrate closer to democratic norms. Right now we need a groundswell of support, not an award winning structure for national government.

Currently, the non-military aspects of theatre planning in Iraq are focused on attempting to facilitate a representative form of government and a robust economy. It is understood that encouraging ethical behaviours lending themselves to the establishment of these goals is also a necessity. Campaign planners are struggling to turn what are in effect national policies to local triumphs. In the initial stages of this campaign, perhaps operational measures of effectives are essentially tactical in nature and over time progress in scope to wide ranging ways that encompass the geographic theatre of operations and have temporal dimensions as well. This methodology poses dilemmas from the tactical to the military strategic levels of planning as it is essentially a bottom-up approach to campaign planning. Nevertheless, at the beginning of the nation building phase measures of effectiveness may be concerned with such visible low level issues as creating sustainable local employment, re-establishment of local electrical infrastructure, repair of roads and communications facilities, and of course, support to local institutions of governance.[51] For example, in countries such as Afghanistan regional governments have traditionally wielded more influence than a central authority, and it then may be more useful to support a decentralized type of government as opposed to other more centralized forms. Indigenous participation and support of the process of reconstruction must be encouraged. Campaign plans designed to assist with the renewal of war-torn societies must take into account the roles played by internal and external participants throughout rebuilding, as well as recognize the need for local ownership of the societal transformation as it evolves and matures.

To best address the manner in which the CF would use the operational art in post-conflict environments, it must be acknowledged that there is a Canadian way when visualizing, describing and implementing the operational level of war. Usually the Canadian manner of conducting campaign planning is fragmentary and is not always in agreement with the prevailing views of Western doctrine. Recent historical examples of Canadian usages of the operational art in peace support or domestic operations indicate that it is by and large conducted within the context of an alliance or coalition and it can be inherently multi-agency. The campaign plans so produced are strongly influenced by this environment but remain a form of the operational art. Unlike other militaries the CF perception of the operational level of war is not focused on operational manoeuvre, operational logistics, nor is it tied to a theatre of war.

Canadian commanders seek to coordinate operational-level systems appropriate to a multi-agency environment and the force structures under their command to achieve operational-level objectives, which have in turn been deduced through the exercise of the operational art.

In many ways, the experiences of the recent historical past will aid CF commanders and staffs in campaign design during nation building activities. But it is important to recognize that doctrinal approaches to campaign planning in the tumultuous environment of a war-torn nation may not always succeed, as the problems are multi-faceted and not easily resolved. Current methods of campaign planning have evolved since the 19th century in response to the demands of Industrial Age Warfare. Nation states fielded mass armies against one another, as a primary mechanism of policy and the resultant Napoleonic concepts of war became the foundation of military thought. Now alternative approaches to campaign constructs oriented along a line of operations addressing successive decisive points to a discernable centre of gravity are necessary. When the complexity of the problem changes from high intensity war fighting to nation building, often in a non-permissive environment, it may be necessary to leave behind current operational doctrine and move towards operational methodologies that address the challenges of post-conflict environments.

CONCLUSIONS

Although the crafting of a durable and lasting peace should be the ultimate aim of war, it is unfortunately often not the case. The require-ment to plan post-conflict activities is often neglected during pre-conflict planning. Arthur Zinni, a retired US Marine Corps General, highlighted this shortfall during a recent address to the US Naval Institute: "Whatever blood is poured onto the battlefield could be wasted if we don't follow it up with understanding what victory is."[52] In order to bring into being a truly successful peace, it is becomes essential to produce societal regeneration by understanding the nature of the society being rebuilt. This requires focussing on the processes that permit strengthening and development of internal structures. Specific campaign plans must be formulated that include unified and balanced efforts by all agencies to achieve the conditions necessary for success. The roles played by internal

and external participants in the process bear particular scrutiny above and beyond the need to recognize local ownership of the societal transformation as it evolves and matures. Operational commanders and staffs must address the need to subordinate the military aspects of the campaign to the imperatives of supporting the efforts of reconstruction and provide the security that will encourage forward momentum in these activities. In post-conflict situations, the application of the operational art should be likened to an act of creativity that permits its designers to assist in producing a lasting masterpiece.

It is commonly accepted that war is normally an expression of national objectives in a form other than diplomacy. A country's manner of conducting warfare is an outgrowth of its culture and history that is expressed through doctrine, strategy, operations and tactics. Between these elements, the greatest degree of friction occurs at the level of war where the strategic and the tactical levels meet and operational-level commanders must reconcile this friction through the use of the operational art and methodology. Due to the potential for the greatest number of interruptions between strategy and action to occur at the this level, it is necessary to examine and seek to understand the operational thought of not only the Canadian Forces but of NATO, as well as our American and British allies. The applicability of operational doctrine to the current planning environment is of great importance, as doctrine must be relevant to be useful. In the final analysis, it is only by a comprehensive examination of these types of issues may we comprehend the operational level of war in the context of future national, alliance or coalition operations.

NOTES

1   The antecedents of this body of knowledge are firmly rooted in German and Russian concepts of operational art and methodology. John English presents an excellent overview of the historical development of operational art in "The Operational Art: Developments in the Theories of War," in B.J.C McKercher and Michael A. Hennessy, eds. *The Operational Art: Developments in the Theories of War* (Westport, CT: Praeger Publishers, 1996), 7-8.

2   Sean M. Maloney, *War Without Battles: Canada's NATO Brigade In Germany 1951-1993* (Whitby, ON: McGraw-Hill Ryerson Limited, 1997), 359.

3   Among the first documented instances of the connection between policy and war are events documented by the historian Thucydides during the Peloponnesian War (434-404 B.C.). In the *History of the Peloponnesian War* Thucydides wrote that Dionysius, a representative of Athens, explained to the Melians the necessity of the Athenians destroying Melos, their city state, to ensure the security of Athens: "No, for your enmity would not harm us as much as your friendship - for that would make a clear example of

our weakness whereas your hatred would make a clear example, to those we govern, of our power…Apart from the enlargement of our rule, it is also a security for us which, by being subdued, you would furnish,…" Thucydides, *History of the Peloponnesian War*, Book 5.84-114.

4   Carl Von Clausewitz, *On War*, Michael Howard and Peter Paret, eds. and trans. (Princeton: Princeton Univ. Press, 1976), 87.

5   John English, "The Operational Art," 7-8.

6   The 1976 Edition of the US Army Field Manual 100-5 (FM 100-5) *Operations* articulated concepts of operational thought and the design of the AirLand Battle that Depuy had analysed and synthesized from German doctrine and developed in collaboration with the United States Air Force. Major Paul H. Herbert, *Leavenworth Paper No. 16 Deciding What Has to Be Done: General William E. DePuy and the 1976 Edition of FM 100-5*, *Operations* (Fort Leavenworth, KS: Combat Studies Institute United States Army Command and General Staff College, 1988). One should also be careful not to discount the influence of Soviet theoreticians and their concepts of Deep Battle.

7   Diagram from US Army Field Manual 3-0 (FM 3-0), *Operations* (14 June 2001),2-3.

8   Clausewitz, 100-12.

9   R.H. Roy, "The Canadian Military Tradition," in Hector J. Massey, ed., *The Canadian Military: A Profile*, (Canada: The Copp Clark Publishing Company, 1972), 43.

10   In 1947, when writing in the *Canadian Army Journal* about command and control during the manoeuvre of a division, Major General Christopher Vokes proposed that any attempt to change the plan once orders were given to an infantry battalion would not be successful. This indicated the views on centralized command processes had remained prevalent within the institution. Major-General Christopher Vokes, "Tactical Manouvre Infantry and Army," *Canadian Army Journal* 1, no. 1 (1947).

11   Directorate of History and Heritage, Department of National Defence (DND), *Canada and the Korean War* (Montréal, PQ: Art Global, 2002).

12   By limiting theatre defence to forward defensive areas NATO commanders restricted their abilities to manoeuvre. Doctrinal concepts of the deep battle and deep operations could only mitigate the limits created by restrictions on operational manoeuvre. Sean M. Maloney, *War Without Battles*, 359.

13   John A. English, *Lament For An Army: The Decline of Military Professionalism* (Concord, ON: Irwin Publishing, 1998), 60-1.

14   Recent instances of Canadian officers commanding at the operational level of war are the command within a coalition exercised by a Commodore who commanded Task Force 151 in the Persian Gulf, or the command of alliance forces in Bosnia and Afghanistan exercised by a General Officer.

15   For the purposes of this essay, the other activities to which I allude are those that are derived from the exercise of other elements or instruments of national power, and these are diplomatic, informational and economic in nature. In the US the acronym used with reference to these components is DIME, for D[implomatic], I[nformational], M[ilitary], and E[conomic].

16   The term doctrine at its most fundamental level is used to represent the common understanding that is generated by standardized methods of practice. Doctrine is a distillation of history, theory and accepted techniques. It is not prescriptive but can be likened to a sheet of music that all players may read and interpret, using their own instrumental method.

17   *Conduct of Land Operations*, B-GL-300-001/FP-00 (1 July 1998), 37-47.

18   See Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory* (London and Portland: Frank Cass Publishers, 1997) for a masterful examination of operational thought

19   United States. United States Army Command and General Staff College. "Lesson 6: Combatant Commanders-21st Century Proconsuls," *C500 Fundamentals of Operational Warfighting*, (School Year 2002-2003).

20   For a detailed discussion of Canadian military culture see Allan D. English, *Understanding Military Culture: A Canadian Perspective* (Montreal & Kingston: McGill-Queen's Univ. Press, 2004).

21   Quoted in Roman Scarborough, "Group in Charge of Iraq blamed for woes," *The Washington Times*,

22 December 2003 [Internet Journal], available at www.washingtontimes.com, accessed 12 March 2004.

22   In 1945, Ottawa embraced the term "middle power" to describe Canada's status. Pearson suggested that "our strength and resources as a middle power" should permit Canada to partake of the "special rights and privileges" in influencing international affairs that the larger nations had abrogated unto themselves. This philosophy was first utilized in an effort to ensure that the leaders of the victorious allies did not dominate the proposed United Nations. Canada sought greater recognition for smaller countries in the post war world and advocated that middle powers had a role to play in the maintenance of international peace. Quoted in Kim Richard Nossal, *The Politics of Canadian Foreign Policy* (Scarborough, ON: Prentice-Hall Canada Inc., 1985), 11.

23   In 1981, the "A" in NORAD changed from "Air" to "Aerospace" in recognition of the growing importance of space to continental defence.

24   Defence analyst Douglas Bland argues that one can discern these trends in the employment of the Canadian Forces during the post-modern era. Douglas Bland, "War in the Balkans Canadian Style," *Policy Options* (October 1999), 18-21.

25   Amos A. Jordan, William J. Taylor, Jr. and Michael J. Mazaar, *American National Security*, 5th ed., (Baltimore and London: John Hopkins Univ. Press, 1999), 172-6.

26   The Cabinet Defence Committee was formed on 3 August 1945 to decide on defence issues pertaining to the employment of the three services. Douglas Bland provides an excellent overview discussing the evolution of the Defence Policy apparatus in *The Administration of Defence Policy in Canada 1947-1985* (Kingston, Ontario: Ronald P. Frye, 1987), 147-86.

27   Major General W.H.S. Macklin, the Adjutant-General of the Army quoted in Adrian Preston, "The Profession of Arms in Postwar Canada, 1945-1970: Political Authority as a Military Problem," *World Politics* 23, no. 2 (January 1971), 200-201.

28   A detailed discussion of the impact of the lack of coherent defence policy on Canadian military activities during the Cold War is contained in Howard G. Coombs with Richard Goette, "Supporting the *Pax Americana:* Canada's Military and the Cold War" (Unpublished paper, Queen's University, 31 March 2004).

29   DND, Directorate of Army Doctrine, *The Interim Army: A Force Employment Concept Discussion Paper* (2 September 2003).

30   While differences exist between Canadian and American military cultures "Americanization" has to some extent taken place within the CF. Allan English, *Understanding Military Culture*, 156.

31   *CF Operational Planning Process*, B-GJ-005-500/FP-000 (6 November 2002), 1-2.

32   Ibid., 3-10.

33   Letter from the Commander Kabul Multinational Brigade (KMNB) to the Chief of Land Staff, KMNB 1470-1 (Comd)(10 September 2003), 1.

34   NATO Information Service, *The North Atlantic Treaty Organization (NATO): Facts and Figures*, (October 1971), 93.

35   NATO, Allied Joint Publication 01(A) (AJP-01(A)) *Allied Joint Doctrine* (Ratification Draft – Change 1) (September 1999), xi, 3-2 to 3-5.

36   See "Chapter 2 - Principles of Allied Joint Operations," AJP-01(A) *Allied Joint Doctrine*, 2-1 to 2-9.

37   Canada, DND, "Benchmarks: V. United Kingdom," [document on-line] available from http://www.forces.ca/site/minister/eng/bench_uk_e.htm; internet; accessed 14 May 2004; and, United Kingdom, Ministry of Defence (MOD), "What Do You Know About…?" [document on-line]; available from http://www.mod.uk/aboutus/keyfacts/factfiles/modhq.htm, internet; accessed 14 May 2004.

38   United Kingdom, Director General Joint Doctrine and Concepts, *JDP 01 Joint Operations (Study Draft)* (25 October 2003), para 247.

39   Ibid., para 246.

40   Ibid., para 250.

41   Ibid., para 299.

42   US, Joint Chiefs of Staff (JCS), *Joint Doctrine Encyclopaedia* (16 July 1997), 410.

43   US Joint Publication 3-0 (JP 3-0), *Doctrine for Joint Operations* (10 September 2001), p. III-7.

44   "The CF Operational Spectrum is a joint, combined and inter-agency construct, which takes into account the full range of mobilization stages. All elements of the CF must be capable of joint operations in either a View 1[conventional conflict between national entities] or View 2 [asymmetric] environment. In addition, CF elements must be able to integrate non-military (and often non-governmental) agencies within its support structures or, in turn, provide liaison and support to these agencies in the execution of non-military missions. This integration reflects the total interdependence needed to provide a multi-dimensional security posture for Canada." Canada, DND, Directorate of Land Force Strategic Concepts, *The Future Security Environment* (August 1999), 37-8.

45   This approach identifies the Centre(s) of Gravity and the Critical Capabilities required for Centre(s) of Gravity to function. From these Critical Capabilities one derives Critical Requirements needed to permit them to achieve their purpose. Finally, from these Critical Requirements one can deduce Critical Vulnerabilities that can be attacked in order to indirectly destroy the Centre of Gravity. Dr. Joe Strange, *Centers Of Gravity & Critical Vulnerabilities: Building on the Clausewitzian Foundation So That We Can All Speak the Same Language*, (Quantico, Virginia: Defense Automated Printing Service Center, 1996), 2-15.

46   A superb article which provides an overview of campaign planning methodology as it currently exists is Colonel James K. Greer, "Operational Art for the Objective Force," *Military Review* 82, no. 5 (September-October 2002), 22-9.

47   Fuller believed that the ultimate weakness of Clausewitzian theory to be its misunderstanding of the role that peace played in shaping warfare and that the violence of conflict disconnected from the strategy required for the establishment of a lasting peace results in nothing more than a temporary cessation of hostilities. J.F.C. Fuller, *The Conduct of War, 1789-1961: A Study of the Impact of the French, Industrial, and Russian Revolutions on War and Its Conduct* (New Brunswick, NJ: Rutgers Univ. Press,1961; reprint Cambridge and New York: Da Capo Press, 1992), 76.

48   This incident involved elements of the 1st Battalion The Royal Canadian Regiment Battle Group. A detailed discussion of these violent events, ostensibly precipitated by United Nations High Commission on Refugee (UNHCR) resettlement of Serbians to what had become a primarily Croatian community, and their aftermath, is contained in Richard M. Swain, *Neither War Nor Not War: Army Command in Europe During the Time of Peace Operations: Tasks Confronting USAREUR Commanders, 1994-2000* (Carlisle, PA: United States Army War College, Strategic Studies Institute, May 2003), 1-25. This monograph is available via the internet at http://www.carlisle.army.mil/ssi/pubs/2003/ neither/ neither.Pdf.

49   The lack of coherent post-conflict strategy results in the formulation of ad hoc solutions by deployed forces. Robert Kaplan aptly summed up the impact of the military in the current situation, when referring to the de facto creation of policy by deployed United States forces, "while realists and idealists argue 'nation-building' and other general principles in Washington and New York seminars, young majors, lieutenant colonels, and other middle-ranking officers are regularly making decisions in the field." Policy created in this fashion lacks the breadth of vision of true national strategy. Elizabeth Shelburne, "Interview with Robert D. Kaplan: The Hard Edge of American Values," *The Atlantic Online* (18 June 2003) [Internet Journal]. Available at http://www.theatlantic.com/unbound/interviews/int2003-06-18.htm, accessed 24 September 2003.

50   "… progress in counter-guerrilla operations is notoriously difficult to measure. Are we winning? When will the war be over? These become difficult questions to answer, especially when winning is not a matter of capturing ground or fighting big battles. The key is more likely to be dismantling the enemy's leadership one piece at a time or persuading the local populace to deny the guerrillas support. These are not the sort of achievements likely to impress impatient reporters demanding proof that victory is just around the corner - hence, a tendency develops to rely on statistical measurements such as dead bodies or captured weapons, which may or may not be meaningful." Andrew J. Bacevich, "The Long Battle Ahead: The United States has successfully fought guerrilla wars before, though at great cost," *Los Angeles Times* (21 July 2003), B.11. The Canadian contingent in Afghanistan is currently grappling with the same

issues albeit at the tactical level, "Among the many challenges that we face as a tactical headquarters in a peace support operation is measuring the effectiveness of our operations. The traditional approach is numbers based reporting, which is of little value in an environment where tactical effects are neither immediate nor obvious. To address this challenge, we have adopted an effects based approach to reporting. The concept is based upon the idea that it does not make a difference how many patrols you conduct in an area if it does not result in a desired effect…It is difficult to capture this type of information or data. We are still wrestling with how we can effectively portray the effects…We then try to link the reporting of our effects to our lines of operation and our decisive points in order to measure change and chart overall progress towards our desired endstate. This concept and approach is still in its infancy, but we are making progress." Canada, KMNB 1470-1 (Comd) (10 September 2003), 5.

51   Support to regional governmental institutions will prove to be problematic. Due to the nature of the problem one will be forced to use bureaucrats from the ousted regime; however, the populace needs to perceive that the new government is not simply a continuation of the status quo.

52   Address by General Anthony Zinni, U.S. Marine Corps (retired),"How Do We Overhaul the Nation's Defense to Win the Next War?" presented at the Crystal Gateway Marriott, Arlington, Virginia, 4 September 2003 [internet document], available at http://www.mca-usniforum2003.org/index.html, accessed 19 September 2003.

CHAPTER 3

LEVELS OF WAR: A NEW CANADIAN MODEL TO BEGIN THE 21ST CENTURY

Captain (N) Gordon R. Peskett

The primary purpose of any theory is to clarify concepts and ideas that have become, as it were, confused and entangled. Not until terms and concepts have been defined can one hope to make any progress in examining the question clearly and simply and expect the reader to share one's views.

Anyone for whom all this is meaningless either will admit no theoretical analysis at all, or his intelligence has never been insulted by the confusing welter of ideas that one so often hears and reads on the subject of the conduct of war. These have no fixed point of view; they lead to no satisfactory conclusion; they appear sometimes banal, sometimes absurd, sometimes simply adrift in a sea of vague generalization; and all because this subject has seldom been examined in a spirit of scientific investigation.[1]

Carl von Clausewitz, *On War,* 1832.

The first published theories concerning conceptual frameworks of war originated from European experience and research during the early part of the 19th century.[2] During the latter half of the 19th century, new technologies and methods of the Industrial Revolution[3] significantly increased the scale, lethality, and complexity of war. Based on experience gained in planning, conducting, and sustaining war in this industrial context, German, Russian, and Soviet theorists added to the initial frameworks. The central belief after a century of experience and study, was that war could be conceptualized, analyzed, and conducted on three main levels: strategic, operational, and tactical. In the broadest of terms, strategy is concerned with statecraft and higher level planning, tactics relates to the conduct of battle in the field, and the operational level involves planning, coordinating, supplying, and sustaining battles to

wage effective campaigns. The operational level of war has always been difficult to define conceptually, and is even more difficult to illustrate in practice. John English most pragmatically characterized the operational level of war as "…roughly defined as pertaining to that gray area between strategy and tactics."[4]

Although not totally ignored following the Second World War and into the Cold War, NATO countries did not give these conceptual theories serious thought until the US Army began purposeful consideration of the levels of war and the operational art[5] in the mid-1970s. While Richard Swain notes that the US Army's "…rationale for adopting the idea of the levels of war was to instruct senior commanders to differentiate between the variable natures of the fundamental categories…and to explore the interrelationships that existed between the levels themselves…,"[6] this new direction in doctrine sparked massive intellectual effort within and outside the US military that continues to this day. The main thrust of the literature, however, is now turning its focus towards the future.

In a similar context to the German and Russian militaries during the Industrial Revolution, present day militaries are amidst a so-called revolution in military affairs in what has termed the "Information Age."[7] Global command and control systems, web-centric warfare, highly mobile and globally-deployable forces, precision weapons, and global media are just a few of the modern technologies (or technology-enabled developments) that are tending to blur and cloud the 75 to 170 year-old conceptual levels of war. In addition, rapidly increasing employment of military forces in non-traditional roles such as counter-terrorism, counter-drug, peacemaking, armed humanitarian interventions, and highly integrated coalition operations are testing the framework in ways unforeseen by the pre-Second World War theorists.

An increasing number of writers are questioning the applicability and relevance of the levels of war. Martin Dunn notes in his paper that the requirement for an operational level of war in the case of small nations, and in maritime and air environments, is unclear.[8] He also suggests, as a result of changing technology, that "[t]he process of blurring between the tactical and strategic is continuing so that eventually we might not be able to clearly distinguish between the levels of was at all."[9] Dunn concludes that

[a]dherence to a doctrinal construct rather than the realities of the environment can result in an air of unreality. Resources and time can be wasted and inefficient structures built in search of some utopia reflecting the trilogy of levels – forgetting they are just a tool to help us explain what we observe.[10]

In a similar vein, as well as speculating whether technology will completely blur the distinction between the levels of war,[11] John English states that:

Given that the operational art originally sprang from the maneuver of large formations, it also remains to be seen whether it can be profitably applied by small armies in pursuit of strategic objectives. To attempt to relate the concept to everything from internal security to peacekeeping, drug wars, and more may only invite muddle.[12]

On a more constructive note, General Montgomery Meigs remarked that "…we are experiencing a shift in the nature of the art of operations. As we adapt our understanding of the art of operations, we are also challenged to hold onto the relevant aspects of classic theory of operational art."[13] One of his conclusions is that in order "…to succeed in an era in which the art of operations becomes ever more complex, we must recognize the immutable elements of the operational art…."[14]

Given the huge volume of material that has been written on the operational art and the levels of war, and the mounting pressures of change in the Information Age, it is surprising to note that there has been very limited use of graphical models to assist in the development and understanding of conceptual frameworks. Tending to avoid the old adage that "a picture is worth a thousand words," the majority of writers have opted for detailed historical analyses to learn, provide examples, draw conclusions, and develop theories for the future. This chapter will take the more uncommon approach, and use the development of an expanded graphical model as a central theme in order to examine and better understand the conceptual levels of war framework.

In choosing a foundation and orientation for the construction of a new graphical model, a few broad observations are germane. Firstly, since the

Second World War, the great majority of Western military action has been confined to operations other than war. Secondly, in the most recent and highest technology war fought to date, John English points out that "[i]f anything, the staggering *logistical* and *staff planning* [emphasis in original] requirements of the Gulf War should serve as a reminder that it is indeed these dimensions as much as sweeping battlefield maneuvers that characterize the operational art, just as Jomini intimated so many years ago."[15] Finally, as the Vietnam War painfully illustrated, high technology and tactical victories in the absence of coherent overarching strategy does not guarantee victory in war.

The preceding paragraphs have introduced the basic history, evolution, and contemporary factors affecting the intended "construction project" ahead. In spite of the uncertainty associated with some of the "building material," a preliminary blueprint can be discerned. Although a host of modern factors are tending to compress, blur, or transcend the distinctions between the commonly accepted levels of war, it can be argued that the three levels of war have an enduring theoretical and practical relevance, and that they can serve as a backbone for a more comprehensive concept-based graphical model that can frame the full spectrum of military operations into the 21st century.

The following sections of this chapter will briefly review the evolution of the levels of war, compare and contrast concepts and definitions included in current doctrine, introduce and critically examine existing models, sequentially develop a new model framework, and will conclude with a brief demonstration of the model using some representative examples. In order to limit the scope of this chapter, and to provide potential doctrinal input at a timely juncture, the thesis argument will be aligned to the concurrent development of a simple concept-based graphical model appropriate for the Canadian context.

HISTORY AND EVOLUTION OF THE LEVELS OF WAR

The first published theories concerning conceptual frameworks of war are attributed to the works of General Carl Philip Gottlieb von Clausewitz during the early part of the 19th century.[16] His writings during the period 1812-1832, based primarily on analyses of the French Revolution and the

Napoleonic campaigns, yielded several books and studies. In his final book, *On War*, Clausewitz refers to strategy and tactics. He defined strategy as "…the use of the engagement for the purpose of the war…" and tactics as "…the use of armed forces in the engagement…."[17] These terms provided the initial foundation for subsequent frameworks and concepts.

With the Industrial Revolution in full swing in the last half of the 19th century, a number of key developments in this period revolutionized the scope and conduct of war. Bruce Menning identified the four major factors as: the ability of governments to field mass armies; steam, gasoline, and electrical technology facilitating rapid mobility of armies; new weapons that increased the range, scale and lethality of combat; and, advanced staff planning and directing methods.[18] John English's commentary aptly describes the new context of war created by the first of these factors:

> …for as the Napoleonic Wars had shown, there were definite limits to the size of an army, however well drilled or disciplined, that could be controlled by a man on a white horse on a hill. Military genius alone was no longer sufficient to shore up the generalship of large forces.[19]

During the 1840 to 1871 period, Helmuth von Moltke and the Prussian General Staff are generally acknowledged as having the greatest understanding, organization, and planning ability in this new age of warfare.[20]   Although never formally articulating a term for the concept, von Moltke often referred to the word *operativ.*[21] The term *operational art* was first coined in 1926 by Aleksandr A. Svechin, a theorist and former Imperial Russian General Staff officer, and was "used to bridge the gap between tactics and strategy and to describe more precisely the discipline that governed the preparation for and conduct of operations."[22]

In North America, serious consideration of warfare theory related to conceptual frameworks and operational art did not begin until the US Army's critical self- reassessment following the loss of the Vietnam War. The publication of the US Army's new capstone document FM 100-5 in 1976 charted a significant new direction for doctrine,[23] and sparked unprecedented interest and debate within the US military, war colleges,

and academic circles. It was not until the 1982 revision of FM 100-5, however, that the broad definitions of the three levels of war were introduced.[24] In reviewing the development of US Army doctrine, Swain remarked "[a]lthough the principal Leavenworth authors resisted the addition of the 'operational level of war,' arguing that the concept was too difficult for the army to grasp, the concept eventually found its way into the army's capstone doctrine."[25] The 1986 revision of FM 100-5 attempted to highlight the operational level of war and introduced the term "operational art."[26] In addition, this revision curiously re-labeled the levels of war as "military strategy, operational art, and tactics."[27] While this re-labeling did not alter the broad conceptual basis of the levels of war framework, it did introduce confusion in US terminology for several years.[28] The traditional levels of war (strategic, operational, and tactical) were re-adopted in the 1993 version of FM 100-5.[29] In considering the framework for levels of war, Richard Swain has suggested that "[t]his decision to view war as a set of 'levels,' with the implication of place rather than categories of action, produced some definitional awkwardness."[30] In spite of the conceptual and semantic difficulties, the levels of war have remained intact in successive revisions of FM 100-5 after 1993, and have been incorporated in the overarching versions *US Joint Pub 3-0* since the original version in 1995.[31]

As a contrast to US efforts, Canadian contributions to the development of warfare theories above the tactical level have been limited to say the least. Richard Young, in discussing doctrine development amongst Canada's close allies, quotes Christopher Bassford to support his argument that "[t]he ideas of Clausewitz run like a subterranean river through all of modern military thought...."[32] But Young then qualifies this statement with the remark that "…the "river" of Clausewitzian thought appears to have dried up short of the Canadian border."[33] In a similar vein, William McAndrew contrasts Canadian doctrinal development to that in the US by stating "[t]he Canadian Forces have not experienced that vital intellectual search for first principles. Instead of stimulating an exchange of ideas on which to construct a sound intellectual base, a bureaucracy arbitrarily directed that operational art was to be adopted."[34] While these comments were not far off the mark when they were written in the mid-1990s, they did overlook Eddy's 1992 article on the CF and the operational level of war,[35] as well as the fact that the Canadian Army, since the mid- to late 1980s, had been engaged in the NATO process of getting

operational art and operational level of war concepts included in the foreword to *ATP 35 (A)* (NATO Land Forces Tactical Doctrine).[36] The Army also used this NATO work for inclusion in its re-write of the 1984 version of CFP 300 *The Army*.[37] These concepts have been transferred and carried through successive versions of *Canada's Army,*[38] and are now included in the overarching Canadian Joint Publication *Canadian Forces Operations*.[39] Since the late 1990s, advances on academic, intellectual, and doctrinal fronts have been made in Canada on the topic of the operational art. For example, the Joint Operations Group headquarters has been stood up and is beginning to progress joint doctrine, the Command and Staff Course was modified in 1997 towards more focus on the Operational Planning Process, the Advanced Military Studies Course and the National Security Studies Course commenced in 1998 and 1999 to provide operational and strategic level education respectively, and Canadian academic and military writers outside of the Canadian Forces College are producing work on the operational art and operational and strategic level of war issues.[40]

This brief historical overview has highlighted the origins, evolution, and a short North American history of the levels of war conceptual framework. This background is important in understanding the foundation on which current doctrine is based. The next section will examine current Canadian doctrine.

CANADIAN DOCTRINE ON THE LEVELS OF WAR

As noted in the previous section, Canadian doctrine on the levels of war has been incorporated in various Canadian publications for the past for the past 10 – 15 years. A blend of US and NATO doctrine, Canada's capstone joint publication *Canadian Forces Operations* is generally consistent with the levels and definitions in those publications. There are minor terminology differences between all three doctrines, however, that create significant labeling challenges. NATO doctrine refers to "Levels of Operations" and classifies them as Military Strategic, Operational, and Tactical. US doctrine refers to "Levels of War" and classifies them as Strategic, Operational, and Tactical. Canadian doctrine, in *Canadian Forces Operations*, refers to "Levels of Conflict" and classifies the levels in the same way as US doctrine.[41] The re-titling of

"Levels of War" to "Levels of Operations" and "Levels of Conflict" by NATO and Canada respectively, was presumably to infer a broader applicability than war alone. While technically more correct, universal acceptance of either new title will likely be problematic due to the long traditional reference to "Levels of War." Also, there is potential for confusion associated with NATO's "Levels of Operations" terminology and the actual "Operational Level." The US has addressed the problem by simply qualifying that the phrase "Levels of War" applies to both war and military operations other than war (MOOTW).[42] For the purposes of this chapter, reference to levels of war will be continued. The labeling challenge will be addressed later in the Model Development section of this essay.

Doctrinal definitions for the levels of war are vital to the understanding of the conceptual framework. Canadian definitions, which are semantically consistent with the US and NATO definitions, are as follows:

> Strategic Level – The strategic level of conflict is that level at which a nation or group of nations determines national or alliance security objectives and develops and uses national resources to accomplish those objectives. Activities at this level establish strategic military objectives, sequence the objectives, define limits and assess risks for the use of military and other instruments of power, develop strategic plans to achieve the objectives, and provide armed forces and other capabilities in accordance with the strategic plans.

> Operational Level – The operational level of conflict is the level at which campaigns and major operations are planned, conducted and sustained to accomplish strategic objectives within theatres or areas of operations. Activities at this level link tactics and strategy by establishing operational objectives needed to accomplish the strategic objectives, sequencing events to achieve the operational objectives, and initiating actions and applying resources to bring about and sustain those events. These activities imply a broader dimension of time and space than do tactics: they ensure the logistic and administrative support of tactical forces and provide the means by which tactical successes are exploited to achieve strategic objectives.

Tactical Level – The tactical level of conflict is the level at which battles and engagements are planned and executed to accomplish military objectives assigned to tactical units. Activities at this level focus on the ordered arrangement and manoeuvre of combat elements in relation to each other and to the enemy to achieve combat objectives established by the operational level commander.[43]

In addition, there are a number of key tenets, amplifications, and modifiers within the general description of the levels that clarify the basic definitions. There is acknowledgement that the boundaries between levels are not sharp or clearly defined, that there is often overlap, and that a number of modern factors are compressing and blurring the levels. Canadian doctrine also highlights that the levels are not directly related to a particular level of command, size of force, or size of unit. Lastly, CF doctrine states that commanders must have an appreciation of these interactions in order to advise capably the government on military options, and to be able to function effectively in operational-level headquarters, in joint or in combined situations.[44]

One Canadian doctrinal statement that is confusing, and appears to be at odds with the definitions above and with general guidance in US and NATO publications, concerns the way in which the levels are defined. Canadian doctrine notes that "[e]ach level is defined by the outcome intended…"[45] and goes on to state that "…a military force tasked to achieve a strategic objective, is being employed at the operational level."[46] These two statements, by implication, would make it impossible for a tactical action to have strategic effects, but there are many historical examples that clearly show this is not the case.[47] In keeping with the examples in the definitions of the levels of war above, it should be the activity that defines the level, not output or effect.

This quick overview has compared and contrasted Canadian doctrine with US and NATO doctrine. Although there are some simple but cumbersome title issues, the three levels of war are doctrinally consistent. This overview has also defined the levels of war (strategic, operational, tactical), and highlighted other important doctrinal items. One of the key items introduced was that the levels of war are applicable to the full spectrum of military operations, that is, war and military operations other than war. With

the historical background in hand, and the doctrinal foundation laid, the next section will examine and discuss a few of the models developed to assist in the understanding the levels of war conceptual framework.

EXISTING GRAPHICAL MODELS

As mentioned previously, there have been relatively few graphical models developed to assist in conceptualizing and understanding the levels of war framework. This section will examine four existing models to learn the strengths and limitations of each. This information will assist in the formulation of a new model in the next section.

Christopher Barnes developed the model at Figure 1 to represent the levels of war reflected in Industrial Age warfare. The model effectively portrays the linear and hierarchical relationship of the levels, and provides an instructive outline of broad activities that occur at each level. Although limited in conceptual scope, this basic model provides a good starting point for the consideration of more complex models that follow in this section.

LEVELS OF WAR MODEL

Strategic
- Establishes national or multinational security objectives
- Develops and uses national resources to accomplish objectives

Operational
- Links tactical employment of military forces to strategic objectives
- Focuses on operational art design, organization and integration of campaigns, major operations, and battles aimed at achieving strategic objectives
- Determines sequence of action(s) and allocation of resources

Tactical
- Focuses on employment of units in combat and the application of force

FIGURE 1 – BARNES MODEL[48]

David Jablonsky, in his 1987 article "Strategy and the Operational Level of War: Part I," used the model at Figure 2 to highlight the important role of the operational level of war, and the commander's prime mission to determine and coordinate actions in pursuit of strategic goals. Jablonsky's central thesis is that the strategic level is dominant, but that the operational level is key and dynamic in translating strategic goals into military action. He argues that there must be a good two-way dial dialogue between the strategic and operational levels, and that the operational commander "…must be constantly interacting with the strategic level as he gauges his adversary and determines how to use tactical forces to accomplish that sequence of actions. It is this interaction that makes strategy the key to the operational level of war."[49]
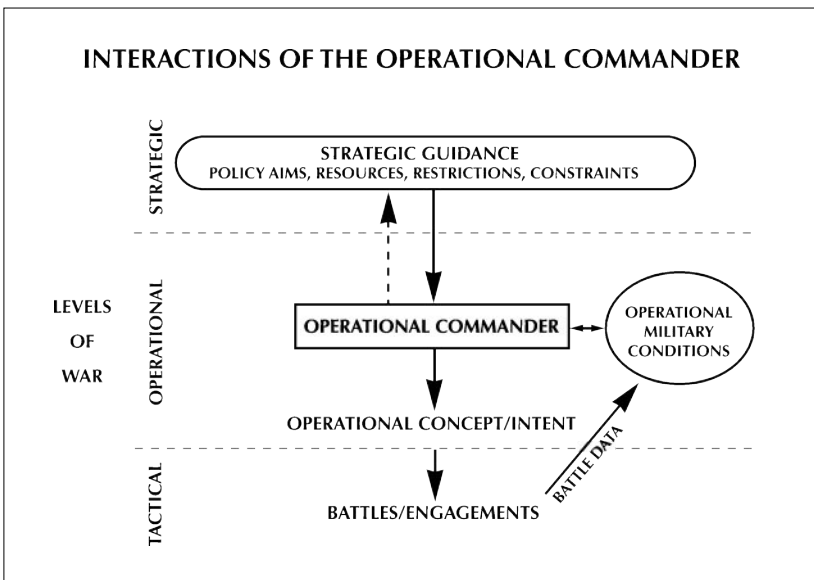
FIGURE 2 - JABLONSKY MODEL[50]

Jablonsky's model focuses on the interaction process, primarily between the strategic and operational level. The arrows represent interaction and communication. The non-definitive and porous boundaries between the levels of war are characterized in the model by the dashed horizontal lines. Also illustrated in this model is the broad strategic guidance at the top, and the outcome desired at the operational level (oval). The double arrow between the operational commander and the operational military conditions (oval) indicates that the desired conditions (output) must be monitored, thus forming a feedback loop. Jablonsky concludes that:

> [t]he strategic level is dominant in the continuum of war
> because, as we have noted, it is here that the war's political goals
> are defined. It is the process of interacting with the strategic
> level, directly or derivatively, that causes the operational
> commander to form his unique perspective… For he alone, to be
> successful, must conceptualize a military condition or conditions
> that will ultimately achieve the strategic goals. As indicated by
> the two-way arrow in the diagram [Figure 2], this is a constant
> iterative process, normally requiring many refinements or
> revisions as he plans and executes his campaigns or major
> operations.   These adjustments will affect, in turn, how
> engagements and battles are sequenced at the tactical level to
> achieve the operational military situation he desires.[51]

The Jablonsky model highlights the requirement of essential guidance
from the strategic level, and the essential two-way nature of communica-
tion between the strategic and operational levels. The model's limitations
include applicability to military operations other than war, and the rela-
tionship to broader aspects of national power.

The models developed by Macgregor in his 1992 paper "Future Battle:
The Merging Levels of War" present a much different focus than the
Jablonsky model. In a progressive series of models, Macgregor illustrates
how the evolution in warfare has continuously increased the depth of the
battlefield, as well as compressed and overlapped the levels of war.

Macgregor's first model (Figure 3) depicting Napoleon's Ulm campaign of
1805, illustrates a pitched battle over a limited geographical area.
Napoleon used independent corps-sized elements, secretly deployed
weeks before the battle, to encircle, surprise and crush the Austrian force.
Since Napoleon was both head-of-state and Army commander-in-chief
and his corps operated independently, there was little interaction between
the levels. Additionally, due to the limited geographical scope of the cam-
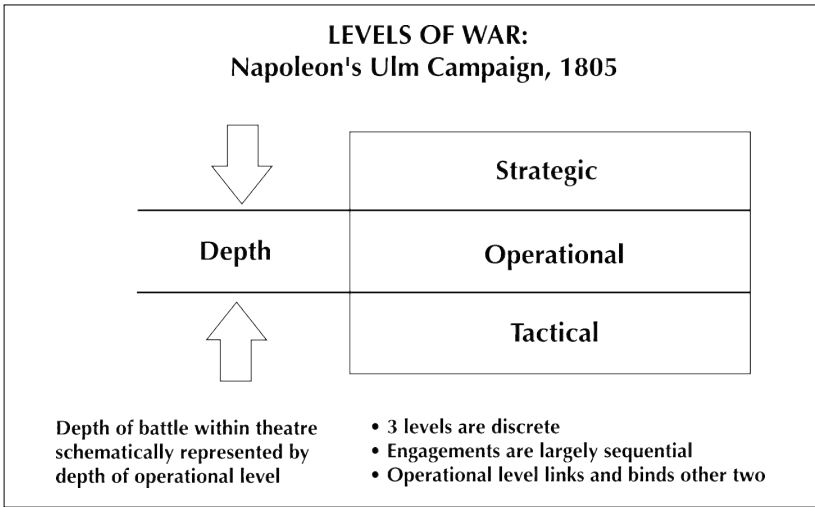paign, the depth of operations was limited.

LEVELS OF WAR:
Napoleon's Ulm Campaign, 1805

	Strategic
Depth	Operational
	Tactical

Depth of battle within theatre schematically represented by depth of operational level

• 3 levels are discrete
• Engagements are largely sequential
• Operational level links and binds other two

FIGURE 3 - MACGREGOR MODEL 1[52]

Macgregor's next two models (Figures 4 and 5) depict technology-assisted war. Depth is increased by transportation-related technology, and coordination, overlap, and integration between the levels of war is enhanced by communications technology. In the case of the 1940 German *blitzkrieg* (Figure 4), Macgregor cites "…the innovative application of automotive, aviation, and communications technology to military use…"[53] as the enabler of the *blitzkrieg*. Accordingly, Figure 4 portrays an increased depth of operations and effective overlap of the levels.

LEVELS OF WAR:
German Blitzkrieg, 1940

Strategic

Depth Increased

Operational

Areas of coordinaton/ integration

Tactical

• Levels overlay
• Activity at one level influences activity at another, but time and space factors require process of coordination to achieve synergistic effect.
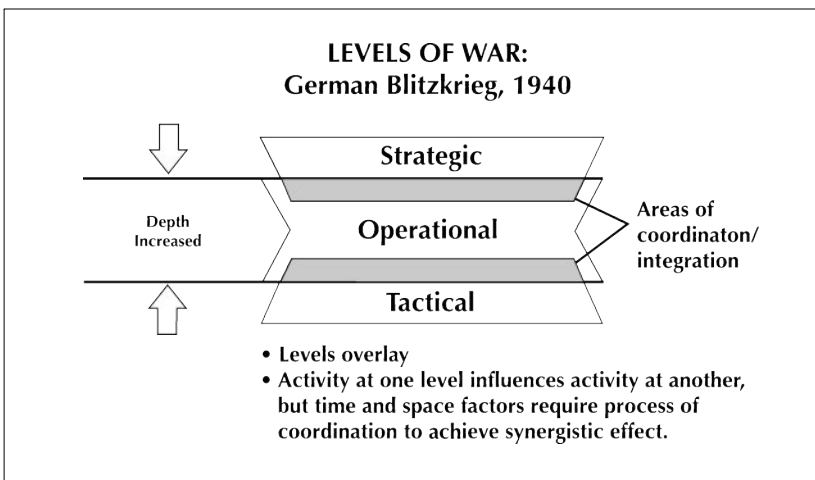
FIGURE 4 – MACGREGOR MODEL 2 [54]

In the Gulf War model (Figure 5), Macgregor identifies the enablers as the

> …availability of precise deep-strike delivery systems on land and aboard ships and aircraft, combined with a vast inventory of lethal conventional munitions and long-range aircraft which could be guided by target acquisition instruments to enemy targets under near continuous surveillance. Equally important for the ultimate outcome was the decisive American overmatch in the direct-fire battle and the integration of tactical and strategic systems to support the tactical fight.[55]

The greatly increased and integrated depth of the action, as well as the near full overlap of all levels, is clearly represented in Figure 5.
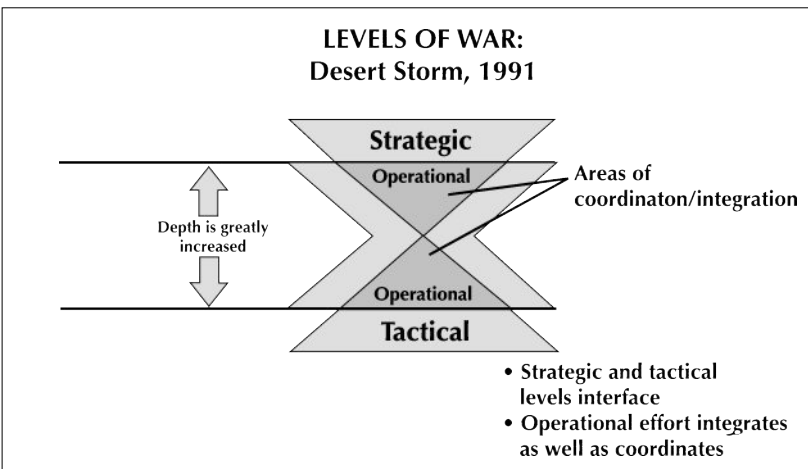
FIGURE 5 - MACGREGOR MODEL 3[56]

Macgregor's view of future war (Figure 6) is a further extension of the Gulf War model. He suggests that the degree and depth of simultaneous attack from all elements and all levels, will tend to compress operations into one continuous fight, and that "…the three levels of war, as separate loci of command and functional responsibilities, be spaced and timed out of existence."[57] While the model (Figure 6) accurately illustrates this vision, the probability of such a war or conflict occurring in the future so as to completely merge the levels of war, is a subject of debate beyond the scope of this chapter. This general issue regarding the future applicability and relevance of the levels of war is, however, within the scope of the essay and will be discussed in the next section.
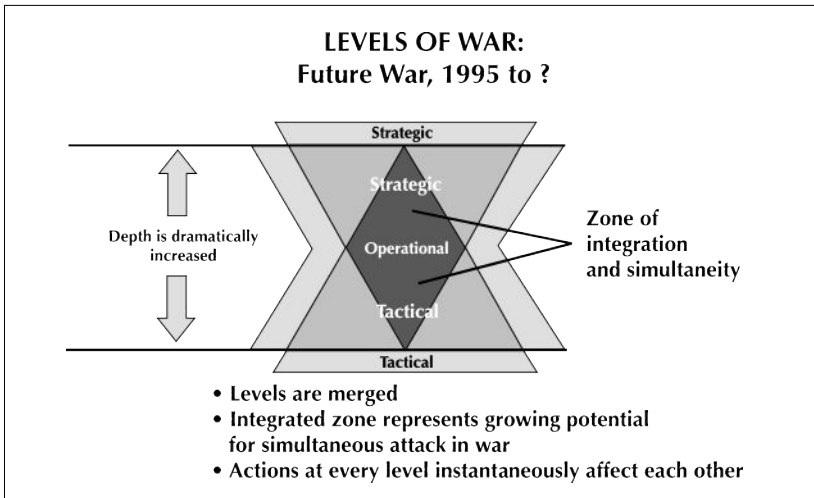
FIGURE 6 - MACGREGOR MODEL 4 [58]

The models used by Macgregor focus predominantly on the battlespace. Their main theme is the depth and simultaneity of action across all levels. Although the three levels of war are central in the models, their importance as individual levels is successively diminished through the transition from current to future war as envisaged by Macgregor. The principal shortcoming of these models is their narrow focus. For the present and the future, a more versatile model should address military operations other than war and also needs to portray the political/national power dimension.

The final model for consideration was developed in 1995 at the US Army School of Advanced Military Studies. The Schamburg model (Figure 7) differs from the previous models considered in that it is a non-hierarchical and non-linear model.[59] Schamburg argues that the all of the levels of war are interconnected.[60] He cites a number of 19th century examples where there was a direct link between the strategic and the tactical level.[61] He also cites the Dolittle Raid as a 20th century example of a tactical action producing strategic results.[62] The Schamburg model is useful from a higher level and broad conceptual basis. It illustrates the vital linkage of political and military objectives, and the important overlap of levels for communication. Although not fully supported by additional examples in Schamburg's paper, the dynamic nature of this non-linear model has good potential for further development. As with the preceding models, the

Schamburg model has conceptual limitations that include a lack of refer-ence to national power, and a context not clearly related to either war or military operations other than war.

THE NON-LINEAR PATTERN

Political Objectives

STRATEGY

OPERATIONS

Political Objectives

TACTICS

Military Objectives

(The dark grey area is when the political objectives and military objectives are similar)
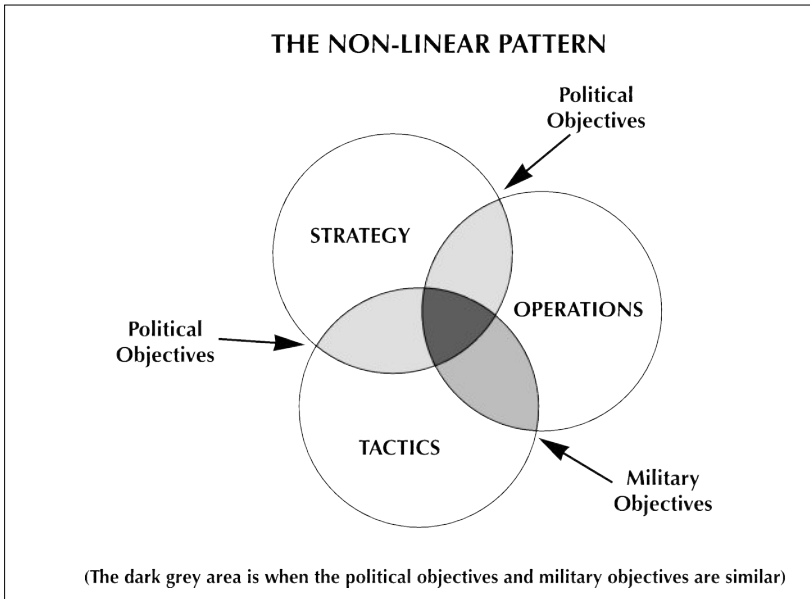
FIGURE 7 - SCHAMBURG MODEL[63]

The examination of existing graphical models has revealed a number of important concepts, limitations, and shortcomings. Although the three levels of war serve as a central frame of reference in all models considered, each of the models has a very different focus. Given the diversity amongst the models, what then should be the essential framework for a general-purpose graphical model for the beginning of the 21st century? Part of the answer lies in the existing models: retain the strengths and address the limitations. The other part of the answer resides in the scope of this paper: a basic conceptual model appropriate for the Canadian context. The next section will consider the Canadian context and sequentially work through the model development process.

DEVELOPMENT OF A CANADIAN MODEL

In developing a model for Canadian use, it is first necessary to examine the Canadian context. Although Canadians have a long and proud

legacy of wartime action and United Nations involvement, this legacy, at the operational and strategic level, is not as brilliant. In his book, *Chiefs of Defence*, Douglas Bland outlines a legacy of post-colonial military dependence, strategic thought bound to alliance and coalition structures, successive governments with little interest in the military, ineffective post-unification organizational and command structures and generally weak communication at the political-military interface.[64] Bland concludes that "… it is the immaturity of Canada's political culture and the nation's profession of arms that allowed the strategy of commitments to usurp Canada's sovereign right to build its own military planning and command system in order to serve its own strategic interests."[65] It is not surprising then, that Canadians had virtually no practical experience at the operational and strategic levels of war in the major conflicts of the 20th century,[66] and that the body of Canadian intellectual work on the levels of war and the operational art is very limited. Against this backdrop, the question quickly arises as to how to define the basic requirements for a Canadian model. A reasonable starting point may be indicated by McAndrew's observations that:

> [e]mphasis on management, staff bureaucracy, and top-down direction mirrors Canada's other institutional structures: social, economic, cultural. Without a profound institutional shock, an army is unlikely to change its style. The US Army was shocked out of its Second World War rut by Vietnam and, while searching for its collective soul, rediscovered the operational art.[67]

Although nowhere near the severity of the Vietnam experience, it is suggested here that the decade of the 1990s can be viewed as a similarly defining time for the Canadian Forces. With the end of the Cold War and huge spike in Canadian Forces contingency operations, both domestic and international (24 operations 1948-1989 compared to 79 operations 1990-2002),[68] a near full spectrum of Canadian military capability was tested. Through this decade of tests, despite a good number of success stories, a number of shortcomings related to the operational and strategic levels of war were highlighted. Two of the recurring themes reported in various commentaries and reports,[69] are that strategic direction is weak and that there is confusion regarding strategic and operational-level responsibilities. Therefore, communication and responsibility between

levels has been selected as the main theme for the model proposed here. With the theme or model focus selected, the construction of the model framework can begin. The key and backbone element of the new model will be the concept that has generated, by far, the lion's share of study and debate in the literature. This is the levels of war construct itself. The earlier sections of this paper traced the historical development of the concept, the adoption of the concept into modern military doctrine, and examined the existing models. The three levels of war have endured, but their relevance, particularly the operational level of war, is coming under increasing uncertainty in light of Information Age factors and applicability to MOOTW. While there has been much discussion regarding the blurring of the distinction between the levels, few authors have presented alternate structures.

Of the alternate structures that have been proposed, their focuses have been somewhat conflicting. Leslie for example, has proposed an additional "Theatre Level of War" to deal with the increasingly complex and multi-faceted nature of operations at the strategic-operational interface.[70] Helis on the other hand, while not proposing a modification to the three-level structure, argued that the strategic level frequently absorbs the operational-level command functions in operations short of war.[71] In Leslie's approach, the complexity is present in large and/or multinational operations such as the Gulf War. But is it applicable to smaller scale multinational operations or national operations? And, therefore, is this approach relevant to the Canadian context? It is argued here that the answer to both of these questions is no. With respect to the Helis argument, the close involvement of the strategic level in operations short of war often occurs. In these critical situations, where large strategic effects can hang in the balance with single tactical events, limited or passive involvement of the strategic level would be most unlikely. Although Helis does not propose a modification to the levels of war framework, his argument certainly raises the question as to the relevancy of the operational level of war in these circumstances. It is contended here that, while these "strategic reach-downs" occasionally occur, they are temporary in nature and do not undermine the overall utility of the existing levels of war framework.

Based on this assumption, the proposed backbone of the new model is shown at Figure 8. The three traditional levels are maintained in a linear

and hierarchical fashion to reflect the chain of command. Shading has been chosen to represent the non-distinct boundaries between the levels. The labeling issue is problematic given the long-standing reference to levels of war.   Although the 2001 version of CF Operations has adopted the "levels of conflict" terminology, it differs from other CF doctrinal publications. In order to bridge the label issue, the generic term "Level" is used here.
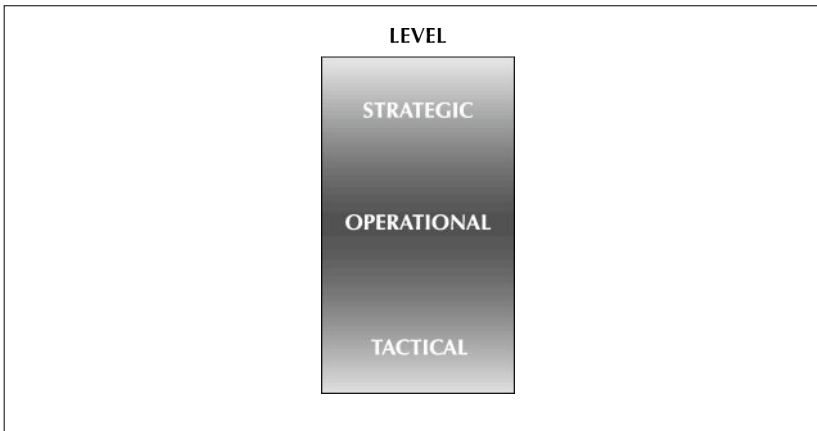

FIGURE 8 - LEVELS

The foundation of the new model, which will form the horizontal axis of the model, has been created to reflect military involvement in MOOTW and is shown at Figure 9. The applicability of the levels of war framework in MOOTW is a relatively new concept that has received little attention in the literature. The earliest occurrence of MOOTW in this context was its inclusion in the 1993 version of the US Army's capstone FM 100-5 doctrine publication.   Although McCormick noted that "[s]ome critics believed that the introduction of MOOTW into a "war-fighting" manual was a mistake…," he opined that "[p]lacing [M]OOTW into FM 100-5 was merely an example of operational doctrine taking its direction from
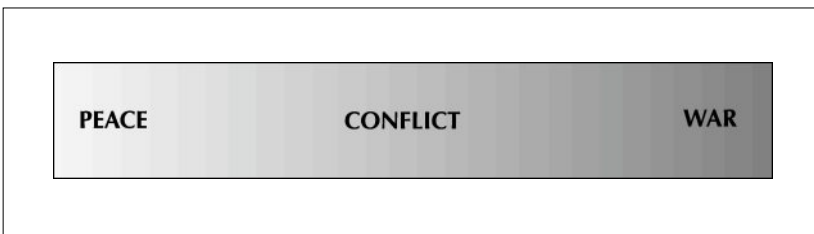
FIGURE 9 - SPECTRUM OF CONFLICT

strategy, notwithstanding the activity involved."[72] The relevance of MOOTW in the levels of war framework has been confirmed in US doctrine through its continued inclusion in new revisions of FM 100-5, as well as inclusion in the overarching U*S Joint Pub 3-0*.[73] Curiously, the MOOTW issue was discussed in the 1990 Canadian document that first introduced the operational art and operational level of war concepts in Canada. Colonel Mike Capstick, in his seminal Canadian doctrine paper, outlined the relevance of MOOTW and the operational level of war very clearly:

> In low intensity operations, and even operations short of war, the operational level is at least as important as it is to an army group commander in a high intensity scenario… It is also at this level that the civil (including police) – political – military connection is most vital and that widely disparate tactical actions are co-ordinated and focused to attain strategic aims. Even a cursory examination of the history of low intensity operations reveals the vital importance of this military strategic – tactical linkage which is best handled in terms of the operational art and level of command.[74]

In a more recent and actual example of the applicability of the levels of war framework to OOTW, Lieutenant-Colonel George Fenton of the USMC described the operational-level employment and effects achieved by the 24th MEU(SOC) [Marine Expeditionary Unit (Special Operations Capable)] in support of the Combined Joint Task Force in Somalia during the spring of 1993.[75] It is evident from Canadian and US doctrine, and from the 24th MEU(SOC) example, that an OOTW spectrum is a valid element for the new levels of war framework. The "spectrum of conflict" terminology is, therefore, consistent with Canadian doctrine.[76]

The final concept considered essential in the framework of the new model, is the representation of the link to the elements of national power. Civil-political control of the military and the relationship of military power to other forms of national power are fundamental issues to the overall understanding national response to crisis. This element is considered a key component in giving overall theoretical and practical context to the levels of war framework. The composite framework is shown at Figure 10.
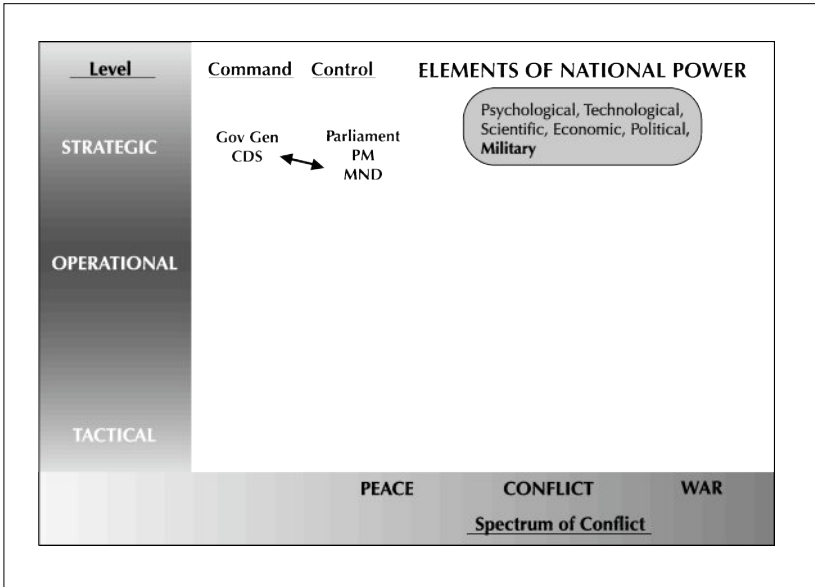
FIGURE 10 - BASIC FRAMEWORK

The framework in Figure 10 completes the basic construct and will serve as the basis for subsequent demonstration of the model in the next section. This framework contains what are considered to be the essential elements necessary to support a comprehensive concept-based graphical model for the Canadian context at the beginning of the 21st century. As outlined in the beginning of this section, the basic conceptual focus of a Canadian model at this point is communication and responsibility within and between the levels. Although the framework is suitable to support other conceptual themes, an exhaustive examination of these themes is beyond the scope of this paper. The model demonstrations in the next section will therefore be limited to the narrow conceptual theme of communication and responsibility.

MODEL DEMONSTRATION

This section will present a demonstration of the model by briefly analyzing a few relevant Canadian examples. The first example will highlight peacetime routine operations; the other examples will illustrate contingency operations. The 1990 Oka crisis will serve as a domestic contingency operation example, the 1990 Gulf War as an international

contingency operation (war-fighting) example, and the 1992 Somalia mission will serve as an international contingency operation (OOTW) example. For comparative purposes, the 2002 Campaign Against Terrorism will also be briefly examined as another example of an international contingency operation (war-fighting).

In the models, circular/oval shapes will be used to represent conceptual areas of communication and responsibility. Each shape also corresponds to a particular level (strategic, operational, tactical). With good communication and clear levels of responsibility, efficient (and even synergistic) results will occur through coordinated and focused activity. A good contact between the levels is desirable, as it signifies positive two-way communication, and coordinated activity. Overlap between the areas is less desirable as it indicates increased potential for duplication or inefficient activity, micromanagement, and/or short-circuited communi-cation. Gaps between the areas are also undesirable as they represent breakdowns in communication that may result in missed activities, or activities that lack focus and/or coordination. The relative size or shape of the ovals is not intended to portray the number or scope of forces or personnel involved.
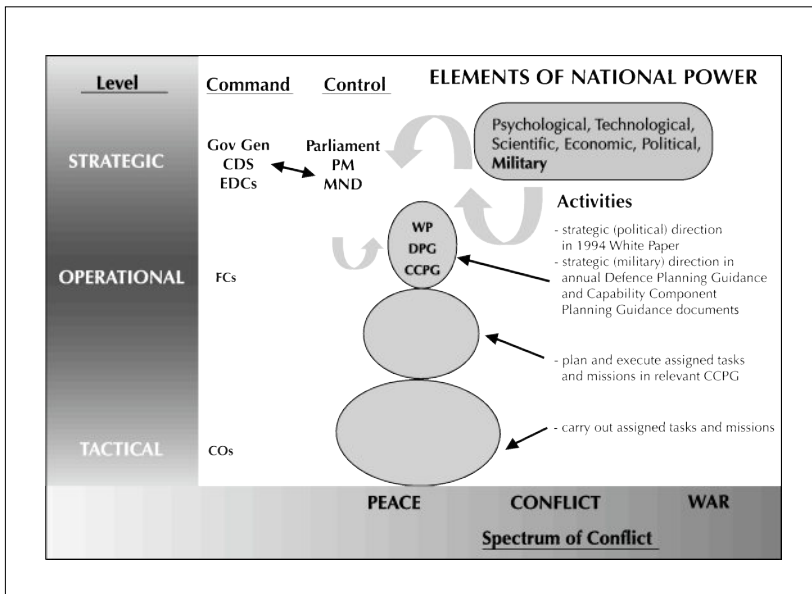
FIGURE 11 - PEACETIME – ROUTINE OPERATIONS

In peacetime routine operations, standing political strategic direction to the CF is contained in the1994 White Paper. Military strategic direction is provided by the Chief of the Defence Staff to the Environmental Chiefs of Staff (ECSs) in the annual Defence Planning Guide (DPG). The ECSs provide additional strategic guidance to their respective operational-level formation-based HQs in various planning documents specific to each environment (the generic term Capability Component Planning Guidance (CCPG) is used in the model for ease of illustration). The Commanders of the formation-based HQs (FCs) then carry out the strategic taskings with assigned resources. Figure 11 illustrates these relationships.

During contingency operations, the command and control arrangements change. A Task Force Commander (TFC) (operational level) is generally appointed, and reports to the CDS (through the Deputy Chief of the Defence Staff).   Resources are assigned from tasked formation-based HQs.   The Oka crisis of 1990 provides an example of a domestic contingency operation where small tactical action had the potential for huge strategic consequences. Although a TFC was appointed, the CDS retained tight control, and Bland reports that:

> General Foster's headquarters was the task force headquarters for the Oka crisis and he did organize the movement and deployment of the forces into the area. He was not, however, given authority for operational decisions or control over resources commensurate with his responsibilities or in keeping with the concept of operations.[78]

Figure 12 represents the Oka situation. While the Oka crisis was most unique, the reach-down of the strategic level is not uncommon, and is not confined to Canada. Helis for example, reports a number of similar occurrences in US operations.[79]

The Gulf crisis started in the late summer of 1990, in the midst of the Oka crisis. Despite the unprecedented scope activity at the strategic level necessary to deal with a major domestic contingency and Canada's first potential war-fighting role since the Korean War, crisis management, ingenuity, ad hoc arrangements, and extreme effort by those involved facilitated a significant Canadian contribution to the Coalition war
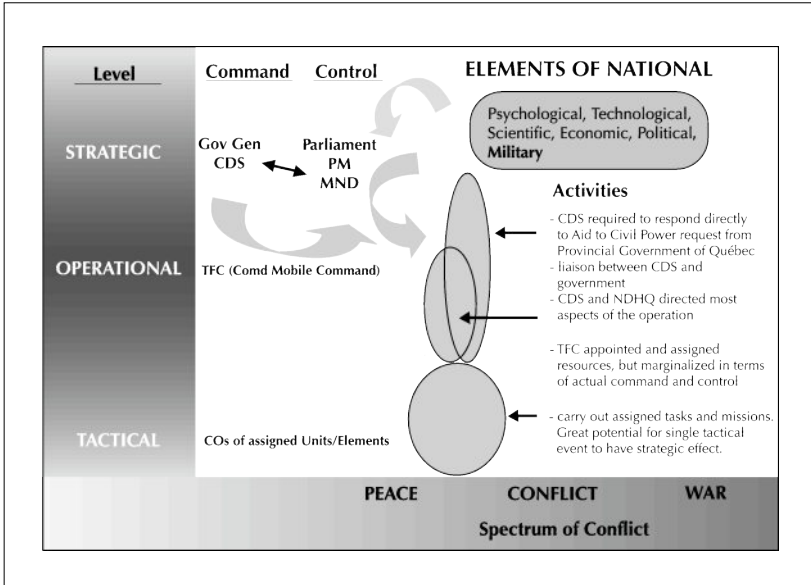
FIGURE 12 - OKA CRISIS (1990) – DOMESTIC CONTINGENCY OPERATION

effort.[80] The Gulf War crisis, however, clearly highlighted the organiza-tional, planning, and command and control weaknesses at the strategic and operational levels of war.

An overall representation of the Gulf War is difficult because much of the first two months was a period of dynamic organizational activity at the strategic and operational levels. Of relevance to this essay is the fact that strategic communication between the political and military became efficient, and that the first Canadian Deployed Joint Headquarters was established to exercise operational command of Canadian elements in the theatre of operations.[81] The model at Figure 13 represents the situation in mid-January 1991, just prior to the Coalition offensive.

The next example illustrates the 1992 Somalia international contingency operation. Despite the lessons learned during the Gulf crisis the year before, the ill-fated mission to Somalia suffered from a number of shortcomings that are documented in great detail in the *Report of the Commission of Inquiry into the Deployment of the Canadian Forces to Somalia*. Of significance for this example were the poor military/political strategic level communications, poor use of the Canadian Forces Operational Planning Process at the strategic level, and the growth of the
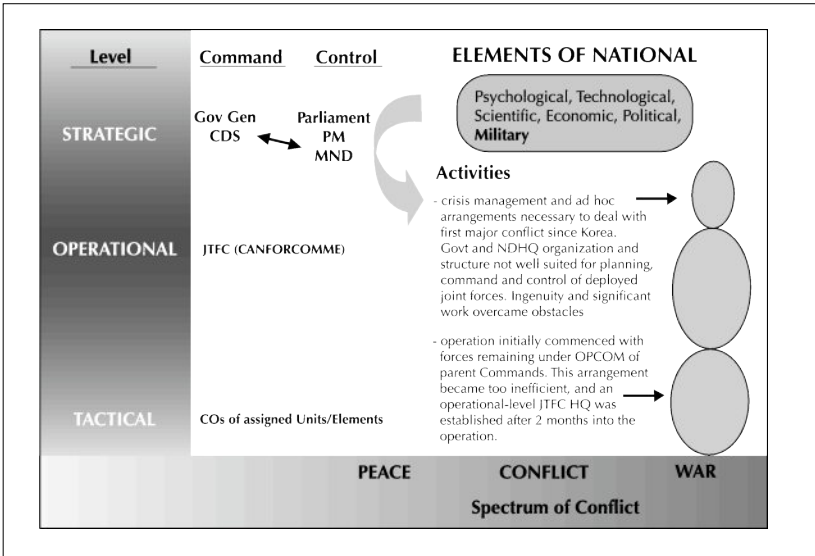
FIGURE 13 - GULF WAR (1990/91) – INTERNATIONAL CONTINGENCY OPERATION

mission from a Chapter VI to a Chapter VII United Nations operation.[82] Figure 14 depicts this situation.

While improvements have been made at the strategic level through implementation of many of the Somalia Commission's recommendations, progress has been slow. On the military side, Clark's review of Canadian
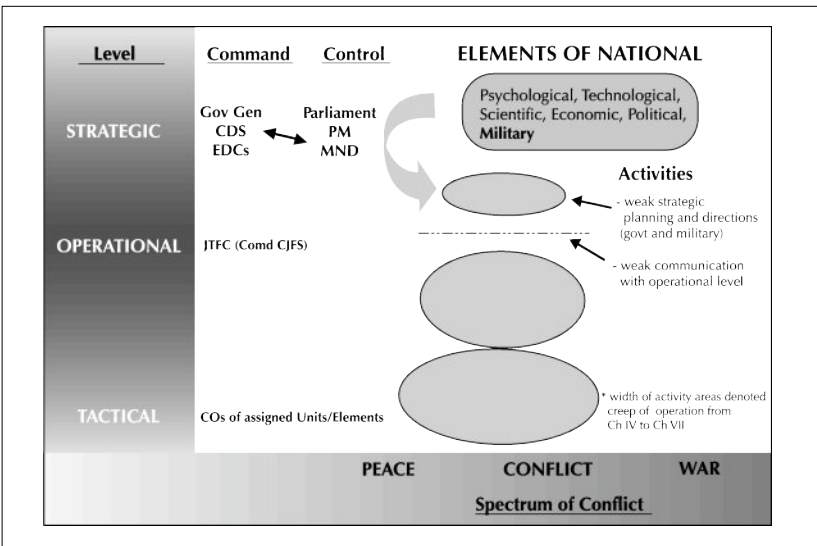

FIGURE 14 - SOMALIA (1992/93) – INTERNATIONAL CONTINGENCY OPERATION

Forces missions from the 1992-1999 period indicated a continuing theme of weakness in strategic level operational planning.[83] Similar observations are contained in a more recent DCDS lessons learned analysis.[84] Additionally, a former Assistant Deputy Minister (Policy) in the Department of National Defence observed that the Canadian government, as of the summer of 2000, had not yet developed a policy framework to guide the political decision-making process regarding the commitment of forces to international contingency operations.[85] A reasonable conclusion from these observations is that weaknesses in strategic guidance regarding contingency operations will undoubtedly affect planning and preparation at the operational level.

In spite of these difficulties, the recent deployment of Canadian Forces for the Campaign against Terrorism was characterized by much improved strategic guidance. Colonel Daniel Gosselin, Commander of the CF Joint Operations Group (and recent Chief of Staff for the Commander, Joint Task Force Southwest Asia (JTFSWA – Roto [Rotation]1), reported strong political involvement throughout the planning and force commitment process, plus clear and timely guidance from the CDS to the Canadian Joint Force Commander.[86] The situation for the Campaign against Terrorism is depicted at Figure 15.
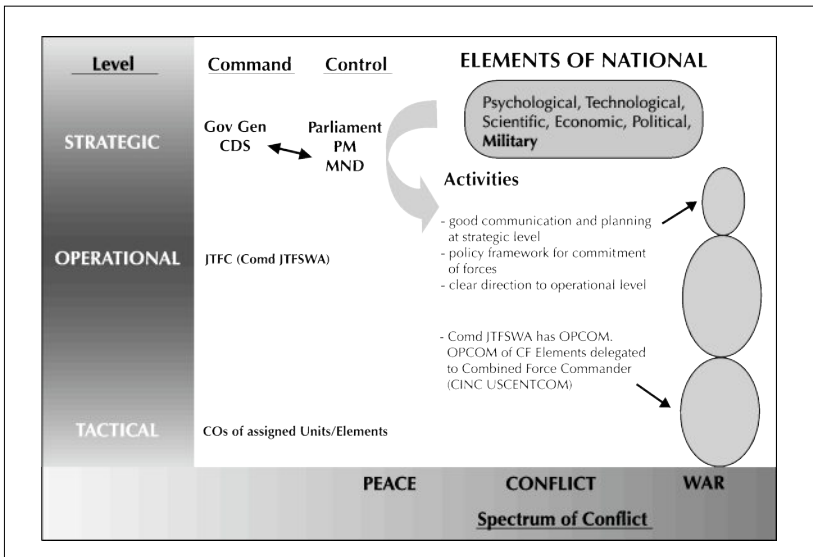

FIGURE 15 – CAMPAIGN AGAINST TERRORISM (2002)
     –INTERNATIONAL CONTINGENCY OPERATION

The preceding examples were basic applications of the model. The scope of this paper does not permit a more detailed investigation, however, the model framework is believed to have potential for further development and elaboration of conceptual representations.

CONCLUSION

> Given the nature of the subject, we must remind ourselves that it is simply not possible to construct a model for the art of war that can serve as a scaffolding on which the commander can rely for support at any time. Whenever he has to fall back on his innate talent, he will find himself outside the model and in conflict with it; no matter how versatile the code, the situation will always lead to the consequences we have already alluded to: *talent and genius operate outside the rules, and theory conflicts with practice.*[87]

<div align="right">Carl von Clausewitz, On War, 1832.</div>

The published theories on conceptual war frameworks can be traced back to the early 19th century. Clausewitz, at that time, conceptualized war on two levels: strategy and tactics. The Industrial Revolution of the late 19th century brought new technologies into play that the Prussian Army was able to quickly exploit. It was in the expanded scope and complexity of the Industrial Age war that a new conceptual level of war was born. This was the operational level of war; however, the conceptual framework of the levels of war was not adopted into North American doctrine until the 1980s.

New technologies of the Information Age are driving a revolution in military affairs, and many militaries are being employed in non-traditional roles. These developments, and factors associated with them, are tending to blur the distinction between the levels of war, and perhaps even make them irrelevant. Many writers have questioned the current validity of the levels of war, or their relevance to future war.

This chapter, through an analysis of doctrine and existing models on the levels of war, has argued that despite these modern factors, the three

levels of war have enduring theoretical and practical relevance. Moreover, it has been argued here that the levels of war serve as a useful backbone for a more comprehensive conceptual model that can frame the full spectrum of military operations into the 21ˢᵗ century.

William McAndrew, quoted above, noted his concern over the limited amount of original Canadian work and thought regarding theories of war and related doctrine. Although not the first Canadian work on this subject, this paper has been written to add to the list of those addressing the "first principles" to which McAndrew refers.[88] Amidst the genesis of this sort of intellectual work, there are still some that may argue the utility and relevance of such effort in Canada. To this sentiment, the words of McKercher and Hennessy are most appropriate:

> Perhaps incapable of waging war at the operational level themselves, these smaller powers, for instance other NATO members, have been compelled to prepare training and doctrine commensurate with their larger allies: none may ever be committed to the dance, but all must know the steps.[89]

Finally, the model developed in this essay should not be construed as a panacea for use in planning future military operations. The framework is merely another tool in assisting with the understanding of the complex and confusing concepts on war and military operations.

NOTES

1   Carl von Clausewitz, *On War*, Michael Howard and Peter Parent, eds. and trans., (Princeton, NJ: Princeton University Press, 1976), 132.

2   John English identifies General Carl von Clausewitz and General Antoine Jomini as first laying and publishing the intellectual foundations for the conceptual framework regarding the levels of war. John English, "The Operational Art: Developments in the Theories of War," in B.J.C. McKercher and Michael A. Hennessy, eds. *The Operational Art: Developments in the Theories of War* (Westport, CT: Praeger, 1996), 7.

3   Following the invention of the steam locomotive (1803) and the telegraph (1837), a significant number of inventions were introduced in the latter portion of the 19ᵗʰ century: gasoline engine (1876); electrical generator (1880); gasoline powered automobile (1885); electric motor (1887); electrical power line (1891); diesel engine (1893). A powered airplane was first flown in 1903.

4   John English, "The Operational Art," 7.

5   Operational art is defined as: "The skill of employing military forces to attain strategic objectives in a theatre of war or theatre of operations through the design, organization and conduct of campaigns and major operations." *Canadian Forces Operations*, B-GG-005-004/AF-000 (18 December 2000),

p. GL-E-5. The term is further explained as "…the skill of translating this strategic direction into operational and tactical action. It is not dependant on the size of the committed forces, but is that vital link between the setting of military strategic objectives and the tactical employment of forces on the battlefield through the skilful execution of command at the operational level. Operational art involves the design, planning, and conduct of campaigns and major operations…. In its simplest expression, operational art determines when, where, and for what purpose major forces will fight. It governs the deployment of those forces, their commitments to or withdrawal from battle, and the sequencing of successive operations to attain operational objectives." *Canadian Forces Operations*, 3-1.

6   Richard M. Swain, "Filling the Void: The Operational Art and the US Army," in McKercher and Hennessy, eds. *The Operational Art*,162.

7   Toffler has conceptualized these significant periods in human history as "waves" of change. He has suggested the Agricultural Revolution started the "First Wave," the Industrial Revolution commenced a "Second Wave," and the present time as the beginning of a "Third Wave." Alvin Toffler and Heidi Toffler, *War and Anti-War* (New York: Little, Brown and Company, 1993), 9. See also Alvin Toffler, *The Third Wave* (New York: Bantam Books, 1981).

8   Martin Dunn, "Levels of War, Just a Set of Labels?" Research and Analysis: *Newsletter of the [Australian] Directorate of Army Research and Analysis* no. 10 (October 1996), 3.

9   Ibid., 3.

10   Ibid., 3.

11   John English, "The Operational Art," 20.

12   Ibid., 20

13   Montgomery C. Meigs, "Operational Art in the New Century," *Parameters* 31, no. 1 (Spring 2001), 4.

14   Ibid., 14.

15   John English, "The Operational Art," 19.

16   Ibid., 7. General Antoine Jomini was also a great contemporary theorist during the same period. Jomini's theories on the levels of war appeared in his 1837 publication, *Précis de l'art de la Guerre*.

17   Clausewitz, *On War*,128, 177. Clausewitz died in 1832. His widow had 10 volumes of his manuscripts *On War* published between 1832 and 1837. Richard J. Young, "Clausewitz and His Influence on U.S. and Canadian Military Doctrine," in Allan D English, ed., *The Changing Face of War* (Kingston: McGill-Queen's University Press, 1998), 9-11. Jomini in his 1837 *Précis de l'art de la Guerre*, used the terms "strategy" and "grand tactics". In addition, Jomini employed the term "logistics" to describe the planning and movement activities that occurred between strategic and grand tactical activities. John English, "The Operational Art," 7.

18   Bruce W Menning, "Operational Art's Origins," *Military Review* 77, no. 5 (September-October 1997), 33-4.

19   John English, "The Operational Art," 8.

20   Kenneth M. Nesbitt, "Strategy and Technology in Transition: Moltke and the Prussian General Staff," in Allan D English, ed., *The Changing Face of War*, 33-8.

21   John English, "The Operational Art," 8.

22   Menning, "Operational Art's Origins," 37.

23   Michael McCormick, "The New FM 100-5: A Return to Operational Art," *Military Review* 77, no. 5 (September-October 1997), 4.

24   Ibid., 4.

25   Swain, "Filling the Void," 160.

26   Ibid., 4.

27   Ralph Allen, "Piercing the Veil of Operational Art," *Parameters* 25, no. 2 (Summer 1995), 111.

28   In much of the US literature from the mid-1980s to the early 1990s, the terms "operational level of war" and "operational art" were used interchangeably. See John M. House, *Do doctrinal buzzwords obscure the meaning of the operational art?* (Fort Leavenworth, KS: School of Advanced Military Studies, US Army Command and Staff College, 1989) for a more detailed discussion of the confusion between

operational art and the operational level of war.

29   The 1993 version of the US Army capstone doctrine manual FM 100-5 is not confusing on this issue. The levels of war are clearly articulated as tactical, operational, and strategic, and defined as such. US Army Field Manual 100-5 (FM 100-5) *Operations* (1993), 1-3 and Chapter 6.

30   Ibid., 160.

31   US Joint Publication 3-0 (JP 3-0), *Doctrine for Joint Operations* (1995 edition).

32   Christopher Bassford quoted in Young, "Clausewitz and His Influence on U.S. and Canadian Military Doctrine," 9.

33   Young, "Clausewitz and His Influence on U.S. and Canadian Military Doctrine," 9.

34   William McAndrew, "Operational Art and the Canadian Army's Way of War," in McKercher and Hennessy, eds. *The Operational Art,* 97.

35   K.T. Eddy, "The Canadian Forces and the Operational Level of War," *Canadian Defence Quarterly* 21, no. 5 (April 1992), 18-24.

36   M.D. Capstick, "Canadian Land Force Doctrine for the Operational Art and Operational Level of War," (Ottawa: Department of National Defence (DND)), 1150-110/A24 (DLCD 6), (10 April1990), 2. In terms of timing, Canada was not that slow to incorporate these concepts into doctrine. John English noted that "In Britain, the military intellectual ferment occasioned by the publication of [the US Army's] FM 100-5 (1982) ultimately led the British Army to incorporate the operational level of war into its doctrine in 1989." John English, "The Operational Art," 17.

37   John English, "The Operational Art," 2.

38   *Canada's Army*, B-GL-300-000/FP-000 (1 April1998), 78-80.

39   *Canadian Forces Operations*, B-GG-005-004/AF-000 (18 December 2000), pp.1-4 -1-5.

40   See for example Allan D.English, ed., *The Changing Face of War.*

41   Some Canadian doctrine publications still refer to "Levels of War." See R.K Taylor, " 2020 Vision: Canadian Forces operational-level doctrine," *Canadian Military Journal* 2, no. 3 (Autumn 2001), 39.

42   JP 3-0, *Doctrine for Joint Operations*, p. II-2.

43   *Canadian Forces Operations*, pp.1-4 – 1-5.

44   Ibid., 1-4.

45   Ibid., 1-4.

46   Ibid., 1-5.

47   The Dolittle Raid during the Second Word War was a clear example where a tactical mission produced a huge strategic effect.

48   Christopher A. Barnes, *Leveling the Hierarchy: Levels of War in the Information Age* (Newport, R.I.: Naval War College, 1997), 3.

49   David Jablonsky, "Strategy and the Operational Level of War: Part I," *Parameters* 17, no. 1 (Spring 1987), 65.

50   Ibid., 66.

51   Ibid., 73.

52   Douglas A. Macgregor, "Future Battle: The Merging Levels of War," *Parameters* 22, no. 4 (Winter 1992-93), 35.

53   Ibid., 36.

54   Ibid., 38.

55   Ibid., 38.

56   Ibid., 40.

57   Ibid., 42.

58   Ibid., 41.

59   Barnes has also proposed a similar non-linear model. See Barnes, *Leveling the Hierarchy*, 13.

60   Gary R. Schamburg, *Cloud Patterns: An operational Hierarchy?* (Fort Leavenworth, KS: Army Command and General Staff College, 1995), 2.

61   Ibid., 10-24.

62   Ibid., 30-2.

63   Ibid., 37.

64   Douglas L. Bland, *Chiefs of Defence: Government and the Unified Command of the Canadian Armed Forces* (Toronto: Brown Book Company, 1995), vii-xv.

65   Ibid., 261.

66   McAndrew, "Operational Art and the Canadian Army's Way of War," 88.

67   Ibid., 97.

68   Comment by the Minister of National Defence reported in Richard Brennan, "Defence minister wants $1 billion boost for military," *Toronto Star* (26 October 2002).

69   See for example, Canada, Commission of Inquiry into the Deployment of Canadian Forces to Somalia, *Dishonoured Legacy: The Lessons Learned of the Somalia Affair* (Ottawa: Minister of Public Works and Services Canada, 1997); Robert G. Clark, "The Canadian Forces Operational Planning Process: A Maturing Process or Continued Improvisation?" paper written for Advanced Military Studies Course (AMSC), Canadian Forces College, Toronto, 2000, 2; and "Command and Control: A Lessons Learned (LL) Analysis," unpublished report prepared by J7 Lessons Learned DCDS Group [2002], 4-5.

70   Andrew Leslie, "Theatre Level Warfare: the Missing Link?" paper written for AMSC, Canadian Forces College, Toronto, 1999, 24-5.

71   James A Helis, *Do the Cincs Still Have a Job? Operational Command in operations Short of War* (Fort Leavenworth, KS: US Army Command and General Staff College, 1992), 34.

72   McCormick, "The New FM 100-5," 5-6.

73   JP 3-0, *Doctrine for Joint Operations*, p. II-2.

74   Capstick, "Canadian Land Force Doctrine…," 10.

75   George P. Fenton, "Marine Expeditionary Units – On the Operational Level in MOOTW," *Marine Corps Gazette* 80, no. 3 (March 1996), 64.

76   *Canadian Forces Operations*,1- 4.

77   *Canadian Forces Operations*, 1-8. In limited domestic contingency operations, a formation Commander may retain authority to conduct the operation if it can be accomplished within the formation's resources and capabilities.

78   Bland, *Chiefs of Defence*, 200.

79   Helis, *Do the Cincs Still Have a Job?*, 12-28.

80   Jean H. Morin and Richard H. Gimblett, *The Canadian Forces in the Persian Gulf: Operation Friction 1990-1991* (Toronto: Dundurn Press, 1997), 18-65. Also see Bland, *Chiefs of Defence*, 177, 204.

81   Morin and Gimblett, T*he Canadian Forces in the Persian Gulf* , 36, 113-115, 124, 155.

82   Canada, *Dishonoured Legacy: The Lessons Learned of the Somalia Affair*, Vol 2. Also see Clark, "The Canadian Forces Operational Planning Process," 7, 22

83   Clark, "The Canadian Forces Operational Planning Process," 20.

84   "Command and Control: A Lessons Learned (LL) Analysis, 6-8.

85   Louis A Delvoie, "Canada and International Security Operations: The Search for Policy Rationales," *Canadian Military Journal* 1, no. 2 (Summer 2000), 13.

86   Colonel Daniel Gosselin, "Commanding and Controlling a Canadian Joint Task Force – Perspectives from a Chief of Staff," address to AMSC 5, Canadian Forces College, Toronto, 30 October 2002.

87   Clausewitz, *On War*, 140.

88   McAndrew, "Operational Art and the Canadian Army's Way of War," 97.

89   Hennessy and McKercher, eds., *The Operational Art*, 4.

CHAPTER 4

A 50-YEAR TUG OF WAR OF CONCEPTS AT THE CROSSROADS: UNIFICATION AND THE STRONG-SERVICE IDEA

Brigadier-General J.P.Y.D. Gosselin

In the early years of the 21ˢᵗ century, thirty-five years after the unification of the services, some intelligent senior officers were beginning to argue that it was time to unify the Canadian Forces once more. In a tiny military with limited funds, divisive strategic concepts and a wasteful organization are simply intolerable. Where is Paul Hellyer now that we really need him?[1]

J.L. Granatstein, *Who Killed the Canadian Military*

PART I - INTRODUCTION

For fifty years, a "tug of war" has been going on between two powerful ideas within the Canadian Forces (CF). On one side is the idealistic and progressive concept of unification, the establishment of a single military service in Canada, while on the other side is the traditionalist strong-service idea, focused on the preservation of the army, navy and air force as separate institutions. This unremitting, often veiled, confrontation between two dominant concepts gathered momentum in the 1950s and 1960s, when senior defence leaders sought more integration of defence functions and structures and the unification of the army, navy and air force into one single service. The consequences resulting over the years from the application of those competing concepts, and their constituents, have frequently produced misdirection and have generated significant tensions in the defence establishment. These two concepts have had a significant impact on how Canada's armed forces have been organized and employed over the past 50 years. More importantly for this study, these concepts have influenced Canadian interpretations of jointness and the operational art at the end of the 20ᵗʰ and the beginning of the 21ˢᵗ

centuries. Therefore, anyone wishing to fully understand the operational art in a Canadian context must be familiar with this "tug of war" between competing visions of how the CF should be organized and employed.

Various concepts have influenced change in the CF as an institution over the years, including, unification, integration, service protectionism and parochialism, civilianization, centralization, devolution, privatization and alternate service delivery, jointness, interoperability and, added more recently to the mix, transformation. These competing ideas have been, and continue to be, shaped, strengthened and weakened by many factors including international events, national realities, defence strategies and priorities, decisions, organizations and structures, bureaucratic politics and the power of the players, and military culture.[2] At the core of the institution, however, there remain two competing, powerful, and trategically divisive ideas that continue to cause turbulence. The concepts of unification and the strong-service idea act like strong opposing currents that dominate and continue to exert strong internal pressures on the institution. The purpose of this essay is to examine those dominant concepts, with the objective of understanding these important factors affecting the generation and employment of Canadian military forces.

It is clear to anyone serving at the senior levels of the CF that the debate on unification did not disappear in 1967 with the reorganization of the CF into one unified service;[3] instead, the struggle has simply moved away from the front pages of the newspaper to be absorbed in the day-to-day bureaucratic politics of the department.[4] As Douglas Bland and Sean Maloney recently noted, "... in unified forces ... service tensions are not far below the surface. The strong service idea haunts the policy process and may move the service battles, which were once fought before the minister, deeper into the structure."[5]

The dialogue on these two concepts was reawakened and gained resurgence with the return of the Environmental Chiefs of Staff (ECSs), the Chief of the Land Staff, the Chief of the Maritime Staff, and the Chief of the Air Staff, who also hold the appointments of Commander of the Army, Commander Maritime Command and Commander Air Command respectively, to Ottawa in 1996-97.[6] Moreover, throughout the 1990s, the influence of the ECSs on defence management increased progressively, for a variety of reasons.[7] The autonomy of the ECSs mushroomed with the

devolution of funding and the delegation of authorities that took place along with the massive downsizing of DND. In addition, the escalation of contingency operations for the CF – especially expeditionary stability missions, provided the argument necessary for the commanders of the commands (i.e., ECSs) to gain control of those resources which were considered critical to improving operational effectiveness and accomplishing mission success. Consequently, de-unification of the CF reached its peak in the late 1990s.

That being said, the "tug of war" between the two dominant concepts is certainly not over. The ideas behind unification remain very powerful and recent trends to increase centralization of resources and activities, to focus on jointness and interoperability, to integrate more defence support functions, to civilianize the department, and to improve efficiency clearly indicate that the concepts of former Minister of National Defence (MND) Paul Hellyer are getting the upper hand. The argument to "unify the services once more," as suggested historian Jack Granatstein, is resurfacing as the CF are transforming and possibly facing significant changes to the institution. In mid-2002, the Chief of the Defence Staff (CDS), in his 2001-2002 annual report to Parliament, declared that the CF was "at a crossroads as an institution – a crossroads between the past and the future," while in his most recent annual report, he adds that the focus for the CF is clearly on the need for transformation and in establishing a new course for the future.[8] If the CF institution has reached such a defining moment in its evolution as it prepares to chart a new path, it is imperative that the contest between unification and the strong-service idea be settled or, at the very least, fully understood and lucidly explained to allow the institution to move forward without the weight of this incessant and tiring "baggage."

This essay is divided in three main parts. In the first part of the essay, the early attempts and goals of integration and unification are reviewed to offer an understanding of the ideas that continue to influence the debate and that are embedded in the structures and processes of the institution. The second part outlines the counterforce to unification, the strong-service idea, using the bureaucratic politics model as a framework of reference for analyzing the concept, with the services as the prime players in this "game." It will be argued that the three services, such as the Army, the Navy and the Air force, have distinct and enduring person-

alities of their own that govern their behaviour, which contribute to make the CF institutional structure "more a bargaining arena than a command structure" with the strong-service idea constantly acting as a powerful counterweight to unification. As will be explained, almost all CF issues are processed through what can be described as "service filters," which significantly affect the institution's response to ideas and concepts and eventually shape the ensuing policies and the outcomes.[9]

The third and central part of this study discusses the pivotal elements of Canadian defence that have been shaped and influenced by the concepts of unification and the strong-service idea. The thesis of this essay, which is developed in this part of the paper, is that the concept of unification in the CF, as envisaged by Minister Hellyer in 1964, is still very much alive, albeit hidden under the cover of several other ideas and initiatives, and, more importantly, it is now winning the "tug of war" over the strong-service idea.

The late General Thériault, CDS between 1983 and 1986, declared in 1996 that unification had failed and that the broader perspectives and higher loyalties, which were sought through unification, did not take root.[10] Despite the flaws and spotty record of unification since 1967, there are in 2004 several positive signs pointing to the fact that the dominant concept of unification remains valid. To be certain, declaring the death of unification was premature. While the strong-service idea remains a force to be reckoned with in many areas of defence, inside the CF institution, however, the unification ideas clearly dominate the current debate. The paper will be shown that despite the return of the ECSs to National Defence Headquarters (NDHQ) in the mid-1990s, which helped restore some of their former power and authority, in the past few years, the pendulum has clearly swung in favour of unification, with the end result that the strong-service idea is gradually fading.

While it is understood that, by law, there is only one service in Canada, the Canadian Armed Forces comprising three environments (distinct services i.e., army, navy, air force in most other countries), the term "service" is used in this paper to refer specifically to the traditional core Army, Air Force and Navy components of the CF. The term Chiefs of Staff is used here to mean the service chiefs of staff or the environmental chiefs of staff depending on the context of the discussion.

This study will also highlight why there is confusion within the CF with respect to the organizing and decision-making principles guiding the institution. A number of concepts will need to be refined and simplified by CF senior leaders to allow for a clear understanding of which elements of the CF must be either loosely or fully integrated (hence unified), amalgamated into joint structures, or devolved and entrusted to single services. Decision-making processes will need to be reviewed and explained in the same fashion. It is also argued that, since the powerful concept of a strong service will never be eliminated completely, for a variety of historical reasons, it is imperative for the benefit of Canada's defence that the strong-service idea, even a weakened one, be harmonized as soon as possible with the concept of unification. If the dominant ideas of unification and strong-service are not appropriately reconciled and judiciously focused to improve the institution, the consequences that will follow from the continued disarray in ideas will conspire to pull the CF apart, as they have on occasion over the past fifty years.

PART II – THE EVOLUTION OF INTEGRATION AND UNIFICATION

The progressive concepts of integration and unification did not originate in 1964 with Minister Hellyer; on the contrary, these ideas were on the minds of a number of perceptive senior military and civilian leaders since the 1920s, both in Canada and in the US. This part of the paper will review the evolution of service integration and unification in Canada, and conclude by briefly reviewing the American developments on unification and jointness to draw lessons that may be applicable to Canada.

COLONEL MAURICE POPE AND THE SEEDS OF UNIFICATION

Although there were abortive efforts of integration in the period 1922-1927,[11] it was Colonel Maurice Pope, a staff officer serving under the chief of the general staff in Ottawa, who planted the seeds for unification with his *Memorandum on a Canadian Organization for the Higher Direction of National Defence* written a few years before the Second World War.[12] Pope's concise but clear memorandum was focused on an examination of the principles on which Canadian organization for the higher direction of national defence should be based, and on the search for a suitable

organization to control the means of defence. His diagnostic of the problem of national defence, as articulated at the time, remains instructive and insightful:

> From the standpoint of the Government, the problem of national defence has always been fundamentally a single one, incapable of complete division in terms of the fighting Services.... It has thus become more than ever apparent that what is required is not three separate and more or less independent Service policies, but a single concentric policy of National Defence, embracing, not only the activities of the three Services but, to some extent in peace and certainly in war, those of many civil Departments of State as well.[13]

Pope proposed several general rules and changes to the various senior committees and the system as a whole and many of his recommendations and suggestions were adopted, contributing to the relative success of the central staff in managing the war effort and the activities of the deployed forces.

As Bland observed, Pope was "in the vanguard of those who believe that the unification of defence policy is not only necessarily but inevitably linked to the unification of the services themselves."[14] In addition, Pope had already envisioned the growth and importance of joint operations and the need for more integration of defence activities, assessing that "recent developments, notably the constant and inescapable necessity for combining air action with that of the other Services, and the ... almost total dependence of all three services on the resources of industry and skilled manpower, make this fact of much greater importance at present."[15] Although Pope's concepts were aimed at the higher and strategic level of defence, it is remarkable to note that his ideas on integration are as relevant today as they were when they were introduced in 1937.

BROOKE CLAXTON AND GEORGES PEARKES: SOME INTEGRATION, BUT NO UNIFICATION YET

The first meaningful steps toward integration of the Canadian Forces Headquarters and the Department of National Defence began with Brooke Claxton, MND between 1946 and 1954 and "became an evolutionary

process since that time."[16] Bland explains that Claxton "came to the Department determined to streamline its organization and to find efficient and inexpensive ways to meet Canada's defence needs. This process would be manifested through a series of reforms, reorganizations, and policies intended to foster the integration and, where possible, the unification of responsibilities and functions in the department and in the Services."[17] In a Canadian defence policy statement of 1947,[18] Claxton introduced ideas that would survive in future white papers and to this day, including the concept of unification.[19] He outlined several long-term objectives, suggesting "progressively closer co-ordination of the armed services and *unification of the Department* so as to form a single defence force in which the three services work together as a team."[20] Claxton faced resistance for his integration concepts from the service Chiefs of Staff.[21] As a compromise, he focused on measures to enhance coordination between the services. Reforms that took place during Claxton's tenure included the creation in 1951 of the post of Chairman, Chiefs of Staff Committee (COSC) to try to impose coordination on the services and to give the Minister advice on how Canada could have a single defence policy.[22]

Prime Minister Diefenbaker's first MND, General Georges Pearkes, continued the trend to amalgamate the armed forces, integrating the medical and chaplain functions, and some recruiting units.[23] Other minor functions such as food procurement and postal services were also integrated.[24] Pearkes wanted to go further but "did not have much enthusiasm for the practical problems ambitious unification schemes might raise."[25] R.L. Raymont, an influential officer and official in the 1940s and 1950s who in the early 1980s studied unification and integration, noted that while Pearkes wanted to avoid competition among the services through integration, he did not want to destroy their traditions, and his primary concern appeared to be integration at the top.[26] General Foulkes, the first Chairman COSC, quickly realized that he was only a coordinator and that the service Chiefs of Staff effectively retained a veto in the COSC for any contentious issues that dealt with changing priorities and realigning resources. Upon leaving the office for retirement in 1961, Foulkes, at the express request of Pearkes, presented his views on several areas of defence.[27] He believed that more could be accomplished on integrating the services including "a complete amalgamation of the three services administration."[28] However, with regard to implementing the integration of the service Chiefs of Staff, Foulkes assessed that the

chiefs' attitude was, "Yes, I believe in integration but please do not do it while I am here. I do not want to be known as a Chief of Staff who ruined these services."[29]

THE DIEFENBAKER DEFENCE DEBACLE AND THE GLASSCO COMMISSION

Three separate but interconnected series of events that took place in the period 1957-1963 would be the catalyst for Hellyer to help convince him of the necessity to move seriously toward implementing the concept of unification.[30] These events consisted of Diefenbaker's defence policy chaos, the 1962 Cuban missile crisis, and the 1960 Glassco Commission on Government Reorganization.

Jon McLin, an analyst of Canada's defence policy of the period, stated that "the years 1957-1963 were a time of turmoil in Canada's defense [sic] policy," with many controversial defence issues marking the period.[31] The resolution of many contentious defence issues created a strain with the military advisors and eventually affected the solution of other military problems later. The armed forces had suffered a series of embarrassing and expensive procurement fiascos, and personnel and administrative costs were rising dramatically to the point that if the current trend in expenditures continued, there would have been no money for capital equipment expenditures by the end of the decade.[32] It was also clear that the armed forces did not offer a unified approach to the government in the formulation of defence policy.[33] The controversies during the period also confirmed that the services based their plans and estimates on the assumption that a strong navy, army or air force was good and essential for national defence without regard of the needs of the other services.[34] As Bland concluded on the period, "[b]y 1962 faith in the direction of the defence policy and how it was being administered had almost completely broken down."[35]

The low point of this period would be reached with the Cuban missile crisis of October 1962, when uncoordinated defence policies led to "the near collapse of civil-military relations in Canada when the control of the armed forces passed briefly out of the government's hands."[36] The impact of the lack of foresight in developing and practicing a national command capability surfaced during the crisis, when a total lack of coordination

between the various levels of the command structure and the high command, including the political executive, became a serious problem.[37] McLin contends that it is manifest that the military response to the crisis – independent action by the services in the belief that the international situation was deteriorating rapidly – "indirectly became one of the issues underlying the reorganization of the Canadian Forces introduced by the Liberals in 1964."[38] In the opinion of Peter Haydon, author of a study on the Canadian involvement during the crisis, the event "had a lasting effect on Canadian defence policy and the structure of the Canadian military," and was perhaps the catalyst that led the Pearson government to proceed with unification in 1964.[39]

The third significant action that would have an impact in shaping the views of Hellyer and others toward more integration and unification was the government-appointed Royal Commission on Government Reorganization – known as the Glassco Commission named for its chairman – "to inquire into and report upon the organization and methods of departments and agencies of the government of Canada" with the goal of improving "efficiency, economy and improved services in the despatch of public business."[40] The observations and recommendations of the commissioners were being made in the interest of managerial efficiency, although integration and unification were mentioned.[41] Ultimately, the Commission's work was important "not so much because it led to significant changes in the administration of defence policy in Canada … [but because it] was to provide the authority and validity to concepts that others would champion later on."[42]

By 1964, the armed forces and DND were "under increasing strain with no knowledge of where to go."[43] The most fundamental problem areas that consistently surfaced included an inability of senior military leaders to embrace the facts of national life[44] and a disconnect by the military leaders from the government and its political leaders. In addition, disparate structures and processes resulting from the existence of three independent services tended to result in confusion in defence administration, in inefficiencies created by duplicate and triplicate organizations, and in a divided command and control construct created by separate headquarters and command formations. Bland concluded that by 1963, "conditions were right for the introduction of new ideas and for a strong minister to push them through a supposedly ossified defence establishment."[45]

MINISTER HELLYER AND FULL SPEED AHEAD WITH UNIFICATION

The story of Hellyer's fight with the military establishment for unification has been told several times and need not be repeated here.[46] What is important for this study, however, is Hellyer's vision, the ideas and concepts that drove him toward unification, the structural changes he proposed to achieve his vision, and the resulting outcomes of his bold initiative.

The most important outcome of Hellyer's first years as MND was the release in 1964 of a *White Paper on Defence* for Canada. The ideas contained in this policy document had been significantly shaped by his strong views on a number of issues affecting Canada's defence, stemming from a comprehensive review of defence policy and administration.[47] Hellyer was disturbed early on in his term as minister by "the realization that, wittingly or otherwise, each service was preparing for a different kind of war … [which] was the ultimate confirmation, if any were need-ed, of inadequate coordination and joint planning at the strategic level." He placed the responsibility for this condition squarely on the Chiefs of Staff Committee, which "instead of spending the time agreeing on the probabilities of the different kinds of war and then adjusting their plans and priorities accordingly for different kinds of weapon systems, the committee was a little more than a back-scratching club." Hellyer lament-ed that "each chief had direct access to the minister and could present his case without any interference or negative comment from his colleagues."[48] He wanted the military staff to present to him what he considered to be a coherent defence program, something that was beyond the responsibili-ties of the service Chiefs of Staff, and an anathema to the *modus operandi* of the COSC.[49] Hellyer also saw nothing but open competition among the services and constant political manoeuvring, which made no sense to him. Finally, to reinforce his views of the military, Hellyer leaned on the conclusions of the Glassco Commission – "which had done such a splendid job of exposing the waste and extravagance resulting from duplication and triplication"[50] – to attack the problems of tri-service inefficiencies, proposing to integrate the command structure of the armed forces and several common support services, and to streamline the organization and cut the bureaucracy and costs.[51]

Hellyer's ideas were eventually elaborated in a number of documents, which included the 1964 White Paper, Bill C-90, and Bill C-243. The

White Paper contained several innovative concepts and set out the basic philosophy and rationale for the unification of the armed forces.[52] Hellyer's objectives as enunciated in the policy document were "centred on integration of staffs in headquarters."[53] He further revealed, "this will be the first steps toward a unified defence force for Canada."[54] His dominant ideas included the creation of one national defence strategy for Canada, a single coherent defence policy, a single war plan, a unified system of command, and a single higher loyalty. He strongly believed that unification "would remove the tendency to plan from an institution or service perspective and encourage planning from a mission or program perspective."[55]

Bill C-90, an act to amend the *National Defence Act*, aimed notably at improving the centralization of the control and administration of defence policy,[56] resulted in the dissolution of the existing command structure of the COSC and the service chiefs, the integration of the forces under a single CDS and the creation of a single integrated Defence Staff at a renamed Canadian Forces Headquarters (CFHQ). In terms of command and control of the CF, the office of the CDS was intended by Hellyer to be the focal point for development of national strategy, but not for the direction – the command – of the forces in the field.[57] The impact of the changes would, however, be the *de facto* creation of a unified command of the Canadian Forces.[58]

Hellyer addressed Parliament to introduce Bill C-243, *The Canadian Forces Reorganization Act*, confirming that "[u]nification is the end objective of a logical and evolutionary progression."[59] He outlined that the management and control structure and the influence of rising costs were two aspects of the problem of defence that demanded special attention. Moreover, the new minister was well aware that significant defence budget increases were not projected under the new Liberal government. Accordingly, there would not be sufficient money for capital equipment acquisition unless savings within the department were achieved or more funding allocated. His solution to all these challenges was a reordering of defence strategy, a new force structure and a massive reorganization of the armed forces.[60] Consequently, in February 1968, the unification concept vaguely alluded to in the 1964 Defence White Paper became a reality and the law of the land with the creation of a single service, the Canadian Armed Forces, ending the existence of three

separate services (the Royal Canadian Navy, the Canadian Army and the Royal Canadian Air Force) and the independent separate authorities of three service Chiefs of Staff.

By the time Hellyer left office in 1967, integration had progressed significantly and unification was around the corner. The Defence Council had been reactivated, a plethora of tri-service committees and boards that "threatened to strangle the decision making process" had been abolished, and the position of the CDS had been created in 1964 – giving to the office the full executive authority required to plan and implement defence policy. A Canadian Forces Council had also been established (later to be renamed Armed Forces Council).[61] Command and control of the armed forces had been vested into one headquarters (CFHQ), when the three services came, as Hellyer noted, "under integrated management."[62] CFHQ, structured along functional branches,[63] was "a military headquarters devised to provide the CDS with the staff and process to allow him to 'control and administer' the unified Canadian Forces."[64] Besides providing the Minister with a single coordinated military opinion on defence policies and operations, it was to be an operational headquarters that "assisted in the development of national policies but one that was primarily intended to interpret that policy into force structure, equipment and personnel organized so as to accomplish the military objectives set by the Government."[65] He changed the field command structure, creating six functional organizations in Canada in lieu of the three services' eleven commands,[66] believing that the functional nature of both CFHQ and the Command organization would enable common planning, financing and administration of personnel.[67] He had also achieved considerable reduction in the duplication and triplication of facilities and services through the introduction of common administrative and base structures, resulting in significant personnel reduction in the armed forces.[68]

Despite what many would judge to be very significant achievements in just over four years as MND, Hellyer is often most remembered for the controversy surrounding his term. He had acknowledged several times that objections might be raised with respect to unification, notably that it might weaken morale or esprit de corps and that competition between the services would be diminished. He summarily dismissed both doubts, arguing that esprit de corps is by nature associated with ship, regiment or squadron and with the service, and that the effectiveness engendered by

integration would produce high morale. As for concern about the lack of competition between services, he stated that this competition was "as natural as breathing…. [and] will not be lost but contained at the service level."[69] To a large degree, he was correct on both assertions, since strong loyalty to one's unit, formation and command will always be present, and competition between services, or environments, will never be lost. What Hellyer failed to comprehend, however, is that loyalty to a service can never be totally eradicated, keeping alive for almost forty years the concept of strong services.

The most significant criticism of the unification plan, according to Kronenberg, was that a "totalist attitude seemed to have been adopted" by Hellyer, without consideration of the special needs of the various elements to be unified. The minister was determined to "impose his will on a very large and complex department and to use it as a stepping stone to higher offices,"[70] such as prime ministership of the country. Lieutenant-General G.G. Simonds, highly critical of unification, also viewed Hellyer's efforts as an "opportunity to make political capital." Writing in 1972 (and retired for many years by then), he stated that, typically, conflict between military leaders and their political masters occurs when "political leaders intervene in what should be strictly military field of domestic organization and administration affecting the essential qualities of service discipline and morale."[71] Simonds added that, "contrary to the most experienced advice" he had received, Hellyer had aped Robert McNamara, the US Secretary of Defense, referring to McNamara and the terrible lessons of the Vietnam War to speculate that Hellyer's experiment could one day have "damaging consequences ... which cannot yet be measured."[72]

Indeed, it is almost certain that Hellyer had borrowed many ideas from some of his NATO counterparts, such as the Minister of Defence of the United Kingdom, Duncan Sandy, and from US Secretary of Defense McNamara. In his four years as minister, Hellyer had several opportunities to share his frustrations over the implementation of unification and to learn lessons from the American experiences.[73] Accordingly, reviewing briefly the American developments with regard to unification and jointness and assessing their usefulness to the Canadian tribulations will be beneficial at this stage of the study.

THE AMERICAN EXPERIENCES WITH UNIFICATION AND JOINTNESS

The US military experiences are instructive for a number of reasons. First, any reorganization of the American armed forces along Canada's unification lines would definitely have "operational effectiveness" as its primary goal, embracing a joint mission perspective. This is especially true in light of the lessons of the Vietnam War, the "record of failure and incompetence in its military operations" in the late 1970s and early 1980s,[74] and the many mishaps stemming from and attributed to service competition.[75] Second, it is fair to state that military service parochalism is more entrenched in the US than in Canada, especially with regard to service budget autonomy and procurement of weapons systems and equipment resulting in a more powerful service culture.[76] Accordingly, any strengthening of civil control over the military or attempts at efficiencies would likely focus on dismantling certain elements of this "stovepipe" environment. Finally, changes in the American governmental or military organizations have a way of drifting north over the years, providing an additional impetus to study carefully these developments.

In 1945, at the time Claxton was attempting to integrate and unify the CF, the US was also involved in a unification debate.[77] Some pieces of legislation related to unification passed between 1947 and 1958, mostly related to the power of the Secretary of Defense and the creation of a weak joint staff.[78] McNamara, as Secretary of Defense under President Kennedy, became the first civilian leader to attempt to truly establish civilian control over the military through its planning and budget process. Bernard Brodie, author of the seminal work *War and Politics*, wrote that McNamara "had a determination to exercise both the prerogative and the duties of that office as he saw them."[79]

McNamara's plan was based on two assumptions, not dissimilar to those that drove Hellyer to initiate the reorganization of the CF. The first one was that there was a general consensus across the military services as to the primary national security threat to the US, acknowledging that each military service "would see the specifics of the threat through the lens of its unique perspective," in essence seeing the threat it wished to see.[80] His second assumption was that regardless of this consensus, "no military service would sacrifice funding for its core mission to accommodate increased joint capabilities." McNamara recognized that

the determination of the appropriate funding mix between services, especially insofar as changes were called for, should not obviously be left to competitive infighting between services. As Brodie maintained, the services had often been less avid about purchasing equipment primarily intended to enable them to assist another service than they were about equipment intended for "their independent missions – which only tells us again that the services are normally not strategy-minded but rather means-minded." Speaking of McNamara, Brodie concluded, "It was not alone the lack of objectivity among the services concerning their respective needs that was the issue. It was [McNamara's] opinion that the individual services could not be depended upon to make wise decisions concerning their own major weapon systems."[81] Unfortunately, McNamara achieved little success in setting defence requirements and changing defence spending. Even to this day, budget autonomy remains a key element contributing to service parochialism and independence in the US.[82]

There had been numerous efforts in the McNamara era to consolidate functions for efficiency. The most notable was the creation of defence agencies to "provide integrated intelligence, communications, and logistics support for all military components."[83] But it is the passage of the Goldwater-Nichols Act of 1986 that had the most significant influence on the pursuit of US military jointness.[84] Up to 1986, the Department of Defense (DoD) "was dominated by the services, which had been traditionally responsible for planning and warfighting as well as preparing [the] forces for war. The services were unwilling to relinquish operational functions to a joint system. They continued to dominate both the maintaining and employing sides of DOD [sic]. The services exercised vetoes over JCS [Joint Chiefs of Staff] advice and controlled the weak unified commands. As a consequence, joint institutions failed to become effective."[85] The overarching concern of Congress with the Act was to reduce "the excessive power and influence of the four services, which had precluded the integration of their separate capabilities for effective joint warfighting."[86]

The purpose of the Goldwater-Nichols Act was to mandate for the military services to collaborate on developing joint doctrine for the integrated employment of joint military operations, in short "to make jointness – the formal concept of interservice cooperation and planning – the law of

the land."[87] While the desire of Congress was clearly focused on improving warfighting as a result of the debacles of at least two American military joint operations,[88] many changes were clearly intended to create a more appropriate balance between joint and service interests. As one leading specialist remarked at the time, "[t]he overwhelming influence of the four services is completely out of proportion to their legally assigned and limited formal responsibilities."[89]

The Act proposed changes evocative of the CF reorganization of 1966. In addition to improving operational effectiveness, several of the changes dealt with increasing authorities of the joint staff in the areas of strategic and contingency planning, reducing the dominant role of the services in shaping resource decisions, and strengthening the independence of military assessments of service programs and budgets. It has been claimed that the Goldwater-Nichols Act attained, in the decade following its passage, most of the objectives established, helping to transform and revitalize the American military profession in the process.[90] Some commentators, such as Vice Admiral Owens, former Vice Chairman of the JCS, have been critical of the progress in certain areas, such as in the integration of support functions and in force planning. He admits, however, that there is greater planning coordination and more cross-service operational integration, and, while a joint perspective is present in considerations of requirements for future forces, "it remains far subordinate to that of each individual service … [with] service parochialism still the most important factor in force planning."[91] Owens referred to the "disease" preventing changes within the massive military structure of the US as "military service unilateralism," arguing that the four services still operate within an organizational structure reflecting decades of bureaucratic rivalry.[92]

Another critic, Douglas Macgregor a retired US Army Colonel, concluded that "for many members of the military, the idea of jointness presents a Pandora's box of unattractive possibilities. Parochialism, not cooperation, remains the watchword despite the common deference to jointness."[93] He asserted that the services discovered in the 1990s inventive ways to respond to the pressures of joint operations by linking weapons and communications systems to those activities that they regard as most vital to their missions and their needs, rather than those of the joint community, adding that "[t]ransformation that occurs without joint

influence and oversight will not change the single-service warfighting establishments."[94] Moreover, the fact that there are very strong links between weapons, procurement, doctrine, and organization for operations continues to foster single service independence.

Despite its critics, there are many who believe that more jointness is the way of the future for US military forces. General John J. Sheenan, Commander-in-Chief (CINC) Atlantic Command, writing at the high-water mark of budget reductions in 1996, underlined the need for greater integration and jointness, stating that "[r]esources are insufficient to allow each of the services to maintain its current force structure, modernize … and perform all required missions. [They] … must restructure for a changed world, focus on core competencies and shed overhead that does not add value … by leveraging technology to reduce unnecessary and burdensome command layers, improve joint training and exercises, and encourage much greater efficiency in joint logistics."[95] He went on to add that the changed security environment, advances in communications and weapon technology, and mounting fiscal constraints were pushing the US military toward greater integration. Comments of this type were echoed by Canada's CDS in his recent 2003 annual report to Parliament.[96]

While the American military experiences and advances may seem to be in a different league than Canadian experiences, there are nevertheless many striking similarities that are very useful to consider for the CF. The US military is tackling the challenges of service parochialism and unilateralism through the achievement of true jointness, for the purpose of enhancing combat effectiveness. The successes of the war in Afghanistan in 2001-2002 and the lessons of the recent war in Iraq seem to indicate that the US military is making substantial progress in this regard, validating to some degree their approach to transformation.

But the US is not resting on their laurels. Secretary of Defense Donald Rumsfeld is aggressively pushing the agenda even further with his plan to transform the military, "not so much technologically, perhaps, [but] institutionally and conceptually."[97] There are indications that he is attempting to get at the organizations and systems that are critical to the survival of the services' parochialism, including controlling the service budgets, which are key in facilitating service autonomy.[98] His champion

organization for this purpose is the Joint Forces Command, which has been mandated to effect the US military transformation.[99] Elinor C. Sloan, a Canadian defence analyst, recently conducted a review of the US transformation and assessed that the concrete steps taken by the military services to transform reveal a mixed picture, with some elements of the long-term strategy in place. The zeal of Rumsfeld to move toward the long-promised transformation "came up against the same bureaucratic, political and financial restrictions that was faced by the previous administration."[100] While it is certainly too early to assess how Rumsfeld's initiatives will measure up, there are bound to be more "sparks" before the objectives are achieved.[101] Rumsfeld certainly appears to be to some in the US military what Hellyer was to the CF.

Despite the often-mentioned negative aspects of service independence and parochialism, there are many long-standing reasons for the services to act the way they do. An understanding of the roots feeding the strong-service idea is critical to fully appreciate the challenges Secretary Rumsfeld is facing, to understand the roadblocks that Minister Hellyer faced in the 1960s, and to foretell the "speed bumps" that will continue to be in the way of more integration, unification, jointness and transformation in the Canadian military. This next part of the paper will cover this fundamental element in more detail.

PART III – BUREAUCRATIC POLITICS AND THE MASKS OF UNIFICATION

> Perhaps the most deep-seated idea in the minds of Canadian Forces officers is that a tri-service organization of the Canadian Forces based on the army, navy and air force is the preferred organizing principle for the armed forces. This preference rests on the assumption that a strong army/navy/air force is, in all situations and in all times, good for national defence.[102]
>
> Douglas Bland and Sean Maloney

It is palpable to anyone who has worked for even a few years within the senior echelons of NDHQ that "there exists a strong tendency for the traditional services to defend and reinforce their institutions." As Bland

points out, "even after nearly thirty years of unification, the desire for an armed forces based on separate navy, army and air force organizations persists."[103] This penchant for service parochialism permeates, to varying degree of pervasiveness, almost every issue of the defence agenda. The strong-service idea stems from a deep "military culture rooted in the history, traditions and experiences of Canada's three fighting services – the army, the navy and the air force" which fuels the strong-service concept,[104] and a culture that believes that a strong individual service is *a priori* good and essential for national defence. Understanding the interests, aspirations, personalities and cultures of the services is essential to appreciate the challenge to the concept of a single service and to better understand the framework within which the CF must transform. The next sections will explain what contributes to the strong-service idea, why the services behave as they do and then propose a framework to assist in assessing their interests and strategies.

BUREAUCRATIC POLITICS: THE PERFECT ENVIRONMENT FOR THE STRONG-SERVICE IDEA

To assume that the implementation of Canadian national defence is the result of conscious and deliberate policy is certainly a logical way to assess outcomes. Treating national defence as if it were centrally coordinated and purposeful provides a convenient, albeit naïve, approach to understanding DND and the CF. In fact, the process is much more complex, and searching for a single frame of reference to explain decision-making in national defence is a daunting task.

In the early 1970s, Graham Allison developed a classical model to assess US foreign policy, the basis of which is relevant for this study. In his seminal work to explain the 1962 Cuban missile crisis, Allison outlined three frames of references to answer the major questions of the crisis. While these models were developed to assess foreign policy outcomes, adapting them to study national defence decisions and outcomes provides a very useful frame of reference for analysis: Model I – Rational Actor – is built on the premise of rational behaviour of organizations, such as a national government; Model II – Organizational Process – focuses more on outputs of large organizations functioning according to standard pattern of behaviour; but it is Model III – Politics – which is of most interest to this study.[105]

The "bureaucratic politics" presented by Allison in Model III is constructed on the premise that each individual in a group is a player in a central, competitive game. "The name of the game is politics: bargaining along a regularized circuit among players positioned hierarchically within the government … Players who make government decisions not by a single, rational choice but by the pulling and hauling that is politics."[106] The following characterization by Allison best captures the thrust of the bureaucratic politics model:

> In this process, sometimes one group committed to a course of action triumphs over other groups fighting for other alternatives. Equally often, however, different groups pulling in different directions produce a result ... distinct from what any person or group intended. In both cases, what moves the chess pieces is not simply the reasons that support a course of action, or the routines of the organizations that enact an alternative, but the power and skill of proponents and opponents of the action in question.[107]

There is limited literature on the applicability of the bureaucratic model to the Canadian defence context, with the most recent analysis on rationality and non-rationality in Canadian defence policy expressed by Kim Richard Nossal, a political scientist at Queen's University. Nossal suggests as well a more sceptical view of defence policy and implementation, not one marked by the tenets of rationality usually associated with the classic rational model, but rather a non-rational view informed by the bureaucratic, or government, politics approach to decision-making: "[t]he bureaucratic politics approach sees policy-making and policy implementation as essentially messy processes, and certainly rarely as cleanly rational as the classical means/ends definition would have it." The bureaucratic politics model perspective argues that a much clearer account of particular decisions can be derived from an examination of the process by which policy was made rather than an examination of the outcomes.[108]

The centrality of this model is the players or the actors, and an essentiality of the "bureaucratic politics approach is the assumption that on every policy they face, each of the players in the policy 'game' will have their own perspectives and their own interests." Thus, the service Chiefs of

Staff, as the key players in the game, will have their own conception of the national interest, shaping their views about the best goals for the nation and how best to achieve those goals. Further, their actions will be shaped by the interest of the organization (service or group) they are leading and what outcomes will be best for their organization and, to a lesser degree, their own individual interest.[109]

Bland has also searched for a model, and, as was mentioned above, employed various frames of references over the years to help him analyze Canadian defence policy making. His most recent study, co-authored with Maloney, contains the most comprehensive discussion to date in the Canadian literature on this theme,[110] and his insightful analyses over the years have helped to throw some light on decision-making at NDHQ. In this regard, he explains "that 'who decides who gets what' today is determined by the dynamic interplay among the three elements of the defence structure." These elements include the actors who have author-ity to make decisions, the organizations that represent the formal power relationships between the actors, and the processes for taking decisions. While it is certainly "the strength of concepts acting dynamically through structure that determines sets of decisions about defence strategy and policy," Bland certainly believes that it is a form of "bureaucratic politics" which determines the outcomes on issues.[111]

He has characterized the Canadian defence structure, as "a bargaining arena rather than a command structure in which bargaining is the controlling mechanism.... guided by declaratory policy [to produce] oper-ative policies through a combination of muddling through, satisfying, compromise and accommodation." Bland contends that the structure "is a random management system in which decisions are driven by immediate needs that appear on the defence agenda haphazardly rather than a so-called rational management system that maximizes values."[112] Consequently, he argues, one could characterize NDHQ decision-making in many ways. These would include a reliance on avoiding controversial issues – delaying decisions or referring them to other committees or further reviews, compromise and/or trading off subordinate interests when a major interest is at stake, expressing policies in generalities so as not to create a controversy or to avoid being committed to the policy later, and worse, basing policies upon assumptions which may not be realistic.[113]

Consequently, by accepting the premise that bargaining is the mechanism, driven by the actors, it is imperative at this stage of the paper to fully understand the needs and motives of the three services. While few inside the department would openly admit it (after all the CF is legally a unified service), the hard reality is that decision-making for several areas of defence management continues to be influenced by the services' self-interests, as is amplified in this next section.

THE SERVICE MASKS OF THE CANADIAN FORCES

The late Carl H. Builder, a researcher with the RAND Corporation, conducted a study in the late 1980s of the US service institutions, devoted to analysing and explaining why the army, navy and air force behave the way they do. Builder argued that the institutions, "while composed of many, ever-changing individuals, *have distinct and enduring personalities* of their own that govern much of their behaviour."[114] He stated that the interests, problems and aspirations of the military institutions are best revealed in their approaches to military strategy, planning and analysis. More importantly, understanding the services' attitudes allows a better comprehension of the nature and the issues of the debate with the higher authorities and among them. While his study focused strictly on American military institutions, the themes and conclusions offered are certainly applicable to the CF.[115]

Builder described in detail the "five faces of service personalities." These include, what each service reveres the most as a principle or cherish as an ideal (in essence the roots of their traditions), how each service measures itself and determines success, how each service differs in their devotion or pride toward their equipment and skills, how each service differs in their intra-service distinctions and how it deals with them, and, how each service is confident in its rightful independent status and the relevance of its missions and capabilities.[116] Accordingly, a brief summary of the Canadian service identities and behaviours can be deduced by applying Builder's concepts and findings to the CF.[117]

The navy, more than any of the other services, is marked by its independence, stature and traditions. The fiercest opposition to unification and jointness in Canada and in the US has been from their navies. The Canadian Navy exudes confidence in its legitimacy as an independent

institution, and its contribution to Canadian national security – domestic or international.[118]   Operationally, the Navy would prefer to be given a mission, command its own forces and be "left alone." It is not surprising, therefore, to find the Navy the most disgruntled of the services over the encroachment of NDHQ into the details of its command and control and its general support during expeditionary operations. The Navy would prefer to do it alone – as it has proven capable of doing so several times in the past.[119] Naval personnel are more likely to associate themselves with the Navy as an institution, its traditions and identity, rather than with its ships and equipment.[120] The Navy always seems to have the clearest sense of its identity and interests; its lucid strategy and up-to-date doctrine are frequently articulated before the other services' strategies, as demonstrated by the so-called Brock Plan that laid out a twenty-year development plan for the Navy[121] or its recent strategy for 2020, *Leadmark*.[122] Almost every senior naval officer in the CF shares the same assumptions, and clearly identifies with the purpose and missions of the service. The Navy always seems to have less difficulty than the other services in making decisions, even painful decisions, like those related to cuts in budget.

The air forces of the world see themselves as a decisive instrument of warfare, a strategy made possible and sustained by modern technology.[123] Since the airplane – a marvel of technology – gave birth to independent air forces, the air forces have always nurtured and applied technology. Air forces are extremely proud of their people, the professionalism of the institution and its crews, delighting the public with air shows and air demonstration teams to exhibit this pride. Air force pilots often identify themselves with an airplane, even before the institution; some see themselves as pilots before officers. The newest of the three services, the Air Force has always been most sensitive to defending and guarding its legitimacy and its independence as an institution. The elimination of the RCAF in 1968 due to unification of the three services, and the partition of its assets among several functional commands, was a critical setback for the Canadian Air Force.[124] Survival of the Air Force as an institution is closely tied to retaining the decisive and independent instruments of warfare – the CF-18s in Canada's case – and employing them as often as is practically possible in international operations to demonstrate its importance and relevance.

The Canadian Army sees itself as the essential "artisan of war," forged by history, having its roots in the citizenry with the Militia.[125] The Army is very proud of its history of service and loyalty to this country. It takes pride in being the keeper of the essential skills of soldiering. Until recently, the Army was notorious for its reluctance to embrace new technologies, methods, or even professional education. Regimental affiliations are at the centre of self-identification within the Army, where strong loyalty is focused. The Army is the most secure of the three services, as modern warfare and recent stability operations have demonstrated the need for more highly trained soldiers. The Army, not being concerned with its survival as a service, has been the most supportive of unification and jointness. Command of national forces is important for the Army, as it considers itself the true professional arm of the CF – the one that best understands joint operations and how the CF can be best employed to meet national goals and objectives.

Allan D. English, a retired CF officer and senior research fellow at the CF Leadership Institute, recently published the first comprehensive examination of the Canadian military culture, with specific attention being devoted to assessing the impact of Americanization on the CF. English contends that the appearance of a CF culture, as opposed to three separate service cultures, occurred forcibly with unification in the 1960s. That being said, he admits that "[o]ne uniform and one command structure did not, however, create a single military culture in Canada," but that unification "did bring cultural change to the officer corps of the CF." The decision to restore distinctive service uniforms in the mid-1980s, English continues, was a statement reflecting the continued existence of three service cultures within the CF,[126] and certainly a step backward toward creating a unified culture.[127]

The three CF services are undeniably different, extremely proud of their heritage and traditions, and highly professional. The challenge with service military culture occurs when this "relatively healthy expression of solidarity to a community hardens into an unreasoned, blind commitment to existing doctrine or structure."[128] Owens, in a critical analysis of the joint journey made in the US since the 1986 Goldwater-Nichols Act, recognized a need to overcome what he characterized as "crystalline stovepipes [which contain the traditions, doctrine and loyalties] that separate the services." Owens referred to them as crystalline because it is

easy to miss them. "Sometimes we see through them as if they were not there. Yet if you look closely you will discover them."[129] While the walls of the Canadian service stovepipes may not be as solid as they were in 1964, and certainly not as inflexible as those of the US military, they are nevertheless omnipresent and continue to influence, to varying degree, the resolution of many CF issues.

The dilemma for the proponents of unification in Canada is that there is no comparative unified or "purple" culture, and it is unlikely there will ever be one. The services' cultures, by their simple existence rooted in history and traditions, and constantly reinforced and shaped by the demands of combat effectiveness, are unconsciously generating centrifugal forces pulling apart the unified approach to defence management, against which there is no strong counterbalancing culture – only rational ideas and concepts. Thus, the strong-service idea manages to survive, and works its magnetism daily in the CF continuing to influence outcomes and policies.

One simplified approach proposed in this essay to explain the impact of service protectionism is through the concept of service filters, modelled with the use of four concentric circles, and used to "classify and filter" issues. The innermost circle filters issues that are considered critical to the growth and survival of a service, while the outside circle filters issues of minor importance to the service, with two intermediate circles representing issues of interest and importance to a service (see Figure 1). For instance, in the inner circle are core issues to each service and these would, for instance, include issues such as, assignment of missions, changes to the "balanced force" argument (explained in the next part of the paper), decisions related to capabilities, force structure, acquisition and replacement of weapon systems. Accordingly, these issues require undivided attention at the most senior levels of the services, most often demanding the personal attention and engagement of the service Chiefs of Staff. The inner intermediate filter would include issues such as government decisions on which elements of the CF should participate in international operations, changes to the structure of combat support, or the selection of task force commanders for significant expeditionary operations. Issues like the creation of a new CF agency or changes to base/garrison logistics and infrastructure arrangements, while hotly debated at times, are of interest to the services but seldom worth a service

Chief of Staff "falling on his sword" over them. Issues of this type are part of the outer intermediate filter. Finally, there are many issues that the services consider relatively minor, from their standpoint, and that are usually addressed through the staff process at the more junior staff level. Of note, it is important to appreciate that issues will move from one filter to another over time, and this for varying reasons.[130]
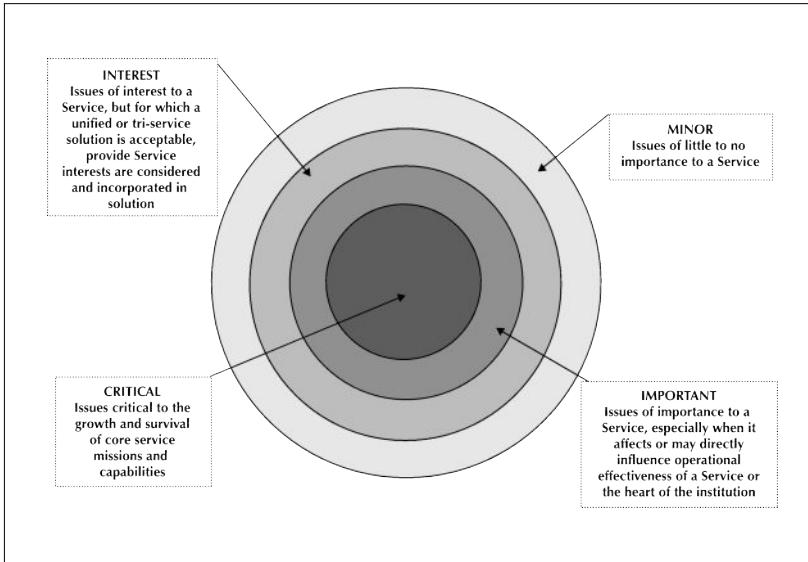

FIGURE 1 – THE POWERFUL SERVICE FILTERS

While it is understood that services do not formally classify and prioritize issues, concepts and ideas according to the specific categories described above, it is clear that there is within NDHQ a *de facto* ranking of issues which, ultimately, strongly influences the amount of energy and effort devoted to an issue (including a determination by the staff if the Chief of Staff needs to be personally engaged, or not), the rank of the representation at meetings, the level of negotiation, bargaining, and compromise, and the strategies that services are prepared to use and invest for progressing – or delaying – each issue. Issues are frequently "ranked" in a manner that is largely consistent with the distinct service personalities that were described above.

Bland correctly points out that power and influence within the defence establishment is defined by the defence structure. The defence structure, with its decision-making apparatus focused on a requirement for high

horizontal integration, and centred largely on the consensus decision-making principle, is conducive to allowing the services to move their agendas. The result is often a defence policy that is the sum of a number of discrete decisions about aims and allocation of resources between competing demands that result in military capabilities and the deployment of armed forces,[131] rather than being the result of a deliberate top-down strategy. Consequently, over the years, the three traditional services have continued to defend and reinforce their institution – at the expense of unification – with most key interactions and associated decisions often assessed by the services and their proponents from the angle of service survival, growth or even dominance. The advancing of the service strategies is most effective in a highly bureaucratic environment. Thus, it should be evident from the above discussion that any attempt by senior DND leaders to progress integration, unification and even jointness needs to be mindful of the particular service interests and strategies, to the point that defence structures and processes must be devised to limit to a minimum the impact of bureaucratic politics. More importantly, senior leaders must be cognisant of those issues that fall within the inner filters of the services, to ensure that strategies and decisions on those issues are elevated as much as possible to senior departmental leadership forum where service influence is less dominant.[132]

This part of the essay has highlighted the many reasons why there is a strong tendency for the traditional services to defend and reinforce their respective institutions and, in doing so, to contest many of the ideas behind unification. The next part of this study will assess the status and progress of unification in the CF, with the purpose of determining in which sphere of national defence and the CF the strong-service idea remains dominant.

PART IV – THE CF IN 2004: DOMINANT CONCEPTS AT A CROSSROADS

As was noted earlier, the penchant for service parochialism, and the degree of success of this unilateralism approach, varies depending on the nature of the defence issues. This part of the paper will assess the direction of the "unification – strong-service pendulum" in 2004, with a

view to determine where the CF institution is heading in the coming years. Each section will review specific themes of defence policy and defence management, consistent with those ideas and concepts espoused by Hellyer's unification initiative, assess their status and determine the prevalence of the strong-service idea for each of those.

DEFENCE POLICY DISARRAY: WHY THE SERVICES HAVE MANAGED TO SURVIVE

In a discussion on the pre-Hellyer period, Bland commented that "without a national strategy to guide the expenditures of the defence budget the service chiefs were content to promote the merits of their own services and to compete for defence funding as best as they could." The result of this strategy void has cultivated institutional competition, which, in turn, has fostered an appropriate allocation of resources to meet "the needs of a unified defence plan constructed from a national appreciation of Canada's strategic situation."[133] Indeed, the national policy gap in Canada over the years has been pretty consistent, with defence policy and the efficiency of policy and outcomes consistently being "backburner issues in Canadian governments," to the point where, "[d]efence policy is more or less whatever the prime minister says it is at any one time."[134]

In the mid-1990s, General Thériault, offered through the publication of a series of articles, his reflections on the making of defence policy, including a most critical and insightful assessment of unification. He observed that:

> The absence of political leadership is the most serious problem....
> It compounds weaknesses in policy directions, all of which it is
> also the cause. In the absence of a lucid and coherent policy
> framework ... there is a significant risk that orientation and
> management of defence will be shaped more by internal forces,
> including institutionally based perceptions or requirements....
> This phenomenon is an inherent characteristic of the behaviour
> of all large institutions, especially those with so strong a sense of
> their own mission.[135]

As Thériault astutely observed, the lack of policy direction in the 1970s and 1980s created the perfect environment for the strong service idea to thrive. He argued that this problem was compounded by the unification

of the three services, the great deal of emotion and misunderstanding involved, and the manner of implementation of the policy. The combination of this situation with simultaneous budgetary reductions has "triggered strong institutional reflexes, which have lived on." As further evidence that defence policy disarray is an impediment to effective defence implementation and administration, he observed that, "[a] traumatic experience for the Forces, unification engendered considerable organizational turmoil and stresses."[136] Consequently, without a coherent policy framework and a single strategy, the ideals of unification were left to flounder over the years, with the strong-service idea inside the institution fostering "a bias against planning from a national perspective."[137]

To make matters worse, as Bland noted in 1995, defence policy in Canada over the years usually did not originate from a strategic idea but rather from the dynamics of the annual federal budget,[138] with defence policy driven by what defence spending is available, not by what is needed.[139] The result is that, although Cabinet will tend to set high-level policy, the detailed implementation of that policy is almost always left to the military. While it seems self-evident to most observers that senior officers and officials should always ensure that defence policy is implemented in response to the real interests of the state, and not institutional interests,[140] it remains, as Bland observed, that "defence ministers are often content to leave to members of the defence establishment the resolution of defence matters and that [approach] promotes contests within the establishment."[141] He goes on to add that it is thus an obligation for politicians "to set out plainly the government's interpretation of its defence commitments and to ensure that military officers understand and comply with that interpretation."[142] Without real political control, the implementation of defence policy in Canada ends up being the outcome of bureaucratic politics. Left to their own, military officers make their own interpretation of commitments. A microcosm of this reality within DND, and the associated dynamics that a defence policy void will often generate, is discernible in the development of military commitments for international operations.

The Deputy Chief of the Defence Staff (DCDS) and the ECSs have a significant influence in proposing military options to the CDS and to the government when long-term military commitments to an alliance or military contributions to an contingency international mission are being

considered.[143] The consequence of these commitments and engagements is often an important determinant of future service capabilities.[144] The Chiefs of Staff will seldom let an opportunity pass to have elements of their respective service engaged in an operation, especially if the mission is high profile, it can be accomplished successfully, the risks are reasonable, and the military capability is available and sustainable.[145] The Canadian military does have an important role to play in support of Canada's foreign policy but that role is "conditional on the ability of those forces to achieve the aim of the mission, and to do so without unaccept- able risk."[146] Back-room negotiations take place at the highest levels to ensure potential force contributions presented to the minister and the government will include a contribution from each service (needless to say, this depends on the overall mission and the specificity of the theatre of operations).[147] The recent contributions and experiences with Operation APOLLO, the Canadian participation in the US-led campaign against terrorism, are a case in point.

The opportunity for a service to get some of its high-profile military com- ponents engaged in an operation could, eventually, make an important difference in future years in acquiring new capabilities, funding a retrofit or upgrade program or even ensuring the survival of a key core capabili- ty. A mid-or high-intensity international operation, while demanding and potentially costly, is indispensable to the CF for validating equipment, doctrine, concepts of operation, interoperability and procedures.

Bland claims that "service commanders work to create and to enhance their service's commitments because commitments can be translated into resources and the accumulation of resources is a measure of success."[148] Commitments such the UN Standby High Readiness Brigade (SHIRBRIG), NATO's Standing Naval Force Atlantic (STANAVFORLANT), Immediate Reaction Force (Land), Rapid Reaction Force (Air) or NORAD are typical commitments that are critical to the survival of core capabilities of the services,[149] and are cited frequently in internal defence documentation as possible examples of why a certain capability must be retained or upgraded. Over the years, officers and officials have advanced plans and procedures aimed at so-called rational policy-making. These separate systems had dual roles, such as advancing real or perceived commitments and ensuring the health and longevity of particular services. While service Chiefs of Staff now know better than to develop plans that will

consume the entire defence capital budget,[150] the budget process has been largely bottom-up and, until recently, frequently driven by service survival and growth.

To be fair, senior military leaders certainly have a crucial role to play in advising and in influencing the decision-makers for the selection of the military capabilities that best deliver the defence policy for the government of the day. The fact that officials at NDHQ have been functioning in a policy deficit for many years has resulted in many senior military officers getting used to – even comfortable with – operating in this environment. Considering the policy void and the uncertainty of the international environment, national defence analyses, estimates, and plans often reflect strategic considerations more than is often given credit by critics and analysts. Certainly, the nature of the military roles in post-Cold War and 9/11 eras, combined with continued funding challenges – especially capital funding – made the choices of military capabilities even more contentious. But, there are clear signs on the horizon that the defence policy process is about to change, to one reflecting a more national strategic approach which will likely result in a more coherent unified defence policy, and a diminished influence for the services.

In November 2003, Paul Martin's government unambiguously indicated that it intends to take charge of the foreign and defence policy agenda and process,[151] publishing a new agenda for the government which includes the creation of several new Cabinet committees, the establishment of a new position of National Security Advisor to the Prime Minister in the Privy Council Office and the undertaking of a comprehensive review of Canada's place in the world. This review will consist of the development of an "integrated and coherent international policy framework for diplomacy, defence, development and trade."[152] Indicative of this commitment to more national strategic direction in all areas of government, the federal government recently published a comprehensive *National Security Policy* setting out an integrated strategy and action plan to address current and future threats to Canada.[153] Most notably, the policy states that the forthcoming "International Policy Review will make important recommendations regarding the Government of Canada's diplomatic, defence and development, as *well as the structure of the Canadian Forces*."[154]

If these policy statements are not sufficient to indicate a change in trend in the formulation of Canadian defence policy and the determination of future CF military capabilities, the address by Prime Minister Martin at CFB Gagetown in April 2004 is a clear indication of his personal interest in this important issue, but, more significantly, of the recognition of the need for a more strategic and integrated approach in developing policies for Canadian defence, diplomacy and development. The words of the Prime Minister are worth reiterating to highlight the importance of the forthcoming change, "Canada is now at a defining moment in its history. Putting in place a new strategic plan for the Canadian Forces is a critical element in ensuring that Canada's role in the world is one of influence and pride."[155] What the international policy review will also likely mean is that the new defence policy will not be developed in isolation, with service interests at its core, but as part of a new international policy, considering all its constituents, including diplomacy, development and trade, and even elements of the national security policy applicable to DND. The signs indicate that the next Canadian defence policy, and by extension the definition of future CF military capabilities, will be determined based on the real interests of the state, and not institutional interests.   The current Liberal government has certainly given the impression that it is prepared to invest in the intellectual effort necessary to construct a new strategy and structure for the defence of Canada.[156]

TOP-DOWN STRATEGY AND THE DEMISE OF THE BALANCED FORCE ARGUMENT: THE KEYS TO CF TRANSFORMATION

> The Government has had to make hard choices. Most areas of defence will be cut ... some substantially more than others. The relative weights of the naval, land and air establishments that have prevailed for many years will be adjusted ... primarily to allow for the transfer of resources to ... land combat and combat support forces.[157]
>
> *1994 White Paper on Defence*

If the combination of a lack of a coherent unified defence policy and the inability of the politicians to impose a top-down strategy has fostered service unilateralism, it is undeniably the strength and persistence of the

"balanced force" argument that has allowed the individual services to survive and even flourish at times. The focus in the past has always been on equipment acquisition, modernization and replacement, which meant that the services were often the key offices to define requirements, promoting a bottom-up approach to defence policy implementation, which, in turn, perpetuated the concept of a balanced CF.

The principle of "balanced forces" within the CF is well explained in Bland's *Chiefs of Defence*, but it will be summarized here for those who may not be familiar with this concept in a Canadian context. The "balanced force" concept is based on the argument that the maintenance of certain key fighting capabilities within each service is good for Canada, a principle that has been reflected practically in the way NDHQ allocates funds and resources among activities.[158]   There seems to be strong internal consensus built over the years within the CF that tended to sustain the bottom-up, balanced, service-oriented approach to defence planning. Now, this long-standing principle is in danger of being relegated to a minor role, as will be discussed in this section of the paper.

The "balanced force" principle was put to the test in the early 1990s, when Vice Admiral Charles Thomas, then Vice-Chief of the Defence Staff (VCDS), submitted his resignation to the CDS, General John de Chastelain, in protest over departmental priorities and "the absence of strategy in Canadian defence policy."[159]   His public letter stated that he was unable to accept "a policy proposal that will minimize the capability and development of the maritime forces," further asserting the argument – in an effort to promote the employment of maritime forces in potential combat environments – that he "did not believe that land force combat units at the brigade group level will be similarly deployed ... [as] there is no stomach to see large number of Canadians die on television."[160]

De Chastelain replied publicly to Thomas, admonishing him in the same arena for his "farfetched ... and insulting" suggestions about the potential army commitments abroad. More telling, however, de Chastelain "counterattacked not with a more precise strategy, but from an essentially service point of view," stating that to follow Thomas' argument would produce a "lopsided menu of defence choices."[161]   The CDS's comments, written in 1991, are quite telling and worth restating here:

> It would be unconscionable to recommend that we allow these capabilities [air force and army] to atrophy in favour of the further development of the naval forces. Within the limits dictated by funding, we must offer the government the broadest possible range of military options to meet the ever-changing security challenges at home and abroad....no matter what restrictions are placed on our size in the restructuring process, I will attempt to ensure that we maintain *professional fighting capabilities in each of the environmental elements*.[162]

De Chastelain then added that as "chief of the defence staff I must consider, and represent to government, the interests of all elements of the Canadian Forces."[163] The central issue of this debate, that a service-oriented defence policy is preferable to a national defence policy, was implied in the CDS letter. This principle remained sheltered even during the drastic force reductions of the mid-1990s when, in the face of rapidly declining budgets, senior military officers again argued for balanced military forces in order to preserve the skeletal remains of the three services when Canada's national defence priorities likely demanded choices based on other interests.[164]

Besides service parochialism, there are several other reasons to explain why the "balanced force" idea is so strongly held among the senior military leadership and remains the continued preferred approach to force structure planning. First, Bland speculates that "the desire for a balance general-purpose force originates in most officers' insecurity about the uncertain future. It is an understandable and reasonable reaction to their responsibility to provide for the defence of Canada now and in years to come."[165] Any process of reduction will always be tempered by an intention not to repeat the mistakes of the 1930s and the 1970s when Canadian military capabilities declined. This apprehension will necessarily almost always translate into a cautious approach to capability definition and, consequently, will tend to foster capability preservation.

Senior military leaders and the CDS make choices that are rational from their perspectives and that tend to minimize risks for the future, especially in the face of continuing government policy inconsistencies. The one major obstacle to executing an internal risk assessment of this type in support of any review is that there is no satisfactory set of metrics

available to appropriately measure the risks, in the short and long term, for both the government and the CF.   This leaves only subjective judgement, and a heavy reliance on history, which is not always the most reliable guide for the future. In the absence of a well-enunciated defence policy or a rigorous force development methodology – beyond stating that a balanced force must be maintained – a risk assessment based solely upon judgement is nevertheless open to interpretation and questioning.

Second, service chiefs clearly view their role as one of trustee of the capabilities of their service. As Bland noted, "there are few accolades for officers who voluntarily give up command assets to enhance other command's needs," and it is all but certain that senior officers of a service, both retired and serving, would long remember who the Chief of Staff was when a capability was eliminated. Every Chief of Staff is well aware that a new capability can seldom be acquired during the two to four year term that he is serving. But a capability can be eliminated by the stroke of a government pen, as happened with the Canadian Airborne Regiment.[166] General Foulkes' statements in front of the Special Committee of Defence in 1963 best summarized the predicament facing Chiefs of Staff: "No Chief of Staff of his service wants to be known as the man who does away with his own service. Therefore, there is considerable reluctance to do away with a system which essentially ... may lead to a considerable reduction in a particular service."[167]

Finally, service Chiefs of Staff truly and professionally believe that their service is the best placed to contribute to Canada's national defence, especially when jockeying for contribution to international operations. Andrew C. Richter, a Canadian academic, recently wrote an article for the US *Naval War College Review*, which is worth referring to illustrate this point here. He argued that, "the service that can make the best case for first priority [for defence funding] is the navy, as a result of its modern fleet, widespread political support, and broad range of missions that it can undertake." Richter goes on to state that since the government will not be able to fund adequately all three services, then the CF needs to prioritize among the services to "ensure that at least one maintains a wide range of interoperability capabilities."[168] And this service should be the Navy, according to Richter. Three points are worth making with regard to this article. First, Richter is clearly not talking about prioritizing based on capabilities, but on services. Second, his views, while articulated from

a Navy perspective, would likely be similar if expressed publicly by proponents of the other two services, albeit argued from a different perspective. Third, views like those of Richter tend to come from outside the military because there is a sort of "gentlemen's code" that discourages service Chiefs of Staff, while still wearing the uniform, from publicly making dramatic force structure statements and to seek gains at the expense of the other services.

The challenge constantly facing senior planners over the years has been the lack of a top-down definition of desired capabilities, which would have likely questioned the retention of certain warfighting capabilities. Accordingly, the "balanced force" argument has continued to prevail. The Minister's Advisory Committee on Administrative Efficiency completed a study in August 2003 to assist the MND in finding $200 million in savings for internal relocation within DND and the CF.[169] The committee was fairly critical of the management culture within DND, including many aspects of strategic planning. In their report, the committee recognized the weaknesses with the current force development planning, stating that "capital equipment and other requirements are driven 'bottom up' rather than 'top-down' and they do not flow from a coherent overall plan,"[170] and recommended more top-down direction based on a broader CF perspective.

While defence policy in Canada has always been decided by what is available, not by what is needed, there are strong indications that this approach is changing, starting at the most senior levels of the department. The changes in this regard include efforts devoted in the past few years to develop a top-down defence strategy and a true capabilities-based planning process. Further, the last few years have seen a more active role by recent MNDs in determining future force capabilities and prioritizing capital acquisitions, and, most significantly, the start of a discussion on the concept of an asymmetric CF.

A more top-down approach to strategy and force development planning within DND started with the publication of *Shaping the Future of the Canadian Forces: A Strategy for 2020* (commonly called *Strategy 2020*), the first internal strategy promulgated by the department in years. It provided "a strategic framework for Defence planning and decision-making to help guide the institution well into the next century."[171] Work

is underway to produce the next version of defence strategy, which is expected to be released within the year. In terms of capability planning,[172] the Joint Capability Requirement Board (JCRB), chaired by the VCDS, was created a few years ago to review all major crown projects within DND as well as cross-environmental procurements to ensure commonality across the CF. A number of Joint Capability Action Teams (JCAT), reporting to the JCRB on a regular basis, have been instituted to address specific CF-wide capability issues that require extensive horizontal integration with the intent of bringing greater operational focus to the delivery of future capabilities.[173]

Processes have also been reviewed. The new manual *Strategic Capability Planning for the CF* outlines the process for determining resource allocation consistent with defence strategy,[174] and a *2002-2012 Capability Outlook* document provides context to defence planning activities to better harmonize strategic planning and future force development, was issued in 2002.[175] In addition, "Joint Force Planning Scenarios" and a *Canadian Joint Task List*[176] were developed to assist planners, and a new CF "Strategic Operating Concept" is being written to become the doctrinal framework for future CF Operations.[177] More telling perhaps, many senior officers now firmly believe that coherent CF planning can only start at the top.

Small, but significant changes are being introduced and contemplated to minimize the influence of bureaucratic politics and develop a more unified approach to defence implementation. Recently, the CDS announced the creation of a new three-star general position within his office to advise him for the forthcoming defence policy review, a step that highlights the requirement for independent senior military advice to the CDS in the formulation of CF input to a new defence policy. Further, the Minister's Advisory Committee on Administrative Efficiency report was fairly critical of the management culture within DND, and made several recommendations to enhance management effectiveness, notably at NDHQ. These included the development of a more centralized development philosophy, which would include the creation of a senior executive committee (senior to the Defence Management Committee), as a focal point of defence policy, strategic planning and corporate decision-making.[178] Although this recommendation of the committee has not yet been formally endorsed nor implemented, the mere mention of

the creation of a senior defence executive committee that would formally exclude the service Chiefs of Staff is a sign that the "winds are changing."

In addition to structural changes within NDHQ to enable a more coherent CF defence and force structure planning process, significant time has been devoted by senior leaders over the past eighteen months to develop a unified and integrated *Strategic Investment Capital Plan* (SCIP). The SCIP, formally released in early May 2004, represents a "comprehensive roadmap for ensuring the CF have the capabilities they need in the future."[179] The preparation of the SCIP extensively involved then MND, John McCallum, and after December 2003, the next MND, David Pratt. While it is true that the SCIP process was largely focused on equipment replacement, modernization and acquisition (instead of end-to-end CF capability planning), the personal involvement for several half-days of McCallum was an obvious sign of the strong interest of the government in shaping future CF capabilities.

Lieutenant-General Rick Hillier, then Chief of the Land Staff (CLS), voiced concerns with the SCIP, stating in a June 2003 open letter that "without a clear connection to transformation objectives," the SCIP was creating "widespread dissatisfaction" with the end product.[180] The letter by was clearly an allergic reaction to the "apparently flawed" unified capability development approach reflected in the plan. Despite its criticism and its imperfections, the SCIP can certainly be considered a major step forward for Defence. Indeed, "it seeks to make long-term capability planning and resource investment more *strategic, top-down and holistic*,"[181] something that has been non-existent within the institution in the past.

Of equal importance, however, are the comments of CLS in his letter when he suggested that perhaps it is time for the CF to abolish the "balanced force" principle, implying the possibility of "asymmetric" military forces in the future for Canada. Hillier called for a review of the international roles of the CF suggesting that "[t]he reality of the emerging security environment suggests that it is unlikely that the CF will be called upon to fight in blue skies or blue waters." His letter essentially suggested the elimination of certain navy and air force capabilities to allow for funding of the army transformation.[182] While it is beyond the scope of this essay to assess the correctness of the strategic assessment

offered by CLS (forthcoming foreign and defence policy reviews may confirm it), the issue here, which is central to the argument of this section of the paper, is that the validity of the concept of a "balanced force" within the CF is being questioned at the most senior levels within the department, and not only by academics, as is frequently the case. Whereas Hillier's treading into the defence policy arena – and challenging the sacrosanct "balanced force" argument – was considered a *faux pas* by some, he must be admired for the courage of his convictions, and for initiating a most important debate.[183]

In the end, government officials must rely heavily on the professional military advice of their senior military leaders, and, when applicable, on the independent counsel of other senior defence officials, such as the Deputy Minister. "The military profession has strong institutional instincts and unique knowledge that make it an indispensable part of the defence policy process";[184] therefore, it is important for the generals and admirals to provide advice that is, and is perceived to be, service-neutral. This will mean seriously reassessing the long-standing principle of the maintenance of the balanced services in response to Canada's future needs.[185] In this vein, the concept of an "asymmetric force" is starting to appear in selected defence statements, although, at this stage of the debate, the context of its use and the consequences that may result from its application are creating certain ambiguities and some apprehension. The comments made by the CDS in his most recent annual report to Parliament, are instructive:

> This [transformation] will require difficult choices. We will have to reallocate from lower to higher priorities. Our choices will need to be selective, *strategic and asymmetric*. We will have to choose which new capabilities to invest in, and what existing capabilities to maintain, reduce or eliminate. We cannot and will not pursue a transformation agenda by 'tinkering' at the margins in new capabilities without reducing or eliminating those that are no longer relevant in the current and future strategic environment.[186]

There are obvious signals being sent in several quarters suggesting that the long-standing "balanced force" argument is softening with the current civilian and military leaders. It remains to be determined if an

asymmetric force is what is best for Canada. What seems certain, however, is that the forthcoming CF transformation choices will be decided on the basis of top-down strategy.

RESOURCE DEVOLUTION AND OPERATIONAL EFFECTIVENESS IN THE "DECADE OF DARKNESS"

> The Department of National Defence and the Canadian Forces will, in particular, continue to improve resource management ... to ensure the best possible use of resources at all levels of the organization. The management policy emphasizes the delegation of decision-making authority, the empowerment of personnel, the elimination of 'red tape' and overlapping functions and the promotion of innovation.[187]

> *1994 Defence White Paper*

If the continued disarray in Canadian defence policy and the safeguarding of the "balanced force" argument were beneficial to preserving the strong-service idea over the years, it is undoubtedly the response to the challenges created by the end of the post-Cold War that has contributed more to de-unification of the CF than any other episode. The need to bring the federal deficit under control and the anticipated post-Cold War "peace divided" was expected to translate into huge military spending cuts over a few years, with the hope that significant savings could be achieved by eliminating waste and bureaucracy.[188] In addition, it was also believed that the transition from routine and static operations to contingency and expeditionary operations would add significantly to the complexity of Canadian defence throughout the 1990s. It is therefore important to understand some of these key elements to better appreciate the nature of the transformation that is taking place in the CF today. This section of the paper will review briefly the 1990s, a period "convulsed by contradictions, confusions, and difficulties,"[189] when the management-based reforms to Defence also reached their apex.

The 1994 Defence White Paper guidance and the ensuing Management, Command and Control Re-engineering (MCCR) initiative were a "bonanza" for the services, removing the shackles of restrictions, bureaucracy and red tape and allowing them to manage their resources

the way they always wanted to do it. The budget cutbacks were draconian - headquarters structures were being slashed by fifty percent, fewer resources and personnel were left to do many jobs, but the good news was that many of the old rules of the game had been thrown away with the reductions. Many senior commanders had adopted a "can't say no rule" to ensure that only the illegal and least useful ideas coming from the field could be rejected by higher headquarters.[190] Out-of-the-box thinking was strongly encouraged. It was too good to be true for the services and, unfortunately, it was.

The MCCR initiative was established by direction of the federal budget in 1995 with the mandate to "re-engineer the DND/CF command, control and resource management structure, with emphasis on NDHQ, command and operational headquarters restructuring and downsizing,"[191] including developing structural options and implementation plans. With the creation of MCCR and *Defence 2000* concepts[192] was renewed the long-standing principle of military organization that commanders must have under their direct control the resources necessary to carry their assigned responsibilities. Authorities were thus realigned commensurate with the responsibilities of the commanders, and significant delegation of authority took place. The most significant of those devolutions consisted of the introduction of single operating budgets, suddenly giving total control of large budgets to the ECSs.[193] Generally, commanders of commands further delegated much of their authorities to their base and wing commanders. A salary wage envelope was established allowing commanders to better control the civilian workforce to account for seasonal work fluctuations. Moreover, NDHQ, in the wake of the MCCR team recommendations and its own downsizing, was extremely keen on divesting itself of almost anything, including units, that were then transferred wholesale to the ECSs. Certain functions, such as many aspects of personnel management and individual training, were devolved back to the Army, Air Force and Navy for the first time since the 1960s.

In general, commanders and individuals were given much greater latitude to do their jobs, and, in so doing, were expected to gain more personal and professional satisfaction. In turn, they were also expected to exercise a greater measure of self-discipline and exemplify flawless ethical behaviour in the performance of their duties and in the use of resources.[194]

In the past, commanders had repeatedly not been given authority for operational decisions or control over resources commensurate with their responsibilities or in keeping with the approved concept of operations. Mission accomplishment now took priority, and it was determined that operational effectiveness could only be achieved by giving the commanders full control of their resources. This was one of the strongest arguments used for the devolution and decentralization of the mid-1990s. Delegating decision-making and empowering people meant giving them the resources to do the job. The lessons learned by commanders during operations of the period, such as the Oka crisis of 1990, were being adopted to drive significant changes.[195]

Operationally, the impact was equally significant. With the explosion in the number of contingency operations being conducted, the focus of the ECSs was now on developing deployable capabilities to meet the demands of the new world disorder, in which Canada wanted to make a difference with military contributions.[196] Services, now engaged in operations all around the world and always operating independently of other CF services within coalitions,[197] quickly found out that expeditionary operations demanded responsive deployable support elements. In the field, especially in the areas of combat and general support functions,[198] the argument constantly advanced was "that having someone else, another service or a central organization, perform these mission-critical tasks would potentially degrade operational capability." After all, as the argument went, the support tasks unique to a particular service were performed in different ways, and best understood by people of the same service. Ironically, one of the reasons given to Hellyer by his senior military commanders in the 1960s to substantiate the postponement of integration and unification was that "a serious loss in efficiency would result from integrating supporting services under one or other of the armed forces as the other service commanders would no longer have full control of their supporting services. This would be a bad thing, under the accepted 'command and control' concept which was a significant element of military thinking."[199]

These changes affecting CF organizational, command and control, management and doctrinal concepts in the 1990s were indeed significant for the CF. While many critics today contend that the framework for downsizing and organizational restructuring was shaky, at best,[200] the

plain fact is that the government had mandated drastic cuts, to be effected very rapidly, and MCCR was the "sharpest tool in the tiny toolbox" at the time. While headquarters were significantly reduced and some capabilities were eliminated (providing the much-needed savings),[201] ironically, until MCCR came about, the accepted belief at NDHQ was that more integration, more unification and more centralization were the solutions to address resources shortfalls. This theme had been repeated in white papers and defence statements since the 1940s. Almost overnight in the early 1990s, the tables were reversed, and it was decentralization and de-unification at its best.

To add to the complexity and ambiguity that this chaos generated, during the same period commanders of the commands were brought back to Ottawa, significantly changing the dynamic within NDHQ. Commenting on the impact, Granatstein summarily concludes, in his latest study of the Canadian military, that "[a]s unification weakened ... the environments assumed more and more of the old service prerogatives... The Chief of the Land Staff, Air Staff, and Maritime Staff returned to Ottawa in the 1990s and began to acquire almost all the powers and perquisites their predecessors had had before unification became the law in 1968. Committees started to multiply, and the triplication of functions began to creep back."[202] The return of the service Chiefs of Staff meant that as the recognizable leaders of the services, they and their staffs could not be forgotten when important discussions were taking place, and, consequently, the services regained some of their lost influence.

English called the 1980s/1990s period one of "disintegration," which saw, in a most visible sense, organizational and uniform changes that marked the return of the three services in appearance if not in name. More importantly, the substantial downsizing – with all its associated sub-themes – "threw the CF into further disarray."[203] That being said, while Granatstein and English's assessments might have been correct as the new century was beginning, the next sections of this essay will show that, to the contrary, almost ten years after MCCR, the services are quickly losing their grip on day-to-day defence management, with unification now clearly gaining momentum.

JOINTNESS: THE NEW ORGANIZING PRINCIPLE FOR THE CF

For the CF, unification died at some indeterminate point in the late 1990s, and jointness was born. This happened in the midst of cashing in the peace dividend through massive DND downsizing, endless budget reductions and continued high operational tempo. The terms "unification" and "unified" are practically non-existent today in CF documents and lexicon.[204] While the concept of unification used to mean full integration of service functions and headquarters, as envisaged by Foulkes and Hellyer, it is now at best viewed with suspicion. A few years ago, jointness, and all things joint, suddenly became the preferred mechanism to rekindle the unification ideals of the 1960s.[205]

While the term jointness is more strictly focused on the conduct of military operations in the US joint culture, the meaning in Canada has been broadened to include more than just the CF conducting joint operations. Jointness has become the organizing principle for the new CF, resulting in more integration of CF-wide and tri-service organizations, and adjustments to defence decision-making processes. Much of the early transformation of the CF over the past few years has been under the influence of jointness. Interestingly, in 2002, a senior officer studying at the Canadian Forces College suggested that the CF revisit integration and unification for the purpose of embracing jointness "as the solution to the current challenges of operational effectiveness, efficiency and dwindling budget."[206] In fact, his paper was five years late, as the joint "bandwagon" had already started without fanfare in the late 1990s.

The reality, however, is that jointness – the Canadian flavour – is just another differently wrapped version of the same progressive ideas that originally drove Hellyer to strive for a unified CF. Under the heading of "The Demands of Modern Warfare," in his address on the CF reorganization, Hellyer had predicted a greater role for integrating services for warfare, stating that "the White Paper of 1964 would not have recommended integration as a first step toward a single service if we had not been certain of the improved capacity of a unified force to meet the demands of modern warfare.... Commanders and staff … must act together and in unison as the situation demands.... I believe it is a fair conclusion that a single organization which works and thinks together day-in and day-out ... eliminates the self-inflicted problems associated

with the three-service system of coordinating combined [joint in today's parlance] operations."[207]

An astute observer of Canadian defence could have detected that a series of decisions and events of the past five years have created a *de facto* basis for organizational and doctrinal changes and decisions within the Canadian Forces, once referred to as unification, now all under the banner of jointness. Launched under the pretext of the concept of the "Revolution in Military Affairs" (RMA), jointness in Canada and in the US caught fire.[208] As Vice Admiral Gary Garnett, VCDS, stated in 2001, a few months before his retirement from the CF, "an RMA is actively shaping the Canadian Forces of the future... and we [the CF] must not squander this very real opportunity to create a truly modern, combat capable and joint CF."[209] The RMA was viewed as much as an opportunity as a challenge for the CF, as Sloan put it, because selected investments in the RMA can enhance the abilities of the CF to respond to high and low intensity tasks.[210]

Jointness and recently transformation are the new ideas dominating the agenda these days. Today, the expression "RMA" has for all intents and purposes disappeared from the military lexicon (the Americans have ceased using it, as have virtually all other armed forces). Joint entities, from committees to units/formations to doctrine manuals have mushroomed in the CF. Indeed, structures, organizations and projects bearing the term *joint* prominently in their titles will virtually guarantee their survival.[211] The 1994 Defence White Paper made one mention of joint activities, while *Defence Plan 1997*, the first integrated business plan at the strategic level, made scant mentions of jointness.[212] Prepared in 1999, *Strategy 2020* listed jointness as one of the eleven critical attributes of a future force structure.[213] Jointness now figures prominently in the last two CDS annual reports to Parliament. Moreover, one key measure of success to assess the progress of the transformation of the CF is jointness.[214]

An assessment of the progress made under the banner of jointness is indeed quite impressive. The CF can certainly congratulate itself on how far it has come in the past few years. At the strategic level, in terms of decision-making bodies, Armed Forces Council remains the highest joint strategic committee. A number of senior joint committees have been

created including the JCRB and the JCATs, discussed previously, and the Program Management Board (PMB). Closer to operations, the Joint Staff Steering Committee (JSSC), chaired by the DCDS, has been introduced to review all military-strategic issues of CF operations, while its more junior committee, the Joint Staff Action Team (JSAT), a highly integrated matrix-style committee inclusive of all functional disciplines necessary for the planning and controlling of operations, review on a daily basis all operational matters for on-going and future missions. The services are represented on these committees. The challenges at NDHQ, even in a unified force, have always been to integrate the environmental inputs for operations in a timely fashion, and the above two committees are filling this need.

While the day-to-day command structure of the CF has not changed significantly since the 1980s (some intermediate HQs were eliminated in the 1990s), the command and control of CF elements for contingency operations has been improved dramatically since the early 1990s, building upon the lessons learned from Operation FRICTION, the Canadian contribution to the First Gulf War in 1990-1991, the Oka crisis and, most notably, Operation DELIVRANCE, the 1993 peacekeeping mission to Somalia. In 1988, following concerns about the inability of NDHQ to plan operations, the CDS of the day commissioned an examination of the role of NDHQ in times of emergencies and war,[215] resulting in the Little-Hunter Study.[216] The study had confirmed that command arrangements for operations were flawed, plans for operations were often inadequate and responsibilities were unclear.[217] Unfortunately, the study was shelved by the new CDS, General de Chastelain, and it took repeated breakdowns of national command for the criticality of having foolproof arrangements during contingency operations to be understood by senior leaders.

The new doctrine for command and control of operations is now well tested and entrenched. Task forces, or joint task forces when two or more environments participate in the same operation (such as Operation *APOLLO*), are constituted as soon as a mission is launched, with the designated task force commander reporting directly to the DCDS, and not to the service Chiefs of Staff as was the case before the mid-1990s.[218] In addition, the DCDS is now supported by a fairly robust and highly professional military joint staff, a state-of-the art command centre (which

includes a fully integrated operations and intelligence centre),[219] a CF Joint Imagery Centre, and a CF Information Operations Group to assist him (and the CDS) to carry out his responsibilities.[220]   It is highly unlikely that a crisis of command similar to the one that took place during the missile Cuban crisis would develop in 2004.[221]

In terms of organizations and actors, the DCDS has accepted many additional responsibilities over the past five years, especially in the areas of joint force development and joint force generation.   Joint force development projects include several high profile CF joint projects such as the Canadian military satellite project, the joint space support project, and the nuclear-biological-chemical defence initiatives, to name a few. There are two aspects of the growth of the responsibilities assigned to the DCDS in the areas of joint force development that must be appreciated. First, projects assigned to the DCDS usually get resourced from the top of the funding envelope since they are considered, for the most part, to be high CF priority, usually having a very close link to CF operations and command and control. Second, the DCDS is the designated CF "joint champion" and he is being regarded (certainly by the CDS and the VCDS) as the "purple" honest broker, who will be mandated to develop joint force doctrine when the topic is clearly joint, pan-CF or the services cannot agree.[222]   While a senior-level unified staff organization has existed at NDHQ since the 1960s, the key difference today is that the DCDS has clear responsibilities and accountabilities for planning and commanding contingency operations on behalf of the CDS, and for the readiness and generation of several new joint units.

In the area of joint force generation, a major shift of philosophy took place in the CF with the decision in 1999 to separate the Joint Headquarters from the 1st Canadian Division structure, and to reassemble it under a new name and assign it to the DCDS.[223] Since then, formations and units that have been created, either from the amalgamation of existing units (that used to belong to the services)[224] or new creations, and include, among others, the Joint Operations Group (JOG), the Joint Support Group (JSG) , the Joint Signal Regiment (JSR), 1st Engineering Support Unit (1 ESU), and the Joint Nuclear Biological Chemical Defence (JNBCD) Company.[225] In addition, the CF Experimentation Centre (CFEC) was established in 2000 as a centre of excellence for joint concepts and experimentation to support CF

transformation.[226] There are other proposals on the table to transfer even more units to the DCDS group in the coming years.[227] More important, however, is the fact that little CF operational transformation is taking place in the CF these days without joint influence.

Needless to say, the impact stemming from the CF organizational restructuring around jointness is reducing the influence of the services at the operational and tactical levels. Joint restructuring is gradually but surely moving issues from the core service filters to the outer filters, where the services have less immediate influence and a reduced interest in some cases. Jointness, applied in the CF fashion, is "chewing" away at several elements that contribute to preserving the strong-service idea. Indeed, the growth and development of these CF or joint units is having a detrimental impact on the concept of independent strong services, for several reasons. For one, while the newly formed units are an important component of the transformation of the CF (a number of those had been enunciated in *Strategy 2020*), sustaining their growth – in an era of tight defence funding – entails taking funding away from the environments. Initiatives such as the JOG, JSG, JNBCD and CFEC are recent capabilities that had to be resourced from the centre from the same limited defence funding envelope.[228] Further, many of these new units have assigned high readiness roles, which usually mean that their manning priority is higher than other CF units, depriving personnel from the three environments to satisfy this higher CF priority need. Finally, instead of having only one champion to promote their growth, these new capabilities usually have two to three high-level champions in the persons of the VCDS, DCDS and other senior officers or officials.[229] In short, the muted decision by the senior CF leaders in the late 1990s to assign to the DCDS group the responsibilities to absorb and develop the joint capabilities of the CF is having significant repercussions, barely five years later. To a certain degree, the DCDS has become the "fourth service" that the Glassco Commission alluded to in their report – the "integrated independent direction."[230]

Progress toward a more unified CF has taken place in the past years, mostly to strengthen specific military capabilities and to improve operational effectiveness, but at times because adopting a joint approach made sense economically and was a convenient way to resolve service disagreements. Jointness has picked up many of the unification ideals, gradually undermining the strong-service idea. To add to this trend, the

centralization of many CF common activities and the civilianization of NDHQ are achieving almost as much for unification as jointness is, as will be explained in the next section.

CENTRALIZATION AND HQ CIVILIANIZATION: EVEN MORE DEFENCE INTEGRATION

The integration of common services has always been a dominant theme, even before the Hellyer days. The Glassco Commission, focusing on efficiency, had recommended the consolidation of common functions, further indicating "effective consolidation cannot be based on joint control by the three Services with the object of preserving the traditional responsibility of the three Chiefs of Staff for the control and administration of the Armed Forces."[231] As mentioned above, the Commission had even considered the creation of a fourth independent service with a single executive authority independent of the service Chiefs of Staff. While this fourth service never saw the light of day (nor did the idea of having one service provide the common services to the other two services), today's national defence command structure achieves many of the same objectives as envisaged by the Glassco Commission, namely, the provision of common services administratively controlled by several non-service actors.

The late 1990s saw an acceleration of the centralization of resources and several common services, as well as the privatization of non-core defence activities through an initiative called "alternate service delivery."[232] While many functions had been consolidated before (such as postal and dental services, for instance), the new centralization took place in two ways. First, the services were "nationalized" or unified from a control perspective (with the CF acronym added to their title) and, second, the field representation associated with the services was considerably reduced.[233] Examples of newly formed centralized services include the CF Personnel Support Agency (CFPSA),[234] the CF Housing Agency (CFHA)[235] and the creation of the CF Medical Group (CFMG).[236] Several other functions are now provided centrally under various groups, such as real property and many environment stewardship functions (ADM (IE)), legal services (JAG), and Public Affairs (ADM (PA)). An independent National Investigation Service, independent of the chain of command, and a Canadian Defence Academy (CDA) were also created. In the wake of the

1997 *Report to the Prime Minister on the Leadership and Management of the Canadian Forces*, the office of the Ombudsman and a CF Grievance Board were constituted.

In all these cases, significant resources in terms of personnel and operating budgets were either taken off the top of the DND budget, or completely or partially transferred from the three services; more importantly, control of several activities which used to be within the purview of the services has been completely removed. To top it off, many activities are being contracted out, including operational support tasks that used to be considered the sole purview of the military and the services. In sum, the integration and centralization of common functions and privatization are doing much for unification of the CF.

The continued civilianization of NDHQ since the early 1970s, whereby civilian public servants perform more functions in the integrated defence headquarters, is also robbing the limited influence the services have left in defence management.[237] Again, the Glassco Commission had planted the seeds with its 1963 report, believing that "the career opportunities for civilians in the senior management of supporting activities should be enlarged."[238] It recommended the creation of a strong civilian group to balance the advice the minister received from the Chiefs of Staff Committee. Under Hellyer, reforms took place that increased the power of the deputy minister.[239] The climax of this transformation came in 1972 with the shotgun wedding of DND with CFHQ into "what was for all practical purposes a single bureaucratic organization."[240] This was the result of a study by the Management Review Group (MRG) appointed by the MND in 1971, tasked to examine all aspects of the management and operation of DND.[241] While flawed in its depth of analysis and conclusions,[242] the study nevertheless made recommendations that are continuing to have a significant impact on Canadian defence, the most important of which being its suggestion to amalgamate the CFHQ and the Defence headquarters into one NDHQ (which took place in 1972).[243] To this day, Hellyer contends that this "final" civilian-military headquarters integration, which was certainly not his inspiration, was and continues to be a mistake.

Since the HQ reductions of the 1990s, the number of senior departmental civilian positions has increased,[244] and in many cases, the

rank of the positions has crept up in order to remain competitive with industry.[245] Moreover, positions that used to be filled by military personnel are now, for all intents and purposes, "hard" civilian posi-tions.[246] The distressing part of this latest civilianization of NDHQ is that civilian officials arriving at Defence frequently have very little, if any, prior knowledge of defence before being parachuted into Defence to "learn the ropes" within a large department.[247] Some senior military officers will admit, however, that in some instances, the fact that these new civilians are usually well versed in the Ottawa bureaucratic process (many of them having worked at Treasury Board or the Privy Council Office) has brought benefits to selected areas of defence.

Bland contends that the "integration of the NDHQ civilian and military staff has … heightened the conflict between the two elements … and has created institutional ambiguity."[248] Granatstein has argued that the 1972 reorganization and its repercussions were certainly at least as significant as unification in its long-term impact on the Canadian military.[249] As one management consultant concluded in 1982, "[a]lthough the number of civilians has not increased, the present structure of the department has allowed civil servants to penetrate many areas which were previously exclusively military."[250] It was in 1972 that the CDS and his senior commanders at NDHQ began losing their control over the CF, providing public servants "a degree of authority over military affairs without responsibility for military accountability or performance."[251]

Since the mid-1990s, changes in the headquarters in clarifying responsibilities and accountabilities between senior officers and officials have somewhat corrected this untidiness and adjusted the responsibility imbalance that had accumulated over thirty years.[252] Further, as Bland and Maloney note, the increased "focus on actual operations [in the last ten years] has disarmed civilian advisors skilled and experience in old times and old ways of thinking.... The demand in Ottawa to cope with actual conflict situations increases the status and power of military advisors with present-day experiences."[253] In sum, there is more unity in the general staff at NDHQ than there has been in years, with the CDS and his closest advisors (VCDS and DCDS) being more influential than ever. The impact for the service Chiefs of Staff is that they have continued to lose power, authority and influence, to the "fourth service," to other defence agencies, to contractors and even to assistant deputy

ministers. There is certainly no indication that this trend is about to change.

ATTAINING THE ELUSIVE HIGHER LOYALTY: THE LAST PIECE OF THE PUZZLE

Military parochialism – defined at the individual level as a service member's "traditional loyalty to service or military specialty over the armed forces as a whole, whatever his or her rank or position"[254] – is probably the most serious obstacle preventing meaningful reform over the last fifty years and sustaining the strong-service idea. It should not, therefore, be surprising that most of Hellyer's hopes in reforming the military institution rested on redirecting the loyalties of the officers and men away from their traditional service to the newly unified force. He readily acknowledged the challenges he was facing with his unification ideals, stating that, "it would be surprising if men who had been associated and identified with individual services did not encounter some difficulty in the re-alignment of loyalties involved in the establishment of a single Service."[255] Recognizing that CF members would continue to have "intense loyalties to the fighting units and broader associations within it," he nevertheless strongly believed that loyalty to a unified CF could be achieved.

> It is nonetheless important that a sense of purpose and a sense of belonging to a single Service, covering all aspects of defence and designed to tackle the complex defence problems of the future, be developed. The band of brothers must take in the whole family…. One force, with one name, a common uniform, and common rank designation will nurture this total family loyalty.[256]

While Hellyer frequently stated that loyalty to unit and formation was important and needed to be retained, military leaders have always had primary responsibility for providing a sense of purpose to members of their units. Primarily, they did so by identifying and reinforcing shared values and identities, and linking unit goals and tasks to these values and identities. As Kronenberg wisely remarked in 1973, "if environmental tensions act inevitably against unification and if they are … 'of their very nature insoluble,' then overlooking them can only cause their effects to erupt somewhere in the structure at some future date."[257] In fact, what

was, and is still, required is recognition that in a military force loyalty has to gradually evolve with rank and responsibility, with the senior officers as they rise in rank progressively adjusting their loyalty to the nation as embodied through the unified CF.

Bland tried to pinpoint the source of the struggle for the officer corps to develop a higher loyalty to the institution and the government of Canada, to explain why unification did not catch fire, and to identify the challenges the CF faced in this regard. He pointed out, in 1995, that the problem of the decline of the intellectual and pragmatic values of unification since its introduction "is exaggerated by the ascent to high command of officers promoted within their own services for advancing their service's interests and [which] has produced, predictably, an officer corps that for the most part still perceives its responsibilities in service terms."[258] This obstacle, which Hellyer faced in the 1960s, remains to a certain extent to this day, and it is fair to state that the services' influence on the career of officers was further amplified by the outcome of the disastrous Somalia mission and the lessons learned from the failure of some of its senior leaders and commanders.[259] The process for selecting commanding officers and commanders explained below is a case in point.

In 2004, senior officers who reach the rank of colonel/captain (navy) and are eligible for promotion to the general/flag officer rank are selected for promotion through the use of an integrated CF merit selection process, without consideration of the service they come from. Of significance, however, is the fact that the single most important influence on their advancement to that level remains their opportunity to command units or formations at the senior officer ranks. Without command, there is almost no chance of any promotion to higher ranks.[260] The lessons derived from the Somalia mission of 1992-1993, exposed through the subsequent Somalia Inquiry, coupled with the growth, nature and importance of CF contingency expeditionary operations over the past ten years have placed a very high premium on command ability and field experience for senior officers – this is as it should be. While services certainly have no direct influence or control over the promotion merit process, their ability to decide who gets command assignments is a *de facto* control mechanism on officer progression. Every senior officer knows this.

Minister Doug Young mandated in March 1997 that a formal selection process be established to ensure that only the best are selected for command and senior leadership positions in the CF.[261] Soon after, the ECSs and superior commanders established command selection boards.[262] For command positions not controlled directly by one of the three ECSs, nominations that need to be considered by the command selection boards are proposed by the ECSs.[263] Therefore, any senior officer striving for command, including short-tour command positions for international operations, must have been recommended by his affiliated environment. This is not to say that the process is flawed; on the contrary, the command selection process is fairly rigorous. In some cases (such as positions outside the ECSs), two separate boards must recommend an individual, and this recommendation requires formal endorsement by the superior commander before gaining the command appointment. It is thus manifest from the above that much greater attention is devoted to selecting the most qualified officers for command. The point made here, however, is that while the influence of the functional branches and regiments in selecting commanders has been nearly eliminated, the services remain the most dominant influence in the career of an officer, at least up to the rank of colonel/captain (navy), which weakens any achievement of a higher loyalty to the CF.

On the positive side, much progress has being made in the past years to ensure officers develop the necessary higher loyalty as they go up in rank. In one important step forward there has finally been a formal recognition that loyalty should evolve over one's career. The recently published cornerstone manual on the profession of arms in Canada, *Duty With Honour*, acknowledges, after almost forty years of denials by the unification conformists, the importance of environmental identities to the armed forces:

> The [military] ethos permits Environmental distinctiveness and allows for cultural adaptation…. These unique-to-Environment expressions of ethos derive from and reflect the distinct military functions associated with sea, land and air operations…. The unifying power inherent in the concept of the Canadian Forces must be balanced against the differentiation of the three Environments, which is essential for readiness, generating force, and sustaining a multi-purpose combat-capable force.[264]

In concert with this new belief, it is therefore imperative, as Bland recommended in 1995, that traditions that flow from the history of warfare be incorporated appropriately in the CF. At the same time, senior officers must be educated to a higher loyalty that places the unified CF above service.[265] In this regard, the continued development of a completely unified/joint Command and Staff course at the Canadian Force College for majors/lieutenant-commanders[266] and the creation of the Advanced Military Studies and the National Security Studies courses for colonels/captains (navy) are making an important contribution to this end. With graduates of the first courses now reaching senior general/flag officer rank, it will be interesting to observe, in the coming years, the change in attitude that will take place with those officers. To minimize the influence of the services on senior officers, it is further suggested that selection for any colonel/captain (navy) command appointment be conducted through the use of CF integrated boards, in lieu of ECS boards, in the same fashion that is currently done for promotion selection. Finally, it is expected that with the continued growth of the "purple" positions within the CF and joint positions in international organizations, more and more officers will develop this higher loyalty earlier in their career, and truly develop this sense of higher purpose to the CF.

PART V – CONCLUSION: FROM INTEGRATION TO UNIFICATION TO JOINTNESS TO TRANSFORMATION

Writing in 1990, Hellyer lamented that, "perhaps it was inevitable that there would be some regression in the twenty years since unification became law."[267] The return in the early 1980s of the commanders of the commands as members of Armed Forces Council and, more visibly, the introduction of distinctive service uniforms in 1984 have also been contributors to the decline of unification. There was clearly a retrenchment of unification in the 1980s and 1990s, a period of "disintegration," as English called it. General Thériault remarked in 1993, that unification had been a traumatic experience for the CF, suggesting that DND was "overdue for a comprehensive and independent 'hard look' from the standpoint of a unified Force which has drifted somewhat from the spirit of the 1966 Canadian Forces Reorganization Act.... Such a comprehensive re-examination is overdue because the driving concepts, at best, have had no more than incremental adjustment for decades."[268]

The de-unification that started slowly soon after Hellyer left office[269] was certainly accentuated by several additional factors in the 1990s that included, most notably, the devolution of budgets and a greater focus on operational effectiveness. These actions and others coalesced to amplify the power of the Chiefs of Staff and gave them both the moral authority and the autonomy to undertake activities that specifically addressed the needs of their service, with more latitude and flexibility that was even considered possible in the 1970s. In 1995, Bland added to Thériault's diagnostic of the CF, reasoning that, "[t]he decline of the intellectual and pragmatic values of unification as the organizing concept for the CF and the failure to replace it with another clearly enunciated and officially sanctioned basis for organization and decision, increased the de facto power of ... the so-called service chiefs.[270] He added that defence policy makers were faced again, as in 1964, with a structure that was eccentric and in which the survival of its elements had become a crucial objective.

As this essay has argued, much has changed in the last ten years in the CF, and the ideas and concepts behind integration and unification are as strong as they have ever been since Hellyer left the department in 1967. To some extent, many of the same unifying concepts were rejuvenated as a result of crises, government policies and senior-level decisions that unconsciously created second and third order unification effects. For instance, the impact of dwindling defence budgets that decimated the CF through the 1990s resulted in the Chiefs of Staff and their subordinate commanders having very limited resources to accomplish their daily tasks, to the point where the issue of insufficient authority for effective mission accomplishment – a theme so frequently raised only a decade ago – is now largely moot. Centralization, privatization and alternate service delivery, and civilianization are now concepts that have become tolerable to the Chiefs of Staff, and that have contributed to more integration of the CF. In the end, however, it is the "old-fashioned" ideas of "single coherent defence policy" and "top-down" strategic planning which, when combined with the joint influence, are weakening the strong-service idea, and unifying the CF in ways that Pope, Claxton, Pearkes, Foulkes and Hellyer had only dreamed.

The concept of unification has been used over the years to serve different unifying purposes. For Colonel Pope and Minister Hellyer, it meant the achievement of one unified defence policy instead of three un-coordi-

nated service policies. There are certainly many signs indicating that the current Liberal government intends to develop and implement a new defence policy that will respond to a new international policy framework for Canada. Despite the criticism voiced by the Minister's Advisory Committee, significant efforts have been devoted in the past few years inside the department to develop a coherent integrated and unified capability-based planning framework. Some of the changes have been more significant than is frequently acknowledged, and the recent publication of the SCIP is a prime example that there is more inter-service integration than before, more top-down direction, and that the senior department leaders (MND, DM and CDS) are personally engaged in this important definition process. Equally vital in this dynamic, the three service Chiefs of Staff must to continue to have sufficient influence to be able to provide service-level professional military advice to the CDS, DM and the Minister, as necessary. This last element must remain an important component of the equation in a professional military institution.[271]

The expansion of the DCDS group is probably achieving more in unifying the CF, especially in the areas of joint force development and joint force generation, as well as in the critical sphere of national command with the enhancement of capabilities for commanding and controlling contingency operations. There are more joint/CF units than there have ever been since unification was launched, providing more opportunities for junior officers to serve in units outside of their service. In terms of integration of common support services, some duplication and triplication has been eliminated, with more tri-service functions being delivered from central groups, agencies and units. But there remains much work to be done in this realm. A senior general/flag officer speaking recently at the Canadian Forces College indicated that, in his estimation, there will be more unification in the CF in the coming years, but that the changes will be done astutely and in an evolutionary fashion. It seems that the new generation of senior leaders has learned the hard lessons of the 1990s, in that "swinging the pendulum" hard and recklessly is not the most effective approach for changing a military institution.

It is at the tactical level of the institution that the services continue to have influence and a strong role to play – and this is how it should be. Granatstein argued recently that Hellyer went one step too far in trying to implement his higher loyalty concept, that "[h]e wanted something above

single service loyalty – a loyalty to the Canadian Forces. But loyalty to the navy, army, and air force, to corps and regiments, ships, and squadrons was vital for sailors, soldiers and air-men and women whose job was to fight and risk their lives to serve their country's interests.... [I]t was heritage, tradition, and hard-earned distinctions to fighting men."[272] Unfortunately, Hellyer could never understand this distinction, and tried wholesale unification as the panacea for obtaining a unified defence policy. In this regard, a reasonable balance is being achieved in 2004 – as was enunciated in *Duty with Honour* – with the recognition that services have an essential role to play in taking the newly recruited soldiers, airmen and airwomen, and sailors and turning them into combat-capable individuals, and into fighting units. The reality is that a service-centred culture up to unit level is well ingrained into the existing CF culture; it is necessary and is certainly not detrimental to the implementation of the defence agenda. As English insists, "[t]o avoid the potential dysfunctional effects of misplaced loyalties, the leadership of the CF must ensure that there is a healthy balance between small group loyalty and loyalty to the organization."[273] It took forty years for the CF institution to properly articulate in *Duty with Honour* what the three service Chiefs of Staff could not get across to Hellyer in the mid-1960s.

It remains a truism, even in 2004, that "there is no clearly enunciated and officially sanctioned basis for organization and decision" in the CF, although elements of *Strategy 2020* attempted to address this void. As argued in this essay, for the past five years there has been, for all intents and purposes, a basis for moving the CF institution forward, largely centered on centralization and jointness. In spite of this progress, the institution remains confused in a number of areas affecting day-to-day defence management. Accordingly, it will be imperative for the first CF "Strategic Operating Concept" and the forthcoming "Strategy 2025" to articulate a pragmatic vision and strategy for the organization and for decision-making within the CF and the department. Failure to do so will continue to engender misunderstandings, promote uncertainty and create unneeded tensions within the institution and within the department at large.

In spite of the important work that remains to be done, the CF institution appears well poised to enter the next phase of its evolution. Events and activities of the past fifty years have always pitted the two powerful

concepts of unification and the strong-service idea against each other. It is evident that the enduring concept of unification, espoused over the years by some senior leaders, is returning as the more dominant idea, with the strong-service idea becoming more submissive to the higher needs of Canada's national defence. To a large degree, it is jointness that has launched the re-unification that Granatstein hoped for in his recent book, with other important concepts and events contributing along the way. The "tug of war" between unification and the strong-service idea is certainly fading, which will greatly facilitate the CF transformation that the CDS is anticipating in the coming years. Winston Churchill once said, "There is nothing wrong with change, so to be perfect is to have changed often."[274] There is indeed nothing wrong with more change in the Canadian Forces.

EPILOGUE

Since this paper was written in spring 2004, General R.J. Hillier was appointed the new CDS on 4 February 2005. Within days of assuming his functions, Hillier enunciated a new bold vision of the CF, one that envisions the acceleration of CF transformation and the integration of many elements of the CF, adding to the unification idea. The 23 February 2005 federal budget committed over $12B of new funding for defence, the largest five-year increase in over twenty years. The latest Canadian Defence Policy Statement of March 2005 confirmed the new CDS vision and the Canadian Government's commitment to transform the CF to meet the challenges of the 21ˢᵗ century.

NOTES

1   J.L. Granatstein, *Who Killed the Canadian Military?* (Toronto: HarperCollins Publishing, 2004), 94.

2   For the reader interested in more information on the "role of ideas" in influencing policy forma-tion and the processes of decision-making, see "Ideas and Canadian Public Policy," in Bruce G. Doern and Richard W. Phidd, eds. *Canadian Public Policy: Ideas, Structure, Process* (Scarborough: Nelson Canada, 1992), 35-44.

3   The Act to unify the Canadian Armed Forces (CAF) was Bill C-243, The CF Reorganization Act, passed by Parliament in 1967; the unification of the three services took place until on 1 February 1968.

4   There are occasional flare-ups that make the news. See notably the 1991 public debate between Vice Admiral Charles Thomas, Vice-Chief of the Defence Staff (VCDS), and General John de Chastelain, Chief of the Defence Staff (CDS), in "Warriors Cross Swords," *Vancouver Sun*, 1 May 1991, and "Defence in Disarray," *Globe and Mail* editorial, 30 Apr 1991.

5   Douglas Bland and Sean Maloney, *Campaigns for International Security* (Kingston, ON: School of Policy Studies, Queen's University, 2004), 43.

6   The environmental chiefs of staff are meant to include: the Chief of the Land Staff, the Chief of the Maritime Staff, and the Chief of the Air Staff, who have also retained the "Commander of Command" title. While the Deputy Chief of Defence Staff (DCDS) group has recently grown significantly, adding to its force employment responsibilities those of joint force development and generation, the DCDS is nevertheless not considered an ECS, but a group principal.

7   The term "defence management" is used in this paper to incorporate all elements of defence implementation and defence administration (defence policy is excluded). While the term "administration" was frequently used in the past, the term "management" is considered more inclusive. The object of defence management is to "establish, equip, and sustain the armed forces to produce as much usable coercive force as is possible from the resources provided by the government." Bland and Maloney, *Campaigns for International Security*, 57.

8   R.R. Henault, CDS Annual Report 2002-2003, available at:
http://www.cds.forces.gc.ca/pubs/anrpt2003/intro_e.asp, accessed on 15 Apr 2004.

9   The framework used for the analysis in this paper is loosely adapted from Bland and Maloney, *Campaigns for International Security*, 52-3.

10   Gerry Thériault, "Democratic Civil-Military Relations: A Canadian View," from Jim Hanson and Susan McNish, eds., *Canadian Strategic Forecast 1996: The Military in Modern Society,* (Toronto: The Canadian Institute of Strategic Studies, 1996), 12.

11   See Douglas Bland, *Chiefs of Defence* (Toronto: The Institute of Strategic Studies, 1995), for a more complete discussion on the attempts at coordination during the period 1922-1928, especially 31-7.

12   Colonel M.A. Pope, "Memorandum on a Canadian Organization for the Higher Direction of National Defence: 8 March 1937," in Douglas L. Bland, ed., *Canada's National Defence Volume 2: Defence Organization*, (Kingston, ON: Queen's Univ., School of Policy Studies, 1998), 7-20. Colonel Pope reached the rank of Lieutenant-General toward the end of the Second World War and was appointed as the military secretary to Prime Minister Mackenzie King.

13   Pope, "Memorandum," 9.

14   Bland, *Canada's National Defence Vol. 2: Defence Organization*, xv-xvi.

15   Pope, "Memorandum," 9. Pope did not used the term "joint" which was coined much later. In those days, the term "combined operations" was often used to refer to operations involving two or more services of one country.

16   R.L. Raymont, *Report on Integration and Unification*, (Ottawa: Department of National Defence (DND), 1982), 1.

17   Douglas Bland, *The Administration of Defence Policy in Canada* (Kingston, ON: Ronald P. Frye & Company, 1987), 13-14.

18   The policy document is now commonly referred to as the 1947 White Paper on Defence. See Douglas Bland, ed., *Canada's National Defence Vol. 1* (Kingston, ON: Queen's Univ., School of Policy Studies, 1998), 1-56, for a complete discussion and a copy of the defence policy document.

19   Bland, *Canada's National Defence Vol. 1*, 4.

20   Bland, *The Administration of Defence Policy in Canada*, 15. Emphasis added.

21   Raymont, *Report on Integration and Unification*, 2.

22   Claxton also made other progress, re-opening the Royal Military College of Canada as a tri-service institution, creating a National Defence College and a unified Defence Research Board and integrating some support services such as the military's legal and dental services, with one of the armed services operating the specific function for the other two. Raymont, *Report on Integration and Unification*, 2-3.

23   Bland, *The Administration of Defence Policy in Canada*, 23.

24   Raymont, *Report on Integration and Unification*, 3.

25   Bland, *The Administration of Defence Policy in Canada*, 23.

26   Raymont, *Report on Integration and Unification*, 3.

27   Raymont states that these views were presented verbally to Minister of National Defence (MND) Pearkes. Based on an interview of General Foulkes by Raymont, see *Report on Integration and Unification*, 4.

28   Raymont, *Report on Integration and Unification*, 4.

29   General Foulkes, as quoted in Bland, *The Administration of Defence Policy in Canada*, 44. In 1963, while appearing before the Special Committee on Defence, Foulkes voiced similar comments again, and summed up very well the challenges associated with complete integration: "I think that what is required to put this plan in motion is really a decision by the government that this will be done. This is not something you can expect the Chiefs of Staff to do on their own, because … it is going to be very difficult to put this to a Chief of Staff and tell him to cut his throat. Therefore, this has to be imposed on the Chief of Staff by the government."

30   During the period 1957-1963, Paul Hellyer was the *de facto* defence critic for the Liberal opposition.

31   These included the rushed decision to establish a joint international command for North American air defence (i.e., NORAD), the cancellation of the Avro CF-105 Arrow, the selection of the Bomarc anti-aircraft missile, the acquisition of interceptor aircraft, namely 66 American F-101B "Voodoo," the re-equipping of the Canadian units allocated to NATO and the changing of their role (with respect to nuclear warheads), and the problem of control and deployment of nuclear weapons. Jon McLin, *Canada's Changing Defence Policy 1957-1963: The Problem of a Middle Power in Alliance* (Baltimore: John Hopkins Press, 1967), 3.

32   Critchley, "Civilization and the Canadian Military," in B.D. Hunt and R.G. Haycock, eds., *Canada's Defence: Perspectives on Policy in the Twentieth Century* (Toronto: Copp Clark Pitman Ltd., 1993), 229.

33   Bland, *Chiefs of Defence*, 52.

34   Bland, *Chiefs of Defence*, 16.

35   Bland, *The Administration of Defence Policy in Canada*, 23.

36   Bland, *Chiefs of Defence*, 2.

37   Accounts of the military aspects have focused on Diefenbaker's reluctance to declare a formal alert rather than MND Harkness' decision to increase the war readiness of the CF without Cabinet authorization. This is not the complete story. The military took independent action in the belief that the international situation was deteriorating rapidly. Canadian naval and air commanders increased the levels of readiness of their forces before the crisis became public. Peter T. Haydon, *The 1962 Cuban Missile Crisis: Canadian Involvement Reconsidered* (Toronto: The Canadian Institute of Strategic Studies, 1993), 207.

38   McLin, *Canada's Changing Defence Policy*, 3-4.

39   Haydon, *The 1962 Cuban Missile Crisis*, 1.

40   As quoted in Bland, *Canada's National Defence Vol. 2*, 21.

41   Defence became a major focus of the commission's inquiry and was singled out for a number of reasons (size, unique composition of department, the range and cost of its activities). Report 20 on DND recommended that the three armed services should be integrated under a single authority, and also greater interchange of officers and civilians in the higher HQ. Bland, *Canada's National Defence Vol. 2*, 21; and Raymont, *Report on Integration and Unification,* 10.

42   Bland, *The Administration of Defence Policy in Canada*, 31.

43   Bland, *Chiefs of Defence*, 59.

44   The expression is adopted from MND Brooke Claxton, from Bland and Maloney, *Campaigns for International Security*; see 75-84 for a more complete discussion on the "facts of national life."

45   Bland, *The Administration of Defence Policy in Canada*, 23.

46   See notably Hellyer, *Damn the Torpedoes: My Fight to Unify the Canadian Forces* (Toronto: McClelland and Stewart, 1990); Bland, *Chiefs of Defence; Raymont, Report on Integration and Unification*; David P. Burke, "Hellyer and Landymore: The Unification of the Canadian Armed Forces and an Admiral's Revolt," *American Review of Canadian Studies* 8 (Autumn 1978), 3-27; and Vernon J. Kronenberg, *All Together Now: The Organization of the Department of National Defence in Canada 1964-1972* (Toronto:

Canadian Institute of International Affairs, 1973).

47   Bland, *Canada's National Defence Vol. 2*, 58.

48   Hellyer, *Damn The Torpedoes*, 33-4.

49   In 1962, the DND had two structures, one under the direction of the Deputy Minister (DM) concerned with administration, finances and procurement, and another under the control of the three service Chiefs of Staff (COS) dealing with operations and training. The COS Committee only directed non-operational activities of the three COS. The DM controlled half of the defence bureaucracy and oversaw a comprehensive fiscal and administrative control system that allocated funds to the three service chiefs and screened their procurement proposals. Haydon, *The Cuban Missile Crisis,* 88.

50   Hellyer, *Damn The Torpedoes*, 36.

51   Bland, *Canada's National Defence Volume 1*, V61.

52   Kronenberg, *All Together Now*, 20.

53   Bland, *The Administration of Defence Policy in Canada*, 48.

54   *White Paper on Defence,* in Bland, *Canada's National Defence Vol. 1*, 92.

55   Bland, *Canada's National Defence Vol. 2*, 97.

56   Bland, *The Administration of Defence Policy in Canada*, 41.

57   Bland, *Chiefs of Defence*, 17, 72.

58   Bland, *Chiefs of Defence*, 76.

59   Paul Hellyer, "Address on the Canadian Forces Reorganization," 7 December 1966, in Bland, *Canada's National Defence Vol. 1*, 109

60   Bland, *Canada's National Defence Vol. 1*, 62.

61   A complete summary of the positive and negative effects of unification is detailed in R.L. Raymont, *The Formulation of Canadian Defence Policy 1968-1973: Developments after Proclamation of Bill C-243 and Implementing Unification* (Ottawa: DND, 1983), 70-81.

62   For a diagram of the new HQ organization, see Hellyer, *Damn The Torpedoes*, 88.

63   For a detailed description of the organization and its evolution during the period 1964-1968, see Raymont, *Report on Integration and Unification*, 49-70 and 101-105.

64   Bland, *The Administration of Defence Policy in Canada*, 159.

65   Ibid. The Defence Services Program, which provided an overview of resource allocation and re-allocation decisions across the Department was in place as well.

66   The six commands included: Mobile Command which encompassed the army and tactical air support; Maritime Command; Air Defence Command; Air Transport Command; Training Command; and Material Command. For a detailed discussion on the creation of the commands, see Raymont, *Report on Integration and Unification,* 70-101.

67   Implicit in the 1964 White Paper and subsequent direction from the Minister "was an assumption that there must be decentralization of authority... [with] field commands participating in policy formulation to a greater extend." Raymont, *Report on Integration and Unification*, 74.

68   The reduction in personnel was estimated at 25,000 over the period 1964 to 1969. Hellyer instituted a single recruiting system, a common basic training organization and trades training system, a single comptroller-general and a common pay system, a uniform personnel system, a common logistics system and integrated technical services branch, combined public relations, as well as integrated construction engineering and real property, intelligence and communications.

69   Hellyer, "Address on the Canadian Forces Reorganization," 92.

70   Kronenberg, *All Together Now*, 9-10.

71   G.G. Simonds, "Commentary and Observations," in Hector J. Massey, ed., *The Canadian Military: A Profile* (Toronto: Copp Clark Publishing Co., 1972), 269.

72   Ibid., 288.

73   Hellyer, *Damn The Torpedoes*, 223-4.

74   For a highly critical review and analysis of five military operations in which the US military failed

to accomplish its mission, see Richard A. Gabriel, *Military Incompetence: Why the American Military Doesn't Win* (New York: Hill and Wang, 1985), 3-5.

75   Also see Bill Owens, *Lifting the Fog of War* (Baltimore: The Johns Hopkins Univ. Press, 2000), for a list of mishaps starting with Pearl Harbor in 1941, 152-5.

76   The late Carl Builder argued that the US armed services may have become the most powerful institution in the American national security arena; this is certainly not the case in Canada. See Carl Builder, *The Masks of War: American Military Styles in Strategy and Analysis* (Baltimore: The Johns Hopkins Univ. Press, 989), 3.

77   Between 1921 and 1945, Congress considered some 50 proposals aimed at reorganizing the US Armed Forces, some of which contemplated the complete unification of its separate services into one military force. Douglas C. Lovelace Jr., *Unification of the United States Armed Forces: Implementing the 1986 Department of Defense Reorganization Act* (Carlisle: US Army War College, Strategic Studies Institute, 1996), 1.

78   Congress still feared the creation of too much centralized authority over the military. Lovelace, *Unification of the United States Armed Forces*, 5.

79   Bernard Brodie, *War and Politics* (New York: The Macmillan Company, 1973), 464.

80   Owens, *Lifting the Fog of War*, 162.

81   Brodie, *War and Politics*, 464-5.

82   Owens, *Lifting the Fog of War*, 162.

83   William A. Owens, "Making the Joint Journey," *Joint Force Quarterly* 21 (Spring 1999), 78.

84   The act is officially called the *Goldwater-Nichols Department of Defense Reorganization Act of 1986*, which consisted of introducing amendments to Title 10 of the *United States Code*, available at http://uscode.house.gov/title_10.htm, accessed 3 April 2004.

85   Archie D. Barrett, as quoted in James R. Locher III, "Taking Stock of Goldwater-Nichols," *Joint Force Quarterly* 13 (Autumn 1996), 35.

86   Ibid., 34.

87   Owens, *Lifting the Fog of War*, 164.

88   The two operations most frequently referred to, which eventually led to the Goldwater-Nichols Act were: Operation *URGENT FURY*, a US military effort to rescue and evacuate endangered citizens on the Caribbean Island of Grenada in 1983, and Operation *EAGLE CLAW*, a joint military service operation to rescue hostages at the American embassy in Iran.

89   Barrett, as quoted in Locher, "Taking Stock of Goldwater-Nichols," 34.

90   Locher, "Taking Stock of Goldwater-Nichols," 40.

91   Owens, "Making the Joint Journey," 76.

92   Owens, *Lifting the Fog of War*, 152.

93   Douglas A. Macgregor, "A Decade, No Progress," *Joint Force Quarterly* 27 (Winter 2000-2001), 18. Macgregor conducted an analysis of the progress of joint warfighting in the US in the 1990s and a study of the lessons of major joint operations.

94   Ibid., 20, 23.

95   John J. Sheenan, "Next Steps in Joint Force Integration," *Joint Force Quarterly* 13 (Autumn 1996), 46.

96   R.R. Henault, "Joint combat capability and interoperability," in *CDS Annual Report 2002-2003*.

97   See Eliot A. Cohen, *Supreme Command*, "Afterword" in paperback edition (Toronto: Random House of Canada, 2003), for a detailed account of "Rumsfeld's War," 227-8.

98   Donald Rumsfeld, "Transforming the Military," *Foreign Affairs* 81, no.3 (May/June 2002), 20-32.

99   Transformation is the process of changing form, nature or function. Within the US military, "transformation requires changing the form, or structure of our military forces; the nature of our military culture and doctrine supporting those forces; and streamlining our warfighting functions to more effectively meet the complexities of the new threats challenging our nation in the new millennium." From the USJFCOM web site, at http://www.jfcom.mil/index.htm, accessed on 15 April 2004.

100   Elinor C. Sloan, "Terrorism and the Transformation of US Military Forces," *Canadian Military Journal* 3, no. 2 (Summer 2002), 23.

101   See Robert Schlesinger, "Rumsfeld, Army leaders in discord," *The Boston Globe*, 9 January 2003; and Barbara Starr, "Rumsfeld, Army chief on collision course," *CNN.com*, 6 May 2002, available at http://www.cnn.com/2002/US/05/06/rumsfeld.army.sec, accessed 15 April 2004.

102   Bland and Maloney, *Campaigns for International Security*, 73.

103   Bland, *Chiefs of Defence*, 16.

104   Allan D. English, *Understanding Military Culture: A Canadian Perspective* (Montreal: McGill-Queen's Univ. Press, 2004), 87.

105   Graham Allison, *Essence of Decision: Explaining the Cuban Missile Crisis* (Boston: Little, Brown and Company, 1971).

106   Allison, *Essence of Decision*, 144.

107   Ibid., 145. In addition, Samuel Huntingdon, who analyzed US defence policies and force postures from the end of the Second World War to 1960, focused specifically on one segment of defence policy – namely, decisions on the overall size of the military effort, force levels, and weapons. His investigation reinforces the deductions argued by Bland. Huntingdon went on to argue that decisions are explained not as the product of expert planning but rather as the "result of controversy, negotiations, and bargaining among officials and groups with different interests and perspectives." Quoted in Allison, *Essence of Decision*, 156.

108   Kim Richard Nossal, "Rationality and Non-Rationality in Canadian Defence Policy," in David B. Dewitt and David Leyton-Brown, eds., *Canada's International Security Policy* (Scarborough: Prentice-Hall Canada, 1995), 353-4.

109   Ibid., 353-5. While the bureaucratic politics model discussed by Nossal is intended for the entire defence policy process, a microcosm of this model can be tailored to analyze issues presented in this paper, and by adapting Nossal's argument to the service Chiefs of Staff.

110   See Bland and Maloney, *Campaigns for International Security*, 30-54, for a more complete discussion. Their study only became available while this paper was being finalized; hence the more extensive references to earlier publications by Bland on this topic.

111   Bland, *Chiefs of Defence*, 4.

112   Ibid., 5.

113   Adapted from Allison, *Essence of Decision*, 157.

114   Builder, *The Masks of War*, 3. Emphasis added.

115   Builder admits that there is a risk in attributing a personality to an institution, more so when that personality is imbued with motives. It is by looking at their behaviour and their history – instead of their words – that one can best explain the institutions, since those reflect their character or personality. His study presents a short discussion on this issue. See Builder, *The Masks of War*, 10-11.

116   Ibid., 17-30.

117   A detailed analysis of Canadian military culture and its differences with American military cultures is presented in English, *Understanding Military Culture*.

118   See notably the recent speech by the then Chief of Maritime Staff (CMS) to the 2004 annual general meeting of the Conference of Defence Associations, as the Navy positions itself for the forthcoming defence policy review. Admiral Ron Buck, "The Canadian Navy: In the Vanguard of Canadian Foreign and Defence Policy," available at http://www.cda-cdai.ca/english-frame.htm, accessed 15 April 2004.

119   Examples abound, such as the Korean War and the Persian Gulf War.

120   In this regard, the words and emphasis of Rear Admiral Landymore, who was eventually fired for his opposition to unification, are instructive. Speaking to his personnel about the effect of unification on the Navy, he "had repeatedly told his subordinates that there was no plan to destroy Service identity or morale or to replace the traditional Service uniforms." David P. Burke, "Hellyer and Landymore: The

Unification of the Canadian Armed Forces and an Admiral's Revolt," *American Review of Canadian Studies* 8 (Autumn 1978), 5.

121   Bland, *Chiefs of Defence,* 70.

122   DND, *Leadmark: The Navy Strategy for 2020,* available at

http://www.navy.dnd.ca/leadmark/doc/index_e.asp, accessed 15 April 2004.

123   Builder, *The Masks of War*, 32-3.

124   The establishment of Air Command in 1975, as a de facto Air Force headquarters, in essence re-created the Canadian Air Force as an independent entity.

125   Builder, *The Masks of War*, 32-3.

126   English, *Understanding Military Culture*, 95-6.

127   See also Gerry Thériault, "Reflections on Canadian Defence Policy and its Underlying Structural Problems," *Canadian Defence Quarterly* (July 1993), 8. Thériault also stated "that the healthy trend of growing internal cohesion was arrested by the government's ordered decision to re-introduce distinct environmental uniforms."

128   Owens, *Lifting the Fog of War*, 53.

129   Owens, *"Making the Joint Journey,"* 93.

130   Some critics may argued that issues of "vital" national security are too important to be "settled" through the influence of service filters, and therefore, for obvious reasons, should not be affected by them.

131   Bland, *Chiefs of Defence*, 4.

132   These would include the Armed Forces Council, Defence Management Committee and Joint Capability Requirements Board, chaired by either the CDS or co-chaired by the CDS/DM.

133   Bland, *Chiefs of Defence*, 224.

134   Bland and Maloney, *Campaign for International Security*, 79.

135   Thériault, "Reflections on Canadian Defence Policy and its Underlying Structural Problems," 8.

136   Ibid.

137   Bland and Maloney, *Campaigns for International Security*, 82.

138   Bland, *Chiefs of Defence*, 158.

139   Bland and Maloney, *Campaigns for International Security*, 77.

140   Ross Graham, "Civil Control of the Canadian Forces," *Canadian Military Journal* 3, no. 1 (Spring 2002), 27.

141   Bland, *Chiefs of Defence*, 159.

142   Ibid., 15.

143   The DCDS is responsible on behalf of the CDS for planning and commanding and controlling of contingency international operations, and thus has a key role to play in recommending military contributions.

144   The views of Mackenzie King on this issue are quite interesting: "The danger in defence spending ... is that it creates capabilities and if Canada has military capabilities, it might wander into some kind of operational commitment." Cited in Bland and Maloney, *Campaigns for International Security*, 77.

145   Sustainability is not always the key issue, especially considering the "early in, early out" policy of the government; that being said, ECSs are aware that, once the troops are deployed, they may have to rotate them a few times, as the current scenario in Afghanistan is showing.

146   Peter T. Haydon, "Panel Discussion: Canada's Military Roles Abroad," in David E. Code and Ian Cameron, eds., *Canadian Forces Roles Abroad* (Ottawa: Conference of Defence Associations Institute, 1995), 90.

147   Little has changed over the years. See the discussion on inter-service fights for the Canadian participation to the Korean War in Denis Stairs, *The Diplomacy of Constraint Canada: the Korean War, and the United States* (Toronto: Univ. of Toronto Press, 1974), 75.

148   Bland, *Chiefs of Defence*, 169.

149   See Defence Plan 2003-2004 online, at http://www.vcds.dnd.ca/DPOnline/Main_e.asp, accessed 15 April 2004.

150   For instance, in the early 1960s, the so-called Report of the Ad Hoc Committee on Naval Objectives, produced under the direction of Rear-Admiral Jeffery Brock in 1961, set out a naval plan for 25 years. The "plan was too ambitious, incredible in scope, cost, and special interest, and, for these reasons, was rejected by Hellyer soon after he became Defence Minister."   Douglas Bland, "Everything Military Officers Need to Know About Defence Policy-Making in Canada," in David Rudd, et al., eds., *Advance or Retreat? Canadian Defence in the 21ˢᵗ Century* (Toronto: The Canadian Institute of Strategic Studies, The Canadian Strategic Forecast, 2000), 16.

151   The Paul Martin vision was first enunciated in a document titled *Making History - The Politics of Achievement* published in anticipation of the Nov 2003 Liberal Party leadership convention. Available at http://www.liberal.ca/PDF/politics-of-achievement_e.pdf, accessed 24 May 2004. See also notably the 14 April 2004 address by the Prime Minister at CFB Gagetown, available at http://www.pm.gc.ca/eng/news.asp?id=172, accessed 24 May 2004.

152   See *Changes to Government*, from the web site of the Prime Minister, available at http://www.pm.gc.ca/eng/chgs_to_gov.asp, accessed 24 May 2004.

153   Policy available at http://www.pco-bcp.gc.ca/docs/Publications/NatSecurnat/natsecurnat_e.pdf, accessed 24 May 2004, 47-50.

154   Ibid, 47. Emphasis added.

155   Paul Martin, address by the Prime Minister at CFB Gagetown, 14 April 2004.

156   This suggestion is not novel; it had been advanced by Bland in 1995. See Bland, *Chiefs of Defence*, 266.

157   DND, *1994 White Paper on Defence* (Ottawa: Canada Communications Group, 1994), 40.

158   See Bland, *Chiefs of Defence*, for a more complete discussion on this issue, including a table with distribution of defence expenditures, 268-72.

159   Bland, *Chiefs of Defence*, 271.

160   Letter from Vice-Admiral Charles Thomas, to General de Chastelain, CDS, reproduced in "Top Warriors Cross Swords," *Vancouver Sun*, 1 May 1991. The fact that Thomas was the VCDS – not the Commander of Maritime Command – when he wrote his letter of protest is quite telling about where the higher loyalty of certain senior officers stands in dire times.

161   Bland, *Chiefs of Defence*, 271.

162   De Chastelain, as quoted in Bland, *Chiefs of Defence*, 271-2. Emphasis added.

163   Bland, *Chiefs of Defence*, 271.

164   Ibid., 17.

165   Bland, *Chiefs of Defence*, 268.

166   Within the Air Force community, Lieutenant-General Bill Carr is still revered, having managed during his tenure as a senior general officer to re-establish Air Command. His brief résumé in Canada's Aviation Hall of Fame is telling, "... he was appointed the first Commander of the Canadian Forces Air Command. He is known as the 'Father of the Modern Air Force' for his work in consolidating military aviation in the aftermath of the unification of the forces." See Canada's Aviation Hall of Fame, available at http://www.cahf.ca/members/C_members.htm, accessed 15 April 2004.

167   Foulkes as quoted in Bland, *The Administration of Defence Policy in Canada*, 43.

168   Andrew C. Richter, "Alongside The Best: The Future of the Canadian Forces," *Naval War College Review* 56 (Winter 2003), 67.

169   Minister's Advisory Committee of Administrative Efficiency, *Achieving Administrative Efficiency: Report to the Minister of National Defence* (Ottawa: DND, 2003).   The Minister appointed his Advisory Committee on Administrative Efficiency to contribute to his efforts to find $200 million in internal savings to reallocate from lower to higher priorities within the defence program. The Committee was composed of four experts with experience in private and public sector administration, management, and restructuring, including a former VCDS. Available at http://www.forces.gc.ca/site/Focus/AE/AEReportFull_e.pdf, accessed 24 May 2004.

170   Ibid., 17.

171   *Shaping the Future of the Canadian Forces: A Strategy for 2020*, available at http://www.cds.forces.gc.ca/pubs/strategy2k/intro_e.asp, accessed 24 May 2004.

172   For a more complete discussion, see Bland and Maloney, *Campaigns for International Security*, 40-50. See also the DND Strategic Capability Planning Framework document, available at http://www.vcds.dnd.ca/dgsp/pubs/rep-pub/dda/strat/intro_e.asp, accessed 15 April 2004.

173   Ibid, 7. The Sustainment JCAT and Command and Control, Information and Intelligence (C2I2) JCAT are two of the most active JCATs. For instance, the C2I2 JCAT has been directing the development of the CF C4ISR Campaign Plan, and overseeing the development of the Canadian Forces Command System, and have been quite directive, under the authority of the DCDS, in imposing its CF-integrated solution to these issues.

174   Vice-Chief of the Defence Staff, *Strategic Capability Planning for the CF*, http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dda/strat/intro_e.asp, accessed on 15 April 2004.

175   Vice-Chief of the Defence Staff, *Capability Outlook 2002-12*, http://www.vcds.forces.gc.ca/dgsp/00native/rep-pub/CAPABILITY_OUTLOOK_E.pdf, accessed 15 April 2004.

176   The Canadian Joint Task List establishes a framework for describing, and relating, the myriad types of capabilities that may be required, to greater or lesser degrees, by the CF. It provides a common "language" for CF/DND force development within the context of force planning scenarios

177   At the time of the writing of this paper, in April 2004, the author was advised that the Concept was with the CDS for final sign-off.

178   Minister's Advisory Committee of Administrative Efficiency, *Achieving Administrative Efficiency: Report to the Minister of National Defence*, recommendations 3 and 4, 13-16. Besides the DM and the CDS, the membership would include the Associate DM, VCDS, DCDS, ADM (Pol) and ADM (Fin CS).

179   Acting DM and CDS Letter, "Strategic Investment Capability Plan," 11 May 2004, 1, available at http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/ddm/scip/letter_e.asp, accessed 26 May 2004.

180   Lieutenant-General R. Hillier, "Strategic Capability Investment Plan," Letter 3136-5 (CLS) 26 Jun 2003, 1.

181   Acting DM and CDS Letter, "Strategic Investment Capability Plan," 1. Emphasis added.

182   Hillier, "Strategic Capability Investment Plan," 4. There are indications that the letter created "waves" within the halls of NDHQ that are still reverberating, continuing to give credence to the argument that service "tribalism" remains alive and well in the CF.

183   In his February 2004 address to the Conference of Defence Associations, the CMS of the day responded to the challenge, by making it clear that "the Navy is well positioned with a broad range of military capabilities to address ... potential conflicts anywhere in the world ... [and] the Navy's role will be critical to our government's ... intention to participate on the world stage," clearly implying that there is more to international operations than providing ground troops. Address by Vice Admiral R.D. Buck to the Annual General Meeting of the Conference of Defence Associations, 25 Feb 2004, available at http://www.cda-cdai.ca/english-frame.htm, accessed on 15 April 2004.

184   Bland, *Chiefs of Defence*, 287.

185   Ibid, 272.

186   R.R. Henault, *CDS Annual Report 2002-2003*. Emphasis added.

187   DND, *1994 White Paper on Defence*, 40-1.

188   Discussion on this period on this issue can be found in G.E. (Joe) Sharpe and Allan D. English, *Principles for Change in the Post-Cold War Command and Control of the Canadian Forces* (Kingston, ON: Canadian Forces Leadership Institute, 2002); and Bland and Maloney, *Campaigns for International Security*.

189   Bland and Maloney, *Campaigns for International Security*, xii.

190   Air Command HQ had such a rule, where the authority to say "No" to ideas from wings had been

elevated to the Deputy Commander level, a Major-General.

191   DND, *MCCRT Historical Report* (Ottawa: Vice-Chief of the Defence Staff, 1997), background and paragraph 9.

192   The Defence 2000 initiative evolved from Public Service 2000 and was launched in the early 1990s "to provide a foundation for continuous improvement in the way DND/CF manage and conduct business in support of Canada's defence mission and task objectives." The objectives included improving efficiency in the Department, renewing the culture, and improving innovation and risk taking at the lowest levels of the organization. Daniel Gosselin, "Defence 2000 – A Critical Perspective," unpublished Canadian Forces College, Exercise New Horizons Paper, 1994.

193   For instance, the Commander of the Air Force – almost overnight – had the authority to save jet fuel if flying hours were reduced (for whatever valid reasons) and apply the savings elsewhere within his command – something that had not been seen since the early 1960s. Some capital funding, in the areas of construction and minor capital requirements was also devolved to commanders, with delegated financial authorities varying.

194   DND, *Organization and Accountability*, 2nd ed., 1999, available at

http://www.forces.gc.ca/site/minister/eng/authority/oa_e.htm, accessed 15 April 2004.

195   Bland, *Chiefs of Defence,* 200.

196   There were also a number of high-profile domestic operations for the CF in the 1990s such as the Oka crisis, the Manitoba and the Saguenay Floods, the Eastern Canada ice storm, forest fires and Y2K (Year 2000 operation).

197   The issue of "interoperability" is an important one for the CF, but is beyond the scope of this paper. Interested readers should consult Ann L. Griffiths ed., *The Canadian Forces and Interoperability: Panacea or Perdition?* (Halifax: Dalhousie University, Centre for Foreign Policy Studies, 2002).

198   The doctrine is still in flux with respect to support terminology. NDHQ has adopted the term "close" support to identify the support that must be integral to fighting units (what used to be called first-line and a part of second line support). General support is the term to designate the rear-area support, including the reach back to Canada for deployed operations.

199   Kronenberg, *All Together Now*, 12.

200   This argument was alluded to during several presentations to the National Security Studies Course 6 at the Canadian Forces College, Toronto, January to April 2004, which the author attended. See also Sharpe and English, *Principles for Change in the Post-Cold War Command and Control of the Canadian Forces*, 91-2.

201   The final tally for headquarters reductions was 24 percent. See *MCCRT Historical Report*, paragraph 127.

202   Granatstein, *Who Killed The Canadian Military?*, 92-3.

203   English, *Understanding Military Culture*, 3.

204   For instance, the glossary of the strategic capability manual for the CF does not include the term "unified." See *Strategic Capability Planning for the CF*, available at http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dda/strat/glossary_e.asp, accessed 24 May 2004.

205   For a more complete discussion on "the joint culture" and its impact on the CF, see English, *Understanding Military Culture*, 118-24.

206   Kenneth Bailey, *Integration and Unification Equals Jointness in 21ˢᵗ Century Canadian Forces* unpublished Master of Defence Studies Thesis, Canadian Forces College, 2002, abstract.

207   Hellyer, as quoted in Bland, *Canada's National Defence Volume 2*, 140-1. "Combined" was employed by Hellyer to mean "joint" in today's context.

208   RMA has been defined as "a major change in the nature of warfare brought about by the innovative application of technology which, combined with dramatic changes in military doctrine and operational and organizational concepts, fundamentally alters the character and conduct of military operations." Benjamin S. Lambeth, as quoted in Elinor C. Sloan, *The Revolution in Military Affairs* (Montreal & Kingston: McGill-Queen's Univ. Press, 2002),3.

209   G.L. Garnett, "The Evolution of the Canadian Approach to Joint and Combined Operations at the Strategic and Operational Level," *Canadian Military Journal* 3, no. 4 (Winter 2002-2003) 5.

210   Elinor Sloan, "Canada and the Revolution in Military Affairs: Current Responses and Future Opportunities," *Canadian Military Journal* 1, no. 3 (Autumn 2000), 13.

211   For instance, the Joint Support Ship, the replacement for the naval auxiliary oiler (AOR) vessels, was originally titled the Afloat Logistics Sealift Capability until it was realized that the project could get more mileage with a change of name, and a broadening of the capabilities of the ship.

212   DND, *Defence Planning Guidance 1997*, available at

http://www.vcds.dnd.ca/dgsp/pubs/rep-pub/dfppc/dpg/dpg97/intro_e.asp, accessed 15 April 2004.

213   Strategy 2020 originally defined jointness as a need to "identify and strengthen those specific capabilities that enable the CF to fulfil Canadian security priorities, deliver a joint capability to deal with weapons of mass destruction, information operations and other asymmetric threats, and form counter-threat partnerships with domestic and international partners." DND, *Shaping the Future of the Canadian Forces: A Strategy 2020*, 6, available at http://www.cds.forces.gc.ca/00native/docs/2020_e.doc, accessed 15 April 2004.

214   See Garnett, "The Evolution of the Canadian Approach to Joint and Combined Operations at the Strategic and Operational Level," 3-8.

215   Douglas Bland, *National Defence Headquarters: Centre for Decision* (Ottawa: Public Works and Government Services Canada, study prepared for the Commission of Inquiry into the Deployment of Canadian Forces to Somalia, 1997), 54.

216   The study was officially NDHQ Study S1/88, *The Functions and Organization of National Defence Headquarters in Emergencies and War*, named after its authors, Major-General W.E. Little and D.P. Hunter, a public servant. A copy of the report of the study is available in Bland, *Canada's National Defence Volume 2*, 417-509.

217   Bland, *National Defence Headquarters*, 54-5.

218   Full command always rests with the CDS, with the DCDS acting on his behalf and running CF operations worldwide on a day-to-day basis. While ECSs, acting as commanders of their respective commands, continue to conduct routine domestic operations (i.e., coastal surveillance, search and rescue), the DCDS may command forces in Canada for selected contingency domestic operations, rele-gating the ECSs to the role of force generators. Examples include the Op *ASSISTANCE* (Manitoba Flood), Op *RECUPERATION* (Ice Storm in Quebec/Ontario), and Op *GRIFFON* (Support to Kananaskis G-8 Summit).

219   A new capability is currently being developed, in addition to the traditional operations centre, and will be referred to as the Joint Intelligence and Information Fusion Capability.

220   Of note, the composition of the planning group for operations is now almost exclusively made of senior military officers, with few if any civilians engaged in this military activity.

221   For a recent international operation, Op *ALTAIR*, some staff officers proposed to the DCDS staff that, since the operation consisted of just one ship, the command and control be reverted to MARLANT HQ, only for this one operation. The proposal was turned down by the DCDS.

222   Recent examples of contentious doctrinal areas include the doctrine with respect to the develop-ment, generation and employment of unmanned aerial vehicles (UAVs) and for CF national support.

223   The term "unit" will be used hereafter and be inclusive of formations for the purpose of this discussion.

224   For instance, the core of the Joint Operations Group came from the Joint Headquarters that belonged to the Army under 1 Canadian Division HQ and Signal Regiment. The Joint Signal Regiment was the amalgamation of two units, one owned by the Army and one by ADM (Information Management). 1 Construction Engineering Unit, which used to belong to ADM(IE), was also transferred to the DCDS and it is now under the CF JOG [Joint Operations Group].

225   The JOG is responsible for provided a rapidly deployable command and control capability to the

meet domestic and international commitments; the Joint Support Group (JSG) to provide deployable national support to CF elements; the Joint Signal Regiment (JSR) providing deployable communications and information systems to the CF worldwide; 1st Engineering Support Unit (1 ESU) to provide general engineering support to the CF; and the Joint Nuclear Biological Chemical Defence (JNBCD) Company to provide first response to domestic incidents and to support international commitments.

226   Joint Task Force 2 was created in the mid-1990s to provide Canada with an anti-terrorism capability, and was in existence even before jointness became in fashion.

227   These could include: 4 CF Movement and Control Unit and 3 Canadian Support Group, two units currently belonging to ADM (Material) and the postal services.

228   Part of the NBCD Company development is being funded through the special federal budget focusing on security, announced in Dec 2001.

229   Such as ADM (Mat)/J4 for the JSG and ADM (IM) for the JSR.

230   "The Glassco Report," in Bland, *Canada's National Defence Volume 2*, 71-2.

231   Ibid.

232   Alternate service delivery (ASD) included the outright contracting out of certain DND services and activities or the transfer of certain functions being performed by uniformed personnel to civilian personnel or agencies. The maintenance of married quarters, carried in part by military personnel, was transferred to the CF Housing Authority.

233   There are several reasons given, the main one being a greater reliance on information networks and technology. For instance, real property management was centralized in Ottawa with the assumption that those services could all be provided remotely. The experience failed, and regional HQs have selectively re-hired property officers to have access to the necessary expertise.

234   CFPSA is responsible for all CF personnel support including that required for international operations. See CFPSA's web site at http://www.cfpsa.com/en/, accessed 15 April 2004.

235   CFHA is responsible for managing the private married quarters and official residences. See CFHA's web site at http://www.cfha-alfc.forces.gc.ca/info/aboutcfha_e.asp, accessed 15 April 2004.

236   The CF Medical Group is responsible for health care support to CF personnel both in Canada and abroad.

237   Civilianization is "the transfer of members of the armed forces to civilian status or their replacement by civilians." *Oxford English Dictionary Online*. In the CF, civilianization is usually understood in three contexts: 1) increased number of civilians in key positions affecting defence; 2) the belief that CF members have adopted civilian norms and standards to an unacceptable standard; and, 3) most relevant for the purpose of this paper, undue influence over matters that are (or should be) exclusively military in nature. Peter C. Kasurak, "Civilianization and the military ethos: civil-military relations in Canada," *Canadian Public Administration* 25, no. 1 (Spring 1982), 108-29.

238   The Glassco Report, in Bland, *Canada's National Defence Volume 2*, 78.

239   Kasurak, "Civilianization and the military ethos," 120.

240   John M. Treddenick, "The Defence Budget," in David B. Dewitt and David Leyton Brown, eds., *Canada's International Security Policy* (Scarborough: Prentice-Hall, 1995), 445.

241   See the Management Review Group (MRG) Report in Bland, *Canada's National Defence Volume 2*, 166-248.

242   Ibid., 163-4.

243   For a complete discussion on the impact of the MRG study in the administration of defence, see Bland, *The Administration of Defence in Canada*, 65-86, and for a fuller discussion of the impact of civilianization upon the office of the CDS, see Bland, *Chiefs of Defence*, 127-74. It is worth noting that in 2004, the term integration is most commonly used to refer to this NDHQ amalgamation, generating confusion at times with the integration of common services that Hellyer had in mind.

244   For a fuller discussion, see Treddenick, "The Defence Budget," 444-6. This trend has continued to this day, not only with deputy ministers, but with many senior departmental officials.

245   In fairness, the same process has taken place with some senior military positions as well, such as Judge Advocate General and Director General Medical Group.

246   For instance, at the ADM level: ADM (Material), ADM (Infrastructure and Environment), ADM (Information Management), and Chief of Review Services.

247   This is fairly typical of the federal bureaucracy in 2004. Donald Savoie presents a most convincing argument in his latest study *Breaking The Bargain: Public Servants, Ministers and Parliament* (Toronto: Univ. of Toronto Press, 2003).

248   Bland, *Chiefs of Defence,* 161.

249   Granatstein, *Who Killed The Canadian Military?*, 87.

250   Kasurak, "Civilianization and the military ethos," 117.

251   Admiral Falls, CDS in 1978, as quoted in Bland, *Chiefs of Defence*, 162.

252   The decision to include the environmental commanders in Armed Forces Council in the early 1980s was to provide counterbalance to the civilians at the three-star or equivalent level.

253   Bland and Maloney, *Campaigns for International Security*, 149.

254   Owens, *Fog of War*, 151.

255   Hellyer, as quoted in Bland, *Canada's National Defence Volume 2*, 132. Hellyer employed strictly the term "men" in his address, neglecting to make reference to the other gender.

256   Ibid., 133.

257   Cited in Bland, 283.

258   Bland, *Chiefs of Defence*, 288-9.

259   See DND, *Somalia Inquiry Report Volume 4*, which focused particularly on the failure of senior CF leaders, available at http://www.forces.gc.ca/site/Reports/somalia/index_e.asp, accessed 15 April 2004.

260   While many important factors, such as education, bilingualism, experience, and personal and leadership attributes, affect the criteria for the selection of senior CF officers to higher ranks, high performance in a demanding command position is undoubtedly the key and certainly the most influential determinant for advancement. This criterion does not always apply to specialist officers, such as legal, medical, and dental officers.

261   Douglas Young, *Report to the Prime Minister on the Leadership and Management of the Canadian Forces*, 25 March 1997, available at: http://www.forces.gc.ca/site/minister/eng/pm/mnd60.html, accessed 15 April 2004. Recommendation 30 of the report dealt with command selection.

262   Superior commanders are those with powers equivalent to that of a commander of a command. In addition to the CMS, CAS and CLS, these include the DCDS and ADM (HR-Mil) groups. In essence, superior commanders are heads of any level 1 organization that owns units or formations for which a commander/commanding officer must be selected and appointed. In addition, to be fair, several ECSs had, even before Minister Young's report, some form of command selection boards, the Navy being a good example. That being said, some COs were still selected by their Branch or their regiment's senior officers, often creating the impression of an old boy's net.

263   Examples are the Joint Operations Group, the Joint Support Group, Joint Task Force 2, 1 Engineering Support Unit, or the CF Recruiting Group within ADM (HR-Mil).

264   DND, *Duty with Honour: The Profession of Arms in Canada* (Kingston, ON: CF Leadership Institute, 2003), 25, 74. Kasurak, writing in 1982 on the issue of civilianization of the CF from the context of military personnel adopting civilian norms and standards, recommended the establishment of a formal military ethos. Kasurak, "Civilianization and the military ethos," 128.

265   Bland, *Chiefs of Defence*, 283.

266   The new course is expected to be completely unified in 2006, and will not include any environmental terms.

267   Hellyer, *Damn the Torpedoes*, x.

268   Thériault, "Reflections on Canadian Defence Policy and Its Underlying Structural Problems," 3.

269   In 1968, Leo Cadieux who replaced Hellyer as MND reversed the decision concerning the

designation of ranks for the Navy, authorizing them to retain navy ranks instead of using army rank designations.

270   Bland, *Chiefs of Defence*, 288.

271   The words of Mackenzie King are instructive for senior military leaders, a useful reminder of how military advice is at times stereotyped by politicians. King complained that Minister of National Defence Ralston often stood up for the generals, fought the cabinet on their behalf. King eventually said of Ralston: "I have talked to him again and again. I have asked him not once but many times why he does not tell the generals what we, in cabinet, think instead of continually telling us what the generals think. Generals are invariably wrong." Mackenzie King, as quoted in John Macfarlane, *Ernest Lapoint and Quebec's Influence on Canada's Foreign Policy* (Toronto: Univ. of Toronto Press, 1999), 181.

272   Jack Granatstein, *Who Killed The Canadian Military?*, 82.

273   English, *Understanding Military Culture*, 104.

274   As quoted in Code and Cameron, *Canadian Forces Abroad*, 118.

PART II

Canadian Operational Art Concepts

CHAPTER 5

THE IMPACT OF THE EVOLUTION OF THE OPERATIONAL LEVEL OF WAR ON THE STRUCTURE OF THE CANADIAN FORCES: A SAILOR'S PERSPECTIVE

Captain (N) J.S. Dewar

> The unresting progress of mankind causes continual change in the weapons; and with that must come a continual change in the manner of fighting.
>
> - Captain Alfred Thayer Mahan, USN (1840-1914)

Until recently, most naval officers, the author among them, would not have recognized the operational level of war. War at sea was elementary in concept: strategy determined the aims of tactics, and tactics set the limits on the possibility of strategy.[1] However, since the last days of the Cold War, there have been factors at work that have necessitated a refinement in this simple sailor's approach. Governments are demanding cooperation among the services of their armed forces in the interests of improved efficiency and economy. Moreover, technological innovation in sensors, decision-making and weapons appears to support the trend to functional,[2] rather than environmental, organizations. Maritime, land and air activities are increasingly interdependent, and a more comprehensive analytical model is required to apply the necessary degree of coordination. This essay will examine the historical antecedents of theories regarding levels of war and show how the concepts came to be accepted and incorporated into naval doctrine.

In determining what implications the operational level of war, and its imperative for "jointness," might have on the Canadian Forces (CF), it is entirely appropriate to draw lessons from the American experience. With due recognition of British ancestry in Canadian naval and military affairs, it is now clearly the US that exercises almost exclusive influence over the operational style of the CF. There are other good reasons for studying the US on this subject. The US armed forces have achieved a level of joint

operational effectiveness that is unparalleled. Also, as the leaders of what the Tofflers have termed the Third Wave,[3] they provide a unique laboratory for examining the potential impact of revolutionary information technology on military operations; a development that seems to portend an even greater emphasis on functional organization and joint co-operation. Therefore, the primary focus here is on the US armed forces, particularly the US Navy.

The unified CF would seem to be ideally suited to this integrated approach to modern warfare. However, the most important effect of unification was upon the strategic organization of the CF and the Department of National Defence (DND), and there was relatively little impact on operational activities. The tendency toward enhanced joint effectiveness in the US and elsewhere will facilitate the realization of the operational potential of unification. Analysis of the operational level of war serves as an instructive vehicle for framing the discussion.

EVOLUTION OF THE OPERATIONAL LEVEL OF WAR

In scale and scope, there is no field of human activity that is more complex than war. The levels of war are a convenient division for understanding the process.[4] The labels, however, are not absolute: they are a tool for analysis. Students and practitioners of war recognized that it was necessary to isolate the objectives of war from the conduct of combat in order to promote understanding. Initially, these were the considerations of why, when and where to engage the enemy (and to a certain extent who to select as an enemy) as opposed to how to dispose of the enemy once in contact. These evolved into the realms of "strategy" and "tactics." The industrialization of war exponentially increased its complexity and dictated the need for a more sophisticated taxonomy.[5]

John English cites Colonel Wallace Franz's assertion that "Napoleon Bonaparte fathered [a] third stratum of war [lying somewhere below strategy but above tactics] through the masterful manoeuvre of numerous corps formations on a grand scale." He goes on to show that while Carl von Clausewitz, writer of the pre-eminent monograph of Western military thought - *On War*, referred only to tactics and strategy - defining tactics as

the use of armed forces in the engagement and strategy as the use of engagements for the object of war - he patently perceived gradations of strategy. His equation of "'war, campaign and battle' to 'country, theatre of operations and position' and his reference to 'operative elements' point to a threefold division of sorts."[6] Helmuth von Moltke is generally credited with applying the term "operational" to the level of war between strategy and tactics, that domain in which large scale deployments and logistical considerations dominated. To a large extent, the Prussian General Staff system, which subsequently became the prototype for every large army, was invented to effectively plan and execute movement at the operational level.[7]

War may be the most complex human activity, but "[w]hen the linkage between national strategy and military strategy is unclear, or when the linkage between theatre strategy and the execution of that strategy in the form of a campaign (the operational art) is unclear, then war is complicated even further."[8] The levels of war serve as a tool for understanding the linkage, but in applying the tool, the larger focus cannot be omitted. Clausewitz's mentor Gerhard von Scharnhorst is believed to have warned that "one must habitually consider the whole of war before its components."[9]

Colonel Ralph Allen observed that there have often been impediments to understanding the relationship among the strategic, operational and tactical levels of war. These can usually be attributed to: 1) "A failure to examine and understand war as a whole before trying to understand its individual parts"; 2) "An inability to distinguish military science from military art[10] and to see how the creative-intellectual process of the com-mander becomes the linchpin between the two"; and 3) "A deficiency in the analysis of most military historical accounts of wars and campaign studies, particularly with respect to military strategy and operational art."[11]

While the Prussians made the first explorations of the operational level of war, it was the Soviets, driven by "an ideology that emphasized theory and scientific method in military affairs," that brought a sense of academic vigour to the process. "Soviet army theorists and practitioners sought systematic explanations for the complexities underlying victory and defeat in modern war."[12]

The efficacy of these theories was demonstrated by the annihilation of the German armies during the campaigns of 1943-45. Often regarded in the West as the products of "brute force and ignorance," the Soviet victories "reflected the application of a highly refined operational art that aimed at the disruption of an enemy's cohesion on a large scale, thus depriving him of the ability to react to changes in the situation, breaking up his organization and control of higher formations, and, ultimately, preventing him from accomplishing his aims."[13] Yet, despite the Soviet success with this operational art, it did not attract any great interest from NATO, particularly the US, until the post-Vietnam era.

By the end of Second World War, the Allied armies had extensive experience in theatre-level operations. However, immediately after VE and VJ Days, in every allied country, there was a rush to demobilize. Reduced armies focussed on tactical developments, and the strategic picture during the Cold War was dominated by concepts for nuclear deterrence. This torpor in operational-level thought persisted for some thirty years in the West, until the excruciating American experience in Vietnam caused the US Army to enter a period of re-examination of the whole approach to the conduct of warfare.

The glaring lesson from Vietnam was that success or failure at one level of war directly affects the outcome at the other levels. This interrelationship was clearly identified in the Soviet theories of the 1920s and 1930s. In Vietnam, the tactical prowess of the Americans was unable to overcome their own lack of a coherent strategic policy. On the other hand, the Viet Cong and North Vietnamese Army were able to prevail at the strategic level, even if inhibited by tactical weakness. This was clearly recognized by the North Vietnamese during the war, but only appreciated by the Americans after it was over. Colonel Harry Summers, who went on to write a critical analysis of the Vietnam War, related a telling anecdote: during negotiations, the American officer stated, "You know you never defeated us on the battlefield." The Vietnamese officer reflected for a moment and replied, "That may be so, but it is also irrelevant."[14]

Additionally, changes were perceived in the way that war with the Soviets might be fought. This was driven by an emerging sense that a European war might be fought on a conventional basis, without either side reverting to the exchange of strategic nuclear weapons, and, if so, there

clearly existed a requirement to address very large-scale, large-unit operations. Furthermore, observation of the 1973 Middle East War revealed the impact of technology, in the form of precision weapons, on the scale and speed of activity on the modern battlefield. These two factors "appeared to revise conventional wisdom about the calculus for air superiority, the role of armour in ground combat and the relationships among various components with the conduct of operations."[15] "From a sense that technology and circumstance were changing the nature and content of operations, there flowed a generic understanding of operational-level functions - intelligence, fires, manoeuvre, logistics, protection and command and control - which entered either sequentially or simultaneously into planning for major operations and campaigns."[16] The maturation of the US Army's appreciation of the operational level of war, and the application of the operational art, can be traced through the several editions of Field Manual 100-5, *Operations* from 1976 to 1993.[17]

RECOGNITION OF THE OPERATIONAL LEVEL OF WAR BY NAVAL FORCES

While the US Army was engrossed in the contemplation of the operational art and the conduct of large-scale (operational level) ground campaigns, the US Navy and the US Air Force were firmly fixed in purely strategic spheres, to a large degree isolated from the Army and from each other. Neither the Air Force nor the Navy had suffered the same degree of excoriation from the Vietnam experience as the Army. Although they participated in the fight, their senior leadership maintained their focus throughout on what was seen as the more important strategic confrontation with the Soviets. How the US Air Force came into the operational fold is left for examination elsewhere; how the US Navy was drawn to accept, at least in principle, the concept of the operational level of war will be discussed next.

For the last half of the Cold War, the US Navy's Maritime Strategy outlined its roles, and to a large extent those of all Western navies, for the global containment and strategic engagement of the Soviet Union and the Communist Bloc. The emphasis in its Maritime Strategy was fighting at sea; it was a "blue water" philosophy in which war might be fought in support of interests ashore, but the fight at sea would be largely

independent of activity beyond the beach. In 1974, the President of the US Naval War College, Vice Admiral Stansfield Turner, wrote a paper outlining the evolution and rationale of the four missions of the US Navy: strategic deterrence, sea control, projection of power ashore and naval presence. Interestingly, he was able to do this without a single mention of the other services.[18] Although there was some adjustment in the tactical execution of the missions, they remained virtually unchanged for the next twenty years.[19]

During this period, a prodigious number of national and Allied publications specifying tactics, techniques and procedures for maritime warfare was produced. If this represented a body of doctrine, it was not recognized as such by many naval officers. There was, however, a remarkably consistent view of naval operations and the methods for co-ordinating them among the senior officers of all the Allied navies. Although little was written, history and experience had imbued senior officers with a common body of beliefs and tenets for the application of sea power.

James Tritten argued that "basic principles of beliefs and practices do not have to be written to be doctrine. Unwritten customary informal naval doctrine has also existed in the form of commander's intent, and the shared experiences of its admirals and commanders. There is a long history of the informal beliefs of the officer corps as US Navy doctrine - which may have been more powerful than the official written versions which coexisted. The parallel to unwritten doctrine in international law is law based upon custom and not on treaties. Both are equally valid, but treaties are easier to change."[20] He also notes that, in reality, navies have had a long and rich tradition of written doctrine, but it most often went under a different name.

Not unlike the subliminal existence of doctrine in the naval services, there are several good examples of navies executing warfare on the strategic, operational and tactical level, but without recognizing or giving a label to the operational level. For example, during the Anglo-Dutch wars (1652-1674), at the strategic level, the British wanted to supplant the Dutch as the leading maritime power to further the interests of British commerce. At the operational level, this was accomplished through a series of campaigns, including convoy battles, blockades and bombard-

ments of Holland's shores; tactical success in the operational engagements was achieved through the tactics of broadside firing from line-ahead formations. In another example that should have perhaps been particularly vivid to the US Navy, the joint and combined operation that resulted in the American victory at Yorktown was clearly executed at the operational level.[21] The engagement of the British fleet by the French off the Virginia Capes, the manoeuvre of the French supply fleet to the besieging American army, the maritime interdiction to prevent reinforcement of the British, and the subsequent land battle to take the fortified town are superb examples of "the employment of military forces to attain theatre-strategic objectives in a theatre of war and operational objectives in the theatres of operations through design, organization, and execution of subordinate campaigns and major operations."[22] A more recent example that should have been evident to the US Navy as an application of the operational art may be found in examination of the war in the Pacific from 1942 to 1944. The campaigns conducted by General Douglas MacArthur through New Guinea and Admiral Chester Nimitz's advances across the Central Pacific were clearly part of a coherent theatre operation.[23]

The US Navy was not alone, however, in belated recognition of the operational level of war. The Falklands War (1982) serves as an excellent primer on the levels of war applied to a maritime environment. Although the war was not fought from this point of view,[24] the Royal Navy (RN) has subsequently used it as an instructional model for the application of doctrine and the levels of war.[25]

As late as 1989, Captain Wayne P. Hughes, US Navy, a recognized authority on the theory and practice of naval tactics, wrote an article on the relationship between strategy and tactics, without any recognition at all of the operational level of war. He saw tactics as setting the limits of possibility on strategy, and strategy as determining the aims of tactics. However, his context was still that of the "blue-water" maritime strategy, which he emphasized is fundamentally different from land warfare. At sea, there is no tactical advantage for the defence; there is no counterpart to prepared positions; there are no terrain constraints; the concept of reserves has limited validity. "It is demonstrable both by history and theory that not only has a small net advantage in Force often been decisive in naval battles, but also that the slightly inferior force tends to lose with very little to show for its destruction in damage to the enemy."[26]

Doctrine emerged in this argument as the "glue of tactics." "As much as can be foreseen in peacetime must be imbedded in doctrine, and training must be assiduously keyed to it…When a navy's possible wartime tasks are as sweeping as those of the US Navy, the structure of combat doctrine is acutely difficult to formulate."[27]

By 1990, however, there were a number of pressures on the Navy to change. The 1986 Goldwater-Nichols Act, which legislated a new level of joint co-operation among the armed forces, the evaporation of the Soviet threat and the experience in the Gulf War all conspired to reshape the Navy's thinking with respect to strategy, the operational level and doctrine. Admiral Frank B. Kelso is credited with having recognized the need and initiated the necessary action,[28] although it had once been acknowledged that if the emphasis for the Navy was shifted away from the "blue-water" focus, there would be need for change.[29] The watershed document in this process was the 1992 Department of the Navy White Paper, …*From the Sea*, which defined the strategic concept intended to carry the US Navy and US Marine Corps beyond the Cold War and into the 21ˢᵗ century. It signalled a change in focus and priorities away from operations *on the sea* toward power projection and the employment of naval forces *from the sea* to influence events in the littoral regions of the world - those areas that are within direct control of and vulnerable to the striking power of sea-based forces.[30] Naval Doctrine Command was established in March 1993 as the focal point for new doctrinal thinking to facilitate the transition. A collateral, but equally important, function from the Navy's point of view was to ensure that the Navy had a strong voice in the increasingly important world of joint doctrine. "The Naval Doctrine Command [was] the primary authority for the development of multi-Service naval concepts and integrated multi-Service naval doctrine as well as for the Navy Service-unique doctrine.[31] The command's missions include[d] providing a co-ordinated Navy/Marine Corps voice in joint and multinational doctrine development and ensuring that naval and joint doctrine [were] addressed in training and educational curricula and in operations, exercises and wargames. Priority [was] to be given to doctrine development that addresse[d] the new geo-strategic environment and its associated changing threat; and to efforts which enhance the integration of naval forces in joint and multinational operations."[32] Publication in 1994 of *Naval Doctrine Publication 1: Naval Warfare*, emphasized the Navy's new commitment to full partnership in

joint and multinational operations. The extent of the paradigm shift can be seen in the US Navy's embrace of the previously unacknowledged concepts of the three levels of war, the significance of "centre of gravity" and "critical vulnerability" in campaign planning, and the codification of the principles of war.[33]

There were pragmatic considerations that abetted the philosophical transition to the joint arena. As Naval Doctrine Command was being established, the Universal Joint Task List (UJTL) was being developed under the auspices of the Chairman of the Joint Chiefs of Staff. The UJTL was an ambitious project in which every military activity from the national strategic level to tactical procedures would be specified in a menu of tasks, conditions and measures. From the UJTL, the unified Commanders-in-Chief (CINCs)[34] would select those tasks that were essential to fulfilling their missions. In an attempt to rationalize and increase the effectiveness of training, only those critical tasks identified by the CINCs would be funded. Clearly, in the long run, this approach would have a significant effect on "programmatics" and the acquisition of capital equipment. During an exchange posting to the Naval Doctrine Command at this time, the author was peripherally involved in the US Navy's considerations of how to contend with the UJTL. Simplistically, for any of the services, the joint approach was problematic in the preservation of core competencies. For example, if none of the regional CINCs identified anti-submarine warfare as a critical task for his mission at a particular time, there would be no funding available for training in this field. There would be concomitant implications for the acquisition programs for anti-submarine ships and equipment. As indicated, this is a bit simplistic, because there are mandated in US *Title 10* legislation service requirements for certain capabilities. Nonetheless, there were clearly potential rocks and shoals for the US Navy in charting the way ahead in the increasingly joint Congressional environment. The solution to this problem was the development of the *Universal Navy Task List* (published by the Department of the Navy in September 1996). This document combined the strategic and operational level of war tasks from the UJTL and the *Navy Tactical Task List* to produce a comprehensive hierarchical listing of tasks that can be performed by naval forces. Tasks are derived from service and joint doctrine and tactics, techniques and procedures, and doctrinal references are cross-referenced to support the "requirements-based, 'mission-to-task' joint training system."[35]

It is evident that the US Navy's recognition of doctrine, and particularly its application to the operational level of war, was largely driven by a *realpolitik* of manoeuvre among the services and the fiefdoms of the Joint CINCs. This is not to say, however, that the paradigm shift has not had a real and significant change on the way that the US Navy views maritime warfare. *Forward…From the Sea*, the 1994 White Paper, amplifies the commitment to joint operations and the littoral focus of maritime warfare made in …*From the Sea*. The extent of the shift is apparent in the five "fundamental and enduring roles in support of the National Security Strategy," compared to the four Navy missions of the Maritime Strategy as depicted in Table 1.[36]

MARITIME STRATEGY (1970-1992)	FORWARD…FROM THE SEA (1992…)
Strategic DeterrenceProjection of	Power from Sea to Land
Sea Control	Sea Control and Maritime Supremacy
Projection of Power Ashore	Strategic Deterrence
Naval Presence	Strategic Sealift
	Forward Naval Presence

TABLE 1: CHANGING PRIORITIES IN THE NAVAL ROLES

THE OPERATIONAL LEVEL OF WAR AND JOINT WARFARE

In the American context, there is a direct relationship between the theory of the operational level of war and the conception of "jointness." Full understanding of the relationships requires a thorough knowledge of the Unified Command Structure, which can be found in US Joint Publication 0-2, *Unified Action Armed Forces*.[37] This publication provides the doctrine and policy governing the unified direction of forces and stipulates the command relationships and authority within the legal and constitutional framework of the US. However, the typical relationships of commands to the three levels of war shown in Table 2 will be helpful. It can clearly be seen that joint activity and responsibility is focussed primarily at the strategic and operational levels, and the tactical level remains the domain of the services.

COMMAND	STRATEGIC	OPERATIONAL	TACTICAL
Unified Command (Geographic)	X	X	
Unified Command (Functional)	X		
Sub Unified Command	X	X	
Joint Task Force Command		X	X
Functional Component Command		X	X
Service Component Command		X	X
Battle Group Commander		X	X
Task Unit Commander		X	X
Ship, Squadron, Battalion			X

TABLE 2: COMMAND RELATIONSHIPS TO LEVELS OF WAR

The Goldwater-Nichols mandate for joint armed forces, the current American perception of the strategic environment and the influence of exponential improvements in digital technology are expressed in *Joint Vision 2010* - "an operationally based template for the evolution of the Armed Forces for a challenging and uncertain future."[38] The three levels of war are fundamental to this vision, and it is at the strategic and operational levels that "jointness" is imperative.[39]

Experience in the Gulf War showed the utility of joint co-ordination of air activity under the Joint Force Air Component Commander through the process of apportionment and promulgation of the Air Tasking Order. Similarly, the efficacy of the Joint Targeting Board was apparent in the improved efficiency and prevention of conflicting priorities or selection of the same target by different forces for air strikes, indirect fire support and land-attack missile assignment.   Furthermore, the impact of space-

based equipment and integration of intelligence, surveillance and reconnaissance activities supports functional organization for activities like theatre anti-missile defence. Some suggest that the trend to jointness will continue, and, in fact, will lead to some form of unification of the US armed forces. Moreover, some believe that the levels of war will be flattened and merged as the cumulative effects of technology on weapons, sensors and decision-making drive "doctrinal changes in battlefield time-space relationships, the balance combat power and manpower, and the nature of command and control."[40]

IMPLICATIONS FOR THE CANADIAN FORCES

Logically, one could assume that if the impetus of technology is driving the American armed forces to functional integration, the unification of the CF would ideally position them to exploit this trend across the full spectrum of warfare.

The foreword to *Canadian Forces Operations* provides a succinct summary of the process of integration and unification of the Royal Canadian Navy (RCN), the Canadian Army and the Royal Canadian Air Force (RCAF). The intentions governing the process were laudable, and, in terms of the current atmosphere of "jointness" in operational-level activities, almost prescient. Nevertheless, the results of unification were largely cosmetic. While it is beyond the scope of this paper to demonstrate this in detail, it does not take more than a cursory examination of current force structure and capabilities to conclude that the CF have not succeeded in addressing defence roles "within the context of an integrated, functionally organised, highly mobile force, rather than a force organised in accordance with the traditions of the navy, army and air force."[41]

Unification resulted in significant changes in the degree of civil-military interaction in the control and management of the CF and DND. Common logistics, supply and training systems produced appreciable economies of scale and reduction of redundant overhead. However, beyond the superficial commonality of uniforms and ranks, unification did little to improve the common operational capabilities of the CF. The perception of joint capability is typically propagated in statements like this, taken

from the Operations manual: "The CF is a unified force and, as a matter of routine, conducts operations involving elements of at least two environments."[42] In reality, this commonly reflects the fact that the flying and maintenance crews in organic shipborne and tactical aviation assets assigned to land forces wear air operations cap badges.

Unification had an impact on the CF's relationship with DND, and developed a potentially joint strategic headquarters. The responsibilities for the senior leadership are stipulated in the "Report by the Minister of National Defence to the Prime Minister on Authority, Responsibility and Accountability" (ARA).[43] The Environmental Chiefs of Staff (ECSs) are responsible for exercising command of assigned forces, conducting force generation and routine operations, and exercising command of other forces that may be assigned to them. The Deputy Chief of the Defence Staff (DCDS) is responsible for exercising command and control of non-routine and contingency operations on behalf of the Chief of Defence Staff (CDS). Although not specifically mentioned, the mandate for joint operations is implicitly accorded to the DCDS; the ECSs can potentially also command joint operations, but this is a more tenuous implication. Responsibilities with respect to the levels of war (or conflict, in the CF lexicon[44]) are not mentioned.

The DCDS is also responsible for the development and maintenance of CF concepts and doctrine. *Canadian Forces Operations* is the keystone publication in the CF doctrine publication system. Hence, it must be regarded as the authoritative reference for the conduct of operations. Ironically, beyond stating that the CF is a unified force, it makes this unusual statement: "Notwithstanding the legal aspects of the [National Defence Act], which describes the CF as a single service, when elements of two or more environments of the CF *are required to operate* in the same theatre or area of operations in support of the same national strategic objective, they will operate under a joint structure using internationally recognized joint terminology." It goes on to say that, "Environmental doctrine does not provide adequate guidance for the employment of military forces when elements of two or more environments of the CF *are required to co-operate*."[45] Therefore, it may be concluded that the environments of the CF do not operate very willingly or very effectively together.

That is not to say that they are deliberately uncooperative. The officers and non-commissioned members of the CF share much in terms of common training, from basic training through junior and senior leadership courses and the Canadian Forces College. The integrated National Defence Headquarters reinforces a common CF point of view. So there is an important start to creating the right culture; however, "there remains much to be done in the areas of command and control, the organization of infrastructure and joint warfare training."[46] The problem lies in the fact that neither the strategic direction, nor the operational doctrine for the unified CF mandates joint operational effectiveness.

In fact, the 1994 Defence White Paper, the prevailing government policy statement, makes no mention at all of a requirement for joint operations. It does specify the need for multi-purpose, combat-capable maritime, land and air forces, but there is no consideration of what capability might be required for these forces to operate effectively together. There is, however, a considerable amount of guidance on specific equipment requirements for the individual environments. Perhaps, the White Paper might be too broad a document in which to search for direction on operational policies; however, the Defence Planning Guidance for 1999, the superior departmental strategic guidance, is not any more specific in defining the capability required to facilitate joint operations, nor does it identify enhanced joint capability identified as a priority.[47] Again, reference to responsibility at different levels of operations is omitted.

Evidently, the US *Goldwater-Nichols Department of Defense Reorganization Act of 1986* achieved more in effective joint integration than Bill C-243, *The Canadian Forces Reorganization Act* (1968). In fact, the aims of both pieces of legislation were similar. Both were aimed at strengthening civilian control over defence issues and reducing futile inter-service rivalries. The differences were in the means of achieving these aims. The American act emphasized a unified command structure, with appropriate allocation of authority and the placement of clear responsibilities for mission success, in order to enhance the effectiveness of military operations and improve management and administration of its Department of Defense. The emphasis on joint activity, i.e., effective inter-service co-operation, permeated the document. The most significant and effective contribution to the elimination of internecine service rivalries came through the execution of all military missions - in peace

and war - by independent Joint Commanders-in-Chief, reporting only to the Secretary of Defense and the President.[48] The US services are limited under *Title 10* legislation to manning, equipping and training the forces that are assigned to the CINCs for accomplishing their missions. On the other hand, the Canadian legislation emphasized economy and fiscal probity, while attempting to eradicate the independent service cultures by stripping away titles and superficialities, like uniforms.

Unfortunately, the real issue of service interoperability was not addressed in Canada. Indeed, throughout the Cold War, the environments of the CF, despite "common uniforms and common rank designation," continued to carry out the same functions, with the same equipment, as the RCN, RCAF and Canadian Army had done. There was no comprehensive plan for the elements of the CF to act together as a joint force. Maritime, land and air formations and units were assigned to NATO higher formations piecemeal. Although there have nominally been "joint operations" since the end of the Cold War, in reality these have been single environment components reporting to a national contingent commander. The components themselves have been subsumed under larger multinational maritime, land and air formations. Canadian participation in the Gulf War serves as the prototypical example. There have been other examples of closer co-operation between the environments, but these have been at very low levels of difficulty on the military scale. A sailor navigating a rubber boat through a wheat field while reporting to a Land Force brigade commander during the Winnipeg floods is scarcely a joint achievement.

However, in the American blossoming of joint co-operation at the operational level, there are seeds for optimism with regard to improving the joint capability within the CF. In order for this to happen there are three fundamental issues that need to be addressed.

The first is the refinement of force structure. The National Defence Act and the 1994 Defence White Paper imply the need for operationally integrated forces, but there is little explicit guidance on how this should be achieved. The annual Defence Planning Guidance document is the appropriate vehicle to articulate the blueprint for joint capability. The stated purpose for this document is to provide "a framework for translating Government direction as established in the Defence White Paper into a capable and efficient Defence Services Program that delivers

affordable, multi-purpose, combat-capable armed forces for Canada."[49] Missing from this framework is a coherent statement for a force development model for the CF as a whole. The nature, organization and equipment of the maritime, land and air environments are solely within the purview of the ECSs, although there are some specialized and common activities that reside with other Capability Components. Essentially, however, projects for the acquisition of major capital equipment are designed to suit environmental requirements and sponsored by the appropriate ECS. The Defence Management Committee, a committee of all the ECSs plus the Departmental Group Principals, then reviews the projects and assigns them a priority for fulfilment. Hence, there is no master plan - no guidance for strategic and operational-level integration of capability. The Defence Services Program is a compromise to satisfy the requirements of the three environments, each of which is free to develop their own concept of what that environment's capabilities should look like.

To remedy this situation, a new approach is required. Using a model, like the *Universal Naval Task List* (a compendium of strategic, operational and tactical tasks), a coherent force structure needs to be developed in which the strategic guidance is provided from National Defence Headquarters, the operational level is required to demonstrate real joint capability and the tactical level remains within the environmental purview. However, each tactical component must maintain the ability to be interoperable at the operational (joint) level. The Defence Services Program, and in particular the Major Capital Plan, should then stipulate the capability required from a joint point of view. Every major project must be shown to be compatible with joint requirements.

As an example, in a few years, Maritime Command will need to replace the existing fleet of at-sea replenishment ships (AORs). In addition, there is a recognized need in the CF for sealift capability in order to transport both land forces and the ground support for air forces. In an attempt to satisfy these two requirements simultaneously, there is a proposal (Project M2673) for a class of Afloat Logistics and Sealift Capability ships.[50] Each of the other environments obviously has a contribution to make in determining the capacity and capability of this ship. This type of project clearly has the potential to enhance joint effectiveness, and it could well serve as a foundation piece for supporting a coherent force development

model for effective employment at the operational level. From this point of view, this new class of ship should be seen as a CF project and not as a Maritime Command project. There are other examples, but this will serve for the purpose of illustrating the principle of the joint approach to procurement.

Perhaps a better example of the rational approach to force structure may be seen in that advocated in the United Kingdom's Strategic Defence Review.[51] This document serves as the blueprint for a fundamental reshaping of the British forces. Recognition of the three levels of war is evident. The emphasis is on shaping joint forces to operate at the operational level.

Although operational effectiveness alone should make a sufficiently compelling argument for change, affordability issues often dominate defence decisions. Nonetheless, one is likely to be drawn to the same conclusions: "In the climate of today, the affordability issue is critical and overriding, and will oblige the services ultimately to accept living, training and fighting together on a regular basis under a command structure which is joint all the time. …[W]e will not be able to afford stand alone environmental capability packages which can be integrated into joint or combined operations as required."[52]

The second issue that needs to be addressed is the refinement of doctrine. There are two areas that require attention - how the doctrine is written, and how it is interpreted. Canadian operational doctrine is largely a synthesis of NATO and US doctrine. In most cases, these are adopted, holus-bolus, with only minor modifications to language to suit the Canadian context. Given the limited staff resources in the CF, it makes sense to avoid "reinventing the wheel" wherever possible, but there is a weakness in adopting doctrine without first having a compatible force structure. For the Navy and the Air Force, the CF contribution to the operational level of war is usually seen as being part of a maritime or air component in a combined force, and "jointness" is something that occurs between the components, not between the environmental elements of the CF. The Army, which given the traditional Army penchant for doctrine at all levels, has been the premier author of most CF doctrine, has attempted to apply the American concepts to the peace support operations it has conducted over the last four decades, and much of the

Canadian doctrinal terminology is consequently defined in "land-centric" terms. This has created some problems in the integration of environmental doctrine with the joint doctrine. For example, the "land-centric" definitions of deployability and sustainment do not coincide very well with the operational nature of ships. Consequently, the Maritime Command publication, *Adjusting Course: A Naval Strategy for Canada*, and Air Command's *Out of the Sun: Aerospace Doctrine for the Canadian Forces*, while broadly consistent with the CF Operations manual, lack a direct connection for joint interoperability.   Instead, they reflect the environmental requirements. The doctrine gap reflects the historical employment of CF units in large-scale operations. Canadian maritime, land and air forces have contributed to larger multinational maritime, land and air components, and therefore "jointness" for CF units occurs above the level at which the Canadian units operate.

This leads to the third issue that needs to be addressed in improving CF joint capability - the actual practice of joint activity in exercise and operations. Those few attempts that have been made in this direction have generally consisted of taking units from two or more environments and applying them to a common task (or concurrent tasks in support of a common objective) for a relatively short period of time. There have been examples of greater integration, but this is usually in the form of air forces providing the type of support to maritime and land forces that is provided by organic aviation in more traditionally organized navies and armies.   Rarely, and seldom successfully, has there been operational integration of the three environments. This is not surprising because the force structure and doctrine are not suitable for the purpose.

This individual approach to force employment is only acceptable if the intent is to continue making unit size contributions to larger multinational formations, and we are content that operational control of these units should reside outside Canadian hands. This is, however, patently not the case. The entire history of the CF since the commitment of troops to the First World War has been a march, occasionally faltering, toward effective forces operating under effective Canadian command. The march has been slowed at times because the environments, and previously the three services, have seen themselves as subsidiaries of larger navies, armies and air forces: the British until the end of the Second World War and the Americans thereafter. This legacy is perpetuated in

the current force structure.   Nonetheless, there are imperatives, operational and economical, for addressing real unification of the CF now, even if it is thirty years after the legislation that initiated the process.

As an initial means to addressing this threefold approach to the improvement of operational effectiveness, a more clearly defined headquarters organization would be required, one based upon a more explicit statement of joint and operational-level command responsibilities in the ARA. Commodore Nason suggested the creation of a Canadian Forces Joint Command under the DCDS to co-ordinate joint training and mission execution.[53] The ECSs would still retain responsibility for well-trained, combat-ready environmental forces in a manner similar to the US Chiefs of Service. This constitutes a bold step, but one which is completely consistent with the intentions of unification. Such a process has been inhibited in the past by the legacy structure inherited from the RCN, RCAF and Canadian Army; however, a joint approach to the Defence Services Program and a unified force structure model can ameliorate this.

The good news is that the same technological innovations and demand for fiscal efficiencies that are driving the US, as well as the United Kingdom and others, to develop a more functionally integrated approach for their armed forces provides a model for better operational interoperability among the CF. For example, as the US Navy has embraced the operational level of war and climbed aboard the joint wagon, naval doctrine and, subsequently, organization and equipment will evolve to reflect this more integrated approach.   Therefore naval doctrine, organization and equipment in Canada will proceed inevitably down a similar path, if each of the elements of the CF continues to emulate its American counterpart. The enhanced interoperability among the American services will necessarily mean greater interoperability among the elements of the CF.

This is not merely imitative behaviour: a kisby ring being sucked along in the wake of a large ship.   There are solid strategic grounds for deliberately matching the American pattern. Notwithstanding periodic assertions of independence, Canada has a close and comprehensive defence and military relationship with the US.   There are strong institutional ties established through the US and Western Alliance system via NATO and the ABCA Quadripartite agreements, the continental

commitments through NORAD and the Permanent Joint Board on Defence, and the Defence Sharing Agreement.[54] And Canada is not alone in this respect. For example, RN officers generally acknowledge that it is necessary for the RN to maintain compatibility with the US Navy. This is not just because of the NATO connection. The US Navy has become the "industry standard" against which all aspects of naval capability are measured. From Canada's point of view, even if forces participate in some form of coalition without the Americans, the common ground among those forces that do participate will likely be their compatibility with the Americans.

CONCLUSION

In this essay, the historical evolution of the concept of the operational level of war was examined. For large-scale operations, in particular, there is a need for a level of command, planning and execution that translates strategic objectives into tactical execution. Indeed, for any size of operation, if strategic goals are involved, and this must be axiomatic for the employment of military forces, then the three levels, strategic, operational and tactical, are inextricably linked. This was seen to be so even in the realm of maritime warfare in which the concept was slow to be appreciated in naval doctrine. Nevertheless, it was shown that an appreciation for the operational level was essential for modern operations, and modern operations are intrinsically joint. The requirement for a joint approach to operational-level activities is reinforced by the technological revolution, the so-called Revolution in Military Affairs, which is driving forces to a functional, rather than an environmental, organization.

Despite the mandate of unification, the CF have neither a joint nor a functional structure that currently permits effective employment at the operational level. However, this deficiency can be resolved through the development of a coherent over-all force structure for the CF, the implementation of this model through the appropriate control of the Defence Services Program, the reconciliation of CF and environmental doctrine, and the shaping the headquarters of the CF to reflect a better delineation of joint responsibilities in the ARA, and, most importantly, the putting in effect of joint practices through exercises and operations. The technological drive to functional organization and "jointness" at the

operational level of war in the US forces, and those of our other major allies - like the United Kingdom, will facilitate the evolution of a truly unified Canadian Forces.

NOTES

1   Wayne P. Hughes, "The Strategy-Tactics Relationship," in Colin S. Gray and Roger W. Barnett, eds. *Seapower and Strategy* (Annapolis, MD: Naval Institute Press, 1989).

2   In this sense, "functional" refers to the nature of the effect of an activity, e.g., air defence, indirect fire, surveillance, etc. "Environmental" refers to the nature of the platform, e.g., if it flies, it belongs to the air force; if it floats it belongs to the navy.

3   Alvin Toffler and Heidi Toffler, *War and Anti-War* (New York: Little, Brown, 1993).

4   Martin Dunn, "Levels of War, Just a Set of Labels?" *Research and Analysis: Newsletter of the [Australian] Directorate of Army Research and Analysis* no. 10 (October 1996).

5   "During the last half of the 19ᵗʰ century, about the time when most military thinkers had grown comfortable with [the] understanding of strategy and tactics, the industrial revolution went to war, thereby altering the basic paradigm in ways not fully understood until after the First World War …" Bruce W. Menning, "Operational Art's Origins," *Military Review* 77, no. 5 (September-October 1997), 33.

6   John English, "The Operational Art: Developments in the Theories of War," in B.J.C. McKercher and Michael A. Hennessy, eds.,*The Operational Art: Developments in the Theories of War* (Westport, CT: Praeger, 1996), 7-8.

7   Martin van Creveld, *Command in War* (Cambridge, MT: Harvard Univ. Press, 1985), 106.

8   Ralph L. Allen, "Piercing the Veil of Operational Art," *Parameters* 25, no. 2 (Summer 1995) [reprinted from the Winter 1986 issue of *Parameters*], 114.

9   Ibid., 112.

10   Allen goes on to define science as "the possession of knowledge through study" and art as "performing actions acquired by experience, study or observations." Art, then, is the ability to apply knowledge through action. He asserts that "one aspect that seems clear is that military art is more prevalent at the strategic level, where the complexities of war are greater, and military science is more prevalent at the tactical level. At the operational level the two are more evenly applied." Ibid., 115-6.

11   Ibid., 111.

12   Menning, 32. For a concise summary of the Soviet theories about military doctrine and applications of military art and science see David M. Glantz, "The Intellectual Dimension of Soviet (Russian) Operational Art," in B.J.C McKercher and Michael A. Hennessy, eds. *The Operational Art: Developments in the Theories of War*, (Westport, CT: Praeger, 1996).

13   English, "The Operational Art," 14.

14   Harry Summers, *On Strategy: A Critical analysis of the Vietnam War* (Novato, CA: Presidio Press, 1982), quoted by K.T. Eddy, "The Canadian Forces and the Operational Level of War," *Canadian Defence Quarterly* 21, no. 5 (April 1992), 21.

15   Menning, 39.

16   Menning, 41.

17   US Army Field Manual 100-5 (FM 100-5) *Operations* (June 1993).

18   Stansfield Turner, "Missions of the US Navy," *Naval War College Review*, 26, no. 5 (March-April 1974), 5. Actually, there is one passing reference to the US Air Force with respect to its competition with the US Navy for the delivery of nuclear weapons.

19   For a synthesis of the evolution of the Cold War approach to war at sea see Roger W. Barnett and

Jeffrey G. Barlow, "The Maritime Strategy of the US Navy: Reading Excerpts," in Colin S. Gray and Roger W. Barnett, eds. *Seapower and Strategy* (Annapolis, MD: Naval Institute Press, 1989).

20   James John Tritten, *Naval Doctrine…From the Sea* (Norfolk, VA: Naval Doctrine Command, December 1994), 3.

21   James J. Tritten and Vice Admiral Luigi Donolo, Italian Navy (Retired), *A Doctrine Reader: the Navies of the United States, Great Britain, France, Italy and Spain, Newport Paper Number Nine* (Newport, RI: Naval War College, 1995), 3, 37-8.

22   FM 100-5, *Operations*, 6-2.

23   Wayne P. Hughes, "Naval Maneuver Warfare," *Naval War College Review* 50, no. 3 (Summer 1997), 25-49.

24   Sandy Woodward and Patrick Robinson, *One Hundred Days: the memoires of the Falklands Battle Group Commander* (Naval Institute Press, 1992).

25   BR 1806: *The Fundamentals of British Maritime Doctrine* (London: Her Majesty's Stationery Office, 1995), Annex B.

26   Hughes, "The Strategy-Tactics Relationship," 49.

27   Ibid., 55.

28   Tritten, *Naval Doctrine…From the Sea*, 3.

29   "The application of naval power against the land requires of course an entirely different sort of Navy from that which existed during the struggle for supremacy." Samuel Huntingdon, "National Policy and the Transoceanic Navy," from a May 1954 *US Naval Institute Proceedings* article quoted by Geoffrey Till, "Maritime Strategy and the Twenty-first Century," in Geoffrey Till, ed. *Seapower: Theory and Practice,* (Newbury Park, UK: Frank Cass, 1994),188.

30   US Navy, *Forward…From the Sea* (Washington, DC: Department of the Navy, 1994), letter of promulgation.

31   Authors note: In the United States, "Naval" refers to the Navy and the Marine Corps. "Navy" means just the Navy.   As I learned at Naval Doctrine Command (1994-96), this transcends the grammatical distinction between an adjective and a noun. Significantly, Naval Doctrine Command has evolved into the Navy Warfare Development Command.

32   Tritten, *Naval Doctrine…From the Sea*, 3.

33   Tritten and Donolo, *A Doctrine Reader*, 132.

34   Now called Combatant Commanders.

35   *The Universal Navy Task List*, OPNAVINST 3500.38/MCO 3500.26/USCG COMDTINST M33500.1 (Washington, DC: Department of the Navy, 1996): Section 1.

36   *Forward…From the Sea*, 10.

37   US Joint Publication 0-2 (JP 0-2), *Unified Action Armed Forces* (1995).

38   *Joint Vision 2010*, (Washington, DC: Department of Defense, 1996).

39   There are, however, those who argue that there are a number of mitigating factors that may impede further functional integration. To a certain extent, "enthusiasm within the US military is tempered by concerns about over-reliance on technology and the possible loss of traditional combat skills." In the common parlance of the sailor, this is often expressed as, "what happens when someone pulls the plug." It is also argued that, in the US, functional integration driven by emerging technologies threatens to upset the "delicate balance of Service autonomy." From this perspective, there are strong proponents for each service in the political, industrial and military sectors that campaign effectively for their champions. One effect of this is the significant overlap in capability among each of the services. After all, the USN is not only the world's largest and most effective navy, it also possess the world's second largest air force (Naval Aviation) and a large and modern army (United States Marine Corps) as wholly owned subsidiaries.

40   James K. Morningstar, "Technologies, Doctrine and Organization for RMA," *Joint Force Quarterly* 15 (Spring 1997), 39.

41   *Canadian Forces Operations*, B-GG-005-004/AF-000 (1997), i.

42   Ibid., ii.

43   *Authority, Responsibility and Accountability: Guidance for Members of the Canadian Forces and Employees of the Department of National Defence: Report to the Prime Minister*, (Ottawa, ON: Department of National Defence (DND), 1997).

44   Author's note. This is done for two reasons: it satisfies a theoretical notion that "war is essentially a subset of conflict and not an isolated state," and it allows application of the concept to the extensive Canadian experience in operations other than war.

45   *Canadian Forces Operations*, ii.

46   K.A. Nason, "Joint Operations in the Canadian Forces: A Meaningful and Timely Start," *Canadian Defence Quarterly* 24, no. 2 (December 1994), 7.

47   *Defence Planning Guidance* (Ottawa: DND, 1998).

48   Don M. Snider, "The US Military in Transition to Jointness: Surmounting Old Notions of Interservice Rivalry," *Airpower Journal* 10, no. 3 (Fall 1996), 17.

49   *Defence Planning Guidance*, Foreword.

50   For a discussion of concepts for this project, see Bruce T. Irvine, "Afloat Logistics and Sealift Capability for the Canadian Navy," *Canadian Defence Quarterly* 26, no. 4 (Summer 1997), 14-19. This is now the Joint Support Ship project.

51   United Kingdom, *Strategic Defence Review*, (London: Ministry of Defence, 1998).

52   Nason, "Joint Operations in the Canadian Forces, 8.

53   Ibid., 9.

54   Andrew F. Cooper, *Canadian Foreign Policy: Old Habits and New Directions* (Scarborough, ON: Prentice-Hall, 1997).

CHAPTER 6

A CLASH OF SERVICE DOCTRINES: INTEGRATION VERSUS SYNCHRONIZATION IN JOINT OPERATIONS [1]

Lieutenant-Colonel G.M. Pratt

> Air power is indivisible. If you split it up into compartments, you merely pull it to pieces and destroy its greatest asset—its flexibility.
>
> — Field Marshal Sir Bernard Law Montgomery [2]

Air power, "the ability to project military force in air," [3] has been the subject of innumerable studies since its introduction into warfare almost a century ago. Over the course of the intervening period, air power has undergone an extraordinary evolution—from a mere innovation at the start of the First World War, to its overwhelming impact in the Gulf War in 1991 and the air war over Kosovo in 1999.

By the end of the First World War, air power was fully integrated within land and maritime operations, but its overall significance was not decisive to the outcome of the war. [4] In the Second World War, the importance of air superiority was demonstrated repeatedly. By 1945, air power had integrated itself into all levels of war, and atomic bombing had proven that it "could deliver on air power's promise of victory through terror without combat." [5]

During the Cold War, air power was largely regarded as either strategic or tactical in nature. In the strategic sense, air power was linked with long-range bombers and the nuclear weapons they carried, and with the air defence mission. All other air capabilities were used in tactical support of surface forces. [6]

Operation Desert Storm in 1991 represented the first large-scale deployment of US air power since the Vietnam War. [7] The Gulf War symbolized a transformation of air power, as air control over Iraq enabled

the swift realization of the coalition's ground objectives, thereby marking "the final coming of age of air power."[8]

Subsequent major air campaigns were fought in the Balkans. In Operation Deliberate Force in 1995, US and other coalition warplanes destroyed the Serbian command and control structure, quickly leading to a cease-fire that had eluded peacemakers for three years.[9] In 1999, another NATO coalition faced the Serbs over their actions in Kosovo during Operation Allied Force. This campaign was waged almost entirely through air power, and resulted in the destruction of a large portion of Yugoslavia's industrial and communications infrastructure, eventually resulting in the collapse of the Milosevic government.[10] In both operations, air power again enabled strategic success on the ground.[11]

Despite its achievements in the Gulf War and the Balkan campaigns, the use of air power in joint operations has come under scrutiny. Joint operations doctrine "recognizes the fundamental and beneficial effects of teamwork and unity of effort, and the synchronization and integration of military operations in time, space, and purpose."[12] Service doctrinal differences, however, have led to differing priorities with respect to the application of the terms *integration* and *synchronization* in the conduct of joint operations. The Air Force emphasizes that air power is a high demand, low density asset that must be controlled centrally; therefore, the primacy of air power *integration* across the entire joint theatre of operations will ensure its most effective use. Land force commanders, on the other hand, "retain most of their assets for their own organic manoeuvre." They organize geographically, with all units in each area reporting to a single commander, and they *synchronize* their actions in order to "deconflict in time and space with each other."[13] These differing philosophies have led to a "clash of service doctrines."[14]

In joint operations, air power is applied according to the intent of the Joint Force Commander (JFC). The JFC establishes the overall priorities and the Joint Force Air Component Commander (JFACC)[15] then recommends to the JFC how to apportion air assets in the most effective manner in support of those same priorities. During the Gulf War, the JFACC drew criticism from land force commanders over the apportionment of air assets, when they complained that the air support they required was not provided in sufficient quantity or in a timely

fashion.[16] This criticism stems from the clash of service doctrines between the US Air Force and the US Army, a condition that has had a negative impact on the conduct of past joint operations.

This chapter will explore service doctrinal differences that exist between the US Air Force and the US Army, and will demonstrate that the *integration* of air power throughout a theatre of joint operations must take precedence over its *synchronization* with land forces.

INTEGRATION VERSUS SYNCHRONIZATION

> Up until the 1970s, combat operations were viewed as two separate fights. Ground forces were to fight the close battle and air power attack the enemy deep.
>
> — Major General Fred F. Marty, US Army[17]

US joint doctrine publications define integration and synchronization as follows:

> integration—the arrangement of military forces and their actions to create a force that operates by engaging as a whole;[18] and

> synchronization—the arrangement of military actions in time, space, and purpose to produce maximum relative combat power at a decisive place and time.[19]

Both terms are used in joint doctrine to describe R*obust Integration, Synchronization, and Coordination Mechanisms,* one of the tenets of command and control:

> Integration, synchronization, and coordination, methods and tools encourage synergistic interaction among joint force components. Integration is achieved through joint operation planning and the skilful assimilation of forces, capabilities, and systems to enable their employment in a single, cohesive operation rather than a set of separate operations.[20]

Integration and synchronization, therefore, are methods and tools that allow the JFC and component commanders to improve the effectiveness of their forces through synergistic interaction. Further, joint operations doctrine is defined as:

> doctrine that recognizes the fundamental and beneficial effects of teamwork and unity of effort, and the synchronization and integration of military operations in time, space, and purpose.[21]

From this definition, it can be inferred that integration and synchronization are key components of joint operations. But what is the difference between these two apparently similar terms? The definition of *integration* implies large military organizations joining together to create larger, more effective forces. This is the essence of integrated air power: large quantities of air power capabilities coming together by virtue of a centralized planning effort to create overwhelming mass against the enemy. *Synchronization* adds the elements of time, space and purpose.

The application of the terms *integration* and *synchronization* within the three levels of war can provide insight on the significance of these terms, as interpreted by the US Army and the US Air Force. The *Dictionary of Military and Associated Terms* (JP 1-02) defines the three levels of war as follows:

> strategic level of war — The level of war at which a nation…determines national …security objectives and guidance, and develops and uses national resources to accomplish these objectives; [22]

> operational level of war — The level of war at which campaigns and major operations are planned, conducted, and sustained to accomplish strategic objectives within theaters or other operational areas;[23] and

> tactical level of war — The level of war at which battles and engagements are planned and executed to accomplish military objectives assigned to tactical units or task forces.[24]

The latter two definitions, with their emphasis on planning and execution, would support the premise that synchronization (the arrangement of

the elements of time, space and purpose) applies primarily at the tactical and operational levels. Integration of military forces, on the other hand, applies especially at the strategic and operational levels where the grouping of national resources is considered.

The term *synchronization* appeared in the US Army's AirLand Battle doctrine in 1982: "Its central idea was to have the Army operate at a quicker tempo than its adversary by going through the steps of 'see, analyze, decide, synchronize, and act' faster than an opponent. This is almost identical to Boyd's OODA loop theory, except for the synchronized step."[25] More recently, the US Army has included *synchronization* as one of the five tenets of Army operations, i.e., initiative, agility, depth, synchronization, and versatility. [26]

At the heart of this examination of service doctrines, however, is the notion that, first and foremost, the US Air Force interprets the air campaign from a strategic viewpoint. According to the late Carl H. Builder, a former Senior Policy Analyst with the RAND Corporation, "[o]f the three services, the Air Force is clearly the most comfortable with strategy and things strategic—in thinking, theorizing, and planning." Builder elaborates that "[s]trategy colors almost every action of the Air Force, from defining roles and justifying missions to the development of doctrine and the acquisition of forces."[27] In support of these views, *Air Force Basic Doctrine* (AFDD 1) defines air power as follows:

> [The] application of air…systems to project global strategic military power. Understanding the total capabilities of air…forces, and what they provide the [JFC], is critical to understanding asymmetric leverage and the potent capability that…air…power brings to the fight—and the strategic perspective that must guide it.[28]

From the foregoing, therefore, it is clear that US Air Force doctrine is founded on the strategic level of war. Conversely, the Army best understands the battle or ground campaign from the tactical perspective. Builder supports this contention by adding that "[w]here the sailor or airman thinks in terms of an entire world, the soldier at work thinks in terms of theatres, in terms of campaigns, or in terms of battles."[29]

That is not to say that the Air Force does not recognize the important role of synchronization in joint operations. Indeed, synchronization is a key component in the planning and conduct of all air campaigns, but at the tactical and operational levels of war, whereas the command and control of air power always begins at the strategic level. Synchronization, however, can potentially constrain the application of air power by forcing it to wait in *time* for someone else to achieve an objective, or in *space* by waiting for someone else to reach a phase line or an objective.

Lieutenant Colonel D. Robert Poynor, USAF (retired), a doctrine analyst at the US Air Force Doctrine Center, explains that land forces organize "geographically, and seek to achieve tactical-level results sequentially as they move across the surface.… [Land forces] tend to focus on the enemy forces immediately in front of them; airmen talk about achieving theater-wide effects, and tend to focus on targets set throughout the enemy's territory."[30] The Air Force is also aware that inevitably, there are always fewer air assets available than potential missions and targets. Hence, the Air Force contends that central control will ensure the most efficient application of air assets across the battlespace. Therefore, it can be surmised that the term *integration* is closer to the US Air Force's strategic doctrinal ideology, whereas *synchronization* embodies a concept that the US Army associates more closely with the tactical and operational levels of war.

Why does this dichotomy exist with respect to doctrine? Until the Goldwater-Nichols Act of 1986, individual services in the US developed their own doctrine with little or no consultation with the other services.[31] After 1986, US armed forces were required to develop and adapt to joint doctrine. In the wake of the Gulf War, the Chairman of the Joint Chiefs of Staff, General Colin Powell, recognizing conflicting service doctrinal perspectives, commissioned the development of the joint doctrine capstone publication, *Joint Warfare of the Armed Forces of the United States* (JP 1) in order to promote the development of harmonized doctrine across all services.[32]

By 1997, the US Air Force and the US Army Chiefs of Staff "openly acknowledged their differences over such basic issues as control of air and missile defenses and deep operations conducted beyond the fire-support coordination line but within the land commander's area of operation. It

became clear that neglect of doctrine can translate to less than optimal use of airpower and cloud the debate over future forces."[33] A brief review of the role and function of the JFACC will provide a good preamble to two key aspects of joint operations, selection of centres of gravity (COG) and depth of the battlespace, and their influence on the *optimal use of air power.*

ROLE AND FUNCTION OF THE JFACC

> Centralized control and decentralized execution of air…forces are critical to force effectiveness. Air…power must be controlled by an airman who maintains a broad strategic and/or theater perspective in prioritizing the use of limited air…assets to attain the objectives of all US forces in any contingency across the range of operations.
>
> — The First Tenet of Air Power, Air Force Basic Doctrine[34]

> Air…power is intrinsically different from either land or sea power, and its employment must be guided by axioms different than those of surface forces.
>
> — Air Force Basic Doctrine [35]

During the conduct of the joint campaign, the JFC can choose to establish functional component commands to conduct operations.[36] "Normally, the JFACC is the Service component commander having the preponderance of air assets and the capability to plan, task, and control joint air operations."[37] Air assets not organic to the Air Force may be assigned from other services, such as the Army, the Navy, or the Marines. The JFACC exercises tactical control over assigned air assets and the organic air assets other services make available for tasking—this is completed through the Air Tasking Order (ATO).[38] All land and maritime non-air assets will normally be assigned to the Joint Force Land Component Commander (JFLCC) and the Joint Force Maritime Component Commander (JFMCC), respectively. Typically, the assigned area of responsibility for the JFLCC and the JFMCC will be restricted to specific geographic areas. In the case of the JFACC, however, there is no geographic area of operations - all air assets are applied across the entire

theatre of operations.   Consequently, the JFACC is required to operate over the two-dimensional area assigned to the surface component commanders "who retain full authority in their geographic sectors."[39]

As joint operations require the JFACC to operate throughout the Joint Operations Area (JOA), there can be considerable conflict with the other component commanders over competing demands for scarce resources and coordination of efforts. In recognition of this fact, JP 3-0 states that: "The JFC's objectives, intent, and priorities, reflected in mission assignments and coordinating arrangements, enable subordinates to exploit fully the military potential of their forces while minimizing the friction generated by competing requirements."[40] It has been noted that in the Gulf War, "[a] single air commander…allowed a degree of coherence in the conduct of air operations that would not have occurred had most air forces been assigned separate operating areas…as in Vietnam."[41] Further, JP 3-0 recognizes that the air component can be the lead force, and that the JFACC can be supported by the other component commanders.[42] In fact, "[t]he JFACC is considered the 'supported commander' for all counterair operations. Under a [JFC's] guidance, the air commander has latitude to control the priority, timing, and effects of counterair fires across the theater. And counterair operations, while under the command of a single individual, can be executed in decentralized fashion,"[43] thereby satisfying the first tenet of air power.

The JFACC controls all sorties for assigned aircraft through the production of the ATO, which is "the final distilled product of the planning involving objectives, aircraft sortie allocation, and target selection, issued in terms of a daily schedule of aircraft sorties matched with missions, targets, times, and all the coordinating instructions necessary for units to accomplish the specific tasks."[44] Consequently, the targeting process in joint operations has a great impact on the ATO, and ultimately, on the effective use of air assets. Due to the clash of service doctrines, however, the US Air Force and US Army hold different views on the selection of COGs, and subsequently, on the targeting process itself.

CENTRES OF GRAVITY

> The advent of air power, which can go straight to the vital centers and either neutralize or destroy them, has put a completely new complexion on the old system of making war. It is now realized that the hostile main army in the field is a false objective, and the real objectives are the vital centers.
>
> — Brigadier General William "Billy" Mitchell[45]

Differing historical doctrinal philosophies espoused by the US Air Force and the US Army have had a significant impact on the perception of COGs. Whereas the Army has traditionally focused on the enemy facing them, the Air Force prefers to review the entire theatre of war—which is understandable, as the Air Force can carry out simultaneous and parallel operations (strategic, operational, tactical) to a depth unrivalled by the Army. For example, AFDD 1 states that "[t]he ability to integrate a force quickly and to strike directly at an adversary's strategic or operational COG is a key theme of air and space power's maneuver advantage."[46] The disparate philosophies of the Air Force and the Army were manifested as recently as Operation Allied Force when "[t]he regional commander-in-chief (an Army officer) declared that the fielded Serb forces in Kosovo should be the primary targets in the air campaign, while the air commander wanted to 'go downtown' into Belgrade and apply pressure to the Serbian decisionmakers."[47]

All services agree that the key to success in war is to neutralize or destroy the enemy's COGs. In fact, joint doctrine states that this course is the "most direct path to victory."[48] Both the US Air Force and the US Army also agree that COGs exist at all levels of warfare, and all must be considered during the evaluation of the battlespace.[49] Further, US Air Force doctrine states that "[b]ecause of the theaterwide scope of aerospace operations, the JFACC will typically maintain the same… theaterwide scope as the JFC."[50]

Colonel Mark F. Cancian, US Marine Corps Reserve, points out that "[a]ir power, almost from its inception, has looked for decisive results from strategic effects against enemy [COGs].… The prospect of 'jumping over the trenches' to strike directly at an enemy's critical vulnerabilities has

been extremely attractive."[51] The US Army on the other hand, in true Clausewitzian fashion,[52] usually maintains that the enemy's main force is the COG.[53] Consequently, during Desert Storm, when the Army determined that the Republican Guard was the obvious COG[54] and held that air power should be directed there, the JFACC was considering targets throughout the entire theatre.[55] Eventually, the Republican Guard became the object of intense Air Force targeting in the days leading to the ground offensive when the tactical level of war was the appropriate focus, and the corps commanders became the supported commanders.

In its appraisal of operational art, JP 3-0 emphasizes the importance of striking the enemy from all directions and dimensions:

> JFCs strive to maintain friendly force balance while aggressively seeking to disrupt an adversary's balance by striking with powerful blows from unexpected directions or dimensions and pressing the fight. Military deception, special operations, offensive information operations, direct attack of adversary strategic centers of gravity…, interdiction, and maneuver all converge to confuse, demoralize, and destroy the opponent.[56]

In fact, the Air Force emphasizes that the elimination of strategic targets can be *the most direct path to victory*, with the added advantage of reducing friendly casualties to a minimum—an outcome attractive to politicians in the present climate of casualty aversion. As a result, "in a world in which few public officials are willing to risk casualties…, airpower alone has become the policy tool of choice for active combat operations since 1992."[57]

US Air Force doctrine does not focus on *output*, but rather on *outcome* or *effects*. Consequently, a strategic attack is not defined by the weapon system, nor by the method of delivery, but rather by the target and the overall effect that the elimination or neutralization of that target has on the conduct of the war.[58] Further, US Air Force doctrine is clear that in joint operations, air power must be developed strategically from the start of the conflict, and indeed,

> It is not prudent to wait for a theater strategy, emphasizing surface maneuver to be developed, and then create a supporting

air strategy.… [W]ithout adequate air and space expertise at [the strategic] level, planning has historically devolved to an emphasis on surface warfare operations and objectives and how they can be supported by aerospace power. This does not imply that aerospace power is the answer in every case, but it does mandate that theater-level planning include examining aerospace power options from the beginning.[59]

It can be reasoned that strategy focuses more properly on the *ends* (or the *outcome*), whereas tactics are expected to focus on the means. In a similar vein, strategic thinking should concern itself with the enemy's *vulnerabilities*, whereas the tactician is more concerned with the enemy's *military capabilities*. Prior to the 20th century, "strategic thinking was mostly positional," and strategic objectives could not be attained without first defeating enemy military forces. The advent of air power, however, provided strategists with the first opportunity to hurdle long-standing barriers to the attainment of national strategic objectives, without directly engaging the enemy's surface forces. Builder sums this up by stating that "military power can sometimes be brought to bear most effectively and efficiently when it is applied directly toward a nation's highest purposes without first defeating defending enemy forces."[60] Modern war, therefore, especially with recent technological advances, has demonstrated that "air power…now permits the achievement of strategic goals…from the outset of fighting."[61]

It could be argued that the Gulf War did not represent the acme of air power in the *strategic* sense. After all, only ten percent of sorties flown were directed toward Iraqi infrastructure (with the presumed aim of attacking directly at Saddam Hussein's hold on power—a *strategic* objective). The majority of sorties, however, were actually directed against Iraqi forces—a *tactical* objective—in an effort to achieve the coalition's mission of liberating Kuwait from Iraqi military occupation: the principal *strategic* objective of the Gulf War.[62] Conversely, Operation Allied Force did symbolize the pinnacle of air power as it was used to achieve decidedly *strategic* goals (the withdrawal of Serbian troops from Kosovo and the toppling of Milosevic's government) without significantly engaging enemy military forces.

On the other hand, the Army's entire *raison d'être* is to hold ground and defeat enemy forces—an obviously *tactical* mindset. Even Army commanders at the corps level understand their role in tactical terms, as they are more concerned with the enemy's tactical military capabilities than with the enemy's overall strategic vulnerabilities. And so it should be - as leaders of ground forces, Army commanders must be focused on the enemy facing them and the immediate means to defeat them. Contrast this notion with the Air Force vision of thinking strategically first, and then working down to the tactical level. It is little wonder that joint operations have engendered long debates, especially between land and air proponents, on the proper use of air power in war.

Differing philosophies with respect to COGs had an impact on targeting during Desert Storm. As the JFACC was responsible for the control of all air assets, de facto, he also controlled the joint targeting process, commensurate with the overall guidance of the JFC.

As the opening of the ground operation approached, corps commanders believed that they were not receiving their fair share of air support from the JFACC. According to Colonel Michael R. Moeller, USAF, National Defense Fellow at the Center for Strategic and International Studies, by mid-January, ground commanders complained that "the JFACC had placed less than one-half of their requested targets on the [ATO]." According to Moeller, there were three reasons for this professed lack of support. First, intelligence support lagged behind the execution of the air campaign. As a result, the targets identified by corps commanders did not exist or had already been destroyed in previous attacks. Second, unbeknownst to the corps commanders, the JFACC was under instructions by the JFC to decrease the strength of the Iraqi Republican Guard. Hence, the JFACC was prohibited from targeting enemy units who were less than half-strength, even if corps commanders had specifically identified those units. Third, the JFC was double-hatted as the JFLCC. Consequently, corps commanders did not have a superior equal in status to the JFACC to whom they could bring their targeting concerns.[63]

Brigadier General Richard B.H. Lewis, USAF, Director of the Joint Theater Air and Missile Defense Organization, noted that:

> [a]lthough the ground campaign was a complete success, the Army corps commanders were not satisfied with JFACC operations. Corps commanders during Desert Storm wanted each corps, not [the] JFACC, to have responsibility for shaping the battlefield through air interdiction both prior to and after [the start of ground operations]. In addition, each corps commander wanted to receive a set number of daily sorties.[64]

Further, according to Lewis, the JFACC did not deny air power to the corps commanders prior to the start of the ground offensive, as the JFACC attacked all targets on the JFC-approved target list. The problem was the lack of feedback to corps commanders on the targets submitted to US Army Forces Central Command that did not make the final approved list.[65]

Two conclusions can be drawn from the above. First, land force commanders do not always have the necessary intelligence information to identify the most suitable targets, especially since they are largely restricted to the *tactical* level. And second, "in order to exploit air power and avoid its misuse, air must be kept centralized at the theater level under a JFACC."[66] This centralization of air assets once again supports the first tenet of air power: centralized control and decentralized execution.

The Army and Air Force's recent doctrinal emphasis on Effects-Based Operations (EBO), will clearly link strategic and operational objectives to desired results or outcomes, not to enabling actions or means. It is anticipated that in future joint operations, the JFC will identify objectives, including their desired end-state, to the component commanders, but not how to accomplish these end-states. EBO will allow the JFACC to focus on strategic and operational results through the centralized command of air power, as opposed to the detailed management of target lists. The ATO process would now become "an EBO tool seeking to produce effects in accordance with JFC priorities." For example, identifying an objective as "Render 50% of the enemy's mechanized brigade combat ineffective" permits a great deal of latitude in achieving the desired results. Conversely, identifying the same objective as "Destroy 50% of the enemy's tanks" constrains a task-base operation to attack and kill a specific number of tanks on the battlefield, thereby running the risk of forcing a JFACC to waste sorties when the same effect could be achieved more effectively by other methods.[67]

The clash of service doctrines, however, is not limited to the targeting process. A related doctrinal conflict concerns the apportionment of the battlespace itself, where differing philosophies between the US Army and US Air Force on depth of operations had a serious impact on the outcome of Desert Storm.

DEPTH OF THE BATTLESPACE

> [T]he Air Force views the Army's continued efforts to control Air Force assets for deep interdiction beyond the [Fire Support Coordination Line] as a serious threat to air power's single greatest comparative advantage, namely, its flexibility to meet the theatre-wide needs of a [JFC] as they may arise.
>
> — Benjamin S. Lambeth [68]

> What was deep battle for the Army, …was not deep to the Air Force.
>
> — Peter F. Herrly [69]

The Air Force does not share the same understanding of depth as the Army does. Depth, the third tenet of Army operations,[70] is defined in *Operations* (FM 3-0), the Army's keystone doctrine manual, as "the extension of operations in time, space, and resources."[71] There is no official definition for *depth* in Air Force doctrine, nor (curiously enough) in joint doctrine.[72] Although the Army definition could be adopted by the Air Force, its implications would be virtually meaningless. Arguably, *the extension of operations in time, space, and resources* is something the Air Force carries out as part of all its operations. In fact, the very nature of the Air Force causes it to operate in depth all the time—at least from an Army perspective. During the 1990s, for example, Air Force bombing operations were carried out in the Middle East and Europe from as far away as Diego Garcia and the continental United States.[73] Consequently, the term *depth* means very little to the Air Force—which makes sense, if one accepts the precept that Air Force doctrine is based on the strategic level of war. To the Army, however, *depth* is very real and has been expanding in absolute terms over the past decades as weapons

technology and range has extended. With an operational range of over 300 km, for example, the Army Tactical Missile System (ATACMS)[74] gives the corps commander an *extension of operations in time*, *space, and resources* (or depth) previously unheralded in the annals of land warfare—and an area of operations which has been held within the dominion of the Air Force for over half a century. Hence, the concept of deep operations has become a controversial issue, especially since the Gulf War.

According to Benjamin S. Lambeth, senior staff member at the RAND Corporation, Desert Storm taught the Army that:

> the deep battle [has] becom[e] progressively more decisive than the close battle in major wars. In a natural response to this development, which has called into question its most time-honoured combat role, it…is now endeavoring instead to claim more of the likely battlespace for the [JFLCC] in the next war. That, in turn, has led to a renewed controversy between the Air Force and Army over which component commander should control joint firepower application in future theaters of operations.[75]

At the heart of the controversy over depth in the battlespace, is the location of the Fire Support Coordination Line (FSCL), one of several Fire Support Coordination Measures (FSCM). In the AirLand Battle doctrine of the 1980s, the Air Force was made solely responsible for prosecuting the deep battle, leaving the Army to concentrate on the close battle. It fell upon the component commanders to ensure that air and land operations were synchronized in time and purpose.[76] At the start of the Gulf War, the Army and the Air Force held differing interpretations of the FSCL based on doctrinal grounds. The Air Force viewed the FSCL as a method of dividing the battlefield, whereas the Army considered the FSCL as a permissive fire control measure.[77] As the JFLCC controlled the position of the FSCL, often at the maximum range of organic Army firepower, the Air Force was worried of "being pushed out of the battle area."[78]

Inevitably, many concerns did arise during the Gulf War over deep operations and the position of the FSCL. Army commanders complained that the JFACC used the FSCL in a restrictive way, detailing that all Army

fire power employed beyond the FSCL would require inclusion "on the ATO or receive real time clearance to fire from the [Air Operations Centre]" in order to reduce the likelihood of surface-to-air fratricide. The Air Force complained that the corps commanders placed the FSCL too far forward, beyond the area in which the corps intended to carry out its own deep operations. Although the Army had traditionally located the FSCL 10 to 20 km from the Forward Line of Own Troops (FLOT), the Army's acquisition of long-range weapons meant that, during Desert Storm, the FSCL was placed well beyond those customary limits.[79] In the closing hours of the Gulf War, the corps commanders "independently extended the range of the FSCL [approximately 80 km beyond the FLOT]. These actions had the unintended effect of giving the Iraqis sanctuary from…airpower and ultimately permitted the nearly unimpeded escape of most enemy troops…to Iraq."[80]

In the years following the Gulf War, both the US Air Force and the US Army revised their doctrine manuals to reflect the lessons learned in that conflict. The result is that both doctrines are currently incompatible because the US Air Force and the US Army claim that their respective component commanders have ultimate authority over deep operations.[81] The US Air Force believes that a shallow FSCL (close to the FLOT— normally set at the maximum range of the Army's organic tube artillery)[82] is required to delineate deep operations from the close battle, and that the FSCL should be a restrictive FSCM whereby all air and fire power beyond the FSCL would require synchronization and coordination within the ATO. US Army doctrine, on the other hand, asserts that land force commanders are responsible for the synchronization of all air and firepower within the land area of operations where the JFLCC is considered to be the supported commander. Further, the US Army believes that the FSCL is a permissive FSCM that "unshackle[s] long-range firepower from detailed coordination requirements."[83]

Joint Doctrine does not fully clarify the issue. Whereas *Doctrine for Joint Interdiction Operations* (JP 3-03) states that "[t]he JFACC is the supported commander for the JFC's overall air interdiction effort,"[84] *Doctrine for Joint Fire Support* (JP 3-09) details that the JFLCC is the supported commander within the land area of operations, and that within that area the JFLCC is responsible for the synchronization of interdiction operations.[85] (The US Air Force and the US Army were the

lead agencies for the development of JP 3-03 and JP 3-09, respectively, thereby demonstrating an underlying problem with the integration of joint doctrine.)[86] Although joint doctrine specifies how the battlefield will be divided, it does not provide the necessary guidance for deep battle synchronization: "the core of the problem is [FSCL] doctrine."[87] The JFLCC can be easily persuaded to set the FSCL deep with the area of operations, thereby increasing his span of control over the battlefield and reducing coordination requirements with the JFACC. A deep FSCL also complicates the JFACC's job of providing air power short of the FSCL where the use of forward air controllers is mandatory. In addition, joint doctrine gives the JFLCC tactical control over air interdiction sorties short of the FSCL—thereby contradicting the first tenet of air power, which is completely unacceptable to the US Air Force. Finally, joint doctrine supports the US Army's doctrine of a permissive FSCL, thereby allowing non-coordinated attacks beyond the FSCL, "generating a situation where the risk of fratricide is balanced against the possibility of destroying a target."[88]

In a paper published in 2002, Lieutenant-Colonel Mick Quintrall, USAF, suggested that the traditional FSCL should be replaced by a three-dimensional grid-box scheme that would support a more reactive and functional FSCM. This new procedure would "result in more permissive air fires, allow rapid ground manoeuvre across a three-dimensional battlefield, reduce the chance of fratricide, and mute parochial FSCL fights among the services by minimizing the overlap of battle-space fires and clearly defining the supported/supporting relationships in the ground commander's areas of operations."[89] Further, this suggested system might prove valuable in modern warfare, where the linear battlefield is slowly giving way to the non-linear battlefield.[90]

The ongoing debate over the control over deep operations and the position of the FSCL is another potent illustration of the fundamental doctrinal philosophical differences between the US Army and the US Air Force. At the heart of the matter, the US Army is concerned primarily with the defeat of enemy forces within a delineated geographic area, whereas the US Air Force, with its strategic doctrinal viewpoint, emphasizes the need to integrate and control air power over the entire theatre of war to achieve the JFC's objectives.

CONCLUSION—THE CLASH OF SERVICE DOCTRINES

> [I]nstilling a genuine joint perspective in the future leaders of
> the Armed Forces (while preserving the expertise of each service
> in its respective operational medium) [will] require at least ten to
> fifteen years to develop.
>
> — Attributed to General Colin Powell, 1991[91]

The US Army continues to hold to the doctrine "that the proper role of air power is to support land combat" and that "only an invading and occupying ground force can impose 'decisive defeat' on an enemy and bring a conflict to a successful termination."[92] Likewise, the former CINC of Central Command stated that "[t]he principal business of war—inflicting decisive defeat on the enemy—could be carried out only by land forces—'boots on the ground'—not air forces."[93]

For its part, the US Air Force accepts the premise that ground forces are an essential element of joint operations and that no other component "so clearly commits the prestige of [a] nation to a major operation." In the case of Desert Storm, the ground operation at the end of the war provided "a credible anvil to backstop the hammer of…air power."[94] To the US Air Force, the real question to be resolved is where does the land battlespace give way to deep operations—air power's area of expertise — where no other component can provide the same intensity and effect. Also, the US Air Force consistently emphasizes the important role that its strike aircraft can carry out against ground threats from long range, thereby reducing the need for the Army "to engage enemy ground forces within lethal range of return fire."[95]

These differing views exemplify the fundamental doctrinal disparity that distinguishes the Army from the Air Force. The Army understands the campaign in terms of the enemy military forces that it is preparing to engage—a classic Clausewitzian viewpoint.[96] The Air Force, by contrast, is concerned with enemy vulnerabilities throughout the theatre of war— a more *strategic* doctrinal baseline. Hence, the Air Force prefers to centralize and *integrate* all air power assets in order to ensure that its resources are applied rigorously throughout the entire area of operations, from the strategic level down to the tactical. Consequently, the role of the

JFACC is fundamental to Air Force doctrine: central control of all air assets on behalf of the JFC, with the ATO as the coordinating tool.

The *integration* of air power in joint operations emphasizes the US Air Force's doctrinal contention that potentially scarce air assets in the joint campaign must be controlled from the centre to ensure their most efficient application across the battlespace. *Synchronization* is a term that defines the coordination of military forces in time and space. To the Air Force, *synchronization* is an important concept, especially when it concerns the coordination of air power with land forces at the tactical level of war. But *synchronization* will always follow integration in order of significance, as air power can only be s*ynchronized* with land power once it has been integrated throughout the battlespace at the proper depth and with suitable intensity and effect.

Air power is a high demand, low density asset—the key to its successful application is to respect the priorities set by the JFC, rather than the competing requests of the tactical commanders. *Integration* is all about knowing when the demands of the air campaign take precedence, and when the air support requirements of the component commanders must be adhered to. The key to the success of joint operations is acknowledging the requirements of the component commanders and then applying the JFC priorities accordingly.

Both the US Air Force and the US Army agree that success in future joint operations can only be achieved through close coordination and cooperation. To resolve the clash of service doctrines, efforts must be made to strengthen ties at the joint level, and to strive to develop service doctrines that are consistent with joint doctrine. Given the fundamental differences of the two services in their approach to war, however, it is unlikely that a genuine joint perspective will develop for at least another ten to fifteen years.

NOTES

1   I am indebted to Colonel William A. Scott, USAF (retired), a Gulf War veteran, former Commandant of the Squadron Officer School and Vice Commander of Headquarters Air Force Doctrine Center, Maxwell Air Force Base and Vice Commander of First Air Force. Colonel Scott kindly provided me with insightful information on the Gulf War and on US Air Force and joint doctrine. He is

presently employed as the Director of Staff, First Air Force Headquarters, Tyndall Air Force Base.

2   David W. English, *Slipping the Surly Bonds: Great Quotations on Flight* (New York: McGraw-Hill, 1998), 74.

3   *British Air Power Doctrine* (AP 3000), 3ʳᵈ ed. (1999), p. 1.2.1.

4   John Buckley, *Air Power in the Age of Total War* (London: UCL Press), 10.

5   Michael Kelly, "The Air-Power Revolution," *Atlantic 289*, no. 4 (April 2002), 19.

6   Benjamin S. Lambeth, *The Transformation of American Air Power* (Ithaca: Cornell Univ. Press, 2000), 1.

7   Michael Kelly, "The American Way of War," *Atlantic 289*, no. 6 (Jun 2002), 16.

8   Lambeth, *The Transformation of American Air Power*, 1.

9   Kelly, "The American Way of War," 17.

10   Kelly, "The American Way of War," 17.

11   Lambeth, *The Transformation of American Air Power*, 177.

12   US Joint Publication 3-0 (JP 3-0), *Doctrine for Joint Operations* (10 September 2001), p. II-1.

13   Robert D. Poynor, "Organic Versus Joint: Thoughts on How the Air Force Fights," *Strategic Review* 29, no. 1 (Winter 2001), 59.

14   James A. Winnefeld and Dana J. Johnson, *Joint Air Operations: Pursuit of Unity of Command and Control, 1942-1991* (Annapolis, MD: Naval Institute Press, 1993), 136.

15   Now called the Joint Force Air and Space Component Commander (JFASCC).

16   Richard B.H. Lewis, "JFACC Problems Associated with Battlefield Preparation in Desert Storm," *Airpower Journal* 8, no. 1 (Spring 1994),16.

17   Fred R. Marty, "Synchronizing Fires in Joint and Combined Operations," *Field Artillery Journal* (Feb 1993), 1.

18   US Joint Publication 1-02 (JP 1-02), *Department of Defense Dictionary of Military and Associated Terms*, (2001 (amended through Aug 2002)), 218.

19   Ibid., 429.

20   US Joint Publication 0-2 (JP 0-2), *Unified Action Armed Forces* (UNAAF), (2001), p. III-15.

21   JP 3-0, *Doctrine for Joint Operations*, p. II-1.

22   JP 1-02, *Department of Defense Dictionary of Military and Associated Terms*, 420-1.

23   Ibid., 323.

24   Ibid., 434.

25   James G. Burton, *The Pentagon Wars: Reformers Challenge the Old Guard* (Annapolis, MD: Naval Institute Press, 1993), 51-2. Colonel John Boyd, USAF, developed the Boyd Cycle or OODA Loop to describe the following sequence of events: Observe, Orientate, Decide, and Act.

26   US Army Field Manual 3-0 (FM 3-0), *Operations* (14 June 2001), 4-15.

27   Carl H.Builder, *The Masks of War: American Military Styles in Strategy and Analysis* (Baltimore: Johns Hopkins Univ. Press, 1989), 67.

28   US Air Force Doctrine Document 1 (AFDD 1), *Air Force Basic Doctrine* (September 1997), 44. The full description contained in AFDD 1 reads as follows: "Therefore air and space power is defined as the integrated application of air and space systems to project global strategic military power. Understanding the total capabilities of air and space forces, and what they provide the joint force commander, is critical to understanding asymmetric leverage and the potent capability that integrated air and space power brings to the fight—and the strategic perspective that must guide it." The term space was removed from the citation in the text because it is not germane to the discussion in this paper. Further, the word *integrated* was also removed because it refers to the incorporation of air and space power, not the integration of air power into joint operations, and its use in this paper might have caused confusion.

29   Builder, *The Masks of War, 88*, quoting Rear Admiral J.C. Wylie Jr., USN.

30   Poynor, "Organic Versus Joint," 58-9.

31   According to Herrly, before 1986, "there were very few people in the doctrine business with an appreciation of the unique capabilities of each service and the skill to think through how such capabili-

ties could best be combined" Peter F. Herrly, "The Plight of Joint Doctrine After Kosovo," J*oint Force Quarterly* 22 (Summer 1999), 99.

32   Ibid., 100.

33   Rebecca Grant, "Closing the Doctrine Gap," *Air Force Magazine* 80, no. 1 (Jan 1997), 48.

34   AFDD 1, *Air Force Basic Doctrine*, 23. Centralized control and decentralized execution is one of the USAF tenets of air power.

35   Ibid., 21

36   *JP 3-0, Doctrine for Joint Operations*, p. II-15.

37   US Joint Publication 3-01 (JP 3-01), *Joint Doctrine for Countering Air and Missile Threats* (1999), p. II-4. In all joint operations conducted in the 1990s, the JFACC has been appointed from the Air Force.

38   The JFACC will normally exercise operational control over all Air Force assets, but this is under his authority as Commander, Air Force Forces, US Air Force Doctrine Document 2 (AFDD 2), *Organization and Employment of Aerospace Power* (17 February 2000), 54. Air assets in theater not assigned to the JFACC would include tactical aviation assets that would normally remain organic to the JFLCC and anti-submarine and anti-surface air assets that would be assigned to the JFMCC.

39   Elaine M. Grossman, "Airpower Gains in the Doctrine Wars," *Air Force Magazine* 83, no. 3 (Mar 2000), 47. According to JP 3-01, *Joint Doctrine for Countering Air and Missile Threats*, "Since the attainment of air superiority is normally [a Joint Operations Area wide] priority, the JFC normally designates the JFACC as the supported commander for [Joint Operations Area wide] counterair operations" (p. II-4). Consequently, the JFACC is only required to coordinate activities with surface component commanders over their respective geographic areas of operation.

40   JP 3-0, *Doctrine for Joint Operations*, p. IV-14.

41   Thomas A. Keaney and Eliot A. Cohen, *Revolution in Warfare?: Air Power in the Persian Gulf* (Annapolis, MD: Naval Institute Press, 1995), 136.

42   Herrly, "The Plight of Joint Doctrine After Kosovo," 101.

43   Grossman, "Airpower Gains in the Doctrine Wars," 47.

44   Keaney and Cohen, *Revolution in Warfare?*, 28-9.

45   AFDD 1, *Air Force Basic Doctrine*, 45.

46   Ibid., 17.

47   Poynor, "Organic Versus Joint," 59. It should be noted that the air commander's perspective in this case closely followed the Air Force's definition of strategic attack: "Military action carried out against an enemy's center(s) of gravity or other vital target sets, including command elements, war-production assets, and key supporting infrastructure in order to effect a level of destruction and disintegration of the enemy's military capacity to the point where the enemy no longer retains the ability or will to wage war or carry out aggressive activity." (AFDD 1, *Air Force Basic Doctrine*, 85).

48   JP 3-0, *Doctrine for Joint Operations*, p. III-22.

49   US Air Force Doctrine Document 2-1 (AFDD 2-1) *Air Warfare* (22 January 2000), 40; and US Army, Field Manual 100-7 (FM 100-7) *Decisive Force: The Army in Theater Operations*, (31 May 1995), 3-1.

50   AFDD 2, *Organization and Employment of Aerospace Power*, 54.

51   Mark F. Cancian, "Centers of Gravity Are a Myth," *US Naval Institute Proceedings* 124, no. 9 (September 1998), 32.

52   Michael I. Handel, *Masters of War: Classical Strategic Though*t, 3rd ed. (London: Frank Cass Publishers, 2001), 55.

53   FM 100-7, *Decisive Force: The Army in Theater Operations*, 1-5.

54   A.J.C. Walters,"Manoeuvre Warfare and Air Power – the Seven 'T's," *Royal Air Force Air Power Review* 3, no. 3 (Autumn 2000), 78.

55   According to Cancian, "Centers of Gravity Are a Myth," 31: "[o]riginally, the Air Force planners had not even targeted the Republican Guard, which they regarded as a tactical distraction."

56   JP 3-0, *Doctrine for Joint Operations*, p. III-13.

57   Herrly, "The Plight of Joint Doctrine After Kosovo," 103.

58   AFDD 2-1, *Air Warfare*, 14.

59   Ibid., 1.

60   Builder, "Keeping the Strategic Flame," 77-8.

61   Lambeth, *The Transformation of American Air Power*, 270.

62   Lambeth, *The Transformation of American Air Power*, 267. According to Lewis, on 4 August 1990, the JFACC briefed the President on "air capabilities and options. From this meeting the [JFACC] brought back to his staff the president's objectives: [1] Force Iraq out of Kuwait. [2] Destroy Iraq's nuclear, bio- logical, and chemical (NBC) capability (5-10 year setback). [3]Minimize loss of life (but do not draw out the war). [4] Minimize civilian casualties." Lewis, "JFACC Problems Associated with Battlefield Preparation in Desert Storm," 4.

63   Michael R. Moeller, *The Sum of Their Fears: The Relationship Between the Joint Targeting Coordination Board and the Joint Force Commander* (Maxwell Air Force Base: Air Univ. Press, 1995), 14.

64   Lewis, "JFACC Problems Associated with Battlefield Preparation in Desert Storm," 16-17.

65   Ibid., 21.

66   Ibid., 19.

67   US Air Force Doctrine Center, "Doctrine Watch #13:   Effects-Based Operations (EBO)" (30   November   2000), accessed   16   September   2002; available   from https://www.doctrine.af.mil/DoctrineWatch/DoctrineWatch.asp? Article=13&Print=1. For example, cutting the fuel supply would be an alternative method of rendering an enemy mechanized brigade combat ineffective.

68   Lambeth, *The Transformation of American Air Power*, 294.

69   Herrly, "The Plight of Joint Doctrine After Kosovo," 100.

70   FM 3-0, *Doctrine for Joint Operations*, p. 4-15.

71   Ibid., p. 4-17.

72   There is no definition for "depth" or "deep" in either AFDD 1-2 or JP 1-02. According to Hochevar et al., "Deep strike operations … [are] not defined in service doctrine, much less joint publications. It takes various forms and meanings. The Army uses *deep battle, deep attack*, and *deep strike* interchangeably; the Navy adopts the holistic term *strike warfare*; and the Air Force refers to *interdiction, air interdiction*, and *battlefield air interdiction*" Albert R. Hochevar et al., "Deep Strike: The Evolving Face of War," *Joint Force Quarterly* 9 (Autumn 1995), 81.

73   Lambeth, *The Transformation of American Air Power*, 194.

74   Mick Quintrall, "A Change-Challenge: The Fire-Support Coordination 'Box,'" *Air & Space Power Journal* 16, no. 3 (Fall 2002), 7.

75   Lambeth, *The Transformation of American Air Power*, 291.

76   R. Kent Laughbaum, *Synchronizing Airpower and Firepower in the Deep Battle* (Maxwell Air Force Base: Air Univ. Press, 1999), 21.

77   A permissive FSCL will allow the JFLCC, in exceptional circumstances, to attack targets beyond the FSCL without coordinating the attack with the JFACC (Laughbaum, *Synchronizing Airpower and Firepower in the Deep Battle*, 19-20). A restrictive FSCL, on the other hand, does not allow the JFLCC any attack beyond the FSCL without coordination with the JFACC under any circumstance (Laughbaum, 35).

78   Laughbaum, *Synchronizing Airpower and Firepower in the Deep Battle*, 21.

79   Ibid., 40.

80   Ibid., 37.

81   Ibid., 56-7.

82   Ibid., 71.

83   Ibid., 57.

84   US Joint Publication 3-03 (JP 3-03), *Doctrine for Joint Interdiction Operations* (10 April 1997), p. II-8.

85   US Joint Publication 3-09 (JP 3-09), *Doctrine for Joint Fire Support* (12 May 1998), p. I-3.

86   J.J. Morneau, "US Joint Doctrine: Services Influence and 'Disjointness,'" unpublished paper written for the Advanced Military Studies Course, Canadian Forces College, 1998, 3-4.

87   Laughbaum, *Synchronizing Airpower and Firepower in the Deep Battle*, 62.

88   Ibid., 63.

89   Quintrall, "A Change-Challenge,"16.

90   According to Murphy, "Evolving Army doctrine has moved increasingly to a nonlinear battlefield without traditional front lines, where ground, air, and naval forces fight simultaneously throughout the depth of the battlefield." Timothy G. Murphy, "A Critique of the Air Campaign," *Airpower Journal* 8, no. 1 (Spring 1994), 72.

91   Herrly, "The Plight of Joint Doctrine After Kosovo," 100. Attributed to General Colin Powell in 1991 (in the wake of the Gulf War) when he commissioned JP 1.

92   Lambeth, *The Transformation of American Air Power*, 286-7.

93   Grossman, "Duel of Doctrines," 30.

94   Lambeth, 287.

95   Ibid., 289.

96   Builder, *The Masks of War*, 89.

CHAPTER 7

ON 21ST CENTURY OPERATIONAL ART

Lieutenant-Colonel C.R. Kilford

What will constitute operational art in the future? The aim of this chapter is to answer this question, and assert that, in the 21st century, operational commanders will not be celebrated for the war they waged, but rather for the peace they created. This is a bold statement, but in light of the recent American-led war on Iraq, known as Operation Iraqi Freedom, there is reason to believe this indeed will be the case.[1] Could, for example, the post-combat situation in Iraq have been avoided? The easy answer is yes, simply because the US could have chosen not to go to war. But this was not the decision made, and given the current circumstances in Iraq, we may now ask ourselves why the American Government, the Pentagon, and lastly the operational campaign planners in Central Command didn't fully appreciate what a war with Iraq might eventually involve?

To answer this question, and that of what will constitute operational art in the future, this chapter argues that we in the West continue to prepare for the wrong kind of wars. Much of our doctrine and exercises, in particular Canadian Forces College exercises, are directed at defeating enemy forces similar in nature to our own technical and military capabilities and not the typical "industrial-age" militaries and societies found throughout the non-Western, developing world.[2] In addition, it will be argued that operational commanders often receive insufficient strategic direction regarding how to achieve the desired end-state of a campaign, and then lack the proper staff expertise to analyze what direction they do receive. Therefore, operational commanders often focus their efforts on attaining military victory and afterwards hope for the best.

However, new concepts such as Network-Centric Warfare (or Network-Enabled Operations) and Knowledge Management increasingly make the conduct of military campaigns against "industrial-age" adversaries easier than ever before, and thus operational commanders no longer need to focus exclusively on just defeating an enemy's military

force. Hence, this chapter argues that future operational commanders will need the expertise to comprehend fully the strategic environment and, when necessary, challenge vague strategic direction. Specifically, this chapter contends that the Joint Operational Planning Group (JOPG), during the Operational Planning Process (OPP), must place renewed emphasis on strategic and operational civil-military matters when creating campaign plans and must, in addition to considering enemy military centres of gravity, also take into account these centres of gravity: Military morale (will to fight); Civilian morale (will to resist); Governmental; Cultural; Religious; Judicial; Economic; and Environmental.

Finally, to successfully account for all of these centres of gravity, it will be argued that primacy of campaign planning advice in the future must be given to a new J9-led team of civil-military experts when developing the Commander's Planning Guidance (CPG) and suggested Courses of Action (COA) which will then be further developed by the staff at large. It will also be argued that this J9 input will likely create increasing constraints and restraints that may hinder an operational commander's COA selection, but that those commanders who have the wherewithal to concurrently shape the conditions for peace during the conduct of their operational campaign plans will be the true practitioners of the operational art in the 21st century.

STRATEGIC DIRECTION AND THE OPERATIONAL ART

Canadian doctrine asserts that the operational art is a skill used by a commander to translate strategic direction into operational and tactical action. Operational art, we are also told, involves the design and conduct of military campaigns that dictate where, when and why a commander chooses to fight in order to achieve military success. In our doctrine, we also use the term "military end-state" to express "that state of military affairs that needs to be achieved at the end of the campaign to either terminate, or help resolve, the conflict as defined by the strategic aim." Determining the "military end-state" and identifying the operational objectives is crucial to campaign design, and yet, as will be discussed later, is often overlooked by commanders and their staff who favour concentrating their energy on essentially beating the enemy's military forces into submission. Of course, there should not be any surprise in this

as our own doctrine tells us "the identification of an enemy's centre of gravity, and the *single-minded focus* [emphasis added] to expose and neutralize it are the essence of operational art."[3]   However, this *single-minded focus* seldom provides decisive victory, as John Keegan reminded us in 1993 when writing on the general inutility of what he called the "Western way of warfare":

> In the Gulf War, a Clausewitzian defeat was inflicted by the forces of the coalition on those of Saddam Hussein. His refusal, however, to concede the reality of the catastrophe that had overtaken him, by recourse to a familiar Islamic rhetoric that denied he had been defeated in spirit, whatever material loss he had suffered, robbed the coalition's Clausewitzian victory of much of its political point.[4]

In light of the Gulf War, in 2000 Robert Leonhard added that:

> The US armed forces will surely find themselves in 21st century conflicts in which they must replace the fascination with the offensive with the complex realities of attaining political ends through judicious application of military means. To instruct future generations of warriors that they must destroy armed forces through immediate and relentless attack as a prelude to victory is simply in error. Real military operations in the 21st century will not comply with such easy formulation.[5]

If anything though, recent events in Iraq demonstrate that operational-level doctrine continues to be employed as it always has. For example, despite ample mention of the importance of civil-military affairs in campaign design found in US Army FM 3-0 *Operations*, released in June 2001, the purpose of land operations remained to "seize the enemy's territory and resources, destroy his armed forces, and eliminate his means of controlling his population."[6]   Without doubt, this is what occurred during Operation Iraqi Freedom, prompting one Canadian columnist to comment that the US, although good at war, was "disastrous at making or keeping peace" and "incompetent at managing conquered turf or people." In his opinion, America remained "appallingly ignorant of foreign cultures, languages and politics."[7] Another Canadian columnist added that the occupation of Iraq might have worked better if the American

government had "intellectually understood that country's internecine politics and ruinous religious hostilities, and its history of geographical and tribal divides."[8]

Even the *Washington Times* reported that the Joint Chiefs of Staff were told "a flawed and rushed war-planning process" had been responsible for the problems in Iraq following the fall of Saddam Hussein.[9] In another article, the American Secretary of Defense, Donald Rumsfeld, was described as having said how impossible it had been for the government to predict that thousands of enemy troops, including two divisions of Republican Guard, would simply leave the battlefield relatively intact – and able to fight another day.[10] The British government, in a July 2003 report, then added that the lack of clear information on Iraq (despite, as the report noted, a decade of surveillance and containment) meant that the coalition, notwithstanding their use of overwhelming military power, did not expect the Iraqi military to collapse so suddenly. In a move to perhaps absolve strategic and operational planners from blame, the authors then said "only with hindsight was it possible to assess the true state of Iraq's infrastructure, organizational and social collapse, which was caused by years of official neglect, criminal activity, and international sanctions." It seems, based on this report however, that battlefield intelligence was plentiful:

> The remarkable tempo and effects generated by land, sea and air operations were directly attributable to the quality, availability and timeliness of the intelligence product, which was significantly enhanced by access to US and other coalition allies. Modern Intelligence, Surveillance and Reconnaissance assets helped to provide urban situational awareness, as did the effective use of human intelligence. 'Real Time' targeting information including Collateral Damage Assessment could be passed back to headquarters and the resulting precision munitions strikes were extremely accurate and successful.[11]

That the situation in Iraq today is the way it is was certainly not what the Coalition intended. The British government outlined its policy objectives in Parliament on 7 January 2003, with its overall objective for the military campaign being to disarm Iraq in accordance with United Nations Security Resolutions 678 and 1441. When the war began on 20 March 2003, the tasks assigned to the military were to overcome the Iraqi

military, deny them the use of weapons of mass destruction and remove the government itself. The military was also supposed to secure essential economic infrastructure from sabotage. Politically, the British government would support the military campaign by creating the conditions for a future, stable and law abiding government but it would be up to the military, "in the wake of hostilities" to: 1) contribute to the creation of a secure environment so that normal life could be restored; 2) work in support of humanitarian organizations; 3) enable the reconstruction and re-commissioning of essential infrastructure for the political and economic development of Iraq; and 4) to lay plans for the reform of Iraq's security forces.[12]

However, the four points noted above should arguably not have been items for consideration "in the wake of hostilities." Indeed, they should have been considered well before and the subsequent military campaign should have been designed around achieving these ends. Yet, it appears that the operational planners put all their efforts into designing a military campaign to defeat a far more robust military than the Iraqis actually possessed. Even Rumsfeld indicated that his staff believed there would be some sort of formal surrender of the Iraqi army – not that they would more or less disappear.[13]

However, as Colonel James Greer, a former Director of the US Army School of Advanced Military Studies, pointed out in a 2002 article, American operational doctrine hamstrings planners and commanders when designing and conducting "effective, coherent campaigns for operations across the full spectrum of conflict in today's security environment." While in his view the "conventional campaign-planning construct" could be retained, he acknowledged that the US military needed to leave behind what he termed the "almost total focus on physical force."[14] Greer's observations were shared by Canadian Colonel (now Brigadier-General) Stuart Beare who pointed, out somewhat prophetically in an essay in 2000 essay, that the OPP was based on outdated Cold War assumptions:

> Failure to grasp the true essence of an enemy or to accurately visualize what he/she is both capable of and willing to do can lead, and has led, to unexpected, or indeed disastrous results. The OPP ignores the factors that determine an enemy's will to

fight, and fails to consider the effect of will on enemy actions. The planning process assumes much with respect to a commander and staff's ability to predict enemy actions, principally by ignoring civil and political factors as well as the moral equation.[15]

However, with the advent of Network-Centric Warfare and Knowledge Management, there should soon be no compelling reason for an operational commander to ignore civil, political, and moral issues when designing a campaign plan. Indeed, future operational commanders will have a distinct advantage over their predecessors by gaining access to unparalleled amounts of information about the enemy. In particular, they will likely have an almost complete knowledge of the state of an enemy's military forces, so only the minimum amount of time will be necessary to determine the most likely and most dangerous courses of enemy military action. With less time spent on guessing an enemy's military intentions, more time can then be spent on other factors of greater importance. Of course, in order to achieve the ideal state of complete knowledge of an enemy's military forces, future operational commanders will rely on such concepts as Network-Centric Warfare actually working as advertised, and they may also count on having a relatively powerless enemy who lacks the ability to disrupt their plans. Having faith in both occurring at the same time, however, is not as improbable as it might first appear.

NETWORK-CENTRIC WARFARE AND THE OPERATIONAL ART

Network-Centric Warfare is not just about better, faster technology. Conceptually, it must be regarded as a comprehensive cultural shift that takes place inside a military force so that greater importance is placed on information sharing and enhancing overall situational awareness rather than operating in service "stove-pipes." The net effect is that at the operational level, future commanders will have the means "to generate precise warfighting effects at an unprecedented operational tempo, creating conditions for the rapid lockout of adversary courses of action."[16] Creating situational awareness and a common operating picture is possible today, but full implementation of a network-centric military, according the US Department of Defense, remains "a monumental task [that] will span a quarter century or more."[17]

But will Network-Centric Warfare really allow operational commanders to do away with uncertainty on the battlefield regarding an enemy's military intentions? Dr. Thomas Barnett, from the US Naval War College, argues that it will, simply because there isn't an enemy out there with anywhere near the same sort of technological capability as the US – now or in future.[18] Dismissing potential peer competitors arriving to challenge the US militarily, he wrote in 1999 that:

> Once you get past the [lack of] potential peer competitors, you are entering the universe of smaller, rogue enemies that many security experts claim will be able to adapt all this information technology into a plethora of brilliant asymmetric responses. Frankly, it stretches my imagination to the limit to conjure up seriously destabilizing threats from resource-poor, small states, unless we let our lust for a bygone era distort our preparations for a far different future.[19]

The difficulty military professionals have with a concept like Network-Centric Warfare becoming "the answer" to battlefield uncertainty has more to do with our own lack of faith in technology than anything else.[20] For example, retired Marine Corps Colonel G.I. Wilson wrote in 2003 that America's new enemies "prefer Fourth Generation Warfare (4GW) judo, avoiding a decisive fight, leveraging our addiction to technology and 'throwing us' using our own bureaucratic weight to do so."[21] Greer also reminded us "potential opponents will be more numerous, adaptive, creative, and willing to employ force to achieve strategic goals." Yet, the examples he cites of opponents using low-technology asymmetrical means to defeat the US were unremarkable indeed. It seemed, according to him, that the proliferation of cell phones, the small-boat attack on the USS Cole and the attacks on 11 September 2001 were all indicative of a supposed new enemy that would make the future operational environment "far more challenging for the US Armed Forces than that of today."[22]

Despite the concerns raised by Greer and Wilson, Network-Centric Warfare will dominate not only an opponent's decision-making capabilities but also future battlefields. Indeed, it may even be possible to determine exactly what an opponent will do before he decides to do it himself. And if he does something unexpected, future operational commanders should also be in a position to steer him back to where they want him. As Leonhard writes:

> We can conceive of a commander who knows every important
> detail about the battlefield around him: He knows where he is,
> where his subordinates are, and where the enemy is. He knows
> the true nature of the enemy – his strengths and weaknesses. He
> understands completely the external factors that will bear on the
> outcome of his fighting – political, cultural, environmental and
> so on. Such a commander is easy to imagine, but next to
> impossible to produce. The reality of Information Age warriors
> will be something less that omniscience personified. But, we will
> make progress toward that goal.[23]

But if Network-Centric Warfare gives future operational commanders near omnipresence on the battlefield, will our current OPP serve us well? Or will our contemporary single-minded focus on what constitutes the operational art, keep us forever immersed in a Cold War mentality best typified by Operation Iraqi Freedom?

ON 21ST CENTURY OPERATIONAL ART

According to our doctrine, any Canadian operational commander devising a campaign plan is supposed to employ the operational art: 1) to identify what military conditions must be achieved in order to meet the strategic end-state desired; 2) to order his campaign in such a way as to achieve the military conditions required; 3) to ensure that along the way he has sufficient forces to conduct his campaign successfully; and 4) to ensure that he is aware of the potential risks being undertaken and that, if necessary, alternate plans are being made.[24]

To assist the operational commander and his staff in realizing the above, the OPP was designed as a formal process to guide decision-making. In a process of five steps – Initiation, Orientation, Course of Action Development, Plan Development and Plan Review, complicated situations are analyzed and operational plans made to meet strategic requirements. Led by the J5 and the JOPG, the OPP has proven very useful in making sense of very complex circumstances. However, there are problems with the OPP, of which the first occur right from Step 1: Initiation.

Sample initiating directives found in Canadian military publications offer the impression that during the Initiation step, operational commanders

will have explicit strategic direction and plenty of resources to do whatever they are asked to do. For example, it is suggested in the CFC Staff Officer's Handbook (SOH) that an initiating directive will contain information on: the political situation and enemy forces in the area of operations; the National or Coalition strategic goals; Canada's national interests; the desired political and military end-state for the campaign; the anticipated attitude and potential actions of friendly nations; the type and source of military forces available for planning; any restraints or constraints on military action; any historic or current information that may assist planners; any economic considerations; and any risks foreseen.[25]

The CFC SOH also indicates that operational commanders should expect to be given the strategic centre of gravity and a mission. To be fair, most exercises conducted at the CFC do provide this information and the JOPG has a wealth of material to digest. Nevertheless, Step 2 of the OPP, Orientation and the Mission Analysis, often centres the JOPG on military matters to the exclusion of everything else. The catalyst for this focus manifests itself in the Joint Intelligence Preparation of the Battlefield (JIPB) process led by the J2. Defined as a continuous process allowing commanders and staff to "visualize the full spectrum of adversary capabilities and potential courses of action across all dimensions of the joint battlespace," the JIPB utilizes four key steps: 1) defining the battlespace environment; 2) describing the battlespace effects; 3) evaluating an adversary from a largely military perspective; and 4) determining potential enemy military Courses of Action (COA).[26]

Of course, the J9 and his Civil-Military Cooperation Staff (CIMIC) are, according to doctrine, also key players during the OPP whose input regarding civil-military issues is "necessary to ensure that the commander has a sufficient understanding of the civilian environment and its impact on the mission."[27] However, input from the J9 is often not considered or not played in the exercise scenario. To illustrate that it is useful to consider this J9 input, one of the exercises conducted at the CFC, known as Exercise Strategic Power, will be described.

Exercise Strategic Power (an exercise held during the National Security Studies Course (NSSC) straddling the line between the strategic and operational levels of war) entails the invasion of one Caribbean country by another. In this case, Bardon is the aggressor nation and captures

oil-rich Wessex County, a part of Mandara (described as one of the strongest democracies in the Western Hemisphere). The exercise read-in material adds that:

1) Bardon is a brutal, one-party, self-serving dictatorship;
   Wessex County (up until 1913) belonged to Bardon but was later given to Mandara following a colonial conference in 1913;
2) the population in Wessex County is mainly Bardonese and they have been continuously discriminated against by the Mandarans;
3) the Bardonese economy is in a severe depression. The GDP has declined by 40 percent and inflation is around 47 percent;
4) although Bardon did invade Wessex County they did so because the Mandaran government, 20 years previously, had arbitrarily established a 200 nautical mile economic exclusion zone (EEZ) that limited Bardon's access to the some of the richest offshore oilfields in the region. In 2001, Mandara declined to renew 20-year leases with the Bardonese government that gave them offshore drilling rights despite the EEZ; and
5) as a result of not having income from the oil leases, the Bardonese government was fast losing public confidence, its civil infrastructure was crumbling and fuel reserves would likely last only for a few more months.

The information provided in the exercise papers leads one to think the Mandarans deserved to be invaded. However, any debate on this matter is overshadowed by the need for the operational planners to get on with the real business of defeating the Bardonese military - and what a robust military the country has. Returning to the exercise papers again, the J2 and his staff discover:

1) an Army with a mixture of forces that total 25 Brigades with some 650 tanks, 700 artillery pieces, surface-to-surface missiles, 350 air defence guns and 1,100 surface-to-air missiles;
2) a Navy with 17 missile corvettes, 2 amphibious assault battalions, shore-based Silkworm missiles and 2 Foxtrot submarines;
3) an Air Force with 130 combat aircraft, 30 attack helicopters and another 150 air defence missile systems;
4) a Territorial Militia numbering over 275,000; and
5) a military with potential WMD capabilities (chemical and biological).

This formidable force is further elevated in the minds of the operational planners by referring, in the exercise papers, to the equipment of the Bardonese military as being "Soviet-style." In addition, planners are told "although the overall threat is not overwhelming, it is important that planners be aware that Bardon has the ability to inflict heavy causalities on Coalition forces if they conduct offensive ground operations to retake Wessex County."[28] However, mostly missed in all this build-up is the admission, near the end of the exercise papers, that in fact Bardon's equipment is old (industrial age) and its command and control capability is unsophisticated. Regardless, the Commander of the Joint Task Force, in his initial Joint Statement of Requirement still asks potential Coalition members for, amongst a long "shopping list" of requirements, three divisional headquarters and troops, 16 squadrons of various aircraft and two carrier task groups.

Finally, the exercise papers note that the Coalition will be led by the US under a Chapter VII United Nations-authorized operation giving them permission to use all necessary means to restore the international boundary between Bardon and Mandara. The US Secretary of Defense then outlines the Coalition key objectives that include:

1) the neutralization of the Bardonese government's ability to direct military operations;
2) the removal of all Bardonese forces from Wessex County;
3) the destruction of Bardon's offensive threat to Mandara; and
4) the destruction of all Bardon's WMD capability.

Last on the list of the Coalition's objectives are the protection of all peoples in the region and the conduct of humanitarian aid "as required."[29]

Fundamentally, the exercise papers focus mostly on the importance of defeating Bardon's military while reference to the significance of governmental, cultural (will to fight), religious, judicial, economic and environmental issues are not emphasized. Even the suggested Bardon COAs outlined in the exercise papers highlight the "most likely" enemy COA as being yet another attack by Bardon beyond Wessex County and into the rest of Mandara.[30] At this point, Prussian General Colmar Freiherr von der Goltz's quote might well have been worth reading by the

NSSC course members (and the planners of Operation Iraqi Freedom) before they finalized their operational plans in 2003:

> Theoretically, it is quite conceivable that a state may destroy the organized military power of another nation and overrun a great part of its territory, and yet not be able to bear for long the sacrifices [required] to grant a comparatively favourable peace to the defeated state. This is frequently lost sight of, and the destruction of the enemy's main army is taken as being synonymous with the complete attainment of the object of war.[31]

This single-minded focus on military matters by operational planners largely originates with the JIPB process, that according to Beare: "falls short on how to incorporate civil factors into the process and [thus] it remains focused on military considerations alone."[32] His is a critical observation and an important reason why the J9 must be consulted from the outset of campaign planning in order to provide the operational commander with the right advice on what the enemy will likely do and what he, the operational commander, needs to do to successfully bring the campaign to a close. For example, in the Bardon-Mandara example, the J9 might have told the operational commander that the deployment of his Coalition would not lead to a conventional fight and instead:

1) the Bardonese military would likely withdraw from Wessex County but not before creating a guerrilla force amongst the mainly Bardonese population in the County;
2) the Bardonese military itself might change tactics and mount a guerrilla campaign;
3) the Bardon government might choose to create an environmental disaster by destroying as much oil producing capability in Wessex County as possible;
4) that the entire collapse of the Bardonese government could happen, creating a humanitarian disaster; and
5) that allowing the Mandaran military to move back into Wessex County might lead to retribution against the local Bardonese population for supporting the Bardon incursion.

The points noted above are but a few civil-military related issues that will possibly affect the operational commander's final campaign plan. Yet,

these issues would likely be critical to the success of the campaign, and certainly not secondary in nature. But to reach a point where the J9's input to the JIPB would become paramount in the design of future campaign plans would likely be a difficult step for a contemporary operational commander to take, as some might not hold the J9 and his staff in the same high regard as compared to the more classical, campaign-designing J1 through J5 staff. Nonetheless, Leonhard is clear on what he thinks about the matter of inclusion when it comes to designing campaign plans. Effective war fighting, in his opinion, requires commanders who can think subjectively and objectively. It is, he writes:

> From this holistic perspective on the military art that we must utterly reject the US Army's official insistence on the destruction of enemy armed forces as the ultimate objective in war. This assertion is a time-honoured, well-respected load of hogwash. The ultimate objective of military operations is the application of combat power to enforce a policy of some kind, whether cultural, political, economic, or related to security. The destruction of our enemy counterpart is a necessary, vital component of the whole strategy, but it is at most half of the operation.[33]

If the emphasis is not on destroying the enemy armed forces as a matter of first priority then the operational commander needs a J9 and staff that can assist in the conduct of campaign planning right from the beginning of an operation. However, from a Canadian perspective, our doctrine provides that specialist cells in the J9 staff, such as experts in government, economics, utilities and so forth, only join the staff during the deployment phase.[34] Their main aim, it appears, is to bring order to chaos once the enemy's military centre of gravity has been dealt with. Indeed, the entire J9 staff appear directed toward the running of CIMIC Centres once the fighting is over. Yet, doctrine actually requires the J9 to provide the operational commander with potential lines of operations and civil-military COAs. But, without the right staff, the J9 cannot possibly provide this advice early in the OPP. As a result, right from Step 1 off the OPP, and besides the normal CIMIC and specialist augmentation staff, the J9 requires a new team with him that would include:

1) a J9 of equal or higher rank to the other principal staff in the JOPG. This individual would have a combat arms background, preferably

with experience in military and civil matters during operational campaign. In addition, education in international relations or political studies would be ideal;

2) civilian or military experts capable of providing historical advice on how the enemy military and civilian population might react to the deployment and employment of the Coalition. This would also include an assessment on the enemy's will to fight and how best to defeat the enemy. In addition, plans would be laid out and presented on how to best re-constitute the former enemy's military (if desirable) and on the expected scale of the Military Assistance mission required;

3) civilian or military experts capable of providing historical data about Coalition partners and their impact, culturally, on the operation;

4) psychological warfare and Special Operations experts to advise on how best to gain control of enemy infrastructure;

5) economic experts who could advise what key infrastructure of economic importance would require capturing early-on based on the assessment of likely enemy reaction to attack;

6) environmental and fire-fighting experts who could also advise on what infrastructure needed to be captured early-on to prevent its destruction and therefore reduce the likelihood of environmental disaster;

7) cultural experts who could advise on what cultural (museums for example) or religious sites needed to be secured early-on to possibly prevent the moral collapse of a host nation or Coalition allies; and

8) public Administration and governmental affairs experts who could advise on what critical public administrative locations (hospitals, jails, town halls, public records buildings and banks for example) needed securing early on so that the rule of law could be quickly re-established. Additional advice on providing prompt physical security for specific members of the government or opposition party figures would also be of great importance.[35]

At this point, one could argue that assembling such a team of "experts" at the operational level was not really necessary simply because the operational commander should be in receipt of strategic guidance on all these matters. However, this is precisely the point – such guidance is hardly ever forthcoming. In the case of Operation Iraqi Freedom it was clear around the time that strategic guidance was being compiled, that the State Department and Pentagon were dealing with many other significant

strategic issues. In the region between Israel and North Korea alone, there was the on-going conflict between Israel and the Palestinian Authority, the Iraq situation itself, Iran's attempts to acquire nuclear weapons, an uprising in the Solomon Islands, continuing tension on the Pakistan-India border, Maoist rebels operating in Nepal, political tension with Burma, unrest in Indonesia, problems involving Islamic guerillas in the Philippines, and definite concern that North Korea was attempting to build its own nuclear weapons.[36] All of these crises, big and small, help explain why it is so vital for an operational commander to have a J9-led team of "experts" on the immediate staff to provide him with advice throughout the OPP.

Based on their assessment of the centres of gravity listed at the beginning of this chapter, the operational commander would be given many more constraints, restraints, assigned, and implied tasks to guide his actual campaign planning. These constraints, restraints, and tasks might require him to attack, eliminate, protect or neutralize any one or all of these centres of gravity in order to achieve the desired end-state. There would, however, no longer be a single-minded focus on destroying the enemy's military capability, indeed, the opposite might be true. So, what could we expect the J9 and his team of "experts" to tell the operational commander? Returning to Exercise Strategic Power, the following advice might have been just a few of the J9's recommendations regarding the operational objectives of the campaign:

1) that in the initial stages of the campaign plan, special forces supported by air and ground elements would seize all key land and off-shore oil production facilities (it should be noted that in the exercise papers the security of the Mandaran oil fields is described as being vital to our national interests). UAV and UCAV missions would also be pre-planned to fly along all key roads, railways, pipelines and so on to monitor the situation and prevent destruction of key infrastructure;

2) that communications sites (television and radio for example) would be identified, added to the target list for non-lethal (soft kill) attack only, and that adequate communications personnel would be available to restore them to full use as soon as possible;

3) that psychological and informational operations would be directed at the local authorities in Wessex County to remain at their place of

employment throughout in order to prevent a breakdown in civilian order and that robust Coalition military and civil police forces would be deployed to assist the civil authorities in maintaining order. This would include the provision of food and water supplies;

4) that Mandaran civilians of Bardonese extraction acting in a collaborationist role would have their departure from Mandara facilitated by keeping open certain routes for their withdrawal. In addition, more military and civil police would be requested to assist the Mandaran authorities in re-establishing law and order;

5) that, given the tenuous position of the Bardonese government and their economy, the destruction of their military would have to be carefully thought through so that a complete collapse of the government would not follow the Bardonese government's loss of control. While the maintenance of the Bardonese government might not be of great concern to the operational commander directly, at the strategic level, there may be a desire to avoid a humanitarian catastrophe;

6) that psychological and military operations should be directed at preserving the Bardonese military's conventional will to fight so as to prevent a breakdown in command and control, and resultant loss of order, or the adoption of guerilla tactics. It might be recommended that the destruction of the enemy's military power be gradual in nature, allowing the enemy commander to gain confidence and commit his troops. At this point, a "shock and awe" campaign pressed home would allow for the visible defeat[37] of the enemy instead of having them leaving Wessex County to potentially fight again; and finally:

7) if the aim of the Coalition had been to replace the government of Bardon (such as it was for Operation Iraqi Freedom) it could be recommended that the commander, in the campaign plan, identify Bardonese military units that could form the nucleus of a new security force for the new government. Such military units would be moved to holding areas, re-trained and re-assigned in support of the Coalition.[38] The cantonment of weapons and ex-combatants could have also been deemed a priority, as the re-integration of ex-combatants once a war is over is usually crucial to the follow-on peace. Such a decision might also assist in the capture of earlier identified war criminals.

With regard to the last two points noted above, to avoid its dispersal into insurgent groups, the maintenance of an "industrial-age" enemy's will to

fight and cohesiveness will be vital for any operational commander practicing operational art in the 21st century, and he needs the J9 and his team of "experts" to do this. Of course, the J2 has his role to play, but a single-minded focus on the enemy's "Soviet" centre of gravity is simply no longer good enough.   As General Anthony Zinni noted in September 2003:

> The military traditionally is supposed to go out there and kill people and break things. And then from that, we determine how we're going to right the disorder or fix the conflict [with help from the strategic level]. That has not happened. Right now the military in Iraq has been stuck with this baby. In Somalia it was stuck with that baby.   In Vietnam it was stuck with that baby. And it's going to continue to be that way. And what we have to ask ourselves now is, is there something that the military needs to change into that involves its movement into this area of the political, the economic, the information management? If the others, those wearing the suits, can't come in and solve the problem - can't bring the resources, the expertise, and the organization - and we're going to get stuck with it, you have one or two choices.   Either they get the capability and it's demanded of them, and we learn how to partner to get it done, or the military finally decides to change into something else beyond the breaking and the killing.[39]

However, General Zinni was only partly right in his observations. He is correct in that the traditional application of the operational art should not necessarily continue to be simply breaking and killing. While this may indeed occur, the operational art, as discussed in the model presented in this paper, acknowledges that operational commanders must think about what it is they have been asked to do, with full consideration of almost every imaginable civil-military concern. Moreover, the application of the operational art described here should disallow the need for the very recommendations that General Zinni considers a future military might have to do – a potential move into long-term nation building. This is the exact opposite of what we would expect to happen as a result of our J9 staff of "experts" presenting the operational commander with advice. Indeed, we would expect the J9's planning advice to cause the operational commander to conduct his campaign in such a way that when the final

military objectives were seized, the resultant conditions would facilitate the arrival of civilian governmental and non-governmental agencies to begin re-building.

On the other hand, if there happened to be a problem with having such support arrive in a timely fashion, the very same operational commander would likely have positioned himself very well for post-war campaign success, as a result of following the J9's advice. Why? For the very reason that while the aim of the initial military campaign might not have been to have the military act as nation builders, the possibility of doing so successfully would have been significantly improved if the operational commander found himself with such a post-war role. Regardless of the circumstances though, any operational commander, who has the wherewithal to shape the conditions for peace, during the conduct of his operational campaign, will be recognized as the true practitioner of the operational art in the 21st century.

CONCLUSION

This chapter has argued that in the 21st century operational commanders will not be celebrated for the war they wage but rather the peace they create. And, as Keegan, Leonhard, and Zinni note, there has to now be a fundamental shift away from the "Western way of warfare" of simply breaking and killing then wondering who will be responsible to do the cleanup afterwards. As we have witnessed during Operation Iraqi Freedom, "industrial age" militaries are no match for a modern coalition led by the US. The advent of Network-Centric Warfare and Knowledge Management only serve to reinforce this point. In essence, we should expect that future operational commanders in US-led coalitions will dominate the battlefield to such an extent that when confronted with having to go to war, the only issue will be deciding when and if to defeat an enemy's military force.

In the 21st century, operational art will transition from waging straightforward military campaigns in the traditional sense, to engaging in much more creative operations designed to meet well-described military, political and civil end-states. Operational commanders will, as a result of this, have to develop imaginative campaign plans that will likely be developed under

increasing constraints, restraints, limitations and many more assigned and implied tasks – some imposed from the strategic level but perhaps even more originating from their own mission analysis during the OPP.

Operational commanders will also have to become accustomed to, and indeed comfortable with, not always receiving clear and concise strategic direction. And if they do receive this direction, then they must also have the ability to comprehend what it is they are being asked to do, and if necessary, the courage to challenge the substance of what has been presented. However, to transform strategic direction into high-quality, inventive operational campaign plans, future operational commanders will unquestionably need the right staff. While the J2-led JIPB is useful in conventional campaign planning, what is required now is a J9-led staff of "experts" to have primacy in framing the campaign right from Step 1 of the OPP. This team of both civilian and military "experts" would provide the operational commander with the necessary advice to allow for the consideration and selection of COAs that would not only complete the military mission successfully, but also give full consideration to the numerous other centres of gravity that can, in the end, have a significant and detrimental impact on the outcome of a campaign if not considered. Such advice, fully considered during the OPP, would also ensure that once hostilities ended, his forces would have created the best possible military and civil end-state.

This creation of the best possible military and civil end-state is fundamental to the argument made in this chapter about the need for a new J9-led team of "experts" to advise the operational commander on campaign design. It is not about creating military forces for nation-building purposes as Zinni suggests. Indeed, the purpose of the involvement of the J9 in campaign design is to create the exact opposite of the outcome he recommended. Only through the full consideration of all potential military and non-military centres of gravity will there be a chance to create the conditions necessary to allow others to begin the process of nation-building – the military might assist but would not, as Operation Iraqi Freedom has suggested, be the best administrators. In the future, only through the creation of the right conditions by an operational commander to allow his forces to depart the field of battle sooner rather than later, will a campaign ultimately be declared successful, and he in-turn celebrated for the peace created.

NOTES

1   Certainly, Specialist Darryl Dent, killed in September 2003 while escorting a mail convoy along a road 16 miles northwest of Baghdad, might have had something to say on this had he lived. The National Guardsman was the 139th American killed in Iraq since the end of major hostilities declared by President Bush on 1 May 2003 – one more death than the 138 Americans killed during the actual war itself. And since Dent's death, more Americans soldiers continue to die. See Elaine Monaghan, "A Deadly Peace Catches Up With a Victorious War," *Times On Line* (September 10, 2003); available from http://www.timesonline.co.uk/newspaper/0,,1-810562,00.html; accessed 10 September 2003.

2   It should be noted, however, that many of the operational level war fighting exercises conducted at the Canadian Forces College (CFC) are actually exercises written by, and utilized for, NATO operational level exercises.

3   *Conduct of Land Operations – Operational Doctrine for the Canadian Army*, B-GL-300-001/FP-000, (Ottawa, ON: DND, 1 July 1998), 38.

4   John Keegan, *A History of Warfare.* (Toronto: Key Porter Books Limited, 1993), xi.

5   Robert Leonhard, *The Principles of War for the Information Age* (Novato, CA: Presidio Press, Inc, 2000), 83.

6   US Army Field Manual 3-0 (FM 3-0), *Operations* (14 June 2001), 1-6.

7   Haroon Siddiqui, "Two Years After 9/11 Attacks, A Report Card," *Toronto Star* (7 September 2003), F1.

8   Rosie DiManno, "Why Occupation Lite Will Fail in Iraq," *Toronto Star* (1 September 2003), A2.

9   Rowan Scarborough, "U.S. Rushed Post-Saddam Planning," *Washington Times* (3 September 2003); available from http://dynamic.washtimes.com/print….cfm?StoryID=20030903-120317-9393r; accessed 3 September 2003.

10   Rowan Scarborough, "U.S. Miscalculated Security for Iraq," *Washington Times* (28 August 2003); available from http://dynamic.washtimes.com/print….cfm?StoryID=20030827-114516-5938r; accessed 28 August 2003.

11   United Kingdom, Ministry of Defence, *Operations in Iraq – First Reflections Report* (London: Director General Corporate Communication, July 2003), 15.

12   Ibid., 40.

13   Rowan Scarborough, "Defense Team Hit for Iraq Failures" *Washington Times* (16 September 2003); available from http://dynamic.washtimes.com/print….cfm?StoryID=20030916-125156-4689r; accessed 16 September 2003.

14   James K. Greer, "Operational Art for the Objective Force," *Military Review* 82, no. 5 (September-October 2002), 23, 29.

15   Stuart A. Beare, "Understanding the Enemy: Time to Touch Up the Planning Process," unpublished paper written for Advanced Military Studies Course 4, CFC, 2000, 15.

16   US Department of Defense (DoD), *Network Centric Warfare* (Washington, DC: US Government Printing Office, 27 July 2001), v; available from http://www.defenselink.mil/c3i/NCW/; accessed 31 August 2003.

17   Ibid., i.

18   In a July 2003 DoD Report to Congress on China's growing military potential, China's information warfare capabilities were described as very robust. This Report also noted that the Chinese spent $US 20 billion in 2002 on defence, although the Report's authors speculated that the real sum was more like $65 (US) billion! However, as Dr. Barnett (see footnote 19) noted in his essay T*he Seven Deadly Sins of Network-Centric Warfare*, the first thing Network-Centric Warfare proponents "lust" for is an "enemy worthy of its technological prowess." However, will China really become the new Soviet-Union? In the same Report, the DoD admitted, for example, that the Chinese Air Force in 2003 was barely able to muster 150 fourth generation (1992 and later) fighters (compared to Taiwan with 300 fourth generation fighters). See US, DoD, "Report to Congress Pursuant to the FY 2000 National Defense Authorization

Act," *Annual Report on the Military Power of the People's Republic of China* (28 July 2003), 8, 41.

19   Thomas P. Barnett, "The Seven Deadly Sins of Network-Centric Warfare," *U S Naval Institute Proceedings* 125, no. 1 (January 1999), 2.

20   One need look no further than to American popular culture to see this phenomena at work. In the second season of Star Trek – The Next Generation (1989), the Starship *Enterprise* had its first encounter with the technologically advanced half-humanoid, half-robotic race known as the Borg. Yet despite being told by the Borg that resistance [was] futile, and that the *Enterprise* crew would be assimilated, Captain Picard and his crew managed to win every encounter usually by utilizing some hastily derived asymmetric response. Larry Nemeck, *The Star Trek – The Next Generation Companion* (New York: Pocket Books, 1992), 85.

21   G.I. Wilson, John P. Sullivan and Hal Kempfer. "4GW: Tactics of the Weak Confound the Strong." (*Military.com*, September 8, 2003); available from http://www.military.com/ NewContent?file=Wilson_090803; accessed 10 September 2003.

22   Greer, 24.

23   Leonhard, 128.

24   *CF Operational Planning Process*, B-GJ-005-500/FP-000 (6 November 2002), 3-1.

25   For example, see *Canadian Forces College Combined and Joint Staff Officer's Handbook*, (Toronto, ON: CFC, 21 August 2003), Annex A, Section 1, Chapter 2, Part II.

26   Ibid., II-3-1-1/5 and 2/5.

27   Ibid., III-7-12/13.

28   *Exercise Strategic Power 2003*, (Toronto, ON: Canadian Forces College, 2003), 4-A-4/65.

29   Ibid, 3-C-2/4. On page 3-C-3/4, the US Secretary of Defense is also reported as saying the Coalition must also be prepared for a period of intense combat to resolve the situation.

30   Ibid., 8-H2-3/5.

31   Leonhard, 234.

32   Beare, 5.

33   Leonhard, 233.

34   FM 3-0, *Operations*, notes that upon receipt of a mission, the commander must visualize the battlespace and in particular consider what civil issues might impact on the mission. To this end, FM 3-0 uses the short form METT-TC as a reminder to commanders to consider, in their visualization process, the Mission, Enemy, Terrain and weather, Troops and support available, Time available and Civil considerations. As FM 3-0 notes: "The nature of full spectrum operations requires commanders to assess the impact of nonmilitary factors on operations. Because of this added complexity, civil considerations has been added to the familiar METT-T to form METT-TC." See FM 3-0, *Operations*, p. 5-3.

35   That such a staff noted above might be assembled to provide atypical advice to the strategic and operational level is very important, as even the US military concluded in January 2003. As a result of Exercise Millennium Challenge in 2002, US Joint Forces Command developed an Operational Net Assessment (ONA) system designed to "gauge the strengths and weaknesses of North Korea in political, economic, social infrastructure and information areas as well as the military." See David Hughes, "Joint Forces Command Taking Net–Centric Tools to Operators," *Aviation Week & Space Technology* (27 January 2003), 54.

36   The Pentagon's office of Reconstruction and Humanitarian Assistance, responsible for administrating Iraq after the military conflict, became operational just two months before the war began. This was hardly enough time to gather and analyze the necessary intelligence to provide strategic advice to Central Command as they would have already prepared their campaign plan, plus any branches and sequels. See Tom Blackwell, "Canadian Military Predicted Post-War Turmoil in Iraq," *National Post* (23 September 2003), A13.

37   In Burma, at the conclusion of the Second World War, Field Marshal Slim insisted that the Japanese had to surrender their swords on parade, in front of their soldiers, to his British officers. As he noted:

"I was convinced that an effective way really to impress on the Japanese that they had been beaten in the field was to insist on this ceremonial surrender of swords. No Japanese soldier, who had seen his general march up and hand over his sword, would ever doubt that the Invincible Army was invincible no longer. We did not want a repetition of the German First War legend of an unconquered army." The point here is that in the first Gulf War the Iraqi military, although militarily defeated, was not spiritually defeated as Keegan noted. In *Operation Iraqi Freedom* most military units wisely left the battlefield in response to Coalition psychological warfare and the "shock and awe" campaign for which they had little response. However, the Iraqi military, it could be argued, were not defeated spiritually once more, hence the on-going guerilla war. William Slim, *Defeat into Victory – Battling Japan in Burma and India 1942-1945* (New York: Cooper Square Press, 2000), 533-4.

38   In the case of Operation Iraqi Freedom this pre-planning was not carried out. However, after the main fighting was over the Coalition Provisional Authority in Iraq laid down plans to establish a new 40,000 man Iraqi military (New Iraqi Army or NIA) based on officers and enlisted men from Iraq's former armed forces. However, only 18 tanks and a few artillery pieces were left after the fighting so estimates as to when this new military force would be effective are unclear. See the Coalition Provisional Authority website "Ministry of National Security and Defense" available from http://www.cpa-iraq.org/ministries/defense.html; accessed 1 October 2003.

39   Anthony Zinni , "Address to the Naval Institute Forum 2003," (4 September 2003); available from http://www.mca-usniforum2003.org/forum03zinni.htm; accessed 28 September 2003.

CHAPTER 8

TACTICS WITHOUT STRATEGY OR WHY THE CANADIAN FORCES DO NOT CAMPAIGN

Colonel J.H. Vance

> …talent and genius operate outside the rules, and theory conflicts with practice.[1]

> Carl von Clausewitz, *On War*, 1832

Operational art is a doctrinal idea that has grown in importance as the size and complexity of the operational level of war has grown. It has achieved near universal appeal and acceptance among Western militaries as a means to manage the so-called "grey area" between strategy and tactics.[2] This near universal appeal and acceptance has come about even though most nations who contribute relatively small forces to alliances and coalitions have only passing experience with the concept. Furthermore, classic operational-level doctrine may not suit their national purposes very well because they have little or no ability to influence campaign design, preferring instead to limit their tactical forces' actions within a campaign so as to protect national interests and sensitivities. In this regard, these nations may be considered to be protecting their national interests while "campaigning" rather than pursuing their interests through a campaign. To understand this apparent dichotomy, the nature of operational thought must be well understood, and the value of the operational art must be seen to be serving both the strategic and tactical levels of war in different ways.

The body of military knowledge which is now identified as operational thought is a relatively recent addition to modern Western doctrine, well-described by Howard Coombs as having gained a foothold in US military thinking in the post-Vietnam era. Operational thought is the sum total of intellectual effort and applied knowledge governing the conduct of military planning and action within the operational level of war. The operational level of war will be discussed in some detail later, but by way of introduction, it is the mechanisms, processes and command

and control architecture that exist between the strategic and the tactical levels of war, with the strategic level consisting of military and political dimensions, and the tactical level consisting of the military units and formations engaged in battles. The purpose of the operational level is to ensure that tactical actions are orchestrated in such a way that strategic objectives are met in the most effective way possible. It is generally accepted that the exact boundaries between these three levels of war defy precise definition, but that the operational level of war is distinct in that it is where campaigns are designed and commanded. Coombs contends that the operational level of war has two main components: campaign planning and operational art.[3]   A different interpretation of current doctrine might suggest that the two components are: 1) operational art, consisting of campaign design and execution; and, 2) the interface between the strategic and tactical levels. Either way, the operational level exists between the strategic and tactical levels, and operational art is the skill set needed to make the operational level effective.   Put more succinctly, it is operational art that governs the successful use of tactical forces to achieve strategic objectives.   Operational art and operational level are therefore not interchangeable terms, but most would agree that the operational art is almost exclusively practiced by operational-level commanders (as distinct from strategic or tactical commanders).

Given its place in the middle level of war, operational art serves both the tactical and strategic levels, and it does so in different ways. It serves the tactical level by making it more efficient and lending coherence to tactical actions through campaign design and execution. Thus it is a compelling doctrine and is highly useful in making the tactical level work better. On the other hand, operational art is also intended to serve the strategic level by ensuring that strategic objectives are met. More than just running good campaigns – it means good campaigns achieve strategic purpose. This provides, in theory, a moral and fiduciary-type link from the national strategic reasoning to engage in conflict to the cumulative results of individual tactical actions within a theatre of operations.

The relationship between operational art and the strategic level of war is important because the classic doctrine of operational art bears with it a significant limitation that renders it impractical for many nations contributing forces to conflict, including Canada. At its root it fails to

serve the strategic level of those nations who choose to contribute tactical forces to coalition or alliance campaigns, but who do not, for a variety of reasons, orchestrate their own actions throughout the campaign as a means to achieve their own strategic objectives. Whether they establish very tightly worded strategic direction, or rely on high-minded vagaries in offering their forces into conflict with ill-defined national purpose, nations like Canada do not direct their tactical forces at the operational level to achieve national strategic ends. Their forces are indirectly influenced through shared strategy and more often than not commanded[4] at the operational level by an allied or coalition officer, and so there are critical elements of the strategy-to-tactics continuum missing for all but a very few nations.

Canada, like other "medium powers," has a history of and preference for being a force provider at the tactical level, and not a force employer at the operational level of war. If history is any indication, Canada has almost no chance of exercising purely operational-level action outside of its borders. In general terms, therefore, CF mission success is defined by its tactical presence in a theatre of operations rather than its tactical performance in achieving Canadian strategic objectives. The classic doctrine of operational art evolved over time from the needs of major powers whose tactical forces fought to meet state-oriented strategic objectives – where presence and performance were meant to result in effects of direct consequence to the state. It is worth examining, therefore, why Canada has embraced operational art doctrine while being unable to practice it, and why there is no alternative or supplementary national doctrine that accounts for Canada's position as a force contributor.

Certainly the doctrine of operational art has grown in general applicability by its use in NATO and US-led coalitions as a means to organize tactical actions on a large scale, and providing a means to generate efficiency and effectiveness, and achieving somebody's strategic objectives. But there remains the question of how the operational art links the strategic objectives of those nations who only contribute tactical forces to the actions of those forces. This chapter will argue that the operational art does little to explain how Canada's tactical forces achieve Canada's strategic interests.

To put Canada's position on the subject of the operational level of war in perspective, its classic interpretation will be discussed, and then compared with how Canada uses it. Having developed a good understanding of where and why Canada's use of the operational art departs from the classic interpretation, a framework of thought will be advanced that questions the applicability of the operational art to the CF for reasons other than interoperability. The underlying theme of this essay is that the CF has failed to clearly articulate its particular way of war in favour of maintaining operational art doctrine that is of little practical use, except in the realm of interoperability.

OPERATIONAL-LEVEL WARFARE - ORIGINS AND COMMON INTERPRETATIONS

Operational art is defined in Canadian doctrine as "The skillful employment of military forces to attain strategic and/or operational objectives through the design, organization, integration, and conduct of theatre strategies, campaigns, major operations and battles."[5] This is normally thought to occur within the scope of the operational level of war. Military victories at the operational level are, therefore, the "culmination of sequential tactical actions that directly serve the achievement of a strategic aim."[6] Canada maintains a slight variation in its doctrine that claims, perhaps unrealistically, that "[r]egardless of its size, a military force tasked to achieve a strategic objective, is being employed at the operational level." This important addition points to the Canadian desire to identify, and perhaps be identified with the operational art and the operational level of war, despite having little use for some key elements of the operational level, including campaign planning and execution. The campaign is the framework the operational-level commander uses to provide coherence and reason to sequenced tactical actions, the genius of which stems from the skillful application of the operational art. This is what distinguishes classic operational art doctrine from other interpretations. In classic terms, the operational-level commander must clearly understand the strategic aim and how it might be met with tactical action. He must then ensure that the entire focus of the campaign is directed at achieving it through the use of many tactical actions to accomplish something of significance. The commander's role is further refined in that he, as Field Marshal Montgomery stated, must "relate what

is strategically desirable to what is tactically possible with the forces at his disposal."[7] Therefore, the operational-level commander's predominantly personal role is to properly design and run the campaign by employing the operational art. Since the operational level is universally accepted as that stratum of war where campaigns are fought in the pursuit of strategic objectives, it could be argued that unless strategic objectives demand such intense thought, planning, and execution, they are perhaps not the sort of objectives that the operational art is intended to achieve.

There is a distinct difference between campaign planning and the operational art. "[Campaign planning] is straightforward: a systematic, analytical process of getting from here to there, along the lines of an engineer's critical path to build a bridge." Operational art, on the other hand, is less quantifiable. It has been described as "a more intuitive way of thinking, a facility to discern patterns in diversity, a continuing process rather than a finite end."[8] Operational art is generally considered to be a learned function, but has at times, like leadership, been seen as an innate quality or gift. Napoleon's famed ability to make decisions based on a *coup d'oeil* of the battlefield is considered by many to be a manifestation of the operational art.[9] Whether discussing the operational art, campaign planning, or the operational level in general, what becomes abundantly clear from a study of its origins is the absolute necessity for the operational level to translate tactical achievement into strategic success. Furthermore, since strategic success was originally measured in terms of the state, campaign planning and the operational art were born of the need to serve state strategy.

At the beginning of the 19th century, "political patterns, social patterns, technological innovation, mass armies and institutionalized hierarchical linkages between the political, strategic and tactical echelons forced an intermediate level between tactics and strategy to emerge."[10] Thus, the foundations of the operational level of war are Eurocentric,[11] stemming from the analysis of the phenomenon of war by the classic strategists Clausewitz and Jomini. Both of these men worked to describe that "grey area" lying between strategy and tactics. Napoleon's campaigns provided fertile ground for Jomini to coin the term "grand tactics" to describe the adroit concentration of French troops against decisive points in enemy defences. Clausewitz used only the terms strategy and tactics, and made little room for any other terms, but his use of the term "strategy" to

describe major operations and campaigns, within the scope of the strategy of war but above "battle," indicated an emerging need to refine the strategy-to-tactics continuum.

A doctrinaire approach to the operational level of war seems to have started in the German General Staff after Helmuth von Moltke employed and wrote of the term "operations" in his 1871 work, *Ueber Strategie*.[12] European war was ripe for this development because war had grown in size and complexity, to the point where a single commander or sovereign could not personally supervise all his forces on the battlefield. John Keegan tackles the concept of the "battle piece" over a five hundred year period, from Agincourt, 1415, to the Somme, 1916.[13] In doing so, he demonstrates that although battles retained remarkable similarities, particularly viewed from a humanist perspective, war grew to include many battles conducted over ever increasing space. By the time of the Napoleonic Wars, total control of the battlefield(s) was growing beyond the capabilities of a single commander. War had not only evolved to include a series of battles, but, as an instrument of state strategy, had necessarily grouped battles into campaigns.

Germany's influence on the strategic foundation of the operational level of war cannot be overstated. "[By] introducing the terms 'operational concept' and 'operational objective,' Moltke distinguished the actual conduct of the campaign from its purpose."[14] Schlieffen, his successor, continued in this vein. Immediately prior to the First World War, Schlieffen was able to establish considerable autonomy in the "professional" prosecution of war with minimal political interference, but in return, the army was to produce results desirable to the state including a general policy of non-interference in civil society and assurances that the army would produce the results necessary to establish a functioning balance of power system.[15] Although controversial, and perhaps seen by some as the military gone awry,[16] the important lesson to be gleaned in the development of operational thought in relation to state strategy was that a campaign (the Schlieffen Plan) was directly connected to the strategic level in terms of achieving objectives desired by society and its leaders.

Bruce Menning credits much of the advancement in operational-level thought to the Soviets of the 1920s and 1930s. He attributes their intellectual "ferment" to their appreciation of the changing factors

affecting war, and the fact that they had to adapt to be able to manage and take advantage of these factors in order to satisfy the changing strategic demands placed upon the army.[17] Menning's most important finding was this:

> The Soviets perceived that evolving military theory and practice had led to a situation in which the strategy of an entire nation at war had become a kind of intellectual and organizational continuum linking broad fighting front with large supporting rear. That is, strategy was what guided a nation in preparing for and waging contemporary and future war, while the conduct of operations was rapidly assuming sufficient identity to warrant attention in itself…all of which culminated in the direct application of military power for the state's goals.[18]

The most important advancement in operational thought was not the development of better ways to fight on a large scale, although that too was important, but rather in better "linkages" to the strategic imperatives of the state. The gradual development of operational art doctrine by the US during the Cold War was, among other things, in recognition of its value in fighting a potential enemy who employed the doctrine and a recognition of the necessity to link "higher (strategic) and lower (tactical) concerns.[19] Menning ends with a warning, germane to this discussion, that for the doctrine to "retain future significance…theorists should seek to expand and refine the limits of operational art."[20]

And so the operational art was born, or perhaps evolved, in the crucible of state-versus-state warfare, where there existed a dual requirement to better organize tactics and to meet state objectives in the most direct and effective way. Thus the operational art, by virtue of its origins, serves two masters: strategic and tactical. The tactical level linkage is not difficult to grasp – and is the focus of much professional education directed at perfecting armed forces' ability to manage tactical actions. The intricacies of campaign design and execution are "trained" into the core capabilities of most NATO nation's officer corps, for example. The strategic linkage is perhaps less well understood and is less clear. To better understand this linkage it is worth a look at current doctrine and how a major power, namely the US – the clear leader in the field of operational art development - views the linkage.

A TOOL OF GREAT POWERS

The primary purpose of this section is to clarify what is meant by "strategic level of war" in relation to the operational art. Although it may seem apparent, varying uses of doctrinal terminology tend to obscure or confuse precisely what "strategy" the operational art is intended to serve. It is only through understanding the origins of the operational art, and then comparing current definitions using a major power, as an example that it is possible to clarify what or whose strategy is at issue.

Western doctrine is inconsistent in this regard. Coombs has argued that "operational thought [is] the process of transforming national policy objectives to military action…"[21] But the hierarchy between national strategy and the operational level is occasionally interrupted in some interpretations with the addition of "military strategy." Coombs described the 20th century linkage as state policy, military strategy, operations and tactics.[22] US doctrinal publications helped confuse the matter with the 1986 revision of the US Army's FM 100-5 *Operations* labeling the levels of war as military strategy, operational art and tactics, and the 1993 revision re-naming them strategic, operational and tactical. Most of the interest in the re-labeling seemed to have revolved around the change in naming the operational level (the obvious focus), with less concern for the change in the strategic naming.[23] But qualifying the strategic level has important implications and it must be as well defined and understood as the operational level.

At present, the term strategy is used generically to describe all that occurs above the operational level, but confusion remains in that some, including Coombs, introduce the term "theatre strategy" as lying below national policy and directly above campaigns in the operational stratum.[24] In some cases, there are also alliance or coalition "strategies" to contend with. It must follow, then, that theatre strategy, military strategy, or any strategy governing the use of military forces, is a necessary sub-set of national strategy – a point made clear, interestingly enough, in Canadian doctrine.[25] The point of all this hair splitting of definitions is that in all constructs, be they alliance, coalition, or independent operations, a practitioner of the operational art is ultimately responsible to the national strategic level to make tactical actions meet *national* strategic objectives.[26] This means, among other things, that *national* strategy must be something that can be translated into tactical *action*.[27]

The tactics-to-national strategy linkage is relatively easy to discern in the case of the US because most coalition and alliance operations in the recent past have been US-led at the operational level, with very direct (if not necessarily "clear") US strategic foreign and domestic policy objectives governing the campaigning. Operations Allied Force, Desert Storm, Enduring Freedom and Iraqi Freedom are obvious cases in point, but so too was the most recent foray into Haiti. The simple fact is that US doctrinal terminology, and therefore NATO's (and Canada's), assumes the linkage of national strategy to tactics because it is US-based and the US does indeed have the benefit of being the perennial operational-level "lead" for campaign design and execution. Therefore, in alliance or coalition operations, the national strategic objectives of contributing nations like Canada, who subscribe to the doctrine but do not necessarily employ it, are potentially ignored or marginalized because there is no first principles link to their national strategic objectives built into the campaign plan. Worse still, strategic objectives which demand tactical participation may be strictly political, and may have very little to do with the detail of alliance or coalition strategic objectives that will be met by tactical actions over the course of the campaign. One has to wonder if these are the sort of strategic objectives that defy the use of the operational art, let alone are worth committing lives to.

From a theoretical perspective, therefore, serving alliance or coalition strategic objectives is somewhat of a variation on classic operational art doctrine because the entire concept was born of the need, and remains based on meeting strategic state objectives. The simple addition or deletion of different types of strategy (military, theatre, alliance, or coalition) into the hierarchy does little to bridge the theoretical gap because all nations "at war" are responsible for the tactical actions of their troops. As far as the theory and history of operational thought are concerned, failing to adequately link tactical action to national strategic objectives is both a technical and moral breach of considerable significance, with far-reaching repercussions, (loss of control, loss of purpose, inability to adapt to changing nature of war, disassociation from the purpose and nature of one's own armed forces and shedding blood for ill-defined reasons, to name a few).[28] Overly prescriptive or dogmatic approaches to the divisions in the levels of war is generally discouraged and considered pedantic by modern thinkers – doctrine is merely a toolset after all – but the requirement to maintain a coherent linkage between

strategic desire and tactical outcome has never been questioned as far as can be found in the operational art literature.[29]   In fact, the reverse generally holds true.[30] How then is the theory of the operational art, and therefore the requisite linkage to a nation's tactical actions, translated into use by other than the very few nations who are able to practice it in the pure sense? The answer thus far has been to "fill in" the continuum by adopting the doctrine virtually as written, despite not really being able or inclined to practice it. This has value in terms of interoperability with the US for example, but interoperability is not the sole factor governing the generation of doctrine.   The military understanding and practice of linking tactical actions to national strategic objectives risks being relegated to *ad hoc* decision-making and issue management if the foundation doctrine is concerned only with interoperability. Canada is a case in point.

CONTRIBUTION WARFARE – THE OPERATIONAL ART ECLIPSED

Most Canadian military historians would agree that Canada's historical contribution to defence and military issues has been made more or less irrelevant by virtue of Canada's propensity to reside, comfortably or not, under the protective wing of a benevolent major power. France, Britain and now the US have all played a role in dulling Canada's strategic senses in the defence and security domain. Doug Bland, Allan English, Desmond Morton, and a host of others conclude, in one form or another, that Canada routinely deploys forces absent a well-define national self interest at stake other than to be seen to be involved.[31]   Although this chapter's scope is limited to a discussion of the operational level of war in Canada, the nature of Canadian military strategy, or perhaps the lack thereof, is central to the discussion if for no other purpose than to highlight the tenuous foundation upon which operational thought in Canada is based.

As William McAndrew so eloquently puts it, discussion of the operational level of war in Canada would make a "commendably short chapter."[32] This is true for perhaps no other reason than that Canada has never taken full responsibility for running (and therefore the outcomes of) an overseas theatre of operation, preferring or being relegated instead to a supporting

role in providing Canadian blood and treasure to shared strategic objectives. This leads to the conclusion that there is no direct Canadian tactics-to-strategy link, and therefore no Canadian operational level. But how can this be? Tactical actions by Canada's forces have met Canadian strategic aims. Canadian tactical actions *have* had strategic impact, both in Canada and on Canada's behalf outside the country. If operational art doctrine holds true, someone other than a Canadian practicing the operational art met Canadian strategic objectives. In over one hundred years of "contribution warfare," *shared* strategic objectives must have been coincidentally so close to Canada's own self interests that the mere presence of Canadian tactical forces, regardless of who employed them and the methodology used to achieve strategic outcomes, is all it took to meet Canada's strategic objectives. The one exception may be in the realm of peacekeeping, where the focus is very much at the tactical level. One could argue that, in the case of peacekeeping, acceptable behaviour that reflects credit on Canada is more important for strategic level commanders than the cumulative effects of tactical actions that might create a tactics-to-strategy link.[33] Is this the nature of "contribution warfare?" If so, the classic form of the operational art does not seem to apply, even though tactical actions appear to be meeting Canada's strategic goals.

The official Canadian interpretation of the operational art can be found in Canadian doctrine. This proves instructive because the doctrine is nearly identical to US and NATO interpretations, but it has been "Canadianized" in small ways to account for the need to explain how it is we see ourselves at the operational level while actually contributing to someone else's operational design. The CF defines strategy as "the sole authoritative basis for all operations," and goes further stating it "determines the conduct of military actions." CF doctrine is careful to articulate the shared nature of strategy by stating that "[t]he strategic level of conflict is that level at which a nation or *group of nations* determines national or *alliance* security objectives…"[34] The contrast with the US definition of strategy is minimal, but the US makes very clear the fundamental link to national interests by stating, "[t]he combatant command strategy is thus an element that relates to both US national strategy and operational activities within the theater."[35] Although the US acknowledges the inclusion of others by referring to alliance or coalition objectives, there is an obvious expectation that the US strategic level will

be serviced directly by an American officer practicing the operational art. At the strategic level, Canadian doctrine seems to place less emphasis on fundamentals that point to the need to use the operational art to meet objectives, with more emphasis placed on aspects of strategic control and authority.

This is perhaps even more pronounced at the operational level. The Canadian definition of the operational level of conflict resembles the definition in US doctrine save for two aspects: a qualifying statement that stresses "[r]egardless of its size, a military force tasked to achieve a strategic objective, is being employed at the operational level of war,"[36] and an interesting twist in the definition of operational art emphasizing that it is first and foremost a skill that translates strategic *direction* into the operational and tactical action.[37] Both of these subtle differences from US doctrine stem from Canada's role as a contributor, not an employer of forces. Although US joint doctrine acknowledges that "[a]ctions can be defined as strategic, operational, or tactical based on their effect or contribution to achieving strategic, operational, or tactical objectives,"[38] it does not try to carve out or rationalize a particular reason for the operational art to exist in the absence of classic campaigning. Moreover, the Canadian emphasis on translating strategic *direction* into tactical action contrasts with the more widely accepted notion of the operational art as the "attainment of strategic *objectives*" (NATO),[39] "converting strategic objectives into tactical actions" (UK),[40] or "to achieve strategic *goals*" (US),[41] indicates a more urgent need for the Canadian strategic level to maintain control in the absence of a more classic linkage to Canadian tactical forces via the operational art.

Admittedly, picking apart definitions can be tiresome and ultimately of little use if pursued too dogmatically. The purpose of the preceding analysis was to highlight some qualitative differences in Canadian doctrine that point to Canada's role as a contributor of tactical forces, and not an employer of them, through the operational level of war. What becomes apparent is that Canadian doctrine tries to do two things simultaneously. First, it contains all the elements of classic doctrine based primarily on the US model as a means to ensure, among other things, that Canadian doctrine (and therefore the Canadian contribution - be it units or individuals) is interoperable with the US and other major defence partners. Second, it modifies classic doctrinal statements to allow for the

operational level of war to exist in the Canadian sense, even where there is little chance of true operational-level influence in the conduct of major campaigns and operations and where there is more likely a direct strategic-to-tactical interface to preserve strategic interests. The problem is that even the most liberal interpretation of the operational art does little to explain how the CF conducts operations.

Others have expressed doubts about how far classic operational-level doctrine can be taken and retain any practical use. Colonel K.T. Eddy noted in his 1992 *Canadian Defence Quarterly* article, "Canada has no equivalent to a unified Commander-in-Chief, an appointment essential to the application of the operational level of war in the American scenario." He concludes that "operational level doctrine…must have legitimate relevance to the nation's needs…Our concepts and doctrine must, of course, be consistent with uniquely Canadian policies, and must reflect decision-making procedures at national political as well as military levels."[42] John English warns, "[g]iven that operational art originally sprang from the maneuver of large formations, it also remains to be seen whether it can be profitably applied by small armies in pursuit of strategic objectives. To attempt to relate the concept to everything from internal security to peacekeeping, drug wars and more may invite muddle."[43]

The problem, it would seem, is that operational art doctrine is useful to know and practice when part of an alliance or coalition where the "senior" partners practice the operational art, but it does not reflect how the CF does business – even in the doctrine's "Canadianized" state. Adherence to the classic interpretation of operational-level doctrine demands a top-down approach to planning, force structure and force generation decisions. Once established, strategic objectives drive a process that determines the number and nature of tactical forces required, and how those forces might be organized and tasked to meet them. This is the root utility of the operational art, and a certain indicator that it is being practiced. Canada, on the other hand, approaches things differently. The force generation process is based largely on what is available to send, with strategic objectives linked more to the participation of the CF rather than their performance in attacking decisive points and centres of gravity to achieve a strategic outcome of use to Canada or its allies.[43] This is not to say that the participation can be of low quality, or

that is does not need to contribute to "the greater good," it simply means that Canadian strategic objectives are being met at the strategic and tactical levels without use of operational-level doctrine and thought.

The Deputy Chief of the Defence Staff (DCDS) study on Operation Apollo provides useful insight and proof of Canadian awkwardness with regard to the operational level of war. Before proceeding into the specifics, it is worth noting why this particular operation was singled out for study. First, due to the deployment of a Canadian Joint Task Force and headquarters into a warfighting campaign that was attacking an enemy of immediate concern to Canada, Operation Apollo was more likely to stimulate pure operational-level practice than most other CF missions to date. Second, sufficient material is available discussing issues related to this subject. And third, political interest and guidance was of sufficient quantity and transparency to allow one to draw conclusions with regard to its relationship to the operational art in achieving it. An analysis of the DCDS study gives clues as to the nature of the Canadian "way of war" and how it departs from classic operational-level doctrine.

The first indications of a departure from classic doctrine can be found in the military mission statement "the CF will contribute to the elimination of the threat of terrorism by contributing the Canadian Joint Task Force South West Asia to CINC CENTCOM in support of the US led campaign against terrorism, in order to protect Canada and its allies from terrorist attacks and prevent future attacks."[45] The mission was to allocate forces to CINC CENTCOM, but only he would determine if their actions would protect Canada and prevent future attacks. It is difficult to find the operational art or the potential for a Canadian to exercise it within this mission. The DCDS study concludes that the "primary objective (of strategic planning) was to be seen to be helping the US…"[46] The study's overall assessment was that the Canadian contribution was effective, with tactical forces having earned "accolades" from alliance commanders.[47] Clearly, Canada would seem to have met its political and military strategic objectives by making the strategic decision to "contribute," while relying on the tactical forces in theatre to close the loop. One may conclude, therefore, that it is only at the strategic and tactical levels that Canada must focus to meet strategic objectives in "contribution warfare." One may also conclude that the "middle level" – that is to say elements that are neither tactical nor based in National Defence Headquarters

(NDHQ) – does not function in the realm of operational thought, but rather as a facilitation mechanism to allow the strategic and tactical levels to function adequately. This is useful and legitimate, but is not characteristic of the operational art in the classic sense.

Further evidence of operational thought eclipsed by the demands of strategic control appears throughout the strategic planning phase of Operation Apollo. The DCDS study is severely critical of how force generation decisions were made based on "readiness to deploy" factors, without detailed consideration of strategic context and tactical tasks. For example, the 3 PPCLI Battle Group was not properly structured for its operational task, nor was it offered with a particular strategic plan in mind other than an efficient means of deployment.[48] The planning emphasis was to "be seen to be doing something" which meant getting the Battle Group on the ground with no real operational-level imperative(s) connecting the Battle Group's capabilities to strategic objectives. Are we so short on strategic purpose, and so long on strategic control, that tactical presence automatically meets strategic objectives? With no particular objective really at stake in terms of tactical achievement, does it matter what is deployed, or only that it is deployed? This would seem to be the case with the Battle Group, with the obvious conclusion that the operational art factored little into the equation.

The final element worthy of note is the purpose of the command and control structure of Operation Apollo. Although the DCDS study equated the Commander Canadian Joint Task Force South West Asia (COMCJTFSWA) with the operational level, the key concerns of his post revolved around the national command function and "operational supervision" on behalf of the strategic level. The national command function is primarily concerned with issues of support and administration, but the key factor from the strategic perspective was the maintenance of the liaison with the US operational-level headquarters.[49] There is little indication that the purpose of Canada's "operational level" command and control structure was to serve any other function than to represent the strategic level while effecting appropriate support to tactical elements. Most matters of immediate impact on mission success, such as rules of engagement, targeting, and liaison were determined at the strategic level. The Canadian Joint Task Force (JTF) Commander was positioned to aid the flow of information from Tampa, but was often not

adequately postured to intercede at the tactical level. The priority for the "off-shore" Canadian command in Operation Apollo was to effect strategic control and supervision in concert with NDHQ. Thus, the "shape" of the Canadian way of war from this example would seem to be in the form of strategic control over tactical forces, with all other command architecture supporting that aim. During Op Apollo, strategic control issues eclipsed the practice of the operational art by the Canadian task force commander.

Brigadier-General Daniel Gosselin, who was Chief of Staff for Headquarters, Joint Task Force South-West Asia during Operation Apollo, in discussing command and control issues stemming from that operation, questions whether "the role of the Canadian operational-level commander, as envisaged in current joint doctrine, is not about to fade away."[50] Moreover, Gosselin has made it clear that often the only method a Canadian task force commander has to align tactical actions with strategic direction is by invoking a national veto on tactical actions - and even then this must meet with strategic concurrence.[51] The challenge, it would seem, is not to focus on developing better operational-level functionality, but to perfect (and accept) the strategic link to Canadian tactical forces so that the operational-level function ceases to be an impediment in the Canadian context.

CONCLUSION - CHANGE THE RULES

What we have come to know as the operational art in the Canadian context are actually the mechanisms and processes employed by the strategic level to exert influence on tactical actions in such a way that the Canadian contribution to allied efforts is acceptable first to Canadians and then to Canadian military partners. This is an entirely reasonable approach given that Canadian strategic objectives are less concerned with Canadian tactical outcomes, and more concerned with the political advantages of being seen to participate.[52] The bottom line is that Canadian actions at the tactical level are routinely tallied as assets in-theatre, as opposed to outcomes achieved. This is evident by the manner in which the CF accounts for its tactical performance, in terms emphasizing deployment and presence in operations.[53]

Thus the nature, and perhaps even the existence, of the operational art in Canada are in doubt. Sustainment and influence of tactical forces are the key factors in contribution warfare, not operational design. Operational-esque decision-making, in essence protecting Canadian interests rather than pursuing them, is a responsibility shared between the strategic and tactical levels, with go-between agencies like a Canadian joint task force headquarters acting as a facilitation mechanism. Therefore, there is no discernable "middle level of thought and action" in the Canadian context. Our situation is close to Edward Luttwak's description of primitive tribes for whom "the tactical, operational and strategic must coincide for all practical purposes" and who "cannot suffer a tactical defeat that is not also strategic, nor…develop a method of war that is more than a tactic."[54] This might highlight the unfortunate fact that Canadian operational thought is too often placed in the context of those nations whose politics and doctrine must make room for the operational art to be strategically successful.

It is necessary to recall that the thesis of this chapter stipulates that the CF doctrine on the operational art does little to explain how Canadian tactical actions meet Canadian strategic objectives. Canadian strategic objectives that focus on contributions prevent a clean line of thought and action from the strategic through operational to tactical levels. Most doctrinal statements indicate that the operational level is where tactical actions are synchronized. In the Canadian context, this occurs at the tactical level. Doctrine also stipulates that the operational level is where tactical resources are managed and marshaled to achieve strategic ends. In the Canadian context, this occurs primarily at the strategic level. There is precious little room, therefore, for the operational art in terms of thought and action. Moreover, the Canadian chain of command invests the Chief of the Defence Staff with all the power and responsibility associated with the operational art – and this power has rarely, if ever, been delegated to a commander outside of NDHQ. So, if the operational art is not practiced, and it explains little about how Canadian tactical actions meet Canadian strategic objectives, why does it figure so prominently in Canadian doctrine and professional development – to the exclusion of any useful national substitute?

The answer, of course, is that CF officers must be able to practice it when they are seconded to an alliance or coalition headquarters, and they must

recognize it when performing a liaison function. There are very few other instances where it might be of use. Any domestic operation requiring that degree of thought would likely be very closely controlled at the strategic level (as it was for the Oka operation), and Canadian history would seem to indicate that there is almost no chance of pure operational-level CF action external to Canada. Recalling again Eddy's prescient words, "[o]perational-level doctrine …must have legitimate relevance to the nation's needs…Our concepts and doctrine, of course, must be consistent with uniquely Canadian policies, and must reflect decision-making procedures at national political as well as military levels."[55] If this is so, an effort ought to be made to formalize the CF's "non-use" of the operational art with as much emphasis as is given to the formalization of classic doctrine.

Allan English has indicated that the "'Canadian military way" has been forced to change under crisis conditions.[56] Although he was referring to the CF's ethos and its position in society, the same could be said of operational matters.   Crises forged new command and control arrangements throughout the 1990s, and crisis bred a closer strategic-tactical relationship during Operation Apollo. Rather than wait for a new crisis to stir up original Canadian thought in managing the "compression" in the levels of war, it may be opportune to do it now. The trends would seem to point to more strategic interest in tactical action(s), more demand for strategic control and decision-making in the tactical realm, more connectivity, more situational awareness, and so on. The reverse, it would seem is also true. Although tactical commanders rarely appreciate "intrusions" into their domain by the strategic level, if their actions are frozen for want of strategic input, it behooves them to be as closely connected to the strategic level as possible. Perhaps a re-defined way of war for Canada would acknowledge the fact that the operational art is practiced only at the strategic level in Canada, and thus we ought to focus on achieving effective strategic command of tactical forces.

This chapter commenced by demonstrating that the origins and principal purpose of the operational art were to link a state's strategic objectives to the tactical actions of its forces as well as to provide compelling coherence to how major operations were conducted. As operational thought evolved, it became exclusively the domain of major powers – whose strategic objectives could be achieved by tactical action – and of less use

to smaller powers relying on contributions of tactical forces to meet their strategic aims. Yet Canada, whose military strategic objectives are met through contributions to alliances and coalitions, has embraced operational-level doctrine without a formalized alternative that respects Canada's "way of war." Canadian doctrinal terminology referring to the operational level is often used in a sloppy or inaccurate manner. In Canada, the operational level has become that which is neither tactical nor NDHQ-based strategic. Consequently, the evolution to immediate strategic control of tactical forces has not occurred - but that, it seems, is where Canada must go to achieve Canadian strategic objectives within an alliance construct. The CF need not abandon the operational art, for Canada must maintain the capability to contribute commanders and staff officers to high office in coalitions. Without question, however, the awkward positioning of the operational level between Canadian strategic and tactical command must be re-addressed and a Canadian solution found that enhances Canadian "contribution warfare."

NOTES

1   Carl von Clausewitz, *On War*, Michael Howard and Peter Paret, eds. and trans. (Princeton: Princeton Univ. Press, 1976), 132.

2   John. English, "The Operational Art: Developments in the Theories of War," in B.J.C. McKercher and Michael A. Hennessy, eds. *The Operational Art: Developments in the Theories of War*, (Westport: Praeger, 1996), 7.

3   Howard G. Coombs, "Perspectives on Operational Thought," unpublished paper written for the Canadian Forces College (CFC) (2004), 4-5. This paper is part of this volume.

4   Although it will be discussed at length later in the paper it is worth noting here that command at the operational level means command by the person responsible for designing and "running" the campaign or theatre of operations.

5   *CF Operational Planning Process*, B-GJ-005-500/FP-000 (6 November 2002), 2-1.

6   Canadian Forces College, *Aide-Memoir – Campaigning and Operational Concepts*, (Toronto: CFC, 1997), 1-3.

7   *Canadian Forces Operations*, B-GG-005-004/AF-000 (18 December 2000), 1-6.

8   William McAndrew, "Operational Art and the Canadian Army's Way of War," in B.J.C. McKercher and Michael A. Hennessy, eds., *The Operational Art: Developments in the Theories of War*, (Westport: Praeger, 1996), 87.

9   Clausewitz, *On War*, 100-12. The term *coup d'oeil* was coined by Clausewitz and largely accepted as referring to the sort of brilliance demonstrated by Napoleon.

10   Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory* (London: Frank Cass, 1997), xiv.

11   Eurocentric is a term used by many authors to describe the origins of operational art. In this case the reference is courtesy of John English, "The Operational Art," 7-8

12   John English, "The Operational Art," 7-8.

13   John Keegan, *The Face of Battle* (New York: Viking Press, 1976).

14   Michael D. Krause, "Moltke and the Origins of Operational Art," *Military Review* 70, no. 9 (September 1990), 31.

15   Michael Geyer, "German Strategy in the Age of Machine Warfare - 1914-1945," in Peter Paret, ed., *Makers of Modern Strategy from Machiavelli to the Nuclear Age* (Princeton: Princeton Univ. Press, 1986), 530-3.

16   As discussed by Allan English, "The Operational Art: Theory, Practice and Implications for the Future," unpublished paper written for CFC (2003), 7-8. This paper is part of this volume.

17   Bruce W. Menning, "Operational Art's Origins," *Military Review* 77, no. 5 (September-October, 1997), 32-47.

18   Ibid., 36.

19   Ibid., 44.

20   Ibid., 46-7.

21   Coombs, "Perspectives on Operational Thought," 4.

22   Ibid.

23   Gordon R. Peskett, "Levels of War: A New Canadian Model for the 21ˢᵗ Century," unpublished paper written for Advanced Military Studies Course 5 (2002), 6. This paper is part of this volume.

24   Coombs, "Perspectives on Operational Thought."

25   *Canadian Forces Operations,* 1-4.

26   In the case of alliances, the idea is for national strategies to be shared, with multiple state strategies being met by a single campaign.

27   This means more than the action of deployment. It is beyond the scope of this paper, but it might be worth examining how the quality of strategic doctrine impacts on operational level doctrine.

28   A conclusion drawn from the stimulus driving the development of operational thought in pre-First World War Germany, the post-First World War Soviet Union and post-Vietnam United States.

29   For more on this perspective see Martin Dunn, "Levels of War, Just a Set of Labels?" *Research and Analysis: Newsletter of the Directorate of Army Research and Analysis*, no. 10 (Australia,1996) available on-line from http://members.ozemail.com.au/~dunnmj/issue10.htm ; accessed September 2004.

30   This statement is based on a complete review of US, NATO and Canadian doctrine statements.

31   See for example Douglas Bland, *Chiefs of Defence* (Toronto: Canadian Institute of Strategic Studies, 1995); Allan D English, *Understanding Military Culture – A Canadian Perspective* (Montreal and Kingston: McGill-Queen's University Press, 2004); Desmond Morton, *Understanding Canadian Defence* (Toronto: Penguin Books, 2003).   I hope the authors mentioned will pardon the rather broad conclusion drawn here based on their work. The intent is to draw attention to Canada's strategic condition and perhaps even her strategic reality, not condemn it – although some would probably support the condemnation. The particular notion of irrelevancy in relation to the US is drawn from Desmond Morton, *Understanding Canadian Defence*, 209.

32   William McAndrew, "Operational Art and the Canadian Army's Way of War," 87.

33   The "strategic corporal" concept has reached pop culture proportions in Canada and is as much a reference to behavior while deployed as it is actions while employed. This may be due to the idea that avoiding political embarrassment could be Canada's overarching strategic objective.

34   *Canadian Forces Operations*, 1-7. Author's italics.

35   US Joint Publication 3-0 (JP 3-0), *Doctrine for Joint Operations* (10 September 2001), p. II-2. Available on-line at http://jdeis.cornerstoneindustry.com/; accessed September 2004. This part of the doctrine is reinforced by a formalized process of consultation between the operational level commander and the President.

36   *Canadian Forces Operations*, 1-5 to1-6.

37   Ibid., 3-1.

38   JP 3-0, *Doctrine for Joint Operations*, p, II-2.

39   NATO, Allied Joint Publication 01(A) (AJP-01(A)) *Allied Joint Doctrine* (Ratification Draft –

Change 1) (September 1999), 2-7.

40   United Kingdom, Joint Doctrine and Concepts Centre, *Joint Doctrine Publication* 01 (JDP 01) (study draft) (25 October 2003), paras 248, 254, 273.

41   JP 3-0, *Doctrine for Joint Operations*, II-2.

42   K.T. Eddy, "The Canadian Forces and the Operational Level of War," *Canadian Defence Quarterly* 21, no. 5 (April 1992), 23.

43   John English, "The Operational Art," 20.

44   J.I. Fenton, "Hail to the Chief: Strategic Command of the Canadian Forces," unpublished paper written for National Security Studies Course 1, CFC (1999), 1-16.

45   DCDS, "Operation Apollo Lessons Learned Staff Action Directive," Annex B to 3350-165/A27 (April 2003), B-2/41.

46   Ibid., B-5/41.

47   Ibid., B-3/41.

48   Ibid., B-8/41.

49   Ibid, B-14-51 to B-15/41.

50   BGen Daniel Gosselin, "Lifting the Fog of War During Expeditionary Operations: Protecting Canadian Interests Through Robust Command and Control Structures" unpublished paper (June 2004), 48.

51   BGen Gosselin interview, Toronto: Canadian Forces College, 30 September 2004. In the interview BGen Gosselin re-stated a position he took in a presentation to AMSC 7, and gave permission for its inclusion in this paper.

52   It is important to note that Canada derives considerable benefit from such a shared approach in that, using this logic, all tactical actions whether Canadian or allied contribute to the achievement of Canadian strategic objectives. If by participating Canada encourages others to do so, and the cause is deemed to meet Canadian values and objectives, then one could argue that the strategic mission is accomplished.

53   Both the 2002 Departmental Performance Report and the 2002 CDS Annual Report to Parliament, for example, focus on CF contributions of assets to Op Apollo and not tactical outcomes rolled up to meet Canadian strategic objectives. Available on-line http://www.cds.forces.gc.ca/pubs/anrpt2002/apollo_e.asp. http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/ddm/dpr2003/dpr-2a2_e.asp; accessed September 2004.

54   Edward N. Luttwak, *Strategy: The Logic of War and Peace* (Cambridge: Harvard UP, 1987), 91-2.

55   Eddy, "The Canadian Forces and the Operational Level of War," 23.

56   Allan English, *Understanding Military Culture*, 97.

CHAPTER 9

KEEPING THE OPERATIONAL ART RELEVANT FOR CANADA: A FUNCTIONAL APPROACH

Colonel James Simms

> This work was not born from a desire to establish a new method of the art of war; I compose it to amuse and instruct myself.[1]
>
> Maurice de Saxe, 1732

The stated focus of the Canadian Forces (CF) Advanced Military Studies Course, its very essence, is "the role and functions of the commander and senior staff officers at the operational level."[2] But what is the operational level? The word operational has been a common term in military environments for a very long time.[3] It is still used by many to declare a capability or readiness.[4] Many battalion commanders, for example, will say "Sir, my battalion is operational," meaning it is ready to accept assigned tasks and, through the use of tactics and combat functions, apply this operational capability.   There is, however, a greater and more specific meaning of the word operational in a military context, especially when it is partnered with the words, art, level and command. The manual *Canadian Forces Operations* defines the operational art as "the skill of translating this strategic direction into operational and tactical action."[5]   This manual, in a very brief segment, links the concepts of operational-level decisions, campaign design and planning, sequencing, deployment and operational objectives, amongst others, to the operational art.   *Canada's Army* summarizes the operational art as essentially "… the skill of employing military forces to attain strategic objectives in a theatre of war or theatre of operations through the design, organization and conduct of campaigns and major operations."[6] It goes further to state "generally speaking, operations at the operational level will always be joint and often combined." This overarching Army publication pictorially represents the operational art as shown in Figure 1.[7]
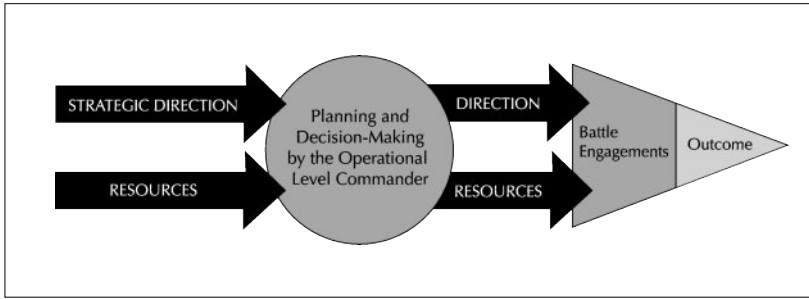
FIGURE 1 – THE ARMY OPERATIONAL ART MODEL

Yet, another explanation is given by professors Brian McKercher and Michael Hennessy, who have selected a number of theorists for their book who attempt to define either the operational art or its place in warfare. However, as they note in their foreword, "the efficacy of extending a concept born on the battlefields and military academies of 19th century Europe to the demands of the 21st century has remained largely unexamined."[8]

There is, therefore, considerable divergence on what encompasses the operational art.[9] Two fundamental questions follow. Has Canada fully embraced a concept of the operational art and why is this relevant for Canada? Is Canada's requirement for, and use of, the operational art different from our allies? The essence of these questions is: should not a unique military organization like the CF require its own interpretation of the operational art to meet its unique needs?

This chapter will argue that the operational art is composed of four distinct functions: operational-level command, operational-level structures, operational-level infrastructure, and campaigning. There may be those who argue that, strictly speaking, operational structures and operational infrastructure are not functions, but rather enablers or components of an operational capability. This paper takes the view that function refers to the mode of action by which something (the operational art in this specific example) fulfils its purpose, and that this action can be physical or mental.[10] Furthermore, when viewed as separate functions,[11] the operational art becomes more relevant for the CF, facilitating its employment as a complete system of inter-related functions or by one or more functions in combination. It will also be argued that, from a

Canadian perspective, the operational art is more relevant for Canada if viewed by its functions, which may be employed either individually or in combination for the purpose of realizing strategic objectives. If viewed in this manner, the identification of the requirement to use one or a combination of operational art functions, and the oversight of the implementation of those functions, remain a strategic level responsibility.[12]

There are a great many practical issues to be considered in a complete review of the Canadian operational art, not all of which can be discussed here. For example, if campaigning is accepted as a function of the operational art but it is likewise accepted that campaigning need not be tied to an operational-level commander and staff and, perhaps, may even carried out by a tactical level commander, where in the professional development and training of the CF elements is the expertise for the operational art currently developed? This chapter, therefore, is only one step to a wider debate on the theoretical and practical issues of the operational art in a Canadian context.

A FUNCTIONAL REVIEW: DE-CONSTRUCTING THE WHOLE

Operational art, as a concept, is of limited use to the Canadian military unless it is accepted as doctrine. But what is doctrine? The dictionary defines doctrine as "a body or system of principles or tenets; a doctrinal or theoretical system; a theory; a science, or department of knowledge."[13] The US Army defines doctrine as "fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives."[14] This is compatible with the stated Canadian purpose of doctrine to "provide the fundamental principles by which all CF Operations are conducted."[15] It is certainly not within the scope of this paper to examine the development of, and adherence to, doctrine by the CF, other than to acknowledge that the CF is a doctrine based organization. That is to say that conceptually, we organize, equip, and train on the basis of established doctrine.[16] By extension, it is logical to assume that military forces are committed and employed in military missions based on doctrine – albeit in a flexible manner. Additionally, doctrine is not prescriptive, but is rather a unifying guide which should serve as a framework for the use of military forces.[17] Doctrine should, however, be debated, developed, challenged, and refined in a continuous cycle.

For the CF, the operational art is doctrine, and it is well embedded in our doctrinal publications. However, it is not precise and it is not static. It should be accepted that it is many things to many people, but that in order for it to have a unifying purpose for any specific group, it must have some common acceptance within that group. In fact, some may view it as a "popular catch-phrase for how a military conducting war from the operational perspective balances the end, ways and means of war."[18] By extension, this could be applied to all military operations – regardless of size or complexity.

Internationally, there is a fundamental disagreement not only about the definition of the operational art, but about the essence of its purpose. Specifically, as viewed from the Canadian definitions previously presented in this paper, the operational art is seen as a connection between the strategic and the tactical. Coupled with this is the overwhelming focus on the element of planning when discussing the operational level and the operational art.[19] The Australian military, for example, is explicit in the manner it ties the concept of manoeuvre warfare to the concept of an operational art through definition and tenet development.[20] The American military, following from its AirLand battle doctrine, has defined the operational art in an almost completely war fighting construct. It too sees the application of the operational art tied to manoeuvre warfare.[21] While Canada is certainly orthodox in its approach to describing the operational art, it generally separates manoeuvre warfare (as the opposite of attrition warfare) and mission command from the operational art, and, therefore, lays the groundwork for a functional approach to the operational art.

The Soviets were very prescriptive in their explanation of the subjects of the operational art. While being very formation oriented (i.e., size of force and activities of that force), Soviet operational art doctrine designated the subjects encompassing the operational art. Their concept was that all three components of the art of war (strategy, operational art and tactics) are required to deal thoroughly with all issues concerning the preparation and conduct of war and military operations. As Soviet doctrine noted, "this is because each component of the art describes specific principles and provides practical recommendations for the preparation and conduct of military actions at a specific level and supplements the other two components."[23]

Once again it is emphasized that Canada's military is a doctrine based organization, and its doctrine states that operational art is "the skill of translating strategic direction into operational and tactical action."[24] If this relatively common definition is accepted as the essence of the operational art, the next key question becomes what is the purpose of the operational art? Certainly, there is a sense that at the heart of the operational art is the translation of military strategic objectives into tactical tasks, and that this is more complex with large armies and battles because technology and industrialization have created sustainment problems that require greater planning and coordination. In fact, for many, the very core of the operational level has to do with large force movements, force positioning, and force sustainment. The recent move back to more direct and focused operations with greater strategic level oversight through the use of even more technology has raised, for some, questions concerning the continued validity of all notions operational. It is proposed here, however, that the break out of operational art functions permits a method of overcoming the friction of military operations caused by the chaos of the unknown. Similarly, a functional approach allows for flexibility and freedom of action. Just as the strategic level allows for interaction between different stakeholders of government policy, the operational functions can permit some form of synergy between different government organizations in synchronizing efforts to achieve national objectives.[25]

As posited at its beginning, this chapter defines operational art functions as: operational level of command; operational-level structures (staff, support, combat support and sustainment); operational-level infrastructure; and campaigning. These functions are illustrated in Figure 2. The selection of these four functions is based on the author's review of both the theory and the practical implementation of strategic military objectives to tactical actions. But what is the operational level? As we know, it is situated somewhere between the strategic level and the tactical level. Most importantly, for this paper however, it relates to the implementation of operational functions. The unifying requirement for an operational level or operational art functions can be summed up in the following passage which points to joining a series of activities to achieve the objectives of war and, by extension, the use of military forces for strategic goals:

The conduct of war is the planning and conduct of combat. Were this combat a single act, there would be no need for further subdivision. But combat consists of a greater or lesser number of individual acts, each complete in itself, which we call engagements, which constitute new things. This gives rise to an entirely different activity, namely, individually planning and conducting these engagements and joining them together to achieve the objective of the war. The first is called tactics, the second, strategy.[26]

There are other arguments for the inclusion of other levels beyond the operational level in the construct of this strategic-to-tactical linkage requirement.[27] However, neither of two possible concepts – less levels or more levels – has sufficient acceptance to warrant further examination here.

A Canadian Model of Operational Art*
A Functional Approach

* Operational Art is defined as "the skill of employing military forces to attaining strategic objectives in a theatre of war or theatre of operations through the design, organization and conduct of campaigns and major operations." (B-GG-005-004/AF-000)

It is here, at the strategic level, that the decision is made about all of the operational functions.

Command   Campaigning

Structures   Infastructure

Operational Level Functions

Military Strategic Goals and Direction

National Resources

Direction/Resources

Clarification Request/Negotiation/Results

Military Tactical Level Application of Capability

Related Concepts

Mission Command   Manoeuvre Warfare

FIGURE 2 – A CANADIAN FUNCTIONAL APPROACH TO THE OPERATIONAL ART

The first, and arguably the most important function that it is possible to break out from the operational art is the function of operational level of command. In fact, there are two items requiring discussion here. First is the concept of an operational level. If functions are to be tied to time and

space, then a requirement exists for an operational level between (and possibly overlapping) the strategic and tactical levels. However, it is difficult to conclude that the presence of an operational art function being utilized automatically dictates that an operational level exists in every case. Less the function of operational-level command, the remaining functions require some sense of duration and intensity to demand an operational level. This sense of duration and intensity must remain subjective. Can there be an operational level without an operational level of command? The answer is yes, if there is a requirement for a supporting function responding to direction coming directly from the strategic level and with a duration spanning the period of the military operation. Returning, however, to the first function of command, we can see that whenever the strategic level is convinced that the size, complexity or effect required is such that a level of command between the strategic and tactical levels is required, there will be a requirement for the operational level of command. To meet this requirement, a supporting headquarters of varying sizes and/or capabilities can accompany the commander.[28]

The second function to consider is operational-level structures. By structures it is meant the staff organizations and the combat support and sustainment organizations between those tactical and strategic organizations that are required for mission success. These structures could be tied directly to a Canadian operational commander, or by extension, these could be operational-level structures of other military forces with which Canada has agreed to participate. Examples of possible permanent operational-level structures include the Joint Operations Group, 4 Canadian Forces Movement Unit and 1 Construction Engineering Unit.[29] *Ad hoc* or non-permanent structures would be mission specific but include such examples as national support elements and liaison detachments.

The third function is operational-level infrastructure. Operational level infrastructure can be long-standing or temporary. It could have a "be-prepared" purpose or be mission and task specific. For example, the Canadian forward basing of logistic sustainment materials in Italy could be considered operational-level infrastructure to support some strategic purpose with the assignment of tactical tasks. Other non-permanent examples include forward support bases, and certain logistic installations removed from the tactical level.

The fourth and final function is campaigning. Here, we find the closest links to some of the operational art tenets as espoused by the Americans, Australians and others. That is to say that while campaigning is a process of translating strategic goals into tactical missions and tasks, there is the possibility of interposing the tenets of manoeuvre warfare into the process of campaigning during planning for military operations. This is not, however, the default setting. Campaigning, it is suggested, is the one function which is most readily utilized at all levels and not, necessarily, at the operational level. Campaigning refers to the practical process of interpreting strategic goals and converting these goals into tactical missions and tasks and supporting these missions with the appropriate plans. In certain environments where broad strategic objectives have yet to be translated into tactical actions at an operational level, the tactical level may have to complete this function.[30] In other circumstances, such as in the case study to follow, the function of campaigning could be completed at the strategic level, with the resulting plan passed either directly to the tactical level or to an operational-level commander for implementation.

Which functions are stand-alone and which demand the inclusion of others? It is argued below that, after a review of a recent case study, all functions have the possibility of standing alone. Unfortunately, there is no test that will dictate which functions are required or what actions are automatically at the operational level.[31] This is a testament to the continued subjective nature of the operational art.

WE ARE WHAT WE PRACTICE: OPERATIONAL ART FUNCTION EMPLOYMENT IN TASK FORCE EAST AFRICA (OPERATION ECLIPSE)

To this point, the requirement for doctrine, the requirement for operational art doctrine and the current state of that doctrine in Canada has been discussed. Moreover, it has been argued that the operational art, from a doctrinal perspective, can be examined and systematically broken down into a number of functions as per the model in Figure 2. This model will now be used to analyze a recent mission, and, through that analysis, to identify whether the operational art in its entirety or by function was utilized. This case aims to clarify the division of the operational art

between functions in the model posited, and the value of using the model as an analytical tool can also be assessed.

While there are many missions where CF officers have been involved at the operational level (theatre-level headquarters) in staff and command positions, the CF's 2000-2001 deployment to the Horn of Africa on Operation Eclipse was chosen for this analysis because it highlights national and operational-level interactions. The author of this essay was the Commander Task Force East Africa and the Senior Canadian Forces Officer in Eastern Africa. While widely acknowledged as a success, little has been written or discussed about this deployment; therefore, this discussion may serve to highlight valuable observations and lessons. This was a novel mission in that it was tied to the deployment of the NATO Stand-by High Readiness Brigade (SHIRBRIG), and it was a quick-in quick-out mission with planning required for mission deployment, employment and redeployment. These mission attributes all contributed to a need for planning and control at all levels. Finally, the deployment of a medium sized element to Africa calls into importance many sustainment planning and implementation issues.[32]

There are three significant characteristics of the Ethiopian and Eritrean political scene and the war between the two countries that are key to putting Operation Eclipse into its proper context.[33] The first characteristic is that two relatively professional and disciplined armies conducted the short and bloody war between Eritrea and Ethiopia. These two armies used a combination of First World War trench warfare and guerrilla tactics. The ground was not generally suitable for mechanized or motorized operations, and favoured the defender. The second characteristic is the high number of casualties suffered by both sides. Due to the governments' fear that such news would demoralize the civilian populations and lead to internal unrest, neither side has ever released military casualty figures. However, it is estimated that 70,000 soldiers died during the two-year war, and that double that number were wounded on both sides. The military campaign failed to show either side any reasonable prospect of achieving their political objectives. The third key characteristic relevant to this operation is that both sides had exhausted their military strength, badly damaged their economies, and been ostracized by the international community. When it became clear to both sides that a military victory was unachievable, both countries recognized

that they needed the assistance of the international community if their economies were to recover. Both President Isaias of Eritrea and Prime Minister Meles of Ethiopia realized that a continuation of the war could lead to internal civil unrest. These three key characteristics set the scene for a pure Chapter VI United Nations (UN) peacekeeping operation: both sides were exhausted from the war, both sides had a motive to restore their economies and both sides needed the good will of the international community to further their own aims. Operation Eclipse was, therefore, conducted in a permissive environment with the consent and cooperation of both sides.

Canada agreed to participate in this UN mission in partnership with the Netherlands and under the auspices of SHIRBRIG. This was an unforecast mission, and one that required a compressed planning process and time saving initiatives. The Canadian involvement at the Task Force level will now be examined under the functions of operational-level command, operational-level structures, operational-level infrastructure and campaigning. Finally an assessment will be made to determine if the operational art was practiced and in what form.

Operational level command was exercised, in one sense, by virtue of the appointment of an operational-level commander and the provision of an operational-level supporting headquarters.[34] It is clear in the written direction from the Chief of the Defence Staff (CDS) that the Commander of Task Force East Africa (TFEA) was an operational-level commander[35] and that he was responsible to the strategic level commander (i.e., the CDS through the Deputy Chief of Defence Staff (DCDS) if appropriate).[36] This was further amplified in the written DCDS Intent for Commander TFEA. The operational level terms of reference for this commander are summarized as follows: 1) national military commander-in-theatre; 2) senior Canadian military representative in Eritrea and Ethiopia; and 3) monitor the situation within Ethiopia and Eritrea and take necessary action to ensure that Canadian policy and Canadian interests are represented and respected.[37]

Canadian political and military (CDS) objectives were provided to the operational-level commander in written form and amplified in personal briefings by the DCDS prior to deployment on 20 December 2000 and by the CDS during an in-theatre visit and discussion on 18 January 2001.[38]

It was during the 18 January discussion that the CDS noted the importance of the mission for future CF missions in Africa. He wanted the mission not only to be successful, but also to be seen as being successful. This intent required a proactive approach by the operational-level commander, including actively seeking opportunities to expand Canadian involvement in the mission. Two examples of how this was accomplished include the Canadian deployment to Sector East in advance of the late deploying Kenyans, and the use of the Canadian International Development Agency (CIDA)-contracted Peace Building Advisor and the funds provided by CIDA to allow Canada to take a leading role in the use of quick impact mission projects to further the peace process.

Beyond the appointment of an operational-level commander what were the issues that would necessitate the requirement for command at this level? Like many past missions there were a number. One issue that involved force protection and mission accomplishment at the operational level was the issue of rules of engagement and the identification of the international personnel who should be protected under UN rules of engagement. The UN bureaucracy at the theatre (United Nations Mission in Ethiopia/Eritrea (UNMEE)) and at the political levels (UN Headquarters, New York) did not compile a list of designated international personnel and so the Canadian Task Force Commander had a list compiled and staffed for approval. In the absence of this approval, direction was given to Canadian military personnel to accept the list as amplification of the UN rules of engagement (with Canadian amplification) to avoid tactical level uncertainty.[39] This operational-level staffing and decision would likely not have been taken without an operational-level commander, headquarters, and staff to engage the issue.

There were three Canadian operational-level structures used to support Operation Eclipse and Task Force East Africa. Firstly, the Joint Operations Group (JOG) was involved in the strategic level reconnaissance, and, as part of this reconnaissance, planned the theatre activation options for consideration by National Defence Headquarters (NDHQ). As a follow on to the reconnaissance, it left a "foot-on-the-ground" with a satellite communications detachment and a planning and liaison cell, which then transformed into the nucleus of the headquarters for the Theatre Activation Team, and eventually came under the command of the Task Force Commander. The JOG with major

augmentation, therefore, led the way on theatre activation, and ensured a successful start to the mission. Two other groups had supporting, but essential roles – 4 CFMU and 1 CEU – both of which brought operational-level expertise to the mission.

Operational-level infrastructure was less obvious, but, nevertheless, was still involved. The Canadian forward basing of re-deployable camps in Italy was used to rapidly construct a camp in Africa from scratch – a camp that was the envy of Canada's partners, and that was fully functional in a matter of three weeks. This allowed the force at the tactical level to focus on mission accomplishment and was, thereby, an operational-level force enabler and, perhaps, a peacekeeping force multiplier.

There was no formal campaign plan conducted for Operation Eclipse. However, there were certainly elements of campaign planning conducted by the Joint Staff at NDHQ before and after the strategic reconnaissance as part of mission planning refinement. This was embedded into the operations order, and in the DCDS Guidance for the Task Force Commander. The late appointment of the Task Force Commander precluded his involvement in the campaign planning process. However, this, in itself, should not be viewed as a negative factor. With the time demands of this mission deployment, and the shortened planning timelines for positioning forces in theatre, campaign planning would likely have been centralized and have involved an overlap of strategic level and operational-level factors, considerations and staffs. Once deployed in theatre, the Task Force Commander adjusted certain elements of Joint Staff planning and Theatre Activiation Team implemen-tation, based on his personal interpretation of the mission and tasks, and in line with his abbreviated campaign plan.

From this brief examination of the Task Force East Africa experience, an assessment can be made that, while the operational art in its complete and purest form was not evident, the four functions of the operational art were exercised to different degrees, and, on this basis, it can be concluded that an operational level existed. Evidence of the existence of this operational level can be further seen in two distinct activities or periods of the deployment. First, early in the mission, a request was made to Canada to deploy a force to another sector (Sector East) due to delays in the arrival of the Kenyan contingent.[40] This deployment was necessary

in order to meet a pre-condition for the withdrawal and re-positioning of the Eritrean and Ethiopian forces throughout the mission area. It came at a sensitive time in the peace process. After review at the national level, Canada agreed to accept the additional task, and the issue was handed to Commander Task Force East Africa to plan and implement. This decision was largely based on the recommendations and risk assessment of the Task Force Commander and staff. Without a commander and head-quarters removed from the tactical level, this flexibility and implementation of a strategic decision would not have been possible. The ability and willingness of Canada to accept this additional task did not go unnoticed in the international community.[41]

The second issue involved the role of the operational-level commander to continually complete risk assessments in line with the national interests and other national guidelines, and, based on those risk assessments, adjust the national parameters for tactical level actions - in other words to override UN command decisions and dictate force protection measures if required.   One example of this role was the imposition of caveats on the actions of the Canadian tactical element at Eritrean checkpoints into the Temporary Security Zone.   The tactical level commander (UN sector commander) had directed that if passage was not afforded UN patrols they were to force their way through.   This tactical level approach, while understood, was not in line with Canada's desire to work with the former warring nations under UN Chapter VI arrangements. The risk of this type of response, as assessed by the national operational-level commander, was not acceptable, and operational-level action (command direction) was taken.   This was just one of a number of issues under the umbrella of security, safety and sustainment (force protection) which was the focus of the operational-level commander on this mission.

Based on the experience of Operation Eclipse, the practice of the operational art as separated by the functions presented in the model is summarized in Figure 3.
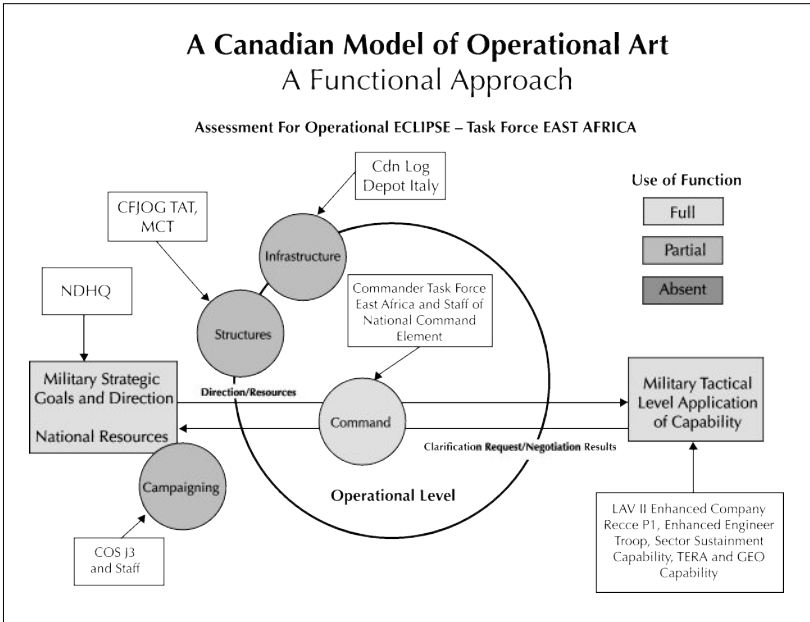
FIGURE 3 – THE OPERATIONAL ART: A CASE STUDY ANALYSIS

For this mission, and undoubtedly for many others, the operational-level headquarters ensured that national objectives were achieved by the application of military force at the tactical level. While there was no application of the tenets of manoeuvre warfare, there was, nonetheless, ample, if not complete, application of the four operational-level functions.

RE-INFORCING SUCCESS: A FLEXIBLE OPERATIONAL ART MODEL

A discussion of the operational level must face the following issues: In what distinct aspects does it differ from the strategic and tactical levels? What are the criteria by which an operational problem is to be identified? How should one differentiate between the practical aspects of the operational art and the cognitive aspects deriving from the operational level? And, finally: What is the justification for the assertion of a distinctive operational cognition?[42]

Shimon Naveh

Shimon Naveh, as cited in the passage above, is just one of many who has tried to develop a clearer understanding of the operational art and the operational level. One idea is clear in his work - every effort should be made to make the operational art useful.[43] To this end, this paper has presented the operational art as Canadian doctrine, has tried to identify the environment of the operational art, including some of the conflicting definitions and uses, has proposed, from a Canadian perspective, a series of functions which stem from the operational art, and finally, has described how these functions are linked to the operational level. It has been suggested here that Canada's development of doctrine related to the operational art and to the operational level, in general, has been largely influenced by the development of doctrine in the US, especially the move from the AirLand doctrine to the operational art codified in the US Army's FM 100-5 *Operations* manual and subsequent doctrinal publications.[44] A shift away from this close link to American doctrine will be difficult but necessary to keep the CF in line with the Canadian realities of military operations and doctrinal requirements.[45] Specifically, the framework of CF doctrine needs to be tied to what the CF is actually doing now and is likely to be doing in the future because doctrine is nothing if it is not useful in practical situations. If the CF does not take this approach, it is open to the criticism that, while it states that it is a doctrine-based organization, it actually does not adhere to the tenets of its doctrine.

In line with this proposition and to clarify the ideas presented, a case study was briefly discussed to identify the operational art functions that played a part in the application of military forces and capabilities to strategic goals. It is now time to make an assessment of whether this form of doctrinal model is useful in analyzing past military involvement or in maximizing the future use of military forces.

Operational art as a concept is only useful if it is understood as a concept, widely accepted in structure and use, and functionally applicable. That is to say it must be useful to the professional officer and soldier in the application of military capability. The case study on Task Force East Africa presented here, as one of many possible examples in the last decade, clearly demonstrates that the CF practices the operational art. There are many other examples of international operations where CF personnel exercised operational art functions. For example, in the mid-1990s in the former Yugoslavia, Canadian officers filled operational-

level staff positions (structures) and operational-level command positions as part of the United Nations Protection Force Headquarters (UNPROFOR HQ), arguably a UN theatre-level operational/strategic headquarters.[46] The deployment of the Commander of Canada's Army as the Commander of the International Security Assistance Force in Afghanistan is another clear indication of the type of demands that are likely to be placed on the CF's officers and soldiers in the future. While not discussed here, CF domestic operations also make a compelling case for the use of the operational art in the CF.[47]

Further development of operational art concepts by the US will have limited usefulness for the CF because Canadian doctrine and its corresponding understanding of the operational art is broader and less constricting than the concepts and doctrine developed by the US. It is now time to formalize this understanding even further, and embed the very flexible functional operational art model into CF doctrine. This model supports the argument that the greater the number and interaction of the functions in an operation, the clearer the need for an operational level. For example, if campaigning is the only function utilized in a CF operation, an operational level is not necessarily required, and perhaps the function can be performed at the strategic level. If, however, operational-level sustainment and command and control is also required (such as it was in East Africa), then there is a clearer case for an operational level. This model is more flexible then past constructs. It can, therefore, help us to visualize the CF operational-level requirements for international operations, and help us decide which operational-level structures and strategic-level interfaces are needed.

Finally, using the questions posed by Shimon Naveh at start of this section, this model leads to the following responses. To answer the question of distinct aspects of the operational level compared to the tactical and strategic, this model proposes that the functional requirements are situation dependent and are driven by need. Clearly, this need must be assessed at the strategic level and acknowledged at the tactical level, and, in doing so, there is a recognition that "one size does not fit all." To answer the question related to the identification of the criteria by which an operational problem is to be identified, the answer is that it is determined by need. It is argued here, however, that the starting point for that consideration of need should be based on the assumption

that the operational art as a complete package of functions is available to be used and that the requirement for specific operational functions should be need driven. That is to say, start with the entire toolbox, but only take out those tools that will be useful in the execution of the strategic-level requirements. Answering the question pertaining to a differentiation between the practical aspects of the operational art and the cognitive aspects deriving from the operational level is more complicated, however. Certainly, a model that is based on functionality and product should be very practical, but that does not lessen the cognitive aspects of the model. The very requirement to make a subjective assessment on the number and extent of the functions required for any given operation denotes a cognitive element based on professional knowledge and experience. Within the functions there are, obviously, cognitive aspects - none more evident than in the construct of a campaign where the best application of tactical capability to strategic goals is a fundamental aim. Finally, the justification for the assertion of a distinctive operational cognition in a functional package is determined by the practical requirements. The operational art is a practical and cognitive process of assisting in the realization of strategic goals by the use of military capability.

This paper has taken a pragmatic approach to what the operational art means, or should mean, to the Canadian military. If we visualize the levels of war (or military operations) as a "chain of three links" the operational link is designed to ensure that tactics will lead to the strategic conclusion that is required. It is because of the redundancy and overlap between the links that the operational level is sometimes difficult to define and to act upon.[48]

The model presented here is based on a functional approach, and is grounded in the realities of current Canadian military operations. The Task Force East Africa case study was used to show that Canada does employ the operational art, and that a functional model of the operational art provides a flexible and practical way of determining which operational functions are required for any given mission. Based on the realities of past military operations and the likely characteristics of future missions, Canadian doctrine needs to be broad and less focused on war fighting scenarios because the current integration of the concepts of manoeuvre warfare and of mission command with the concept of the operational art only serves to complicate the applicability of these distinct concepts to

non-warfighting scenarios. The model proposed here increases the utility of operational art to the planning and conduct of all types of military operations. It is flexible and inclusive enough to accommodate the reality that not all situations will require a formalized operational level or even all of the operational functions. However, the model requires that these decisions be made by the appropriate (i.e., strategic) level in a proactive manner after a full mission analysis. The theory of the model should now be tested by the CF to further refine it and to ensure its applicability in all situations that the CF may face.

NOTES

1   Maurice de Saxe, *Reveries on the Art of War* (December 1732), Thomas R. Phillips, trans. and ed., (Harrisburg, PA: Military Service Publishing Company, 1944), 17.

2   Canadian Forces College, Letter 5570-1(Cmdt), dated 27 May 2003.

3   See G.E. Sharpe and Allan D. English, *Principles for Change in the Post-Cold War Command and Control of the Canadian Forces* (Kingston, ON: Canadian Forces Leadership Institute, 2002), 33-4.

4   See for example Christopher Bellamy, *Knights in White Armour* (London: Random House, 1996), 276 , which defines operational as "A military system or organization which is up and running."

5   *Canadian Forces Operations*, B-GG-005-004/AF-000 (18 December 2000), 3-1.

6   *Canada's Army*, B-GL-300-000/FP-000 (1 April1998), 103.

7   Ibid., 102.

8   B.J.C. McKercher and Michael A. Hennessy, eds., *The Operational Art: Developments in the Theories of War* (Westport, CT: Praeger Publishers, 1996), 4.

9   Clayton R. Newell, *The Framework of Operational Warfare* (London: Routledge, 1991), 175.

10   *Oxford English Dictionary* (on-line edition) at http://dictionary.oed.com/entrance.dtl; accessed 10 October 2003.

11   Note that there is a related concept – that of the operational war functions of Command, Act, Sense, Shield, and Sustain currently endorsed by the Canadian Army. For example see "The Interim Army: A Force Employment Discussion Paper" prepared by The Directorate of Army Doctrine (Draft version 1) dated September 2003. These functions, however, have a genesis in the combat functions of command, information operations, manoeuvre, firepower, protection and sustainment which commanders at the tactical level attempt to integrate to generate combat power to bring to apply against the enemy.

12   Certainly the responsibility of the strategic level to be the "architect" is not a new concept. Jomini, for example divides the responsibilities of the conduct of war between different levels (strategy, grand tactics, logistics and tactics). His list of strategic responsibilities include many of the decisions required to determine the extent of activities at the other levels. For more detail see J.D. Hittle, *Jomini and his Summary of The Art of War* (Harrisburg, PA: Stackpole Books, 1947), 66-7.

13   This is one of the *Oxford English Dictionary* definitions.

14   US Joint Publication 1-02 (JP 1-02), *Department of Defense Dictionary of Military and Associated Terms* http://www.dtic.mil/doctrine/jel/doddict/data/d/01729.html;accessed 1 October 2003.

15   *Canadian Forces Operations*, B-GG-005-004/AF-000 (18 December 2000), http://www.forces.gc.ca/dcds/jointDoc/default_e.asp; accessed 1 October 2003.

16   For example the Canadian Army has a well established Directorate of Doctrine co-located with both the Canadian Land Force Command and Staff College and the Directorate Land Strategic Concepts.

The synergy between these three key intellectual and functional elements of the Canadian Army safeguards the foundation of doctrine.

17   *Canadian Forces Operations*, 1-2.

18   Newell, *The Framework of Operational Warfare*, 38.

19   See for example, Ash Irwin, *The Levels of War, Operational Art and Campaign Planning* (Camberley: Strategic and Conflict Studies Institute, 1993), 12 – 24 and his discussion on military conditions, sequencing, resources and operational concepts. While the discussion highlights the complexity of issues at the operational level it does not posit any useful structural approach to applying operational art.

20   Australian Army, *The Fundamentals of Land Warfare* (2001).

21   See US Joint Publication 3-0 (JP 3-0), *Doctrine for Joint Operations* (10 September 2001).

22   As described in *Canadian Forces Operations*.

23   Ghulam Dastagir Wardak, *The Voroshilov Lectures: Materials from the Soviet General Staff Academy, Vol. III Issues of Operational Art* (Washington: National Defence Univ. Press, 1992), 17- 18.

24   *Canadian Forces Operations*, 3-1.

25   Newell, *The Framework of Operational Warfare*, 38. Newell notes that "military commanders with an operational perspective receive and pursue strategic military objectives." Therefore, senior commanders at the strategic and operational (and in some cases tactical) levels must understand how all elements of national power affect or have an influence on the other(s).

26   Tiha von Ghyczy, et al., eds., *Clausewitz on Strategy: Inspiration and Insight from a Master Strategist* (New York: John Wiley & Sons, 2001), 97.

27   For example, see Colonel Andrew Leslie, "Theatre Level Warfare: The Missing Link?," a paper written for the Canadian Forces College Advanced Military Studies Course 2, (November 1999) for an examination of the possible requirement for the inclusion of a "Theatre Level" between the Strategic Level and the Operational Level.

28   For example see, Ibid., 3. As Irwin notes in his *The Levels of War, Operational Art and Campaign*, it is the circumstances which matter and not the size of the force commitment, with the Falkland's conflict a case in point.

29   These organizations, it could be argued, are at the strategic level; however, in their role in support to operational level commanders they are considered operational structures.

30   For example, General Rose, at the tactical level, completed a detailed campaign plan for UNPROFOR involvement in Bosnia and the operational level UN headquarters in Zagreb was fully aware of it.

31   However Irwin, *The Levels of War, Operational Art and Campaign*, 8, does pose three questions to measure if actions are at the operational level. The answer yes to any of the three would identify the operational level: 1) Is there a political dimension? 2) Does the action achieve, or has the possibility of achieving, a decision that materially alters the situation in terms of the overall campaign? 3) Does the action achieve, or have the possibility of achieving, a decision that materially assists in achieving the strategic goals?

32   "Medium size" is not defined in any doctrine. To be more specific this Task Force deployed with three tactical elements – an augmented LAV III Infantry Company Group, a LAV Coyote equipped reconnaissance platoon and a first line combat service support element to sustain the center sector in partnership with the Netherlands Contingent. It was supported at the operational level with a national support element and a national command element. The deployed strength varied from 500 to 800 military personnel depending on the period and tasks.

33   Mission synopsis based on Task Force Commander's brief to DIOB/DEM 22 June 2001 at NDHQ, Ottawa.

34   Chief of the Defence Staff, Letter "Terms of Reference Commander Task Force East Africa Canadian Contingent to the United Nations Mission in Ethiopia/Eritrea (UNMEE)," dated 21 December 2000.

35   Ibid., paragraph 5.

36   Ibid., paragraph 14.

37   Deputy Chief of the Defence Staff, Letter "DCDS's Intent for Commander Task Force East Africa (TFEA)," dated 20 Dec 2000.

38   Personal diary Commander Task Force East Africa.

39   Based on the following documentation which amplifies the issue: Canadian Task Force East Africa, 3350-123-29 (A/Comd), dated 4 March 2001; 3350-129-29 (Comd), dated 29 March 2001; and 3350-123-29 (Comd), dated 15 April 2001.

40   A request was also made to the Dutch and Danish partners to participate but both declined for national reasons.

41   Comments by Ambassador Shram, Canadian Ambassador to Ethiopia, Eritrea, Sudan, and Djibouti as noted in personal diary of Commander Task Force East Africa, February 2001.

42   Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory* (London: Frank Cass Publishers, 1997), 2.

43   Ibid.

44   Note the commonality of issues in the Canadian Forces College symposium on operational art compared with the doctrinal discussions occurring in the United States in the preceding two years.

45   Lieutenant-General Romeo Dallaire is but one of a growing number of senior commanders who point out that "Canada's recent experiences in military operations are likely to the norm for the decades to come." See Dallaire, "The Theatre Commander in Conflict Resolution," in Bernd Horn and Stephen J. Harris, eds. *Generalship and the Art of the Admiral: Perspectives on Canadian Senior Military Leadership* (St. Catharines, ON: Vawell Publishing Limited, 2001), 249.

46   In 1995 Canada filled, at the operational level, the Deputy Force Commander (Ray Crabbe), the Force Provost Marshal, the Force Engineer, the Force G3 positions plus a myriad of other very senior tactical level positions. In fact, General Crabbe, was the acting Force Commander during a number of the crucial periods including during the Croatian offensive in Sector West and during two high profile NATO air missions to force compliance with UN Security Council resolutions by the Bosnian Serb authorities approved under the "dual key" formula.

47   See for example the Lessons Learned and the After Action Reports of the Canadian Forces Y2K preparations such as the campaign plan, formation of the operational level headquarters and the supporting plans and pre-deployments and preparative operations.

48   Irwin, *The Levels of War, Operational Art and Campaign*, 7.

CHAPTER 10

EFFECTS BASED OPERATIONS: BUZZWORD OR BLUEPRINT?

Colonel Craig King

The 21 May 2004 Canadian Forces Strategic Operating Concept states that the Canadian Forces (CF) is poised to adopt Effects Based Operations (EBO) as its modus operandi for future defence and security operations. In this document, EBO is described as "an effort to leverage the soft and hard power assets of a nation or coalition, including its political, economic, technological, and social resources, in order to achieve a set of desired outcomes. It seeks to establish influence over the mind of an adversary to affect his will to act while, at the same time, keeping collateral damage to a minimum."[1] EBO is presented as an enabling concept that will allow the CF to take full advantage of emerging technologies in the realm of information systems while harnessing non-military agencies in operations to achieve dominance over future adversaries. The Canadian emphasis on EBO is not unique and reflects similar trends in Allied thinking, particularly in the US.

Based on this description of EBO, one might reasonably question whether it represents anything new or substantively different from the way that the CF presently designs and executes operations. Certainly, the notion of influencing an adversary's mind has been enshrined in our doctrine for some time. Indeed, a Canadian Army manual states: "moral forces exert a more significant influence on the nature of conflict than do physical. This point is fundamental to understanding Canadian Army doctrine."[2] Similarly, any Canadian student of military history understands conflict, and war in particular, to be a highly complex enterprise comprising political, economic and diplomatic dynamics as necessary complements to military endeavours. As Coombs points out, the notion of inter-agency cooperation is not foreign to the Canadian operational experience and indeed, may be regarded as characteristic of the Canadian approach to the operational art.[3] Thus, we might excuse the skeptic who would regard EBO as just another "buzzword."

Of course, EBO is not so simple. By discerning its underlying complexities and nuances, EBO's true value as a framework for the operational art becomes apparent. EBO attempts to establish a link between action and effect in war, an environment that is both complex and non-linear. It defines success through the impact on "human psychological and sociological behaviour, as opposed to a mechanistic approach focused only on physical (materiel and quantitative) effects." It requires the adoption of a systems approach to warfare by "understanding the adversary – any adversary – as a complex adaptive system of political, cultural, technological, military and economic components and then identifying the key nodes and links in that system which, if addressed in the combined campaign most likely would result in achieving the required effect."[4] In short, EBO may be regarded as a "way of thinking"[5] that allows us to succeed in war's test of wills. By emphasizing the human dimension of war, EBO offers a mechanism through which we can begin to understand and exploit the moral forces that are fundamental to our doctrine. Rather than a transient "buzzword" then, we may regard EBO as "indeed something new that will require changes in the way the military thinks and operates."[6]

This chapter contends that EBO will change current operational doctrine by affecting how we conceive and apply the key elements of the operational art, particularly the centre of gravity and decisive points. The discussion will offer an overview of the EBO philosophy and highlight how it provides a mechanism to link our actions with the enemy's thinking and behaviour. The paper argues that as we apply an EBO approach, our notion of the centre of gravity will require greater clarity, and that this will transform not only how we understand the concept, but also how we view the operational level of war. Secondly, the chapter proposes that our application of decisive points will also be modified. How we select and articulate campaign objectives will be altered, with important consequences for the design and execution of campaigns. Finally, the discussion will focus on the doctrinal implications of EBO in a CF context by offering a potential example of this way of thinking in a Peace Support Operations (PSO) context.

EBO – A CONCEPTUAL OVERVIEW

Before considering the doctrinal implications for EBO, it is first necessary to gain a better appreciation of the concept. EBO is an expansive subject that relies on a number of supporting theories that are disciplines in their own right. For the purposes of this chapter, EBO will be analyzed from a macro perspective with a view to understanding how it strives to provide a mechanism to shape an adversary's thinking and behaviour.

EBO is based on the notion that conflict of any sort can be characterized in three distinct domains – Physical, Information and Cognitive.[7] As the term implies, the Physical Domain consists of those physical actions that we take to achieve a desired effect on an adversary. These may include military force, "but also those that occur in other arenas of national power and may be political and economic in nature."[8] The Information Domain comprises those systems and capabilities that enable the enemy and us to comprehend and monitor the environment, including all sensors, information collation processes and all means of displaying information.[9] Lastly, the Cognitive Domain pertains to an adversary's thinking and decision-making processes, and includes "perceiving, making sense of a situation, assessing the alternatives, and deciding on a course of action."[10] The Cognitive Domain lies at the heart of EBO. Understanding how the enemy operates in this realm, including the factors that affect his perceptions, rationale and decisions, will govern how our actions in the Physical and/or Information Domains are able to influence his behaviour.

The key to understanding the Cognitive Domain may be found in the Boyd Theory, the Observe-Orient-Decide-Act (OODA) model for decision-making. Applying this theory to war, Boyd postulates that the side that is able to operate the OODA loop at a higher tempo will win. As Polk highlights, the key phase in the OODA cycle occurs during Orientation, when the observer engages in a mental process of "destruction and creation" in which a reality is broken into its "constituent elements" and a new reality is created through mental processes "specific to general induction, synthesis and integration of common qualities found in the chaotic world."[11] According to the Boyd Theory, we can overwhelm an adversary by introducing and sustaining a series of actions at such a tempo that he is prevented from orienting sufficiently to his new circumstances, and consequently, from making

coherent decisions or acting in any coordinated way. The broader the range of our actions and the greater the rapidity with which they are imparted, the more likely the enemy will be relegated to a state of paralysis.

The focus then for EBO is on the orientation process, and on how the enemy interprets his environment and reacts to changes to it. There are two elements that influence orientation. The first is the observer and how he perceives actions. McCrabb suggests the idea of "Belief Structures" to describe the predisposition of an adversary to interpret an event based on a range of factors that are primarily social and specific to his particular community. Importantly, the adversary is assumed to be rational and "the point of emphasis is on preferences: the set of outcomes, or conditions, the actor prefers to see occurring."[12] The idea that an enemy will have a peculiar way of interpreting our actions is fundamental to EBO. Not only does it preclude us from viewing our actions through our own perspective, but it also requires us to regard our adversary in his complete context, taking into account the various social, cultural and other factors that influence his perceptions and affect his decision-making. This approach imposes a significant challenge for us to create a model that accounts adequately for the complexity of his beliefs.

The second element of orientation process poses additional challenges by requiring us to attempt to understand how events interact in a complex system. In war, "it is usually extremely difficult, if not impossible, to isolate individual causes and their effects, since the parts are all connected in a complex web."[13] As Rousseau points out, war exhibits the characteristics of a non-linear, complex system in which the correlation between input and output is difficult to establish.[14] In such an environment, there is no simple model; large-scale actions may have limited effect, while small actions may have quite disproportionate results on the enemy's will and behaviour. While considerable work is ongoing to develop predictive models, it is likely that the best that can be done is to achieve "not precise estimates but rather general tendencies."[15]   This means that we are required to think of our effects in terms of first order, direct effects and second/third order indirect effects.[16] Implied in this requirement is the need to continually monitor and assess the effects of our actions to ensure that we are achieving our aims. Moreover, agility must be maintained to exploit unforeseen opportunities that may be

presented. As we increase the range and tempo of our actions to operate within the enemy's OODA loop, the requirement to continually evaluate and modify our actions will place considerable demands on our sensors, information and command and control networks and processes.

So what may we conclude from this conceptual overview of EBO? First, EBO advocates contend that decisive operations occur not in the physical realm, but in the Cognitive Domain. Physical destruction is thus not an end in itself – a fact that Kagan believes has been lost in contemporary operations by those who "see the enemy as a target set and believe that when all or most of the targets have been hit, he will inevitably surrender."[17] Second, EBO demands a high degree of fidelity on the enemy such that we examine him in his entirety and strive to understand his decision-making process. The enemy is not just a factor, he is the focus; how he thinks and behaves, and how we can influence his decisions, is the essence of our operations. Third, the idea that we can overwhelm, or at least influence, the enemy's decision-making process through the depth and tempo of our actions promotes an approach by which we leverage all available means at our disposal to shape his thinking and behaviour. Fourth, EBO assumes a chaotic environment in which the link between action and effect is difficult to establish. Monitoring and assessing the effects of our actions during the planning and execution of the campaign will be key to successful EBO. Finally, the concepts and terminology used in EBO are fairly "generic" suggesting that it may be applied across the continuum of conflict. This "portability" has important implications for how EBO is adopted within the CF.

DOCTRINAL IMPLICATIONS OF EBO

In order for concepts to have any operational relevance, they need expression in doctrine. For the purposes of this discussion, doctrine is deemed to be the "conceptual framework" that describes how an organization conducts operations and ultimately, how it fights. However, since doctrine is a broad subject, the implications of EBO require some focus. Given that "CF doctrine espouses a command driven philosophy in all aspects of Force Employment,"[18] this discussion will focus on key aspects of campaign design practiced by commanders as part of the operational art. As the essence of the operational art is "the identification

of the enemy's centre of gravity, and the single-minded focus on the sequence of actions necessary to expose and neutralize it,"[19] the discussion will begin by considering the impact of EBO on the commander's determination of the centre of gravity.

EBO AND CENTRE OF GRAVITY

There is probably no more important element of the operational art than the centre of gravity. Still, there appears to be some disagreement, even confusion, as to how it is interpreted and applied to the operational art. Canadian doctrine offers the following definition and amplification:

> The centre of gravity is that aspect of the enemy's total capability, which if attacked and eliminated or neutralized, will lead either to his inevitable defeat or his wish to sue for peace through negotiations. It has also been described as that characteristic, capability, or location from which enemy and friendly forces derive their freedom of action, physical strength, or will to fight…At the strategic level the centre of gravity may often be abstract, such as the enemy's public opinion or perhaps his strength of national purpose. Thus the strategic centre of gravity may be discernable but not accessible to military attack. In such cases an operational level centre of gravity must be selected which could contribute to the elimination of the strategic centre of gravity… The centre of gravity may be moral or physical…if the centre of gravity is moral, such as the public will (strategic level) or military cohesion (operational level), the problem of elimination is more complex.[20]

This definition indicates that the centre of gravity may be physical (a capability, location) or a moral element (his will to fight), and introduces the possibility of more than one centre of gravity depending on the level of war that is being examined. Furthermore, there appears a dissonance between a moral centre of gravity and the military's ability to influence it. Indeed, the doctrine appears bereft of suggestions as to how to affect a moral centre of gravity except to say that it is "more complex."

The problem of clarity is not confined to Canadian doctrine. While agreeing that the centre of gravity is a source of enemy strength, Vego defines it as "a massed effect of power, military or non-military,"[21] and suggests, "in a campaign several operational [centres of gravity] will exist."[22] Strange and Iron take a different tack by stating that centres of gravity are not sources of strength, but are "instead physical and moral entities that strike effective blows in operations and campaigns designed to defeat enemy centres of gravity."[23] Like Vego, they promote the notion of multiple centres of gravity at the strategic, operational and tactical levels of war. In the case of the latter two levels, "they are almost invariably specific military forces."[24] In his essay on emerging operational art in the 21st century, Kilford suggests that as we increase our appreciation of the enemy, numerous centres of gravity emerge in all aspects of his military and societal structure. He offers no less than nine distinct centres of gravity in his analysis of an operational training scenario.[25]

These varying perspectives present a number of difficulties in our doctrine. The idea of numerous centres of gravity at all levels of war seems to diffuse its importance as the focus of the operational art. It could also be argued that the different centres of gravity at the strategic, operational and tactical levels of war entrench definitions that, in reality, may be quite arbitrary. Moreover, by identifying operational and tactical level centres of gravity as specific military forces, as Strange and Iron assert, we are almost inevitably drawn into operating in the physical realm with an accompanying emphasis on destruction. Most importantly, how do we reconcile physical and moral components of war? From this analysis, it seems that current methods of thinking are not conducive to promoting a coherent approach to the operational art and the subject of centre of gravity.

EBO offers an alternative way of determining the enemy's centre of gravity that avoids the present difficulties. EBO requires us to consider the enemy holistically, understanding the nature of his beliefs, decision-making processes and structure. Using an EBO approach, it is possible to conceive of the centre of gravity as being a single entity. Echevarria contends that the centre of gravity is "a focal point" in which "a blow would throw him off balance, or put differently, cause his entire system (or structure) to collapse." He goes on to state that the centre of gravity is only present "where there is sufficient connectivity among the various

parts of the enemy to form an overarching system (or structure) that acts with a certain unity." The centre of gravity is not a source of strength or weakness, but instead "a centripetal force that acts to hold an entire system or structure together."[26] As we may well imagine, such a "centripetal force" may very well be a moral component, such as the will to fight, that will require us to operate in the cognitive domain that lies at the heart of EBO.

The deduction that there is a single centre of gravity is significant for our present doctrine. If we eschew the notion that there are centres of gravity for each level of war, and our efforts are directed at striking at a single centre of gravity, our traditional strategic, operational and tactical framework becomes less significant, reinforcing a trend to compression that some believe has already started.[27] The emergence of "parallel warfare," or the simultaneous engagement of the enemy at all levels of war, provides an indication of what this may mean for future campaigns. Relying on network-centric information and precision technology, parallel warfare encompasses the entire theatre such that "combat [will] no longer have to proceed in the traditional step-by-step, or serial manner; neither [will] there be any single axis of effort or point of main attack. Combat [will] instead be multidimensionally [sic] and comprehensively joint."[28]

It may be further argued that by maintaining a holistic approach to the enemy, we are necessarily drawn into the theatre-strategic realm and our operations should be conceived and executed at this level. Already US Air Force doctrine is incorporating this kind of thinking through "strategic attack," or "the generation of effects to achieve national security objectives affecting the adversary's leadership, conflict sustaining resources and strategy."[29] This doctrine focuses on US capabilities to strike directly at the enemy centre of gravity in order to "directly contribute to achieving strategic – and indeed often war-winning – effects and objectives."[30] These capabilities are primarily air and space based systems, although the doctrine is not restricted to these capabilities. Interestingly, strategic attack "seeks to achieve strategic ends without first defeating enemy field forces,"[31] and it is seen to be more effective when combined with other instruments of national power. As this doctrine matures, we can imagine that there will be profound implications for the future of the operational art and how the CF contributes to future missions involving US forces.

If our notion of centre of gravity is affected by the EBO way of thinking, what about other elements of the operational art? How do we go about striking at the centre of gravity and organizing our objectives so that they will accomplish the end state? For these answers we need to examine the concept of decisive points from an EBO perspective.

EBO AND DECISIVE POINTS

Decisive points are used in the operational art as a means of striking at the enemy centre of gravity. They are predicated on the notion that the enemy always protects his centre of gravity and thus we should adopt an indirect approach by identifying, or indeed creating, and exploiting key vulnerabilities. On this basis, our current doctrine defines decisive points as "those events, the successful outcome of which are preconditions to the neutralization of the enemy's centre of gravity." It is instructive to note that decisive points reflect enemy vulnerabilities that may be either physical or moral and that by using the term "preconditions" a certain causal link between action and effect on the centre of gravity is assumed. As well, by applying military force through decisive points, we produce critical paths to the centre of gravity, known as lines of operation, that are key to campaign design.[32] For these reasons, it is helpful to think of decisive points as being our campaign objectives.

Decisive points are critically important in an EBO context. However, there will need to be some modifications to how they are determined and articulated. EBO requires that we consider our effects and articulate what we want to achieve, from an enemy perspective. This is somewhat of a shift from present practice as we normally describe our actions in terms of tasks we must accomplish. For example, rather than describing a goal as "achieve air superiority," an EBO objective might be: "deny the enemy control of the airspace." In this way, the effect on the enemy that we are trying to achieve becomes the decisive point or objective. Specific actions that achieve this effect then become tasks that are assigned within a joint force. Many tasks may be required to achieve an effects-based objective. In the example of airspace control, specific actions may include destruction of his air defence systems, electronic suppression of command and control systems, etc. The action taken will depend on their effectiveness and the assessment of potential effects. This distinction

between objectives and tasks requires a three-tiered process in which we continually assess the success of the campaign (are we achieving the mission?), effects (are we doing the right things?), and tasks (are we doing things right?).[33]

Framing objectives in terms of effect on the enemy is more than just semantics. It is fundamental to gaining clarity of purpose, establishing unity of effort and sustaining operational tempo during the conduct of the campaign. Dubik believes that expressing objectives in terms of effect on the enemy, rather than task, promotes greater understanding of intent because it establishes a fixed goal. Moreover, he argues that this approach also affords wider scope to consider options to achieve ends and better responsiveness in fluid situations.[34] In order to realize these results, we must make some basic changes in our way of thinking and how we conceive of our campaign objectives.

How we articulate the effects themselves is extremely important. First, we need to establish clearly the effects that we wish to accomplish, or indeed avoid, over the course of the campaign. Additionally, we must consider potential subsequent second, third and fourth order consequences that may result from the primary effect that we are considering. Denying the enemy the use of a particular capability through its destruction is indeed an effect, but it may not be the appropriate one in the long term. Exactly how we arrive at this sort of determination is currently the subject of considerable research. However, the difficulty in defining a precise model should not prevent us from attempting a full assessment of the effects of our actions.

Our consideration of the various areas where we need to achieve effects should be similarly expanded in response to the complexity of the enemy. Our decisive points should not only be military, but also incorporate all elements of the enemy's physical and moral structure. To account for this complexity, the US applies a useful framework known as PMESII (Political, Military, Economic, Social, Information and Infrastructure) to account for different enemy system nodes and key vulnerabilities. Through this con-struct, relevant Diplomacy, Information, Military and Economic expertise, capabilities and resources, (summarized through the mnemonic DIME), are harnessed to direct EBO throughout the campaign.[35] While the military has cooperated in the past with other government and non-

government agencies, the unique aspect of EBO is that it entails a close harmonization for planning and relies on a common orientation among all agencies to the campaign objectives that are to be achieved.

These aspects of decisive points in our operational art have some important implications for future doctrine. As noted at the outset, cause and effect is quite difficult to gauge in war. Gauging it will place a significant burden on headquarters to establish relevant and measurable indicators of effectiveness, and to ensure that the information acquired is interpreted in an appropriate and timely manner. Of course, this process is easiest in the physical realm. It is not so easy when the object is intangible and related to influencing the enemy's will. One author suggests that a way to address the requirement for continually monitored effects is to restructure the planning staff to incorporate red and blue teams with a view "to accentuate the importance of viewing objectives, courses of action and, and elements of operational art, from both a physical and non-physical sense."[36] Others suggest that more elaborate computer modelling and simulation tools will be required to "mitigate the likelihood of serious, negative [and] unintended effects."[37] Whatever the solution it is clear that EBO should have a profound effect on staff structures and command decision-making processes.

Perhaps the most important impact will be the incorporation of other non-military agencies to address the range of DIME effects in the campaign. How the required non-military expertise is directed is still unclear. One thought is that DIME effects may be determined through interagency discussion at the strategic level with the military role being simply to articulate an effects-based process to assist in this effort.[38] However, this approach may be difficult to use during the campaign execution phase, when assessment of effects and redirection of action requires a more closely coordinated effort. Limited practice to this point has shown that the challenges involved in achieving such a level of harmony between the various non-military agencies are significant.

EBO – A PRACTICAL APPLICATION

If EBO is to transform from concept to operating doctrine, we will need to draw on some practical application. The CF cannot expect to match

many emerging US concepts due to the fact that, in all likelihood, we will not possess the same capabilities. However, recognizing that EBO has broad application across the spectrum of conflict, it is perhaps within the realm of Peace Support Operations (PSO) that we can find a relevant example of how EBO as a way of thinking may be incorporated in our future doctrine.

The situation in Bosnia-Herzegovina is familiar to most in the CF. While it is beyond the scope of this discussion to provide a detailed analysis of the 1995 Dayton Accord and the NATO campaign to implement its provisions, by examining the conflict from a macro perspective and Canadian operations in particular, we can suggest how EBO may be applied to future PSO missions.[39]

EBO requires a careful examination of the enemy to understand his complexity and determine the centre of gravity. In the Bosnia mission, the centre of gravity was not readily apparent, as there was no single "enemy" in the traditional sense. Indeed, Echevarria states that in such a situation, there is no centre of gravity.[40] Consequently, it would have been an error to look for the "centripetal force" that binds the enemy as a coherent whole. Insofar as there is a "binding" element in Bosnia, it may be said to exist in the distinct ethnic identities (predominantly Serb, Croat and Muslim) that have dominated the Balkan landscape. Breaking down the power and influence of these entities and their leaders by creating a Bosnian identity became the overarching goal of the campaign.

Applying an effects-based approach, the Canadian campaign plan assessed the effects that would be required to support Bosnian identity within a peaceful, democratic Bosnia. The first effect was to encourage civilians to remain, or in some cases, return to their communities following the civil war, particularly in regions where mixed ethnicity existed prior to the civil war. Reconstructing mixed communities would exploit a potential vulnerability of the ethnic "hardliners" by denying them homogenous regions in which to influence behaviour.

Termed "population stability," this effect became the first decisive point, or objective, in the campaign. Through this effect, two additional effects were sought: the reconstruction of local communities and, most importantly, the generation of a voting base for the emerging democratic

process. This effect hinged on the creation of a secure environment in which the population would be safe from inter-ethnic tensions and violence. The military assumed the lead in this task and performed a number of tasks such as patrolling, weapons collections and seizures and information operations to create safe communities. It should be noted that this effect was not the exclusive purview of military forces. Increasingly security tasks were transferred to local civilian police and security services. As well, legal aspects of returning displaced persons were the responsibility of representatives of the United Nations High Commission for Refugees (UNHCR). Close coordination was required to achieve these tasks in a coherent and effective manner.

The second campaign effect focused on creating a respect for the rule of law. This effect was directed at the need to establish public confidence in the legal system to resolve disputes and regulate society, especially within communities where ethnic divisions were still entrenched. This objective was intended to achieve a number of additional effects: undermine the power and influence of ethnic "hard-liners" in communities, provide a framework within which professional civilian police forces could function, promote the proper functioning of legislative bodies and create favourable conditions for economic development by providing a legal framework within which credit banking could occur. This effect depended on the creation of responsible public institutions, particularly municipal and cantonal governments. Consequently, the lead for monitoring and advising governments was with the Office for Security and Cooperation in Europe (OSCE). Still, at the unit level the military provided support to these efforts through the efforts of Civil Military Cooperation (CIMIC) teams. Moreover, through expertise resident in the military, additional tasks in support of establishing responsible social institutions such as, schools and community groups and even an independent media, were also undertaken with a view to bridging ethnic divides and instilling respect for the rule of law.

The third campaign effect was directed to establishing Economic Security, a term that described the expectation for individual employment and prosperity. This effect was critical to the sustainment of the other two effects. Without the hope of economic prosperity and security, the population would be migratory, public institutions would be denied an adequate taxation base for revenues, and a more favourable climate would

be created for inter-ethnic conflict. The effect of economic security was intended to accomplish the additional effect of inter-ethnic cooperation as it was assessed that this occurred best in the realm of commerce. The task of promoting economic development was shared between a number of agencies including OSCE, local government and private business. While maintaining unit liaison with the Canadian International Development Agency (CIDA), this objective was never really accomplished due a lack of coherent goals and inter-agency integration.

The Canadian effects-based campaign plan can be summarized in Figure 1 that depicts effects (objectives), tasks and lines of operation.
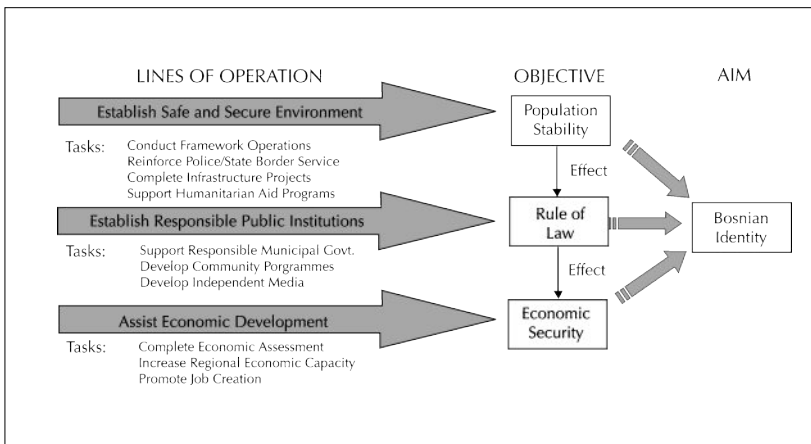
FIGURE 1 – CANADIAN CAMPAIGN PLAN OPERATION PALLADIUM ROTATION 11

From this analysis, two points stand out. The first is that EBO applied in a PSO context is not necessarily conducive to rapid, decisive results. The types of effects to shape an adversary's thinking and behaviour in PSO are complex and require considerable time to accomplish. The extended duration of the CF and NATO presence in Bosnia is indicative of this aspect of PSO. Second, despite adopting an effects-based approach, the Canadian model was not successfully implemented in its entirety because the campaign did not achieve the complete range of its objectives. A lack of adequate measures of effectiveness with which to gauge progress, poor inter-agency integration, and a lack of consistency during subsequent rotations to sustain effort meant that mission success was confined to primarily military and security endeavours. The campaign deficiencies experienced in Bosnia can be traced to the lack of a proper doctrine that

incorporates EBO as a way of thinking. Until this doctrine is created, the CF will be unable to implement EBO as a cornerstone of its future operations.

CONCLUSION – A BLUEPRINT FOR THE FUTURE

So what is indeed new about EBO? Concepts such as centre of gravity and decisive points are still relevant in EBO as they are in current practice. Perhaps the skeptics have a point and it would be prudent not to think of EBO as some radical concept that will usher in a revolution in military affairs.

Still, we should not fool ourselves that we have always been following the tenets of EBO. We need look no further than present events in Iraq to understand that just because success has been accomplished in a physical sense that the enemy is not necessarily defeated in the moral domain. We cannot assume that our destructive capability will necessarily lead to the surrender of the enemy. War is too complex a business.

The true value of EBO lies in its application as a way of thinking about warfare and the operational art. From this perspective, it is not so much a revolutionary way of thinking as it is a refinement – a means of introducing a better way of accomplishing what we have always believed must be done to defeat the enemy. One author summarized the military's relationship with EBO by noting "despite deep EBO roots, the military has never really institutionalized the thought processes necessary to ensure consistent adherence to EBO principles."[41]

It is through this "institutionalization" of EBO in our doctrine that its true value becomes apparent. Whereas the enemy was accounted for as a factor in our campaign design, EBO ensures that he remains the focus and that our actions are framed in the cognitive domain where we have always sought to be decisive.

It is inevitable that this way of thinking should have an impact on how we practice the operational art. We must apply some care to the meaning of the term centre of gravity. If the enemy is regarded holistically as a system, then there is some attraction to looking for the binding element that holds

him together as an entity and attacking it. The proposition that there is but one centre of gravity is reasonable, but it comes with significant implications for how we currently conceive the levels of war and how we prosecute campaigns. As the levels of war become more compressed and technology in the form of stealth and precision advances, we are likely to see the notion of parallel warfare and the doctrine of strategic attack as the foundation for future operations. This is noteworthy for the CF in terms of how we might contribute to future US-led campaigns.

Similarly, our notion of decisive points requires some adjustment. Framing decisive points as objectives and in terms of their effect on the enemy has important implications for how we apply force and frame our effects on the enemy. Defining second, third and fourth order consequences will demand more from our information systems and doubtlessly will require changes to staff structures and decision-making processes. The integration of non-military agencies into the planning process will pose considerable challenges and require a degree of cooperation that is presently missing.

Recent operations in Bosnia indicate that the CF has some basic experience with EBO, but that the concept has not been applied in a coherent or particularly successful manner. We need to reflect EBO in our doctrine and in this area, there is still much to do. Moreover, if EBO was going to be a viable operational concept for future CF force employment, there would appear some urgency to address this requirement. While Bosnia has faded from prominence, the CF will be engaged shortly in Provincial Reconstruction Teams (PRTs) in Afghanistan where there will be considerable scope to practice the operational art and apply the tenets of EBO. Unless we adopt EBO as a way of thinking, there is a chance that our PRT may be every bit as inconclusive as our experience in Bosnia. The blueprint for success is at hand; it only requires that we understand and apply EBO properly.

NOTES

1   *Canadian Forces Strategic Operating Concept* (Draft 4.4) (Ottawa: Department of National Defence (DND), 21 May 2004),18.

2   *Operational Level Doctrine for the Canadian Army*, B-GL-300-001/FP-000 (1 July 1998), 13. "The term moral used here is not restricted to ethics but pertains to those forces of psychological rather than

physical nature, including mental aspects." p.14.

3   Howard G. Coombs, "Perspectives on Operational Thought," unpublished paper written for the Canadian Forces College (CFC) (2004), 21. This paper is part of this volume.

4   Gene Myers, "Effects-based Operations: Everything Old is New Again, As Concept Reveals," *Armed Forces Journal* 140, no. 11 (June 2003), 48.

5   Maris McCrabb, "Effects-based Coalition Operations: Belief, Framing and Mechanism," in Austin Tate, ed. *Proceedings of the Second International Conference on Knowledge Systems for Coalition Operations*,   23-24   April   2002,   Tolouse,   France,   134-46;   available   at http://www.aiai.ed.ac.uk/project/coalition/ksco/ksco-2002/pdf-parts/S-ksco-2002-paper-02-mccrabb.pdf, 143.

6   Edward Mann, Gary Endersby and Tom Searle, "Dominant Effects: Effects-Based Joint Operations," *Aerospace Power Journal*.15, no. 3 (Fall 2001), 93.

7   E. Smith, *Effects Based Operations in Peace, War and Crisis* (Washington, DC: US Department of Defense, CCRP Publication, November 2002), 160.

8   Ibid., 163.

9   Ibid., 164.

10   Ibid., 173.

11   Robert B. Polk, "A Critique of the Boyd theory – Is It Relevant to the Army?" *Defense Analysis* 16, no. 3 (December 2000), 261.

12   McCrabb, "Effects-based Coalition Operations,"142.

13   John F. Schmitt, "Command and (Out of) Control: The Military Implications of Complexity Theory," *Marine Corps Gazette* 82, no. 9 (September 1998), 57.

14   Christian Rousseau, "Commanders, Complexity and the Limits of Battlespace Visualization," unpublished paper written for Advanced Military Studies Course 5, Canadian Forces College (October 2002).

15   McCrabb, "Effects-based Coalition Operations," 142. Smith in his *Effects Based Operations in Peace, War and Crisis*, also notes that "we might parse the infinite range of possibilities into a finite set of categories that can give us some idea of what kinds of effects we might produce in a given set of circumstances." He suggests two categories and seven potential effects: Physical (Destruction, Physical Attrition and Chaos/Entropy) and Psychological (Chaos/Entropy, Foreclosure, Shock and Psychological Attrition), 256-7.

16   Mann, et al., "Dominant Effects: Effects Based Joint Operations," 98.

17   Frederick W. Kagan, "War and Aftermath," *Policy Review* 120 (August-September 2003), 4.

18   *CF Operational Planning Process*, B-GJ-005-500/FP-000 (6 November 2002), 1-1.

19   *Canadian Forces Operations*, B-GG-005-004/AF-000 (18 December 2000), 3-2.

20   Ibid., 3-2.

21   Milan Vego, "Centre of Gravity," *Military Review* 80, no. 2 (March-April 2000), 24.

22   Ibid., 27.

23   Joe Strange and Colonel Richard Iron, "Understanding Centres of Gravity and Critical Vulnerabilities," p. 21.

24   Ibid., 7.

25   C.R. Kilford, "On 21st Century Operational Art," unpublished paper written for Advanced Military Studies Course 6, (October 2003). The centres of gravity proposed by the author include: military (moral), civilian (moral), government, cultural, religious, judicial, economic and environmental. This paper is part of this volume.

26   Antulio Echevarria II, " 'Reining In' the Centre of Gravity Concept," *Air & Space Power Journal* 17, no. 2, (Summer 2003), 91.

27   Douglas A. MacGregor, "Future Battle: The Merging Levels of War," *Parameters* 22, no.4 (Winter 1992-93), 42.

28   Paul Murdock, "Principles of War on the Network-Centric Battlefield: Mass and Economy of Force," *Parameters* 32, no. 1 (Spring 2002), 90.

29   US Air Force Doctrine Document 2-1.2, *Strategic Attack* (30 September 2003), 1.

30   Ibid., ii.

31   Ibid., 3.

32   *Canadian Forces Operations*, 3-3. Note that there is no consensus on the term "decisive point." In US Joint Doctrine, decisive points, "[are] usually geographic in nature, can assist a force in gaining a marked advantage over the enemy and may greatly influence the outcome of an action," United States Department of Defense, "Operational Art," US Joint Electronic Library, Joint Force Employment Briefing Module, J7 Operational Plans and Interoperability Directorate.

33   Stephen Runals, "Effects-Based Planning and Operations: An Overview," presentation to the Quadripartite Combined Joint Warfare Conference, US Joint Force Command (2 June 2004).

34   James M. Dubik, "Effects-Based Decisions and Actions," *Military Review* 83, no. 1 (January-February, 2003), 34-5.

35   Runals, "Effects-Based Planning and Operations."

36   Daniel E. Liddell, "Operational Art and the Influence of Will," *Marine Corps Gazette* 82, no. 2 (February 1998), 55.

37   Mann, et al., "Dominant Effects: Effects-Based Joint Operations," 96.

38   Ibid., 97.

39   The campaign plan developed by the First Battalion PPCLI during Operation Palladium Rotation 11 where the author served as Commanding Officer will be used as a vehicle for this examination.

40   Antulio J. Echevarria, *Clausewitz's Center of Gravity: Changing Our Warfighting Doctrine – Again!* (Carlisle, PA: Strategic Studies Institute, US Army War College, September 2002), 18-19.

41   Mann, et al., "Dominant Effects: Effects-based Joint Operations," 93.

CHAPTER 11

REUNITING OPERATIONAL ART WITH STRATEGY AND POLICY: A NEW MODEL OF CAMPAIGN DESIGN FOR THE 21ST CENTURY

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It had all started so well. The most battle-worthy, best-trained, most well equipped and led army in the world had made a stunning advance in enemy country. It had defeated the enemy army and captured its national capital. By all rules of classical warfare, this should have been the end of it. But the enemy continued to resist. Soon, scattered elements were hitting back hard, and the long lines of communication were threatened. Hostile neighbouring countries began to see the opportunities…

The echoes of Napoleon's campaign of 1812 in Russia still resonate today: they are at the core of our understanding of war, and the relationship between policy, strategy and operational art.[1] Statesmen and generals have sought to explain this relationship ever since Socrates urged one of his students to go learn the art of war from a famous visiting general, only to hear him report, upon his return, that he had learned "tactics and nothing else."[2] Succeeding generations of practitioners and theorists deduced or postulated a number of elements, concepts and theories about warfare that form the basis of current Western doctrine. In the words of Aron:

> Le stratège utilise les combats et les victoires en vue d'une fin que le chef d'État détermine et qui ne se confond pas avec la victoire militaire et n'exige pas toujours la destruction des forces armées de l'ennemi.[3]

Recent history has merely reminded us of the paradox of the campaign of 1812 in Russia. Indeed, the numerous critiques, opinions and analyses of the campaigns in Afghanistan and Iraq centre around one critical question, best posed by Kagan: "Why has the United States been so successful in recent wars and encountered so much difficulty in securing its political aims after the shooting stopped?"[4] The answer, for some, is

political.[5] Kagan offers a more subtle view that the problem lies not only in politics but also with the US "method of warfare." He singles out concepts such as "shock and awe" and "network centric warfare" as guilty of fostering an ability to produce "stunning military victories but … not necessarily accomplish the political goals for which the war was fought."[6] A deeper analysis of the subject by Echeverria concludes that such failures are caused by:

> … a persistent bifurcation in American strategic thinking …in which military professionals concentrate on winning battles and campaigns, while policymakers focus on the diplomatic struggles …partly [as] a matter of preference and partly as a by-product of the American tradition of subordinating military command to civilian leadership.…[7]

Yet US and NATO military doctrine are crystal clear that "Wars are successful only when political goals are achieved and these goals endure."[8] If doctrine is sound at this level, the problem, if any, then surely lays elsewhere, and suspicion must fall on the ways in which the ends are met. Is there a fault line between strategy and operational art, and, if so, is it made worse by inadequate campaign design? This essay argues that there is, and that the current Western interpretation of campaign design must thus reunite with its strategic roots of ends and means in its quest to seek ways of winning both the war and the peace in the post-9/11 era.

In support of this argument, an analysis of the key elements of campaign design will conclude that flawed concepts, artificial blinkers, and unbalanced focus on certain elements can lead to a compartmentalized and invalid approach. A review of the nature and compelling characteristics of strategic ends and means will then set the scene for a discussion of an improved manner of campaign design, one conducive to better ways of realizing strategy in the 21st century.

THE CURRENT INTERPRETATION OF CAMPAIGN DESIGN

A campaign may be defined as "a set of military operations planned and conducted to achieve a strategic objective within a given time and

geographic area…"[9] - a view that espouses the Clausewitzian concept that war serves policy, and that military campaigns are conducted in concert with "other instruments of national power – diplomatic, economic, and informational – to achieve strategic objectives."[10] The genesis and object of campaign design are therefore intrinsically strategic. Indeed, campaign design seeks to devise ways in which strategic ends are met through the employment of strategically generated means. It entails the formulation of a commander's vision and the application of the operational art in the conduct of the campaign.[11] To assist in what is essentially a creative process aimed at solving complex military problems, commanders and campaign planners use a number of "elements"[12] such as Centre of Gravity, Decisive Points, Lines of Operation, etc. Although an argument can be made that, depending on nationality, these elements are applied differently through distinct methods of integration in wider planning processes and separate approaches to decision making,[13] their definitions, logic, and structural interrelationship display a surprising commonality across the major NATO nations. Unfortunately, as alluded to earlier, these elements "…hamstring planner's and commander's abilities to design and construct effective, coherent campaigns for operations across the spectrum of conflict in today's security environment."[14]

The first weakness of these elements is that they reinforce a pervasive dichotomy between ends and ways. Indeed, while US joint doctrine says that "Campaign planners should never lose sight of the fact that strategic objectives must dominate the campaign planning process at every juncture,"[15] they are admonished, two paragraphs later, that "Above all, the [operational] concept must make it explicitly clear that the focus is on the destruction or neutralization of the adversary's [Centres of Gravity]."[16] Since the latter are defined, more often than not at the operational level, as the enemy armed forces (or a key element thereof),[17] the result is an undue focus on seeking battle rather than the attainment of policy itself. Such a focus stems from a predisposition to concentrate on the destruction of the enemy armed forces. An understanding of this predisposition and its rival approach, true operational art, is essential before any further discussion of the interpretation of campaign design.

The yearning of military forces to fight the enemy is natural and, indeed, desirable to a degree, so one might well ask why this inclination is so dangerous. The difficulty occurs when the method, fighting, takes on

some of the attributes of an end *per se*. As Leonhard observes: "…because the battle is the focus, it also becomes an imperative that sooner or later (and the sooner the better) the opposing armies must clash – strength on strength."[18] The roots of this quest for battle are deep. In Western civilization, it is ingrained in cultural tradition, values and even religious scripture. When Goliath cries "I defy the ranks of Israel this day: give me a man, that we may fight together,"[19] David answers the call by attacking the enemy strength.[20] When Hector accepts battle with Achilles, he does so out of honour and his attack of enemy strength, related in Homer's *Iliad*, becomes the very model of heroic behaviour. According to Dixon, military codes of honour "…are designed to ensure that threatening situations are met by fight rather than flight."[21] A quick look at 4000 years of history reveals that we can extrapolate this individual behaviour at a collective level, since the desire to settle conflict through battle is the norm. It was codified in the writings of Clausewitz, who declared that:

> …the very concept of war will permit us to make the following unequivocal statements:

> 1. Destruction of the enemy forces is the overriding principle of war, and, so far as positive action is concerned, the principal way to achieve our object. 2. Such destruction of forces can usually be accomplished only by fighting.[22]

Despite the timid qualifier in the second proposition, such a view gave rise to the concept of the Battle of Annihilation (*Vernichtungsschlacht*), according to which, "in order to defeat the opponent's massive army, the entire volume of military activity must be initially integrated into a single, linear battle in which it would be destroyed."[23] Here was an ideology, according to Naveh, that had an "overpowering vitality," a "magnetic attraction" and an "addictive impact" on succeeding generations of military theorists and practitioners who, unfortunately, lacked the cognitive tools to assess the validity of Clausewitz's work.[24] In Echevarria's analysis, the corollary is the subsumption of a way of war into a way of battle, a practice shared by the US and its major allies.[25] Despite major changes in the means of waging such a battle since Clausewitz's time, and the introduction of operational art in some US doctrine beginning in 1986, as late as the 1993 US Army Field Manual (FM) 100-5, *Operations*

stated that "The objectives of military forces in war is victory over the opposing military forces…" albeit one that "seeks to end conflict on terms favorable to US interests."[26] One had to wait for the publication of US Joint Publication 3-0, *Doctrine for Joint Operations* in 2001, for a more subtle view that, "The fundamental principle for employment of US joint forces is to commit decisive force to ensure achievement of the objectives established by the National Command Authorities."[27] Nevertheless, lingering elements of *Vernichtungsschlacht* remain in doctrine as alluded to earlier and as will be demonstrated below.

In contrast to this quest for battle, stands a competing viewpoint, in which the achievement of policy predominates over battle. That view finds expression in Sun Tzu's dictum that "…attaining one hundred victories in one hundred battles is not the pinnacle of excellence.[28] Subjugating the enemy's army without fighting is the true pinnacle of excellence." The will to eschew battle, when possible, in favour of more shrewd operations still capable of achieving policy is another, albeit less frequent thread that runs through history. It is exemplified by several campaigns such as those of Belisarius, du Guesclin, Wallenstein, Napoleon at Ulm etc. It reappears under Liddell-Hart's pen as a pronouncement that "…battle is but one of the means to the end of strategy."[29]

Underpinning this idea is the notion of originality, creativity, art even, in "the arrangement of related operations necessary to attain theater strategic objectives"[30] or, put another way, "when, where, and under what conditions the combatant commander intends to give or refuse battle, if required."[31] In other words, the operational art.

These two competing views are related to the debate about manoeuvrist and attritionist theories of operations. The difference is that whilst the latter debate is generally situated at the tactical and operational levels of war, the former sits squarely at the strategic-operational interface. Its most pernicious effect is that it can generate cognitive dissonance in the design of a strategy or campaign. In early 1942, for example, British and American strategists argued over whether it was best to commence immediately a build up for a direct attack of German forces over the English Channel, or else undertake a more indirect approach aimed at collapsing the *Wehrmacht* by strategic encirclement, from Norway through to the

Mediterranean, capitalizing on the expected uprising of conquered nations, and with a cross-channel assault figuring only as a relatively minor *coup de grâce*.[32] It is significant that, in the end, neither view was fully implemented, revealing a truth about the nature of strategy, to which we will return later.

More recently, as we have seen, the military defeats of Taliban and Iraqi forces also highlight the risk of a gulf between military victory and the achievement of policy. In all these cases, we find a dichotomy of thought, born of a conflicting predisposition to *Vernichtungsschlacht* or a more artful way of achieving policy. This dichotomy is present in the elements of campaign design, which we can now examine. For that, we shall focus on those elements that apply most in the planning stage of a campaign: Centre of Gravity, Decisive Points, Lines of Operation[33] and Arrangement of Operations.

The concept of Centre of Gravity in military terms was first postulated by Clausewitz, and was introduced in current Western doctrine by the authors of the 1986 edition of the US Army's FM 100-5, *Operations*. It is now interpreted using many variations of the joint US definition: "Those characteristics, capabilities, or sources of power from which a military force derives its freedom of action, physical strength, or will to fight."[34] Western doctrine is fixated on Centre of Gravity formulation and it is no exaggeration to say that this concept has spawned a cult-like following, as evidenced by the massive literature devoted to it, some of it reading more like the exegesis of holy Clausewitzian scripture.[35] The volume of discussion generated by this concept attests, in fact, to its somewhat nebulous nature. Yet it remains, no doubt, a useful way of analyzing the strengths and, by extension, weaknesses of the enemy as well as of our own forces. The danger is that when its importance is elevated above that of our own strategic objectives, it acts as a pole of attraction for many other elements of campaign design. Indeed, faulty reasoning, based on vague doctrinal definitions, can lead to the successful attack and destruction of an enemy capability, thought to be a Centre of Gravity, and still remain far from achieving the political aim. If, for example, "Baghdad" was the enemy Centre of Gravity of the US-led campaign in Iraq, then we may wish to consider, as Kagan points out, that "The true center of gravity in a war of regime change lies not in the destruction of the old system, but in the creation of the new one."[36] Or, at the very least,

we should consider whether the first Centre of Gravity changes to the second in coincidence with the transition from decisive to post-conflict operations.

We must also question the validity of a concept whose premise is that "…sufficient connectivity exists among the various parts of the enemy to form an overarching system (or structure) that acts with a certain unity…"[37] Indeed, the contemporary operating environment has seen the rise of trans-national terrorism, the resurgence of certain other types of irregular war and the loose alignment of autonomous threat organizations, all of which call for a much more subtle and refined appreciation of that concept. Finally, excessive focus on the enemy Centre of Gravity, during both planning and conduct of operations, tends to make one lose sight of the enemy aim and objectives. An appreciation of these is essential for campaign planners to gain insights about the effects required to protect our own Centre of Gravity, to negate an enemy objective, etc. But the importance of the Centre of Gravity as currently understood is especially dangerous because many other elements of campaign design are conceived only in terms of it.

Decisive Points are one such element, first postulated by Jomini, who envisioned them as points "capable of exercising a marked influence either upon the result of the campaign or upon a single enterprise."[38] The term was also resurrected from obscurity by the authors of the US Army's FM 100-5, *Operations* in 1986. Its new definitions offer campaign planners ample room to characterize it, ranging from a geographic location, an event, a system, a function, or a condition. The only thing we can be sure of is that a Decisive Point implies an intermediate step on the way to victory. US doctrine emphasizes the advantage it confers over the enemy generally,[39] instead of accomplishing effects useful to the attainment of strategic objectives. Such a separation from strategy is even more pronounced in NATO and Canadian doctrine, both of which specifically define it as a point from which a Centre of Gravity can be threatened.[40] Another potential weakness is that it may foster an incremental approach that could jeopardize key operational art concepts such as simultaneity and depth, which are essential in creating "operational shock" in the enemy system. Finally, the very term makes Decisive Points ideal candidates for confusion with Decision Points, a very different concept.[41] Yet wisely chosen Decisive Points are useful

elements of campaign design, because there will always be certain imperatives for accomplishing a set of effects before others can be attempted or achieved. We will return to this idea later.

The real danger, however, comes when the concept of Lines of Operation is introduced. Again, this is a Jominian term, whose original meaning only intended the roads that "… the army would follow to reach one of these decisive points."[42] US doctrine today defines them as lines "which connect a series of decisive points,"[43] retaining a geographic slant ("directional lines linking geographic decisive points"[44]), not found in NATO doctrine, which is more conceptual and which, interestingly, envisions them as a form of "critical path."[45] In practice, they appear to have recently adopted a functional, or capability-based character. Franks' Lines of Operation for the 2002 US intervention in Iraq for instance, included operational fires, manoeuvre, unconventional warfare, etc.[46] In both doctrine and in practice, however, Lines of Operation lead to the Centre of Gravity or "the defeat of an adversary force,"[47] rather than the achievement of strategic objectives.

The notion that campaign events can be neatly laid out on linear, sequential lines using Cartesian logic ignores the chaotic, random nature of war and the complexity of enemy systems.[48] Whilst there is merit to Critical Path Analysis, we must remember that it was developed as a business solution to the management of large defence projects in the 1950s. For example, the fact that the keel of a ship must be laid before the installation of bulkheads is a fine critical path in the relatively closed, predictable field of shipbuilding. But does, say, the establishment of air superiority, a typical Decisive Point in campaign design, really need to take place before other effects, such as securing a border or many types of information operations?

Although there is great value, as we shall see later, in wisely used Lines of Operation, the resulting typical construct of a campaign design looks like the box in Figure 1.
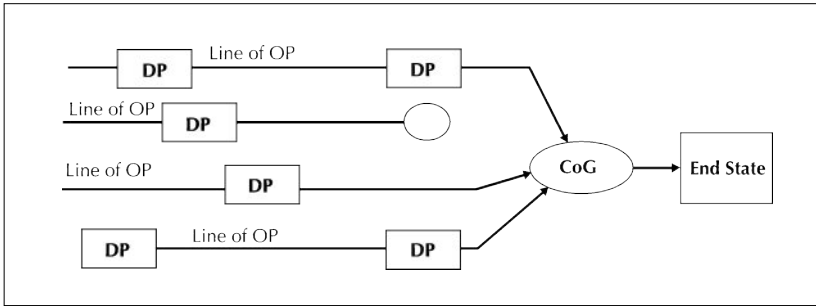
FIGURE 1 - LINK BETWEEN DECISIVE POINTS, LINES OF OPERATION, CENTRE OF GRAVITY AND END STATE - EXTRACTED AND SIMPLIFIED FROM AJP-3, ALLIED JOINT OPERATIONS, (SEPTEMBER 2002), 3B-1.

As is plain from this diagram, current elements of campaign design do not seem related to our own Centre of Gravity. Lines of Operation focus on the achievement of one effect: the destruction or neutralization of the enemy Centre of Gravity. What then? Is the end state automatically attained as suggested by this drawing? The facile retort that an unattained end state meant that a wrong Centre of Gravity had been chosen reinforces the danger inherent in that concept. A more subtle view could reside in the nature of the Centre of Gravity itself. Indeed, doctrine provides some clues, but they are buried in the details. For instance, one finds allusions to the transitory nature of Centre of Gravity.[49] Presumably, then, once a Centre of Gravity is attained, it morphs into a different one, or a new one is determined. The difficulty is that the entire campaign plan is based on the old Centre of Gravity. Are campaign plans therefore "transitory in nature" so that they can match the transitory Centre of Gravity to which they are anchored? Another explanation, that beyond the Centre of Gravity we would enter a sequel operation, is unconvincing. Indeed, the whole point of campaign design is to imagine a solution aiming at the achievement of a strategic objective. If that objective is not achieved post-Centre of Gravity neutralization, then that campaign plan has, by definition, not yet concluded. Rather, it may be that military objectives are incremental and not necessarily coincident with the achievement of policy, a point we will return to later.

Finally, the arrangement of operations, called in NATO doctrine "sequencing and phasing," is the "arrangement of activities within an operation in terms of time and space, and resources."[50] This framework,

which may involve phases, is superimposed on the construct at Figure 1. Inherent in this definition is the assumption that sufficient resources are available, ultimately, to achieve the aim. This may not always be the case, as we shall also see later.

The current interpretation of campaign design is, therefore, largely based on a juxtaposition of land-centric Clausewitzian and Jominian concepts. While useful individually, these have inherent conceptual and interpretative weaknesses that can be compounded when employed in concert. Essentially, their main flaw is that beyond the enemy Centre of Gravity, one is left in a void, hoping that things will turn out all right or, in the rather more elegant words of AJP-3, that "the necessary leverage should exist to prevent the enemy from resuming hostilities."[51] A better way must be found but, for that, we must first consider the strategic ends.

THE ENDS

Strategy, declared Liddell-Hart, consists of "the art of distributing military means to fulfill the ends of policy."[52] Since campaign design frames the ways of using means to achieve ends, a thorough understanding of these ends is therefore key to the present argument. The nature of these ends form the basis of entire fields of study, such as security studies and international studies; therefore, we can only summarize here some of their key characteristics, as they relate to the direction of military operations. Let us start at the very top.

The highest policy goal of any nation is security. In the Second World War, for example, "The ultimate purpose of the (Western Allies) was to remove a potential menace to themselves, and thus ensure their own security."[53] But what is security? At its core, according to Buzan et al., "security is about survival,"[54] giving the term "vital interest" its literal sense. The conditions for survival usually revolve around the absence of threat, the sustainment of life, etc. Security is often accompanied by policy goals based on national interests such as the increase of influence, wealth, and power. Altruism, the promotion of certain values, even proselytism, are other goals that may influence a state's policy. The desired end result is a new order, one that satisfies the notion that "the object in war is to attain a better peace."[55] Of all these broad goals, however, and

notwithstanding differing interpretations of the aims of non-state actors,[56] only narrowly defined national security can justify the expense of a nation's "blood and treasure." Indeed, in the words of Field-Marshal Haig, who was not shy about accepting casualties, "Few of us believe that the democratization of Germany is worth the loss of a single Englishman."[57] From a procedural point of view, the US *National Security Act* of 1947 "ensures that there is a methodical linking of security objectives to national policy," whilst in other countries the process is more of an ad hoc nature and, in NATO, is the purview of the Military Sub-Committee of the North Atlantic Council.[58]

Policy goals, however, usually fall within the category of the "broad generalities of peace, prosperity, cooperation and good will – unimpeachable as ideals but of little use in determining the specific objectives we are likely to pursue."[59] Much policy, then, will tend to be broad and perhaps vague. For example, in the context of Iraq in 2003, the United Kingdom's wider policy goals included: a) efforts to resolve other causes of regional instability, including the Middle East Peace Process; b) wider political engagement with Arab countries and the Islamic world; c) efforts to counter the proliferation of WMD; and d) the elimination of terrorism as a force in international affairs.[60]

Such policy goals offer little help in charting a course of action in a conflict. More precise policy goals, or objectives, are required. To pursue the above example, the United Kingdom's policy objectives pertaining to Iraq were formulated as follows:

> Our prime objective is to rid Iraq of its weapons of mass destruction (WMD) and their associated programmes and means of delivery, including prohibited ballistic missiles (BM), as set out in [United Nations Security Council Resolutions]. This would reduce Iraq's ability to threaten its neighbours and the region, and prevent Iraq using WMD against its own people. UNSCRs also require Iraq to renounce terrorism, and return captured Kuwaitis and property taken from Kuwait.[61]

As Flavin contends, then, "…military forces will rarely receive political objectives that contain the clarity they desire."[62] As a result, we must now enter the province of military strategy, and the formulation of military

strategic objectives and end-states. Objectives may be defined as "the clearly defined, decisive, and attainable goals towards which every military operation should be directed."[63] At the strategic level, US doctrine distinguishes between, "military strategic objectives"[64] and "Theater Strategic Objectives."[65] Sometimes, certain national or policy objectives will be of a clear military nature, without being labelled as such. For instance, Canada's "National Objectives" in support of the US-led campaign in Afghanistan in November 2001 did not discern between political and military objectives.[66] There may be wisdom in this, since it affords both flexibility and unity of purpose.

The broader issue, though, is the relationship between strategic objectives and policy goals. There are two dimensions to this relationship: a sequential one and a hierarchical one. The first is closely tied to the definition of war itself. According to Echevarria, "Failure to see the purpose for which a war is fought as part of war itself, amounts to treating battle as an end rather than means."[67] More to the point, as Flavin observed:

> Conflict termination and conflict resolution are not the same thing. Conflict resolution is a long process. It is primarily a civil problem that may require military support. Through advantageous conflict termination, however, the military can set the conditions for successful conflict resolution."[68]

To understand how military operations fit in between the two, it is useful to consider a US Army War College construct that envisions post-decisive operations in a war of regime change as occurring in four phases: security, stabilization, building of institutions and handover/redeployment. After handover, military forces may stay, but only in a supporting role to civil reconstruction efforts that may last for years after the eventual full withdrawal of military forces.[69] From a military perspective, then, the actions and effects required vary greatly over time, especially if we include the prior phases of a campaign, typically deterrence, seizing the initiative, etc. This will usually be exacerbated by the relief of forces by succeeding ones occurring at critical junctures in the campaign. The case of the land component of the initial US campaign in Iraq is illustrative of such post "end-state" planning being left entirely to another organization, one with which insufficient contact had a clear negative impact.[70] Since the desired new order should tend towards a

steady state balance and hence, conflict resolution rather than mere conflict termination, the achievement of military strategic objectives is therefore likely to be sequential.

The second, hierarchical, dimension is driven by a quest for clarity. Military objectives, even if they are clearly identified as such, will likely be further translated into tasks to the operational-level commander, or, still, as mission elements. This, presumably, provides direction of a sufficiently precise nature to allow commencement of campaign design. To continue the above example, "tasks to the coalition" were to: "1) overcome the resistance of Iraqi security forces; 2) deny the Iraqi regime the use of weapons of mass destruction now and in the future; and 3) remove the Iraqi regime…"[71] Another example, in a defensive context, is the direction given to MacArthur on 30 March 1942: "…hold the key military regions of Australia as bases for future operations against Japan, and in order to check the Japanese conquest of South West Pacific Area […] Check the enemy advance towards Australia and its lines of communication."[72]

If this was not enough clarity, starting in the late 1980s, and in the wake of the 1984 "Powell-Weinberger Doctrine" which called for "clearly defined political and military objectives,"[73] the end-state emerged as a new concept for helping envision the aim. Defined as "the set of required conditions that defines achievement of the commander's objectives," the end-state can be interpreted in three different ways, according to the meaning attached to the word condition. Indeed, the classical sense of the word means a prerequisite to something else (now sometimes known as a "pre-condition"). It can also express a mode of being, meaning the state in which something, or a system of things is set. Finally, emerging Effects Based Operations doctrine considers conditions to be the result of an action and its effect.[75] Unfortunately, the "end-state" is also a concept that implies that, once reached, the job is finished. In fact, the set of conditions achieved may well require long-term military commitments or operations to sustain it, or else simply act as the start-state for follow-on operations underscoring, again, the need for successive sets of military objectives or conditions.

Even this was not enough for military staffs, though, and "End State Criteria," "Criteria for Success" or "Termination Criteria" were devised to

measure success in attaining the end-state. A criterion is defined as a "test … or standard by which anything is judged or estimated."[76] Doctrinal definitions highlight the measurement of success, and the need to make more specific "end-states [which] are broad in nature."[77] For example, the military end-state for a peace support operation in Guatemala was defined as: "Force reductions in accordance with the Guatemalan Peace Accord, including the re-insertion of demobilized URNG combatants in a legal manner into civil, political, socio-economic and institutional life of Guatemala."[78]

The "Criteria for Military Success" supporting this end-state were: "1) early start to disarmament and re-integration process, and constant progress throughout; 2) impartiality during the disarmament and re-integration process; and 3) synchronization with efforts of Canadian civil agencies…."[79] The link between a condition and its measures are here unclear, and risk creating a new pole of attraction away from the original conditions we seek to achieve. To be of value, then, criteria must be directly tied to a given condition.

But the military quest for clarity does not end here. To the end-state, we have added operational, or campaign, objectives and end-states.[80] Some Regional Combatant Commanders have even introduced "campaign imperatives" to assist in orienting their campaign. Such a proliferation of objectives and end-states are invariably problematic. Indeed, while clarity might be achievable in conventional, decisive combat operations, it often remains elusive or ambiguous in peace support or counter-insurgency operations. The very terms can also be dangerous. The traditional understanding of objectives as a geographic or physical element, for instance, tends to skew their significance at the operational level. More importantly, all this pseudo clarity means that operational commanders may be lulled into a false sense of certainty and a belief that strategic ends, once received, are set in stone. The dynamic nature of strategy may soon invalidate all this clarity.

Strategy is always alive, and nowhere more so than within that tenuous, high-strung link between policy and military strategy. Translating policy into strategy is arduous and takes time. In the Second World War after Pearl Harbour, for example, the US had already deployed some 132,000 troops to the Pacific Theatre before some semblance of a coherent coalition strategy could be formulated during the "Arcadia" conference of

22 December 1941-14 January 1942. In addition to the meetings between Churchill and Roosevelt, this conference alone required some 12 meetings at the Chief of Staff level and ten more at the lead planner level. Even then, the priority of theatres was a decision that had to be deferred to later.[81] More recently, Franks provides us with evidence that well advanced operational planning can still have unclear strategic objectives, which must therefore be stated as assumptions.[82]

Strategy formulation is also intellectually perplexing. In the First World War , for example: "…the political version of Britain's most ambitious and fervidly proclaimed aim – the destruction of Prussian militarism -…dictated victories over Germany of such magnitude as to permit changing the social fabric and the political structure of Germany."[83] In contrast, the military view was that "the fundamental strategic objective was to inflict a military defeat upon Germany of sufficient magnitude as to cure her of her relish for a role as a world power."[84] Not surprisingly, debate of British war aims was never allowed in cabinet and long blocked from parliament, for fear of exposing rifts in national policy.[85]

In the Second World War, Eisenhower expressed the same difficulty when he confided, "The struggle to secure the adoption by all concerned of a common concept of strategical objectives is wearing me down."[86] One of these difficulties is how purely political reasons can drive strategy itself, as opposed to merely stipulating the higher purpose. To continue the above Second World War example, US strategic planners were opposed to a landing in North Africa in 1942, but Roosevelt "considered it very important to morale, to give this country a feeling that they are at war, to give the Germans the reverse effect, to have American troops somewhere in active fighting across the Atlantic."[87] Military officers could be tempted to see such political influences as something sinister, but, in fact, they merely reflect the nature of politics, which is "the shaping of human behaviour for the purpose of governing large groups of people."[88] Roosevelt was simply the best judge of how to maintain the public support necessary to the prosecution of a cataclysmic war like the Second World War.[89] In this case, it meant forsaking possibly sounder shorter-term strategy for longer-term prospects of victory.

Personality will also make the formulation of policy difficult. In the Second World War, for example, an exasperated British Chief of the

Imperial General Staff confided that: "Politicians still suffer from that lit-tle knowledge of military matters which gives them unwarranted confi-dence that they are born strategists! As a result they confuse issues, affect decisions, and convert simple problems and plans into confused tangles and hopeless muddles…It is all desperately depressing."[90]

At the same time, the US Chiefs of Staff found in Roosevelt a wartime president who overruled them on only two occasions, and history is replete with examples of how personality affects the formulation of strategy.

Furthermore, military strategy changes over time. Evolving policy might be one reason.[91] For instance, Liddell-Hart distinguished between "permanent policy," which provides the national policy goal and "policy in execution"[92] which we would now call national or coalition political objectives.[93] The latter are also likely to be iterative in nature. According to Woodward, for instance, in the run up to the 2002 US intervention in Iraq, policy was re-formulated or refined on at least three different occasions.[94] But even steady policy is still no guarantee of a correspondingly unalterable military strategy. For example, in the 1999 Kosovo campaign, despite five clear and enduring policy goals,[95] military strategy changed at least three times.[96] Such fluctuations are by no means confined to modern warfare. Indeed, in the Second World War, Allied military strategy was affected by no less than eight major decisions involving significant repercussions for theatre or operational-level commanders between 1942 and 1945, or about once every five months.[97] Thus, military strategic objectives are rarely enduring, and campaign design must be sufficiently agile to adjust to their fluctuations.

Compounding this difficulty are the different interests and objectives of coalition powers. For example, in the First World War, France's war aims went beyond Britain's goal of destroying Prussian militarism and re-establishing an independent Belgium. They included the restitution of the lost provinces of Alsace and Lorraine, as well as the territory lost in the early stages of the war,[98] and explain in no small measure why France accepted the highest number of casualties per capita of all the First World War participants.[99] These different objectives, and the degree to which a country fears for its survival, therefore create fundamental differences in the options open to its statesmen, and will determine the nature of that

country's commitment in terms of "blood and treasure," with a corresponding impact on the formulation of coalition strategy.

We must also understand the nature and effect of military objectives and end-states, which are not really ends as such, but rather interpretations of the ends. The more objectives and end-states are allowed to proliferate, the more they add filters, distance, and possibly obfuscation between operations and policy. Yet military systems are not closed systems. They are open, complex systems, firmly integrated within broader societal, political, cultural and economic systems. Boxing campaign design in a construct using hermetic definitions of military objectives and end-states may have value – but we must be aware of the dangers of losing sight of the aim. The logical, linear derivation of strategy from policy is thus affected by intrinsic fluctuations, making it somewhat of an iterative, parallel process. Acknowledging the inherent difficulties and incoherence, even, of strategy leads us to a new campaign design model, one in which the fluctuating conditions of the desired new order become a constantly reappraised focal point.

THE MEANS

Once campaign planners are satisfied that they have some understanding of the strategic ends they must attain, they then need to turn their attention to the means required to prosecute the campaign. This is no simple matter, because it involves many levels of authority, results in very different national commitments and, especially, exceeds the scope of purely military forces.

Planners at the military strategic level are the first to make an estimate of the military means required, an essential condition to gaining political approval for a strategic course of action. Since detailed operational-level planning has not yet begun, only a general idea of the force required can result from this process or, in the words of the official historian of the US Army in the Second World War, "a 'guess' of what the task force commander might consider necessary."[100] Even then, differing assumptions and potential concepts mean that these estimates can vary greatly.[101] A further complication is the fluctuating nature of the military forces required. Post conflict operations may, for instance, involve more

troops than decisive combat operations.[102] Beyond the requirement for the establishment of security and all the other responsibilities of an occupying power,[103] such a force is also instrumental in providing the strategic leverage alluded to before. For example, as late as 20 May 1919, some seven months after the armistice that terminated the First World War, the Allies directed the deployment of a force of 42 divisions, including 200,000 Americans troops, and moved towards renewing the blockade of Germany, "preparing for the possibility that the Germans would not sign the peace treaty."[104] Elsewhere, the powers controlling the long Versailles treaty negotiations quickly saw their leverage decrease commensurately with the demobilization of their armed forces.[105] Evolving strategic conditions therefore imply evolving operational-level means, a fact that greatly restrains campaign design.

Once a strategic course of action has some level of political agreement, there occurs, especially in a coalition environment, a complex set of negotiations, involving "statements of requirement" by operational-level commanders, troop-contributing conferences, etc. Such a dynamic is a facet of the inseparable relationship between the operational and the strategic levels. The most likely outcome of the force generation process is a multinational force of very different capabilities but, more importantly, differing mandates and political limitations. This may cause some dismay in certain officers who forget Slim's adage that "…there's only one thing worse than having allies – that's not having any."[106] National limitations to perform certain military missions and tasks can be misunderstood by senior coalition officers, as they appear to run against the military ethos of teamwork, sharing of risk, etc. In fact, they merely reflect each nation's appreciation of the threat to their own national security. Indeed, unless national survival or security is directly threatened, most democracies will, sensibly, assign mandates and rules of engagement that will restrict the employment of their contingent within a coalition. Yet nowhere in doctrine do we find mention of this. Presumably, then, forces are assumed to be available, trained, able and without limitations.

In limited war, this is an assumption that can lead to cognitive dissonance in the campaign design, as exemplified by NATO's 1999 campaign in Kosovo. As a humanitarian intervention, the character of this campaign was essentially altruistic. Certainly, none of the NATO countries' survival was threatened, which contributed to "significant disagreement … inside

both the US and NATO militaries with regard to strategy and priorities" [107] and corresponding limitations on the mandates of individual national contingents. The operational-level commander was, de facto, Supreme Allied Commander Europe (SACEUR), General Wesley Clark, who understood:

> how fragile and tentative was the consensus within the Alliance in support of any military action. If commanders became too insistent in demanding a more aggressive approach to using force, they would undermine that consensus and – without a shot having been fired – hand Slobodan Milosevic a victory.[108]

In other words, Clark understood that the preservation of NATO's cohesion rested in the acceptance that national objectives and, hence, acceptance of risk, differed with each NATO country's appreciation of the threat to their own security. The means placed at SACEUR's disposal were therefore limited, i.e., air forces only with, initially, important limitations, expressed as national Rules of Engagement (ROE), strict NATO targeting restrictions and national vetting of that targeting. Even US forces were limited by the Clinton administration's policy for this campaign.[109] Finally, the lack of a land component[110] meant that Serb land forces could freely adopt a posture on the ground that allowed them to minimize their exposure to allied air power.

In this context, an important disagreement occurred between Clark and his Air Component Commander, Lieutenant-General Short. This disagreement, especially over the definition of the enemy Centre of Gravity, can be directly traced to Short's intent to prosecute an air operation by the rules of conventional war as understood by the US Air Force, and practiced during the Gulf War of 1991.[111] Such an idealized approach to campaign design was at odds with the strategic imperatives of that campaign. The outcome went beyond healthy debate in the planning stages of an operation. It resulted in personal acrimony between the two key commanders and animosity that appeared to have been transmitted down to their own subordinate commanders. More importantly, the acrimony resulted in a campaign design that did not seem able to reconcile the two approaches. The eventual adoption of a "strategic attack line," simultaneously with a "tactical line of operation" may have been intended to satisfy both Clark's and Short's visions of the campaign, but did nothing for unity of effort. [112]

On a different level, the means can be so lacking that achievement of the end state is in question or is impossible, even with a sequenced approach to operations. Once again, the remoteness of ends to the contributing nation's vital interests usually explains the discrepancy. The case of Afghanistan is illustrative and is typified by the fact that the NATO Alliance, whose countries possess over 15,000 helicopters, only offered six of them for service in Afghanistan, even though it was NATO's only major active operation. In fact, in its first post-conflict year Afghanistan had only 0.18 international soldiers in a stability role per 1,000 inhabitants, compared with 18.6 in Bosnia, 20 in Kosovo and 100 in post-Second World War Germany.[113] Campaign design must therefore offer methods of quantifying shortfalls and determining the impact. Should more modest ends be recommended? Or is a campaign that has culminated while maintaining a modicum of stability sufficient? Again, doctrine is silent on this issue. Campaign design must thus offer methods of quantifying shortfalls of means in terms of their impact on the formulation of strategic objectives.

The greatest difficulty in evaluating the means of a campaign lies, though, in another dimension. Since military systems are not closed systems, they must interact with all instruments of national or coalition power in the achievement of the aim. In US doctrine, this is recognized as the diplomatic, informational, military and economic instruments of national power, shortened under the acronym of DIME.[114] We find the same idea in the concept of the Joint, Interagency, Multinational and Public (JIMP) approach to operations.[115] Canada's current operation in Afghanistan, has embraced a related concept, one that also comes with a catchy moniker: the "3D Approach" of defence, diplomacy and development, "involving unprecedented levels of coordination among government departments and agencies."[116] Whilst the idea of this kind of integration is not a new concept, recent operations and emerging doctrine have highlighted its critical importance.[117] But the short length of today's campaigns means that planners no longer have the leisure to prepare for conflict resolution activities as they had in past wars lasting years.[118] Indeed, in the Second World War, "…formal doctrine for military government (and) a School of Military Government was established at the University of Virginia, and thinking began there about postwar reconstruction…" as early as the spring of 1942.[119] In today's environment, an ad hoc approach to operational-level campaign design involving all instruments of national

power is insufficient. More often than not, operational planning is in a box, as in Figure 1, with civil-military input limited to the J9 CIMIC staff. In fairness, AJP-3 does consider strategic, or interagency, lines of operation, but outside of this box. The requirement for a tight supporting and supported relationship between agencies is also acknowledged in US doctrine,[120] but not translated into an integrated set of campaign design elements. We should now examine the ways of doing so.

WAYS

Recently, a number of new approaches to campaign design have been proposed to solve some of the challenges posed by the contemporary operating environment.[121] They range from a refinement of the currently used elements to broad theories that have not yet yielded practical and integrated aids to campaign planners and whose linkages to the higher purpose of war are not apparent. Therefore, a comprehensive approach, using redefined or new elements and whose novelty resides chiefly in the full integration of campaign design with policy and strategy, will be proposed here.

If we accept that there is a single inter-agency campaign, then military operations must be sequenced across its entire breadth and depth to support the attainment of policy. That desired "resultant order" must be described as specifically as possible.[122] For this, the focus must be on the conditions, which will be termed here Campaign Termination Conditions. In such a view, a condition such as "regional stability ensured by indigenous security forces" would mean that everything else involved, including, say, the defeat of the enemy and regime change, would be a matter of Decisive Points and other such elements of campaign design. Another possibility is a more segmented approach, with two or three major military operations succeeding each other to achieve that same end. Whatever the case may be, Campaign Termination Conditions must be the object of improved, dynamic and systemic reassessment. In the profusion of boards, meetings and conferences that make up the daily routine of an operational-level headquarters, time must be set aside for the commander's long term planners and political advisor, or Joint Inter-Agency Coordination Group (JIACG), to consider the evolving policy and military strategic objectives, as well as the conditions that must

be set, or effects to be achieved, by the current operation for its sequel. Pursuing this line of reasoning further, the daily "Campaign Assessment" now being proposed under the aegis of emerging Effects Based Operations doctrine, measures effects achieved as part of a campaign against the set of conditions initially envisioned as defining the strategic end-state, as opposed to an evolving or subsequent set of conditions. The latter may well call for a validation, from first principles, of the entire campaign design. Only once these conditions are visualized, it is appropriate to start thinking in terms of method. From Campaign Termination Conditions we can thus derive Campaign Objectives, which serve to focus effort, facilitate the communication of the commander's intent and establish a link to instruments of national and coalition power. In keeping with the thesis of this chapter, a distinction between military strategic and operational objectives should, in theory, be avoided, and all Campaign Termination and Sequel Conditions be set by the strategic levels. Yet, we have seen that the realities of the formulation of strategy may not allow this. The operational-level commander and campaign planners must therefore have the freedom to adopt or deduce appropriate conditions and objectives that repeat and, if necessary, supplement these conditions. The introduction of a single set of evolving Campaign Termination Conditions linking Campaign Objectives directly to policy goals is the key advantage here, one that ensures a truly integrated approach.

There can also be no question of "end-states" at artificial junctures in a campaign. Yet, it would be impractical for military planners to attempt the production of a single major operation covering such a vast endeavour in its entirety. One need only consider the plight of US Central Command planners after Iraq's invasion of Kuwait on 2 August 1990 to convince oneself of that. A succession of major operations should therefore remain as critical segments of a campaign. The transition between each of these operations should also be defined by a set of forward looking and evolving conditions whose purpose is to enable the sequel operation. Using Effects Based Operations terminology, it would be more accurate to formulate the conclusion of each of these operations as an assemblage of conditions established by the effects resulting from of a series of actions.[123] We will thus call them here Sequel Conditions and eliminate the use of end-states and their associated criteria. The final such set of conditions would coincide with Campaign Termination Conditions.

To illustrate, using the case of the recent US intervention in Iraq, the primary US or coalition policy goals could have been, simply, national security and regional stability. The Campaign Termination Conditions satisfying these goals have been expressed thus:

> We would like Iraq to become a stable, united and law abiding state, within its present borders, co-operating with the international community, no longer posing a threat to its neighbours or to international security, abiding by all its international obligations and providing effective and representative government for its own people.[124]

These conditions describe a long-term and enduring desired new order. The criteria that measure their attainment can now easily be derived, using a simple matrix. For example, the condition "Iraq no longer poses a threat to its neighbours" can be measured using a number of criteria, some more civil in nature, others more military. The latter could include: "weapons of mass destruction and the capacity to develop them eliminated," and "Iraqi regular army maintained and reformed as a defensive force under civil constitutional authority."

Regrouping some of these criteria into clusters relevant to methods and instruments available to achieving the task at hand, we obtain Campaign Objectives, which here could have been "replacement of the Baath regime with a law abiding democratic government," "elimination of Iraqi military threat to the region," etc. If predominantly military means are chosen to achieve these objectives, it is possible to envision a sequence of at least two major operations hinging on the elimination of the old order and the emplacement of the new order. The Sequel Conditions defining this junction would therefore contain elements of both elimination and creation. Thus, a classical condition such as "Iraqi military forces defeated or capitulated" would coexist with one such as "a safe and secure environment established for civil government in Iraq," with all that entails in terms of civil and military efforts.

Within an operation, certain sets of effects, or conditions, will need to be achieved before others or, put another way, they will need to be arranged and sequenced. Decisive Points remain a useful concept here, although their focus should be on effects rather than our own actions or

supporting operations. Enabling Effects would be a more appropriate term, one that allows greater consideration of second and third order effects, a key element when planning sequel operations. More importantly, Enabling Effects must be identified as being under a civil or military lead.

Effects Lines of Operation can now be determined to link civil and military sets of effects and conditions. In theory, these should reflect the logical sequence or critical path of Enabling Effects. In practice, it may be more advantageous for them to reflect a theme, function or sector of effects. This offers potential for clarifying the respective roles of military and civil agencies. The use of Civil, or Military, Effects Lines of Operation is also helpful terminology, as long as it is understood that they imply a "supporting/supported" framework, and not a compartmentalized approach. One of the finest examples of this kind of mutual support is found in the synergy achieved by the French in the war in Algeria, between some 400 civil-military development teams, local Algerian leadership and French Army forces.[125] That this relationship was not without complications and stresses remains, however, a constant of contemporary operations as attested by the challenge of developing and implementing the "Multi-Year Road Map"[126] in Bosnia. This document was, for all practical purposes, an operational-level interagency campaign plan using several Lines of Operation corresponding to different sectors of activity, such as Economy, Good Governance, Rule of Law, General Security, Entity Armed Forces Reductions, etc. Each of these Lines of Operation had multiple, sequential sets of effects, or conditions, to achieve. But such an approach presupposes coalition or international military and political control over the host nation. An adapted version is required when a military force is in support of a sovereign government, as is now the case with the International Security Assistance Force in Afghanistan.

From here, it is possible for campaign planners to formulate Tasks to subordinate components, some of which were previously understood as Decisive Points, like the securing of lines of communication, the establishment of air superiority, and so on. In turn, this would allow the development of Component Task Lines of Operations. The result would be a clear, coherent and comprehensive view of campaign effects, one that translates into a task structure suited to the force's components.

Another set of procedural elements is linked to the nature of the means of prosecuting the campaign. The national objectives and limitations of each troop-contributing nation's forces are here a factor that should drive a sober appreciation of achievable ends or acceptable culminating points, as well as appropriate sets of effects. More importantly, the activities conducted by the other instruments of national, coalition or international power need greater visibility, understanding and integration in today's military operations. Indeed, the consideration of military systems as complex systems in accordance with systems theory further reinforces the links between military and civil efforts. For some, part of the solution resides in granting, in an operational-level headquarters, greater status to the civil-military staff officer (J9) in relation to his operations and plans colleagues.[127] Existing mechanisms such as civil-military operations centres and JIACGs may also be improved, but all this would be tactical level remedies to an operational-level problem.

The solution begins, of course, at the strategic level where a systematically flawed approach will poison any operational-level attempt to integrate the instruments of national power, the current situation in Iraq being a textbook example. Superb, prescient work by the US State Department, the CIA, the US Army War College, USAID, and others on how to exploit a potential military victory to achieve US policy was, in the run up to the war, systematically ignored by the Department of Defense, whose focus was on decisive combat operations. Even in the aftermath of Saddam's fall, that department kept control of Iraq until transfer of sovereignty to an Iraqi Interim Government on 28 June 2004.[128] Yet two years before the start of that campaign, Wells had identified a "… lack of a basic framework for synchronizing all elements of national power at the strategic level," and postulated that a "strategic geometry" using Clausewitzian and Jominian terms be developed to address this problem. For him, each instrument of national power was, essentially, a line of operation with its own decisive points.[129] Operational-level planners should therefore recognize the lack of a common approach to strategic level interagency planning as a possible limitation, but not one that ought to restrain practical solutions at the operational level.

One of the characteristics of Civil Effects Lines of Operation is that they often aim at long-term policy objectives. This means that they extend through Military Sequel Conditions, which tend to succeed each other at

shorter intervals. The significance of that is in the requirement for military operations to support or at least not run counter to the productive achievement of effects that, on the surface, may seem beyond the scope of the military objective. Sometimes though, the differences are irreconcilable. For instance, it may be necessary to destroy some of the key infrastructure of an enemy country in order to ensure its military defeat, even though the ultimate policy objective might be to turn that country into a prosperous, stable, peaceful one. Such military necessity is inevitable, but an understanding of policy objectives will minimize unnecessary damage. Often, though, the differences are caused by a deliberately narrow interpretation of the military mission. Policies such as the Powell-Weinberger Doctrine foster the avoidance of "mission creep" which often results in tension between narrowly defined military "end-states" and unfulfilled policy objectives. One needs look no further than Haiti or Bosnia for an illustration of this dilemma. In other words, strategists and campaign planners must accept that peace will not necessarily follow a victorious battle, and that military operations will occur over the long term, sometimes as the main effort, sometimes not, and will always evolve within the continuum of policy.

Another key element in the above construct is that Effects Lines of Operation are not directed at a conceptual Centre of Gravity. They aim at the achievement of strategic or operational objectives, through Sequel Conditions or Campaign Termination Conditions. In the Afghan model cited above, Centre of Gravity analysis was used to understand the environment in order to help determine focus, main effort and sequencing. This hints at the true purpose of Centre of Gravity analysis, which is to understand the enemy system as well as we do our own. Many methods may serve that purpose. The old "Intelligence Appreciation of the Situation" was one such method, using inductive logic to draw major deductions, or probable inferences, from a variety of factors in a holistic way, leading to the imagination of possible enemy courses of action and ultimately, of our own options. Another method is Operational Net Assessment, which is an ambitious attempt to use "…systems analysis [to] reveal … critical nodes and vulnerabilities that may be used in effects-based operations [and] recognize… the adversary's goals, intentions, strengths, weaknesses, and behaviors."[130] Finally, we have Strange's CG-CC-CR-CV method, which dissects Centres of Gravity into Critical Capabilities, Critical Requirements and Critical Vulnerabilities.[131]

The weakness of the latter method, compared to the first two, is that it does not expressly consider the enemy policy and strategic goals and objectives, from which it is often possible to derive certain elements of campaign design. However, all three of these methods do attempt to understand the enemy in a complex, holistic and more or less nuanced manner. All have value, and the selection of one over the other will likely have more to do with the skill and availability of a sufficient staff afforded enough time. Nevertheless, these methods are preferable to the determination of a single, ill-defined and possibly irrelevant Centre of Gravity as the basis for all subsequent campaign design. Centres of Gravity should, therefore, be retained as a useful, but not essential way of understanding key elements of our own or enemy systems and should not be confused with a proper analysis of these systems using better, more appropriate methods.

In summary, then, Effects Lines of Operation link civil or military Enabling Effects. They may extend beyond sets of Sequel Conditions, spanning more than one military mandate or operation. They aim at the achievement of Operational Objectives, themselves aggregates of conditions, which, together, make up Sequel Conditions or Campaign Termination Conditions. Figure 2 illustrates this relationship.
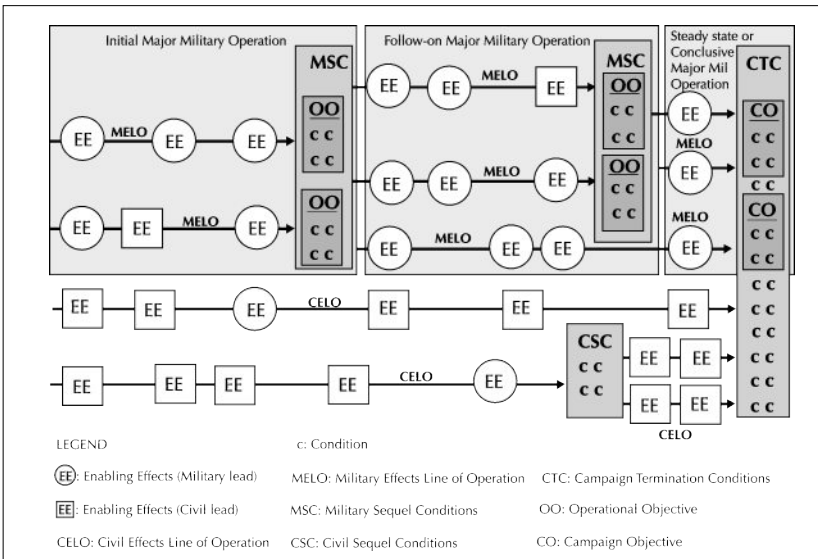
FIGURE 2 - THEORETICAL RELATIONSHIP BETWEEN PROPOSED ELEMENTS OF CAMPAIGN DESIGN

CONCLUSION

Campaign design involves finding ways to achieve strategic ends using strategically-generated means. The current interpretation of campaign design has contributed to great military victories, but has not guaranteed the achievement of policy. This result is the product of a lingering belief in the battle of annihilation as the military contribution to achieving strategic ends, and an over reliance on ill-defined concepts such as the Centre of Gravity, which then becomes a pole of attraction for all campaign design elements, even at the expense of the achievement of the policy goals.

Attempts to find solutions to this problem should begin with a thorough analysis of the nature of the ends, allowing us to conclude that the new model of campaign design must acknowledge the inherent incoherence and, especially, the dynamic nature of strategy. The corollary is that the ends of that campaign, or Campaign Termination Conditions, must be understood to coincide with the end of the war and the beginning of the peace, incorporating the full achievement of policy. Campaign Termination Conditions may then be arranged into Campaign Objectives aimed at focusing civil and military efforts. To that effect, a series of military operations need to succeed each other, using a set of Sequel Conditions as transitions between them. Within each operation, Enabling Effects will continue that thread, allowing the sequencing of desired effects and their incorporation into Effects Lines of Operation, directed at the achievement of Campaign Objectives, rather than the destruction or neutralization of a Centre of Gravity or enemy force, and integrating all instruments of national or coalition power. This new model of campaign design acknowledges the wider purpose of major military operations, reunites operational art with strategy, and harmonizes military operations with other instruments of national power.

NOTES

1   There are many synonymous terms for the various levels of war. For simplicity, this chapter uses "policy" to convey what is implied in other terms such as geostrategy, grand strategy, war aims etc; "strategy" when referring to determination of military ends and means; and "operational art" when discussing the employment of military forces to achieve strategic objectives.

2   Xenophon, *The Memorabilia, Book* III-1, H.G. Dakyns trans.; available from http://www.textkit.com/files/memorabilia.pdf; accessed 24 September 2004, 83.

3   "The strategist uses battles and victories towards an end that is determined by the head of state. That end does not equate to military victory and it does not always demand the destruction of the enemy's armed forces." Author's translation. Raymond Aron, *Sur Clausewitz* (Bruxelles: Editions Complexes, 1987), 33.

4   Frederick W. Kagan, "War and Aftermath," *Policy Review* 120 (July-August 2003), 3-27; available from http://www.policyreview.org/aug03/kagan_print.html; accessed on 24 September 2004. References here from internet version.

5   See, for example, James Fallows, "Blind Into Baghdad," *The Atlantic Monthly* (January/February 2004), 53-74.

6   Kagan, "War and Aftermath," 2.

7   Antulio J. Echevarria II, *Toward an American Way of War* (Carlisle, PA: US Army War College Strategic Studies Institute, March 2004), 7.

8   US Joint Publication 3-0 (JP 3-0), *Doctrine for Joint Operations*, (10 Sep 2001), III-25. See also for example US Joint Publication 1 (JP 1), *Joint Warfare of the Armed Forces of the United States.* (14 November 2000), II-5; and NATO, Allied Joint Publication 3 (AJP 3) *Allied Joint Operations*, (September 2002), 6-1.

9   AJP 3-0 *Allied Joint Operations*, G-3.

10   US Joint Publication 5-00.1 (JP 5-00.1), *Joint Doctrine for Campaign Planning* (25 January 2002), vii.

11   *Canadian Forces Operations*, B-GG-005-004/AF-000 (18 December 2000), 3-1; and JP 3-0, *Doctrine for Joint Operations*, p. I-1.

12   US Joint doctrine terms some of these "Facets of Operational Art" in JP 3-0, while US Army doctrine calls them "Elements of Operational Design" in FM-3, *Operations* (June 2001). Canadian Forces doctrine uses the term "Operational concepts in campaign design" in *CF Operational Planning Process*, B-GJ-005-500/FP-000 (6 November 2002). Meanwhile, NATO doctrine uses "Planning tools/Key operational concepts" in (AJP-3). Finally, UK doctrine calls them Campaign Planning Concepts in JDP 01 (Study Draft, 25 October 2003). For simplicity, this paper will use the term "elements of campaign design".

13   See for example Howard G. Coombs, "Perspectives on Operational Thought" unpublished paper written for the Canadian Forces College, 4 June 2004), 8. Also in this volume.

14   James K. Greer, "Operational Art for the Objective Force," *Military Review* 82, no. 5 (Sep/Oct 2002), 22-3.

15   JP 5-00.1, *Joint Doctrine for Campaign Planning*, p. II-11.

16   Ibid., p. II-12.

17   See for example Joe Strange, *Centers Of Gravity and Critical Vulnerabilities: Building on the Clausewitzian Foundation So That We Can All Speak the Same Language*, (Quantico, Virginia: Defense Automated Printing Service Center, 1996).

18   Robert Leonhard, *The Art of Maneuver: Maneuver-warfare theory and AirLand Battle,* (Novato: Presidio, 1991), 14.

19   *The Bible*, 1 Samuel: 16, (London: Collins), 254.

20   By using what could be termed an asymmetrical tactic.

21   Norman Dixon, *On the psychology of Military Incompetence* (London: Pimlico, 1994), 197.

22   Carl von Clausewitz, *On War*, Michael Howard and Peter Paret, eds. and trans. (Princeton Univ. Press: 1984), 258, italics in the original.

23   Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory* (London: Frank Cass,1997), 16.

24   Ibid., 71.

25   Echevarria, *Toward an American Way of War*, 1-7.

26   US Army Field Manual 100-5 (FM 100-5) *Operations* (June 1993), 1-4.

27   JP 3-0, Doctrine for Joint Operations, ix.

28   Sun Tzu, *The Art of War*, Ralph Sawyer and Mei-chun Lee Sawyer, trans. (New York: Barnes and Noble, 1994), 177.

29   Basil Liddell Hart, *The Strategy of Indirect Approach* (London: Faber and Faber, 1941), 192.

30   JP 5-00.1, Joint Doctrine for Campaign Planning, p. I-1.

31   Ibid., pp. II-11, II-12.

32   Maurice Matloff, *Strategic Planning for Coalition Warfare, 1943-1944* (Washington, DC: The War Department, 1959), 10-11.

33   While US Doctrine places Lines of Operation as a subset of the facet of "Operational Reach and Approach," (partly as a result of the more geographic connotation of its US definition) NATO doctrine considers it a "key operational concept."

34   JP 5-00.1, *Joint Doctrine for Campaign Planning*, p. GL-3.

35   See for example, Antulio J. Echevarria II, *Clausewitz's Center of Gravity: Changing our Warfighting Doctrine-Again!* (Carlisle, PA: US Army War College, Strategic Studies Institute, September 2002).

36   Kagan, "War and Aftermath," 7.

37   Echeverria, *Clausewitz's Centre of Gravity*, 16.

38   Baron de Jomini, *The Art of War* (London: Greenhill Books, 1992), 86.

38   JP 5-00.1, *Joint Doctrine for Campaign Planning*, GL-5.

40   AJP 3, *Allied Joint Operations*, 3-7.

41   "The point in space and time where the commander or staff anticipates making a decision concerning a specific friendly course of action." US Joint Publication 1-02 (JP 1-02), *Department of Defense Dictionary of Military and Associated Terms*, available from http://www.dtic.mil/doctrine/jel/ doddict/data/ d/01517.html; accessed on 18 October 2004.

42   Jomini, *The Art of War*, 91.

43   JP 5-00.1, *Joint Doctrine for Campaign Planning*, B-1; and AJP 3, *Allied Joint Operations*, 3-8.

44   JP 5-00.1, *Joint Doctrine for Campaign Planning*, B-1.

45   AJP 3, *Allied Joint Operations*, 3-8.

46   Tommy Franks, *American Soldier* (New York: Harper Collins, 2004), 336-340.

47   JP 3-0, *Doctrine for Joint Operations*, 3-8; and JP 5-00.1, *Joint Doctrine for Campaign Planning*, p. B-1.

48   For a discussion of systems theory and its application in operational art, see Naveh, *In Pursuit of Military Excellence*, Chapter 1.

49   JP 5-00.1, *Joint Doctrine for Campaign Planning*, 11-7; and JP 3-0, *Doctrine for Joint Operations*, p. III-22.

50   AJP 3, *Allied Joint Operations*, 3-8.

51   AJP 3, *Allied Joint Operations*, 6-1.

52   Liddell Hart, *The Strategy of the Indirect Approach*, 187. Italics added.

53   Basil Liddell Hart, *History of the Second World War* (London: Pan, 1973), 1.

54   Barry Buzan, Ole Weaver and Jaap de Wilde, *Security, A New Framework Analysis* (Boulder: Lynne Rienner, 1998), 21.

55   Liddell Hart, *The Strategy of the Indirect Approach*, 202. See also Clayton Newell, *The Framework of Operational Warfare* (London: Routledge, 1991), 57-8.

56   See, for example, Martin Van Creveld, *The Transformation of War* (New York: The Free Press, 1991), 196-205.

57   Quoted in John Gooch, "Soldiers, Strategy and War Aims in Britain 1914-1918" in Barry Hunt and Adrian Preston, eds. *War Aims and Strategic Policy in the Great War 1914-1918* (London: Rowman and Littlefield, 1977), 30.

58   Coombs, "Perspectives on Operational Thought," 10-12.

59   General Maxwell Taylor, *Precarious Security* (New York:W.W. Norton, 1976), 17-18.

60   Hansard, *Statement by the Secretary of State for Foreign and Commonwealth Affairs* (Mr. Jack Straw) (London: United   Kingdom   Parliament,   7   January   2003);   available   from

http://www.publications.parliament.uk/pa/cm200203/cmhansrd/vo030107/wmstext/30107m01.ht m#30107m01.html_spmin3; accessed 28 September 2004.

61   Hansard, *Statement by the Secretary of State* (Mr. Jack Straw).

62   William Flavin, "Planning for Conflict termination and Post-Conflict Success," *Parameters* 33, no. 3 (Autumn 2003), 97.

63   JP 1-02, *Department of Defense Dictionary of Military and Associated Terms*, accessed on 1 2 December 2004.

64   JP 5-00.1, *Joint Doctrine for Campaign Planning*, GL-8. Also known as "Supporting military objectives" to political objectives (JP 1, *Joint Warfare of the Armed Forces of the United States*, pp. II-5, II-6) or as "military objectives" (JP 5-00.1, p. II-2).

65   JP 3-0, *Doctrine for Joint Operations*, p. III-9. Also known as "objectives applicable to the combatant command or theater" (JP 3-0, p. II-3).

66   Objective Number 2, for example, "Take the appropriate military action to compel the Taliban to cease harbouring, and co-operating with Al-Qaeda" was clearly military whilst Objective Number 3 "Isolate the Taliban regime from all international support" was more diplomatic in nature. Department of National Defence (DND), *Operation Apollo – Lessons Learned Staff Action Directive* (Ottawa: DND, April 2003), p. B-2/41.

67   Echevarria, *Toward an American Way of War*, 18.

68   Flavin, "Planning for Conflict termination and Post-Conflict Success," 96.

69   Conrad C. Crane and W. Andrew Terrill, *Reconstructing Iraq: Insights, Challenges, and missions for Military Forces in a post-conflict Scenario* (Carlisle, PA: US Army War College Strategic Studies Institute, February 2003), 43-4.

70   Confidential interview, February 2004.

71   United Kingdom, *Operations in Iraq, First Reflections* (London: Director General Corporate Communications, July 2003), 39.

72   Maurice Matloff, *Strategic Planning for Coalition Warfare*, 171-2.

73   Weinberger   Doctrine,   available   from   http://college.hmco.com/history/readerscomp/ mil/html/mh_057800_weinbergerdo.htm; accessed on 28 September 2004.

74   JP 5-00.1, *Joint Doctrine for Campaign Planning*, GL-5. Italics added.

75   Department of Defense (DoD), "Operational Implications of Effects Based Operations," *Joint Doctrine Series*, Pamphlet 7, (Suffolk: Joint Warfighting Centre, 17 November 2004), 12.

76   *Oxford English Dictionary*; available from http://dictionary.oed.com/; accessed 16 December 2004.

77   *CF Operational Planning Process*, 4-5.

78   DND, *Strategic Planning Guidance – Guatemala* (Ottawa: DND Canada, Dec 1996), 1.

79   Ibid.

80   JP 5-00.1, *Joint Doctrine for Campaign Planning*, C-5; and JP 3-0, *Doctrine for Joint Operations*, p. I-9. NATO doctrine, which generally retains only strategic objectives as the basis of campaign planning, also mentions operational objectives in its glossary of terms, although practice often considers them to be the same as strategic objectives. (AJP 3, *Allied Joint Operations*, p.G-10).

81   Maurice Matloff, *Strategic Planning for Coalition Warfare*, 97-8, 119.

82   Franks, *American Soldier*, 330-1.

83   Gooch, "Soldiers, Strategy and War Aims in Britain," 24.

84   Ibid., 25.

85   Ibid., 26.

86   Matloff, *Strategic Planning for Coalition Warfare*, 156.

87   George C. Marshall, "Notes on Meeting at White House," 23 December 1941, quoted in Matloff, *Strategic Planning for Coalition Warfare*, 105.

88   Buzan et al., *Security, A New Framework Analysis*, 142.

89   Interestingly, Roosevelt was also very detailed in the way he later implemented this decision, out-

lining, for example, how many divisions were to go where, how fast, the rerouting of airplanes, etc. Matloff, *Strategic Planning for Coalition Warfare*, 273.

90   Alan Brooke, *Diary*, quoted in David Rigby, "The Combined Chiefs of Staff and Anglo-American Strategic Coordination in World War II" unpublished PhD thesis, Brandeis University, 1996, 119.

91   JP 1, *Joint Warfare of the Armed Forces of the United States*, p. II-6.

92   Liddell Hart, *The Strategy of Indirect Approach*, 187.

93   JP 1, *Joint Warfare of the Armed Forces of the United States*, p. II-5.

94   Bob Woodward, *Plan of Attack* (London: Pocket Books, 2004) 1-2, 154-155 and 328.

95   These goals were formulated by the US and communicated to NATO Ambassadors on 22 March 1999. Benjamin S. Lambeth, *NATO's Air War for Kosovo: A Strategic and Operational Assessment* (Santa Monica, CA: RAND Corporation, 2001), 10.

96   William M. Arkin, "Operation Allied Force: The Most precise Application of Air Power in History," in Andrew J. Bacevich and Eliot A. Cohen, eds. *War over Kosovo* (New York: Columbia Univ. Press, 2001), 4, 10, 12, 16.

97   Kent Roberts Greenfield, *American Strategy in World War II: A reconsideration* (Baltimore: Johns Hopkins Press, 1963), 4-10.

98   Gooch, "Soldiers, Strategy and War Aims in Britain," 21, 44.

99   Barbara W. Tuchman, *The Guns of August*, (Toronto: Bantam, 1980), 488. See also Margaret MacMillan, *Paris 1919* (New York: Random House, 2003), 26-8.

100   Matloff, *Strategic Planning for Coalition Warfare*, 114.

101   See, for example, the narrative of strategic planning for the landing in North Africa in 1942 in Matloff, *Strategic Planning for Coalition Warfare*, 105-107. The development of the plan for the US intervention in Iraq in 2002 is another example.

102   See, for example, James D. Scudieri, *Iraq 2003-4 and Mesopotamia 1914-18: A Comparative Analysis in Ends and Means* (Carlisle, PA: US Army War College Centre for Strategic Leadership, Student Issue Paper S04-07, August 2004), 16; and Fallows, "Blind Into Baghdad," 64-5, 72.

103   As stipulated in the 1907 Hague Convention, 1949 Geneva Convention and its 1977 First Additional Protocol 1949, in AJP 3, *Allied Joint Operations*, 6-7.

104   Crane, *Reconstructing Iraq*, 13; and MacMillan, *Paris 1919*, 471-2.

105   MacMillan, *Paris 1919*, 159, 267-8.

106   William Slim, *Higher Command in War*, transcript of 1952 address to the US Army Command and General Staff College (New York: Brown Univ. Press, 1999), 9-16.

107   Arkin, "Operation Allied Force," 4.

108   Ibid., 5.

109   "Nimble Lion" which was the US-only contingency plan contained strict limitations on targeting. President Clinton and Secretary of Defense Cohen were also clear that no gound troops would be committed. Ibid., 3-4, 8-9.

110   Other than the initially ineffectual Kosovo Liberation Army.

111   Arkin, "Operation Allied Force," 4-5.

112   Arkin, "Operation Allied Force," 6.

113   James Dobbins et al., *America's Role in Nation-Building: From Germany to Iraq*, (Santa Monica, CA: RAND Corporation, 2003), 136, 150-1.

114   JP 1, *Joint Warfare of the Armed Forces of the United States*, pp. I-5 to I-8.

115   See for example DND, *Canadian Forces Strategic Operating Concept Draft 4.4* (Ottawa: Department of National Defence, DCDS, 21 May 2004), 17.

116   Department of Foreign Affairs and International Trade, "Beyond Peace: Canada in Afghanistan," in *Canada World View*, Issue 20 (Ottawa: DFAIT Canada, Autumn 2003), 4. See also Paul Martin, Address by Prime Minister Paul Martin at CFB Gagetown, New Brunswick (Ottawa: Office of the Prime Minister, 14 April 2004) available from http://pm.gc.ca/eng/news.asp?id=172; accessed on 10 August 2004.

117   DoD, "Operational Implications of Effects Based Operations," 2, 4, 7, 11.

118   Echevarria, *Toward an American Way of War,* 13-14.

119   Crane, *Reconstructing Iraq,* 13.

120   JP 5-00.1*, Joint Doctrine for Campaign Planning*, p. II-5.

121   Greer, for example, summarizes five, apparently exclusive, alternatives: Current doctrine, Systems Approach, Effects-Based Operations, Destroy-Dislocate-Disintegrate and Center of Gravity to Critical Vulnerability. Greer, "Operational Art for the Objective Force," 27-8.

122   Newell, *The Framework of Operational Warfare*, 57-8.

123   Stephen Runals, *Effects-Based Planning and Operations: An overview* (Quadripartite Combined Joint Warfare Conference, 2 June 2004), 22-5. See also DoD, "Operational Implications of Effects Based Operations," 16-17.

124   Hansard, *Statement by the Secretary of State* (Mr. Jack Straw).

125   Alistair Horne, *A Savage War of Peace, Algeria 1954-1962* (New York: Penguin, 1987) 109, 165, 220.

126   Kerensa Hardy, "Multi-Year Road Map tracks SFOR progress" in SFOR *Informer Online*; available from http://www.nato.int/sfor/indexinf/112/s112p03a/t0105033a.htm; Internet; accessed 12 October 2004.

127   C. R. Kilford, "On 21ˢᵗ Century Operational Art" unpublished paper written for Advanced Military Studies Course 6, Canadian Forces College (October 2003),11-12. Also in this volume.

128   Paul Bremer reported to the DoD that the State Department never assumed control of post-conflict activities. US Ambassador Negroponte, arriving after the 28 June transfer of authority never met Bremer. For a thorough treatment of this subject in the lead up to the war, see Fallows, "Blind Into Baghdad."

129   Gordon M. Wells, *The Center of Gravity Fad: Consequence of the Absence of an Overarching American theory of War* (Arlington, VA: Association of the American Army Institute of Land Warfare, No 01-1, March 2001), 2, 6, 8.

130   US Joint Forces Command, "Operational Net Assessment," http://www.jfcom.mil/about/fact_ona.htm; accessed 22 September 2004.

131   Strange, *Centers Of Gravity*, chapter 4.

CONCLUSION

There are many ways of interpreting and applying the operational art and related concepts like operational-level and joint. Today's operational art has a clear lineage, beginning with European theoretical constructs of the 19th century, and most recently with US Army operational-level doctrine developed after the Vietnam War to bridge the gap between strategy and tactics. This has given current concepts of the operational art a land-centric focus, which has been challenged by navies and air forces in recent years, based on the assumption that the nature of war in different environments calls for different interpretations of the operational art. However, despite differences in approaches to the operational art, a common theme in almost all approaches is the focus on the military actions necessary to achieve strategic goals. As we have seen from the essays in this book, however, Canadians have created variants on the operational art where operational-level objectives are achieved through the coordination of operational-level systems in a multi-agency environment.

From the essays in this volume, it is clear that the Canadian variants on the operational art, like the original concepts from which they are derived, differ according to both the circumstances and the commander who is applying a particular variation. As of yet, there is no accepted unified Canadian concept of the operational art, although perhaps some of the tools to construct such a concept can be found here. The first step, we believe, is to foster a better understanding of the complexity of the issues surrounding the operational art among Canadian military professionals. Too often this complexity is obscured by slogans like "everything is joint now."

The concept of "joint" is still not well understood by many in the CF. It is often confused with "unified" because the CF is by law a unified service. Or, it is confused with integral capabilities, i.e., an Air Force helicopter operating from a Navy frigate is often given as an example of Canadian "jointness," when in fact it is not. As one of our authors put it in another context, "A sailor navigating a rubber boat through a wheat field while reporting to a Land Force brigade commander during the Winnipeg floods is scarcely a joint achievement." More recently, with the increased

prominence of special operations forces, joint is conceived by some in the same way that future warfare is depicted in a number of science fiction stories. Combat is carried out by some sort of "joint warrior" – a person who can fly spacecraft and aircraft, pilot vehicles that operate on and below the water, and at the same time have all the skills of a special operations soldier. However, in the foreseeable future no one person will be able to do all of these tasks. The specialization required to be expert in these and other specific tasks means that the way we have organized for warfare in the past, with armies, navies, and air forces providing the expertise necessary to conduct operations in very different physical environments, will persist far into the future. While armies, navies, and air forces must now be prepared to operate in a joint, and very likely combined setting, at the tactical level, the skills that they bring to any mission are critical to success. The genius of jointness (or jointery if you prefer) can be found in that aspect of the operational art that orchestrates the capabilities provided by the environments, or services, to achieve the necessary effect.

This raises another issue that is often confused by Canadian military personnel – the nature of the operational-level. In a hierarchical military culture, there are those who do not want be on the bottom rung of the hierarchical ladder – the tactical level. They aspire, instead, to higher levels, and recently the operational level has been portrayed as the place in the hierarchy where the qualities of the warrior are blended with the skills of the staff officer, an ideal combination in the minds of certain CF officers. Therefore, operational-level headquarters have proliferated in an armed force that arguably does not have, by US standards, enough personnel to form even one operational-level unit. But is size all that counts? The essays here have not answered that question definitively, but have proposed different ways of looking at what the concept of operational-level might mean in a Canadian context.

The essays in this book are designed to make a contribution to the professional education of members of the CF. The first part of the book provides the context that the reader needs to understand why and how Canadian operational art has evolved from its European and American roots. This context is essential to understanding past, present and future changes to the CF. The second part of the book showcases diverse and sometimes conflicting concepts of the operational art developed by

Canadian senior officers. These concepts are presented here to add to the debate on "the Canadian way of war" which has become more prominent in light of current Canadian foreign policy and defence reviews. And for students of warfare theory and history, these essays could be one source for studies in how Canadian military thought is evolving at the beginning of the 21st century.

The CF began the 21st century not only with a great deal of "legacy" equipment, but also with a great deal of "legacy" doctrine based on its propensity to borrow large parts of its doctrine verbatim from other nations, particularly the US. While this practice makes for better interoperability, it is not always effective for the types of missions the CF undertakes. As we have seen, unique Canadian national and military cultures plus a unique historical experience have caused the CF to evolve in its own way. Furthermore, the CF has been employed by the Canadian government in ways that are quite different from the ways in which the American government has employed its military. Therefore, we should not be surprised to discover that there is a need for a unique Canadian interpretation of the operational art. While it must be based on the orthodox canon of US doctrine to ensure interoperability, Canadian doctrine must be flexible enough to be used by the CF on all types of missions. If this book has provided some grist for the mills of those who will be studying and writing about these issues in the future, whether for doctrinal or academic purposes, then it will have met its aim.

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The essays in this book, based on the work of staff and students at the Canadian Forces College, Toronto, are designed to make a contribution to the professional education of members of the Canadian Forces (CF) and other military professionals, and to stimulate debate in the academic community. The first part of the book provides the context to understand why and how Canadian operational art has evolved from its European and American roots. The second part of the book showcases diverse and sometimes conflicting concepts of the operational art developed by Canadian senior officers. These concepts are presented here to add to the discussion on the nature of "the Canadian way of war" which has become more prominent in light of recent defence and foreign policy reviews and current CF transformation initiatives.

The CF began the 21ˢᵗ century not only with a great deal of "legacy" equipment, but also with a great deal of "legacy" doctrine based on its tendency to borrow large parts of its doctrine verbatim from other nations, particularly the US. While this practice makes for better interoperability, it is not always effective for the types of missions the CF undertakes. Unique Canadian national and military cultures plus a unique historical experience have caused the CF to evolve in its own way. Furthermore, the CF has been employed by the Canadian government in ways that are quite different from the ways in which the American government has employed its military. Therefore, there is a need for a unique Canadian interpretation of the operational art. While it must be based on US doctrine to ensure interoperability, Canadian doctrine must be flexible enough to be used by the CF on all types of missions. This book is intended to promote discussion on what that Canadian operational art should look like.

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