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**CANADIAN FORCES COLLEGE / COLLÈGE DES FORCES CANADIENNES
AMSC 5 / CSEM 5**

Levels of War: A New Canadian Model to Begin the 21st Century

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ABSTRACT

Although a host of modern factors are tending to compress, blur, or transcend the distinctions between the commonly accepted levels of war (strategic, operational, and tactical), the author argues 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. In a Canadian context, the paper briefly reviews the history and evolution of the levels of war, compares and contrasts concepts and definitions included in current doctrine, introduces and critically examines existing models, sequentially develops a new model framework, and completes with demonstrations of the model using some representative Canadian examples. The author concludes that the model developed has theoretical and practical relevancy for the future, and that it can serve as useful aid in understanding “first principles” associated with the levels of war framework.

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.

Levels of War: A New Canadian Model to Begin the 21st-Century

INTRODUCTION

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 Revolution³ 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 plans, coordinates, supplies, and sustains battles to wage an effective campaign. 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 World War II and into the Cold War, NATO countries did not give these conceptual theories serious thought until the United States Army began purposeful consideration of the levels of war and operational art⁵ 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-World War II 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 war at all.”⁹ Dunn summarizes 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:

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 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 “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 paper 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* [italics 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 paper 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 paper, 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.

DISCUSSION

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 four major factors as being: 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 proposed a significant new direction for doctrine²³, and sparked unprecedented interest and debate within the US military, military 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 overall level of war framework, 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 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 as stating "[t]he ideas of Clausewitz run like a subterranean river through all of modern military thought..."³², but Young then qualifies 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 War³⁵, 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 forward 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 Army³⁸, and are now included in the overarching Canadian Joint Pub Canadian Forces Operations.³⁹ Since the late 1990s, advances on academic, intellectual, and doctrinal fronts have been made. 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 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 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 the US.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' 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).⁴² For the purposes of this paper, reference to levels of war will be continued. The labeling challenge will be addressed later in the Model Development section.

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.⁴³

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.

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 “[e]ach level is defined by the outcome intended...”⁴⁹ and goes on to state that “...a military force tasked to achieve a strategic objective, is being employed at the operational level.”⁵⁰ These two statements, by implication, would make it impossible for a tactical action to have strategic effects. There are many historical examples that clearly show this is not impossible.⁵¹ 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 in the introduction, 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 model constructs 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.

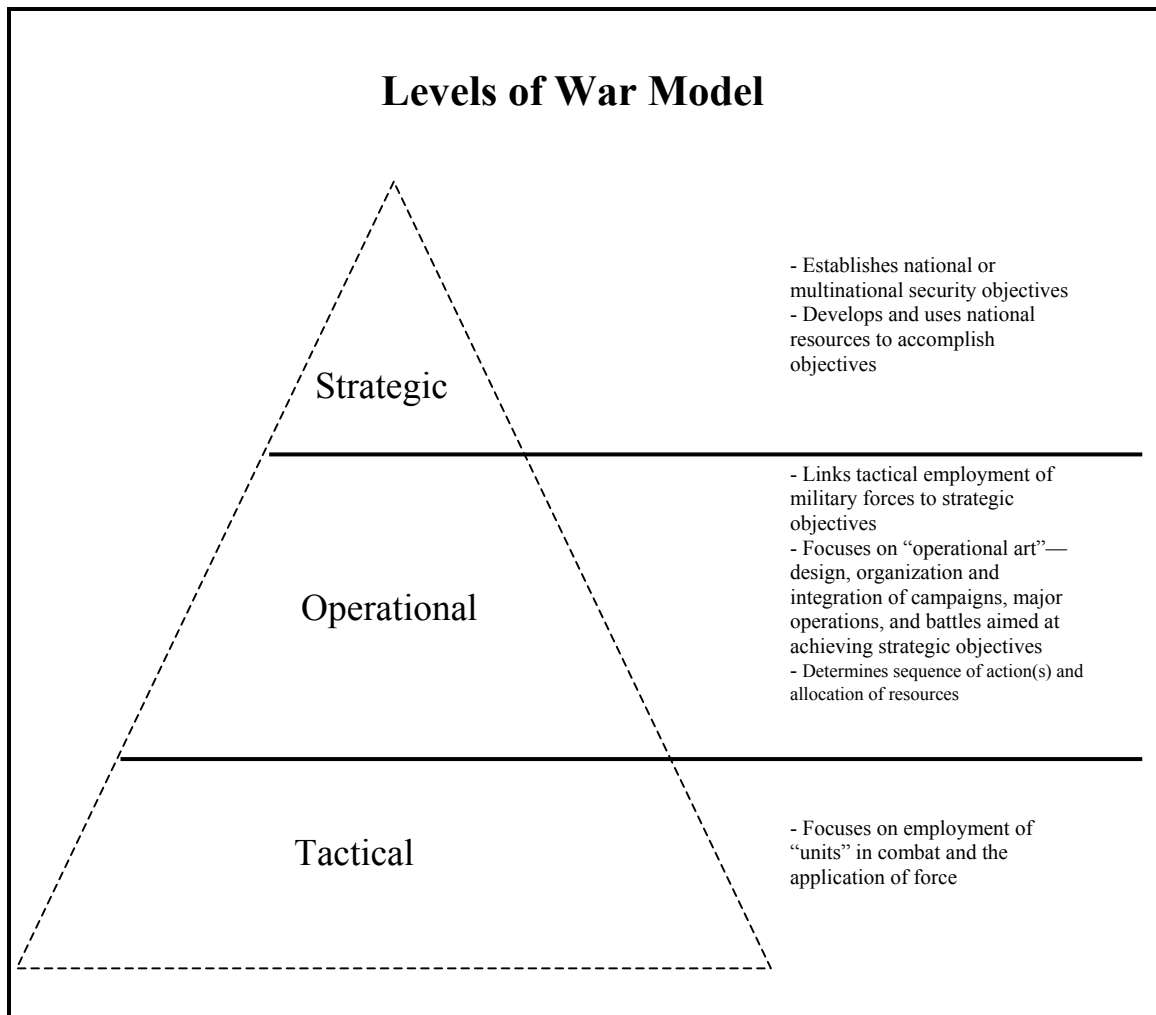


Figure 1 – Barnes Model⁵²

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. There must be a good two-way dial dialogue between the strategic and operational levels. In his words, 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.”⁵³

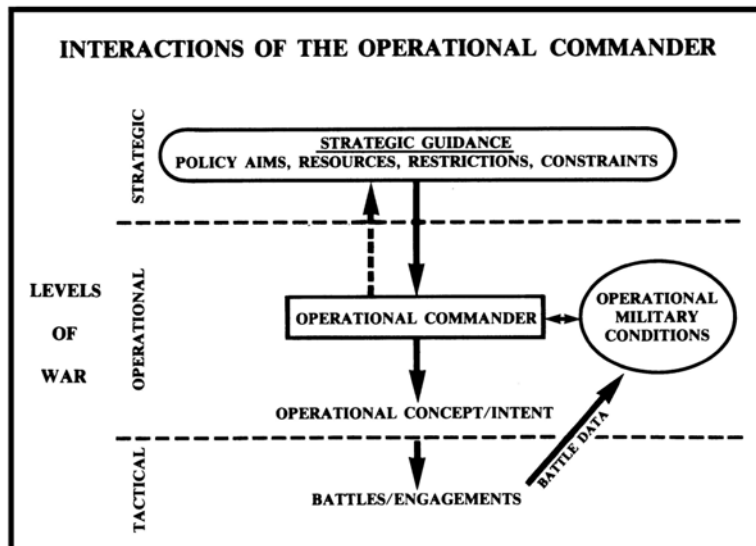


Figure 2 – Jablonsky Model⁵⁴

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.⁵⁵

The Jablonsky model highlights the requirement of essential guidance from the strategic level, and the essential nature of two-way communication between the strategic and operational levels. Its limitations include applicability to military operations other than war, and the relationship 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 the corps operated independently there was little interaction between the levels. Additionally, due to the limited geographical scope of the campaign, the depth was limited.

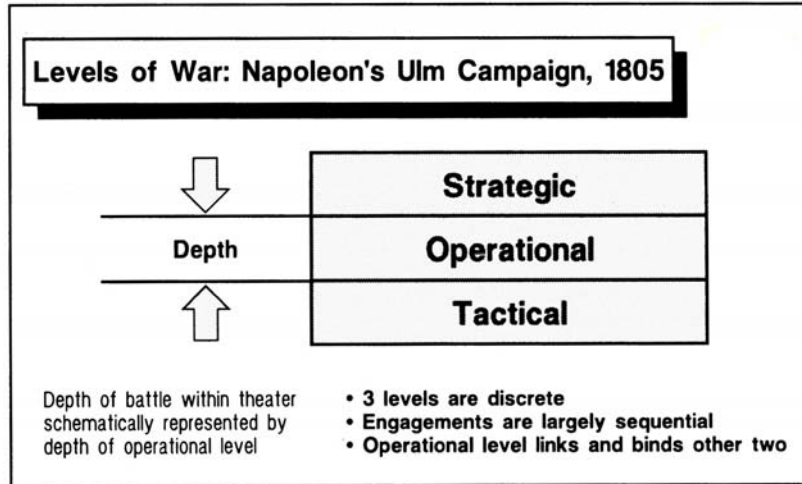


Figure 3 – Macgregor Model 1⁵⁶

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...”⁵⁷ as the enabler of the Blitzkrieg. Accordingly, Figure 4 portrays an increased depth of operations and effective overlap of the levels.

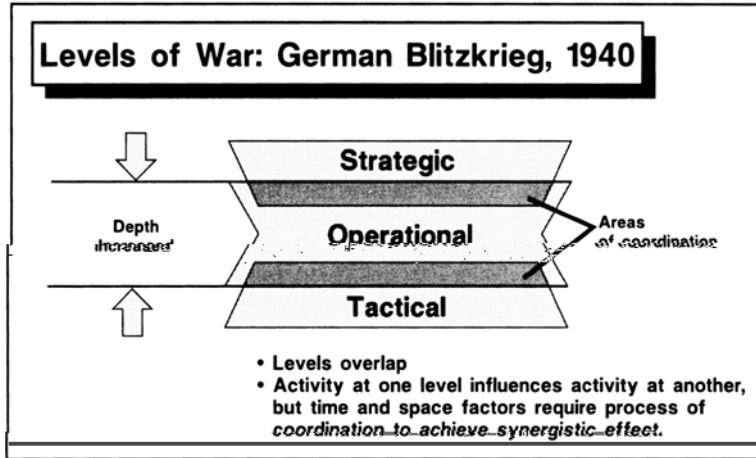


Figure 4 – Macgregor Model 2⁵⁸

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.⁵⁹

At Figure 5, the greatly increased and integrated depth of the action, as well as the near full overlap of all levels, is clearly represented.

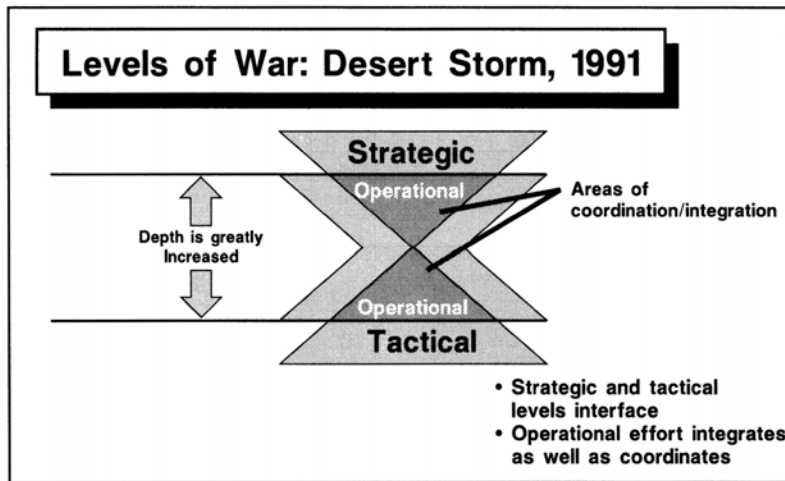


Figure 5 – Macgregor Model 3⁶⁰

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."⁶¹ 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 paper. This general issue regarding the future applicability and relevance of the levels of war is, however, within the scope of the paper and will be discussed in the next section.

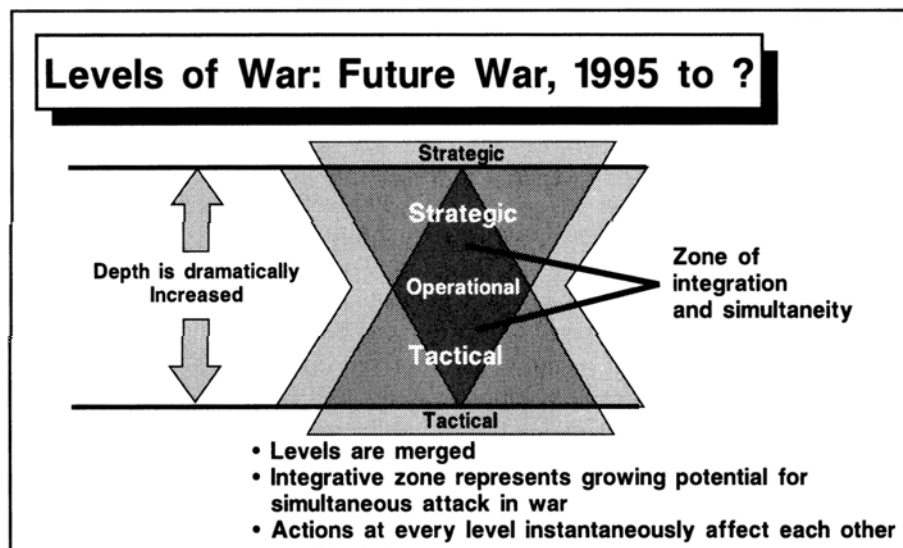


Figure 6 – Macgregor Model 4⁶²

The models used by Macgregor focus predominantly on the battlespace. The 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 to modern and envisaged future war. The

principal shortcoming of these models is their narrow focus. For the present and future, a more versatile model should address applicability to 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.⁶³ Schamburg argues that all of the levels of war are interconnected.⁶⁴ He cites a number of 19th century examples where there was a direct link between the strategic and the tactical level.⁶⁵ He also cites the Doolittle Raid as a 20th century example of a tactical action producing strategic results.⁶⁶ 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 lack of reference to national power, and an unrelated context (war and military operations other than war).

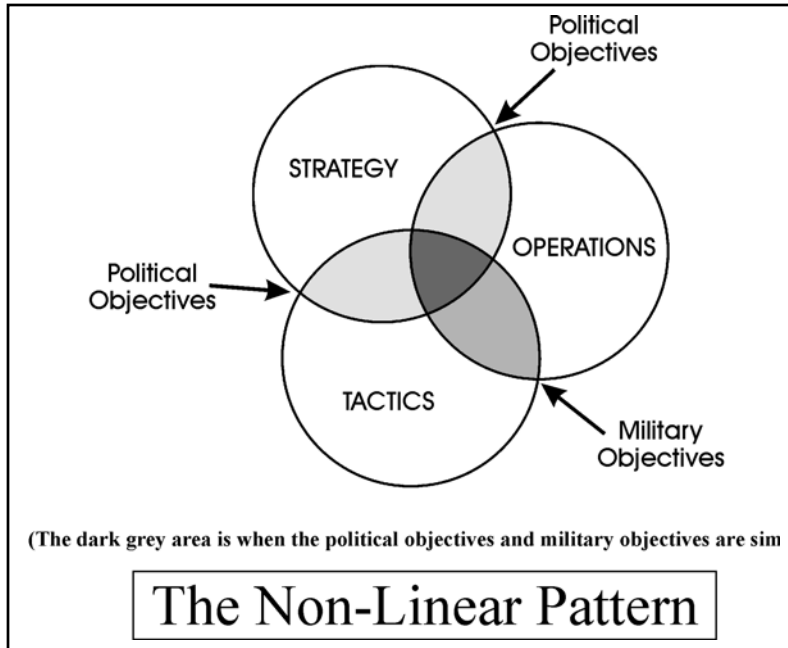


Figure 7 – Schamburg Model⁶⁷

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, all had 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, Doug 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 organizational and command structures post-unification, and generally weak communication at the political-military interface.⁶⁸ 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."⁶⁹ 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,⁷⁰ and that the body of Canadian intellectual work on the levels of war and 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 U.S. Army was shocked out of its Second World War rut by Vietnam and, while searching for its collective soul, rediscovered the operational art.⁷¹

Although nowhere near the severity of the Vietnam experience, it is suggested 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,

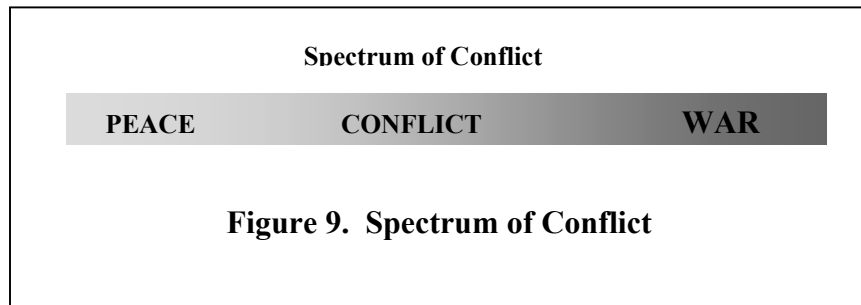
both domestic and international (24 operations 1948-1989 compared to 79 operations 1990-2002)⁷², a near full spectrum of Canadian military capability was tested. Through this decade of tests, despite a good number of success stories, a number of shortcomings related to the operational and strategic levels of war were highlighted. Two of the recurring themes reported in the Somalia Commission Report,⁷³ Clarke's paper on the CF Operational Planning Process,⁷⁴ and an ongoing DCDS Lessons Learned Analysis,⁷⁵ are that strategic direction is weak and that there is confusion regarding strategic and operational level responsibilities. As a main theme for a model therefore, communication and responsibility between levels is selected as an appropriate start.

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 OOTW. While there has been much discussion regarding the blurring of the distinction between the levels, few authors have presented or intimated alternate structures.

Of the alternate structures that have been proposed, their theses 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.⁷⁶ 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.⁷⁷ In regard to the Leslie thesis, the complexity is true in large and/or multinational operations such as the Gulf War. But is it applicable to smaller scale multinational operations or national operations? Is this thesis relevant to the Canadian context? It is submitted 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.

The foundation of the new model is shown at Figure 9. This element, which will form the horizontal axis of the model, is added to reflect military involvement in OOTW. The applicability of the levels of war framework in OOTW is a relatively new concept



that has received little debate in the literature. The earliest occurrence of OOTW in this context was its inclusion in the 1993 version of the US Army’s capstone FM 100-5 doctrine publication.⁷⁸ Although McCormick noted that “[s]ome critics believed that the introduction of OOTW into a “warfighting” manual was a mistake...”,⁷⁹ he opined that “[p]lacing OOTW into FM 100-5 was merely an example of operational doctrine taking its direction from strategy, notwithstanding the activity involved.”⁸⁰ The relevance of OOTW 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 US Joint Pub 3-0.⁸¹ Curiously, the OOTW issue was discussed in the 1990 Canadian document that first introduced the operational art and operational level of war concepts in Canada.⁸² Capstick, in his seminal Canadian doctrine paper, outlined the relevance of OOTW 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.⁸³

In a more recent and actual example of the applicability of the levels of war framework to OOTW, LCol George Fenton of the USMC described the operational level employment and effects achieved by the 24th MEU(SOC) in support of the CJTF in Somalia during the spring of 1993.⁸⁴ 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 consistent with Canadian doctrine.⁸⁵

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.

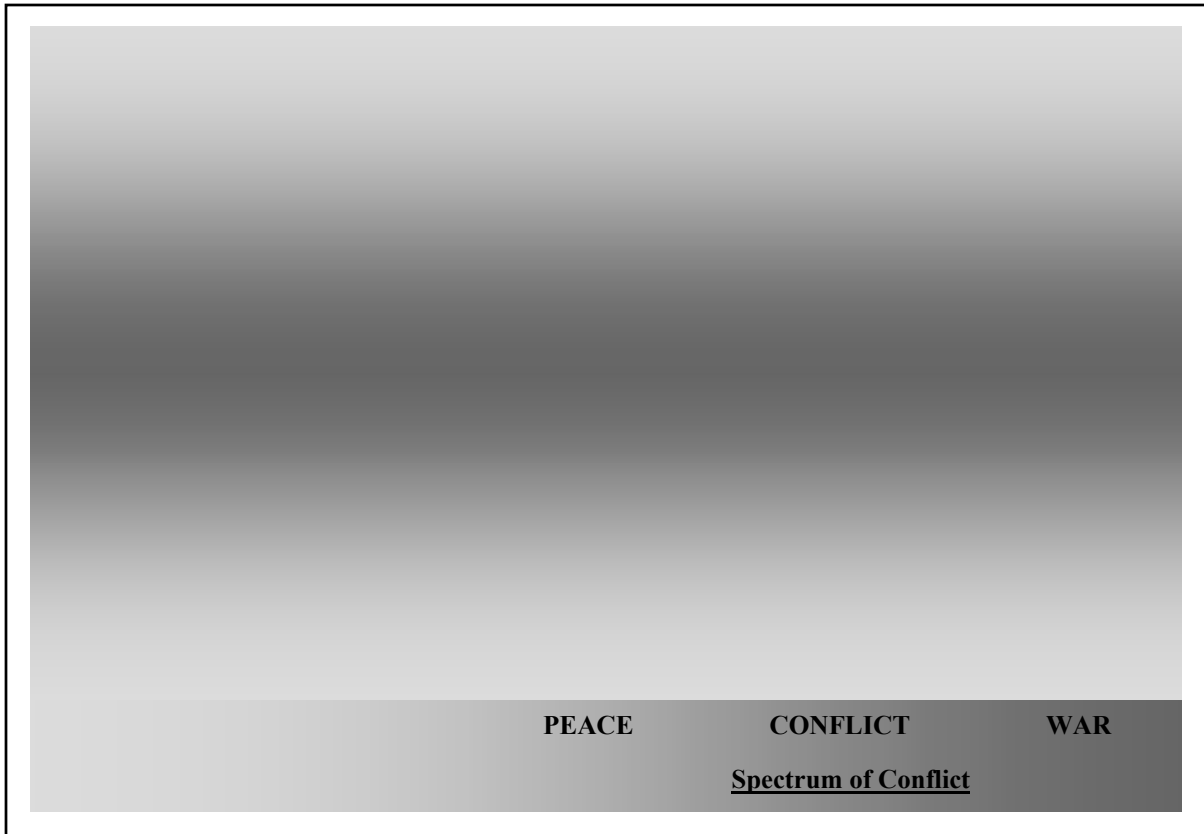


Figure 10. Basic Framework

The framework at 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 suggested to be communication and responsibility within and between the levels. Although the framework is suitable to support other conceptual themes, an exhaustive examination of these is beyond the scope

and intent 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 less desirable as it indicates increased potential for duplication or inefficient activity, micromanagement, and/or short-circuited communication. 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.

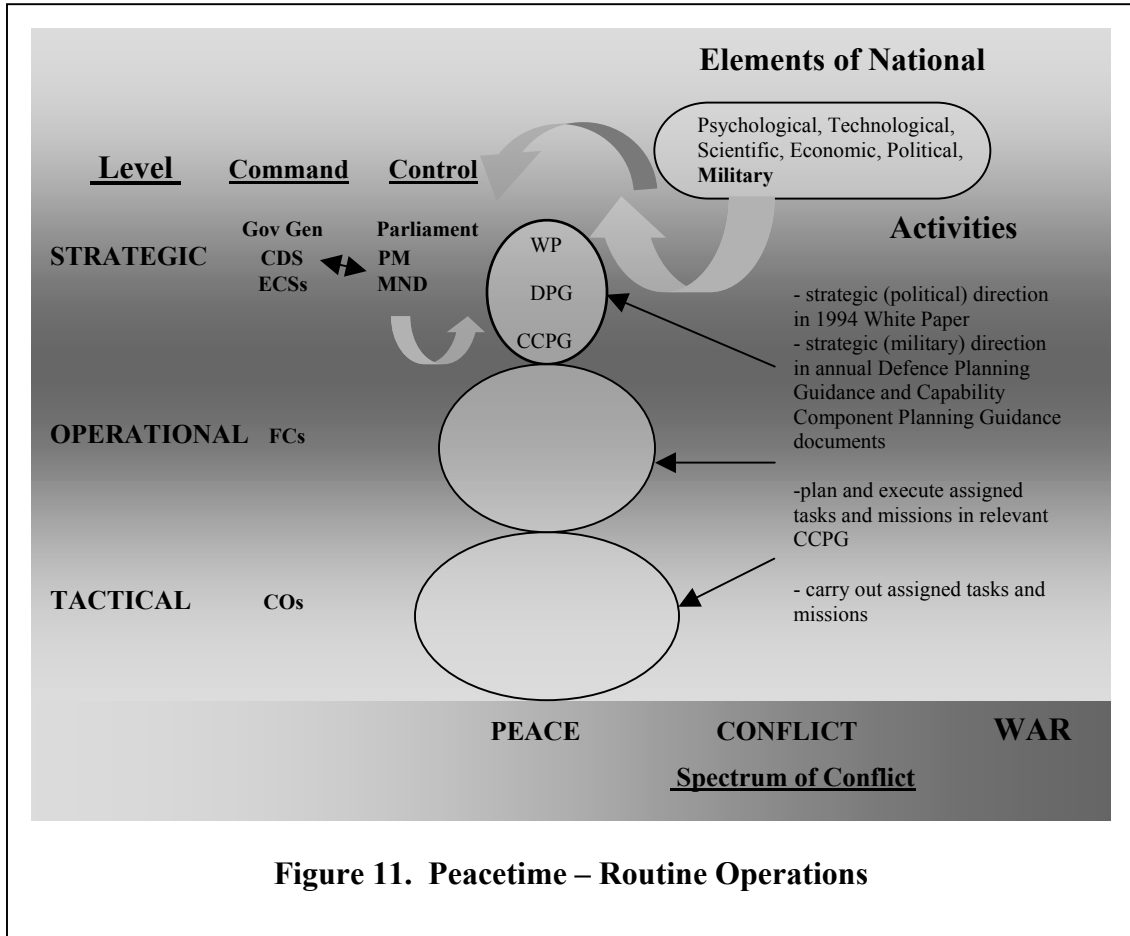


Figure 11. Peacetime – Routine Operations

In peacetime routine operations, standing political strategic direction to the CF is contained in the 1994 White Paper (WP). Military strategic direction is provided by the CDS 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 the relationship.

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 DCDS).⁸⁶ 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. Doug 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....⁸⁷

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.⁸⁸

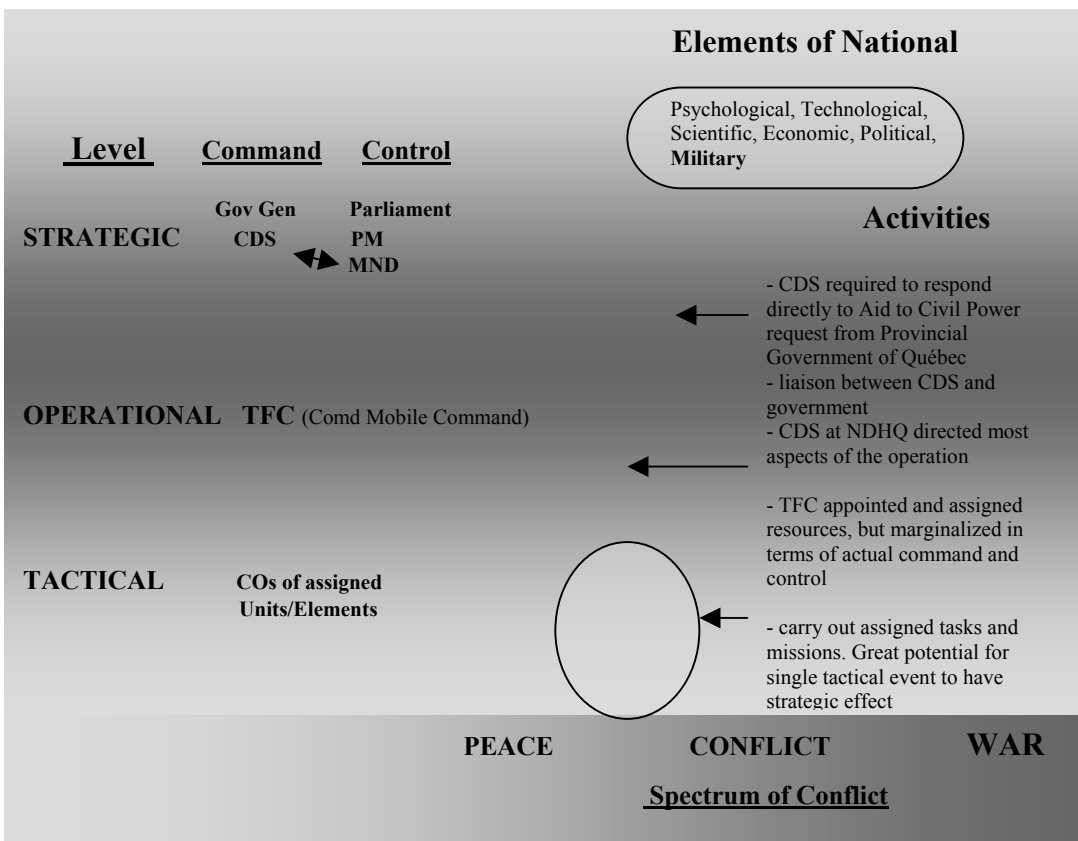
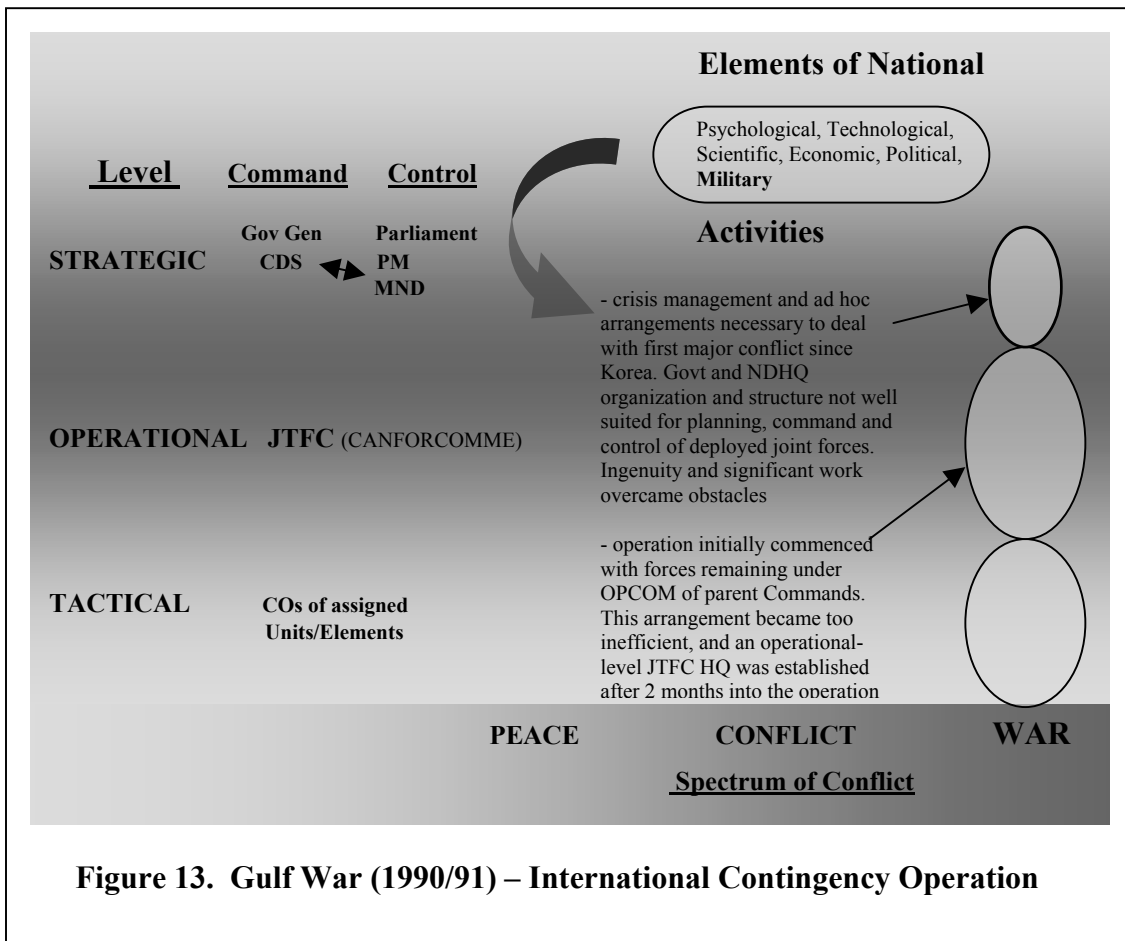


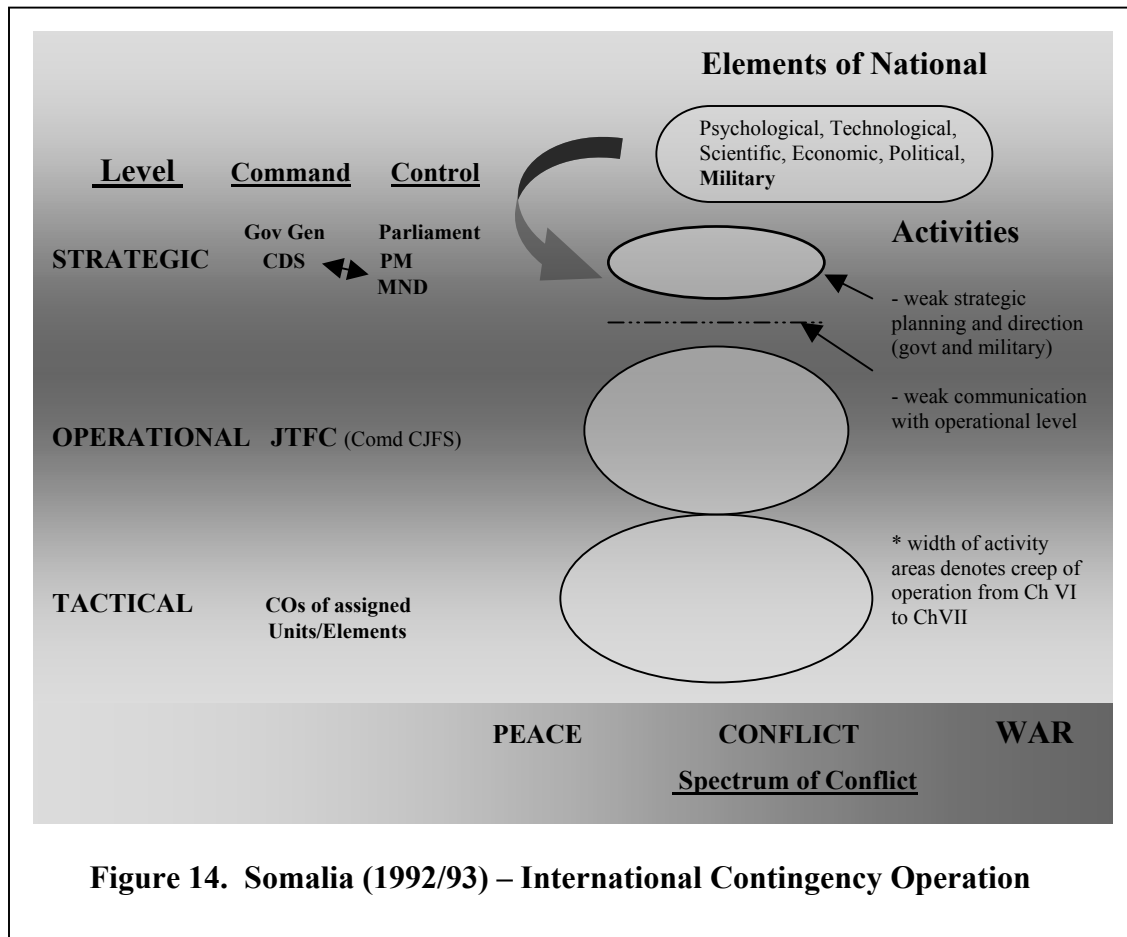
Figure 12. Oka Crisis (1990) – Domestic Contingency Operation

An overall representation of the Gulf War is difficult because much of the first two months was a dynamic organizational period of activity at the strategic and operational levels. Of relevance to this paper 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.⁹⁰ 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.⁹¹ 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 mission from a Chapter VI to a Chapter VII operation.⁹² Figure 14 depicts the 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 Forces missions from the 1992-1999 period indicated a continuing theme of weakness in strategic level operational

planning.⁹³ Similar observations are contained in a more recent DCDS lessons learned analysis.⁹⁴ 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.⁹⁵ 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 to 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, JTFSWA – Roto1), reported strong political involvement throughout the planning and force commitment process, plus clear and

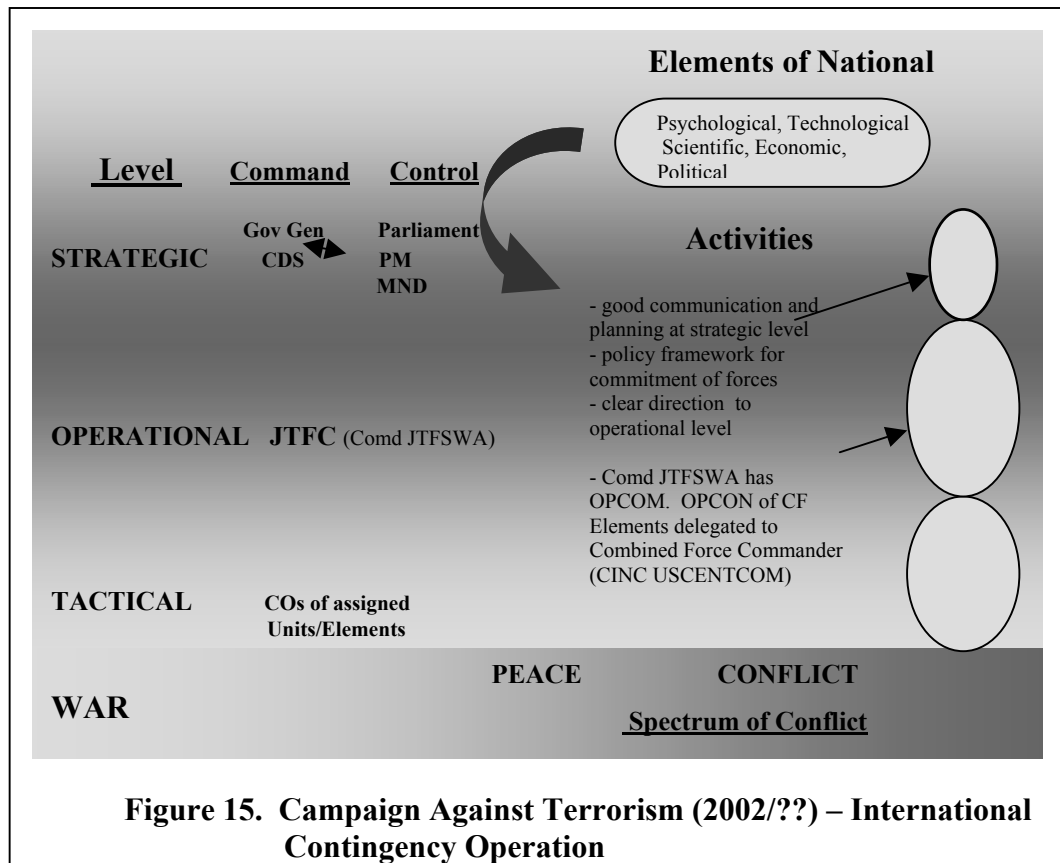


Figure 15. Campaign Against Terrorism (2002/??) – International Contingency Operation

timely guidance from the CDS to the Canadian Joint Force Commander.⁹⁶ The current situation is depicted at Figure 15.

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

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. 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 paper, 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, the paper also demonstrated 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 earlier in this paper, noted his concern over the limited amount of original Canadian work and thought regarding theories of war and related doctrine.⁹⁷ Although not the first Canadian work on this subject, this paper adds to the list of those addressing the “first principles” to which McAndrew refers.⁹⁸ 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.⁹⁹

Finally, the model developed in this paper 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. As in the beginning of this paper, the words of Clausewitz are appropriate to close.

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.*¹⁰⁰

Carl von Clausewitz, On War, 1832.

- ¹⁹ John English, 8.
- ²⁰ Kenneth M. Nesbitt, "Strategy and Technology in Transition: Moltke and the Prussian General Staff." ed. Allan D English. The Changing Face of War. Kingston: McGill-Queen's University Press, 1998, 33-38.
- ²¹ John English, 8.
- ²² Menning, 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, 160.
- ²⁶ Ibid, 4.
- ²⁷ Ralph Allen, "Piercing the Veil of Operational Art," Parameters 25, no. 2 (Summer 1995): 111. Also Scott Marcy, 107.
- ²⁸ In much of the US literature from the mid 1980s to the early 1990s, the terms 'operational level of war' and 'operational art' are used interchangeably. Timothy R. Coffin suggests that this was a result of the confusion caused by the US Army definition/use/doctrine during 1986-1993 period. See John M. House 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. United States. US Army Field Manual 100-5, Fighting Future Wars. Washington: Brassey's, 1994, 1-3 and Chapter 6.
- ³⁰ Ibid, 160.
- ³¹ United States. Joint Chiefs of Staff. Doctrine for Joint Operations: Joint Pub 3-0. 1995,
- ³² Bassford, Christopher quoted in Richard J. Young, "Clausewitz and His Influence on U.S. and Canadian Military Doctrine," ed. Allan D English, The Changing Face of War, (Kingston: McGill-Queen's University Press, 1998), 9.
- ³³ Young, 9.
- ³⁴ William McAndrew, "Operational Art and the Canadian Army's Way of War," in The Operational Art: Developments in the Theories of War, ed. B.J.C. McKercher and Michael A. Hennessy (Westport, Conn : Praeger, 1996), 97.
- ³⁵ K.T. Eddy, "The Canadian Forces and the Operational Level of War," Canadian Defence Quarterly, (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), 1150-110/A24 (DLCD 6), 10 Apr 90, 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, 17.
- ³⁷ Ibid, 2.
- ³⁸ Canada, Department of National Defence, Canada's Army: B-GL-300-000/FP-000, 01/04/1998, 78-80.
- ³⁹ Canada---, Department of National Defence, Canadian Forces Operations: B-GG-005-004/AF-000, 2000-12-18, 1-4/1-5.
- ⁴⁰ See Allan D.English, ed., The Changing Face of War (Kingston: McGill-Queen's University Press, 1998).
- 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 US Joint Pub 3-0, II-2.
- ⁴³ Canadian Forces Operations, 1-4.
- ⁴⁴ Ibid, 1-5.
- ⁴⁵ Ibid, 1-5.
- ⁴⁶ Ibid, 1-4.

⁴⁷ Ibid, 1-4.

⁴⁸ Ibid, 1-4.

⁴⁹ Ibid, 1-4.

⁵⁰ Ibid, 1-5.

⁵¹ The Dolittle Raid during Word War II was a clear example where a tactical mission produced a huge strategic effect.

⁵² Christopher A. Barnes, Leveling the Hierarchy: Levels of Wa

⁸⁶ 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 cap

WORKS CITED

- Allen, Ralph, L. "Piercing the Veil of Operational Art." Parameters. 25 no.2 (Summer 1995): 111-119.
- Anon. Command and Control A Lessons Learned (LL) Analysis. Draft Internal DCDS document.
- Bland, Douglas L. Chiefs of Defence: Government and the Unified Command of the Canadian Armed Forces. Toronto: Brown Book Company, 1995.
- Barnes, Christopher A. Leveling the Hierarchy: Levels of War in the Information Age. Newport, R.I.: Naval War College, 1997.
- Brennan, Richard. "Defence minister wants \$1 billion boost for military." Toronto Star 26 Oct 2002. http://TorontoStar.com/NASApp/cs/ContentServer?pagename=thestar/Layout/Article_PrintFriendly&c=Article&cid=1026146836437 (26 Oct 2002).
- 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.
<http://www.forces.gc.ca/somalia/somaliae.htm> (15 Sep 02)
- , Department of National Defence, Canadian Forces Operations: B-GG-005-004/AF-000, 2000-12-18.
- , Department of National Defence, Canada's Army: B-GL-300-000/FP-000, 01/04/1998.
- , Department of National Defence. "Organization and Accountability: Guidance for Members of the Canadian Forces and Employees of the Department of National Defence." Second Edition. Sep 1999.
<http://www.dnd.ca/inside/insorgacce.htm> (12 Sep 2002).
- Capstick, M.D. "Canadian Land Force Doctrine for the Operational Art and Operational Level of War." Ottawa: Department of National Defence, 1150-110/A24 (DLCD 6), 10 Apr 90.
- Clark, Robert G. The Canadian Forces Operational Planning Process: A Maturing Process or Continued Improvisation?. Toronto: Canadian Forces College, 2000.

- Clausewitz, Carl von. On War. Ed. and Trans. Michael Howard and Peter Parent, Princeton, NJ: Princeton University Press, 1976.
- Coffin, Timothy R. How Big is the Canvas for operational Art? Fort Leavenworth, KA: United States Army Command and General Staff College. 1994.
- Delvoie, Louis A. "Canada and International Security Operations: The Search for Policy Rationales." Canadian Military Journal (Summer 2000): 13-23.
- Dunn, Martin. "Levels of War, Just a Set of Labels?" Research and Analysis: Newsletter of the Directorate of Army Research and Analysis. no. 10 October 1996. <http://members.ozemail.com.au/~dunnmj/issue10.htm> (12 Sep 2002).
- Eddy, K.T. "The Canadian Forces and the Operational Level of War." Canadian Defence Quarterly (April 1992): 18-24.
- English, Allan D., ed. The Changing Face of War. Kingston: McGill-Queen's University Press, 1998.
- English, John. "The Operational Art: Developments in the Theories of War." The Operational Art: Developments in the Theories of War, ed. B.J.C. McKercher and Michael A. Hennessy. Westport, CT: Praeger, 1996.
- Fenton, George P. "Marine Expeditionary Units – On the Operational Level in MOOTW." Marine Corps Gazette. 80 no. 3 (March 1996): 58-64.
- Gosselin, Colonel Daniel. "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.
- Helis, James A. Do the Cincs Still Have a Job? Operational Command in operations Short of War. Fort Leavenworth, KA: United States Army Command and General Staff College, 1992.
- House, John M. Do Doctrinal Buzzwords Obscure the Meaning of the Operational Art? Fort Leavenworth, KA: United States Army Command and General Staff College, 1989.
- Jablonsky, David. "Strategy and the Operational Level of War: Part I." Parameters. 17 no.1 (Spring 1987): 65-76.
- Leslie, Andrew. Theatre Level Warfare: the Missing Link?, Toronto: Canadian Forces College, 1999.

- Macgregor, Douglas A. "Future Battle: The Merging Levels of War." Parameters. 22 no. 4 (Winter 1992-93): 33-47.
- Marcy, Scott A. "Operational Art: Getting Started." Military Review. 70 no. 9 (September 1990): 106-112.
- McAndrew, William. "Operational Art and the Canadian Army's Way of War." The Operational Art: Developments in the Theories of War. Ed. B.J.C. McKercher and Michael A. Hennessy. Westport, Conn : Praeger, 1996, 87-102.
- McCormick, Michael. "The New FM 100-5: A Return to Operational Art." Military Review. 77 no. 5 (September-October 1997): 3-14.
- McKercher, B.J.C., and Michael A. Hennessy, Eds. The Operational Art: Developments in the Theories of War. Westport, Conn: Praeger, 1996.
- Meigs, Montgomery C. "Operational Art in the New Century." Parameters. 31 no. 1 (Spring 2001): 4-14.
- Menning, Bruce W. "Operational Art's Origins." Military Review. 77 no. 5 (September-October 1997): 32-47.
- Metz, Steven. "Siren Song of Technology and Conflict Short of War." Special Warfare. 9 no. 1 (January 1996): 2-10.
- Morin, Jean H., and Richard H. Gimblett. The Canadian Forces in the Persian Gulf, Operation Friction 1990-1991. Toronto: Dundurn Press, 1997.
- Schamburg, Gary R. Cloud Patterns: An operational Hierarchy? . Fort Leavenworth, KA: United States Army Command and General Staff College, 1995.
- Swain, Richard M. "Filling the Void: The Operational Art and the US Army." The Operational Art: Developments in the Theories of War. Ed. B.J.C. McKercher and Michael A. Hennessy. Westport, Conn: Praeger, 1996. 149-172.
- Taylor, R.K. "2020 Vision: Canadian Forces Operational-Level Doctrine." Canadian Military Journal. 2 no. 3 (Autumn 2001): 35-42.
- Toffler, Alvin. The Third Wave. New York: Bantam Books, 1981.
- Toffler, Alvin, and Heidi Toffler. War and Anti-War. New York: Little, Brown and Company, 1993.

United States. Joint Chiefs of Staff. Doctrine for Joint Operations: Joint Pub 3-0. 1995.

United States. Joint Chiefs of Staff. Doctrine for Joint Operations: Joint Pub 3-0. 10 September 2001. http://www.dtic.mil/doctrine/jel/new_pubs/jp3_0.pdf . (13 Sep 02).

United States. US Army Field Manual 100-5, Fighting Future Wars. Washington: Brassey's, 1994.

Young, Richard J. "Clausewitz and His Influence on U.S. and Canadian Military Doctrine." The Changing Face of War. Ed. Allan D English. Kingston: McGill-Queen's University Press, 1998.

WORKS CONSULTED

- Anderson, Walter N. "Commander's Intent: Theory and Practice." Armor. 107 no. 3 (May-June 1998): 46-48.
- Biddle, Stephen. "The Past as Prologue: Assessing Theories of Future Warfare." Security Studies. 8 no. 1 (Autumn 1998): 1-74.
- Chilcoat, Richard A. Strategic Art: The New Discipline for 21st Century Leaders. Carlisle Barracks, PA. Strategic Studies Institute, Army War College, 1995.
- Devers, Jacob L. "Major problems confronting a theater commander in combined operations." Military Review. 77 no. 1 (January-February 1997): 123-130.
- Fenton, J.I. Hail to the Chief: Strategic Command of the Canadian Forces, Toronto: Canadian Forces College, 1999.
- Ghosh, Sumit and Tony Lee. "Asynchronous, Decentralized Command and Control." Military Review. 80 no. 6 (Nov-Dec 2000): 77-81.
- Glantz, David M. "The Intellectual Dimension of Soviet (Russian) Operational Art." The Operational Art: Developments in the Theories of War, ed. B.J.C. McKercher and Michael A. Hennessy. Westport, CT: Praeger, 1996.
- Gray, P.W. "Air Power and Levels of Warfare." Royal Air Force Air Power Review. 5 no. 1 (Spring 2002): 1-17.
- Jablonsky, David. "Strategy and the Operational Level of War: Part II." Parameters. Summer 1987: 52-67.
- Kasurak, Peter, and Nicholas Swales. "Reforming the Department of National Defence: A View From the Audit Office." Canadian Defence Quarterly 27.3 (1998): 23-29.
- Kenney, MacArthur and Thomas E. Griffith Arnold, Jr. "Command Relations at the Operational Level of War." Airpower Journal. 13 no. 2 (Summer 1999): 50-62.
- Lefebvre, Stephane, Michel Fortmann and Thierry Gongora. "The Revolution in Military Affairs: Its Implications for Doctrine and Force Development within the US Army." The Operational Art :Developments in the Theories of War. Ed. B.J.C. McKercher and Michael A. Hennessy. Westport, Conn : Praeger, 1996.

- Lind, William S. et al. "The Changing Face of War: Into the Fourth Generation." Marine Corps Gazette. (November 2001): 65-68. (Reprinted from Marine Corps Gazette, October 1989).
- Lind, William S. et al. "Fourth Generation Warfare: Another Look." Marine Corps Gazette. (November 2001): 69-71. (Reprinted from Marine Corps Gazette, December 1994).
- Luttwak, Edward N. "The Operational Level of War." International Security. 5 no. 3 (Winter 1980/81): 61-79.
- MacDonald, Brian. "Thinking Outside the Box: Radical Questions About Canadian Defence Planning." Canadian Strategic Forecast 2000: Advance or Retreat? Canadian Defence in the 21st Century. ed. David Rudd, Jim Hanson and Jessica Blitt,. Toronto: Canadian Institute of Strategic Studies, 2000.
- Macgregor, Douglas A. "Command and Control for Joint Strategic Actions." Joint Force Quarterly. no. 20 (Autumn-Winter 1998-1999) : 25-33.
- Macgregor, Douglas A. "Joint Operational Architecture: The Key to Transformation." Strategic Review. 28 no 4 (Fall 2000): 27-36.
- Mandales, Mark D., Thomas C. Hone, and Sanford S. Terry. Managing "Command and Control" in the Persian Gulf War. Westport, CT: Praeger, 1996.
- Morningstar, James K. "Technologies, Doctrine and Organisation for RMA." Joint Force Quarterly, Spring 1997.
- Naveh, Shimon. In Pursuit of Military Excellence: The Evolution of Operational Theory. London: Frank Cass, 1997.
- Powell, Colin L. "A Doctrinal Statement of Selected Joint Operational Concepts". 10 Nov 1992. http://www.dtic.mil/doctrine/jel/research_pubs/p146.pdf (18 Sep 2002).
- Roper, Daniel S. "Technology: Achilles' Heel or Strategic Vision." Military Review. 77 no. 2 (March-April 1997): 87-92.
- Slim, William. "Higher Command in War." Military Review. 70 no. 5 (May 1990): 10-21.
- Sloan, Elinor C. The Revolution in Military Affairs: Implications for Canada and NATO. Montreal: McGill-Queen's University Press, 2002.

Tirpak, John A. "Short's View of the Air Campaign", AIRFORCE Magazine.
Washington: September 1999.

Van Creveld, Martin. Command in War. Cambridge: Harvard UP, 1985

Watson, Bruce W. ed. Military Lessons of the Gulf War. London: Greenhill Books,
1991.

Wilson, G.I. et al. "The Next Conflict." Marine Corps Gazette. (November 2001): 73-76.
(Reprinted from INTSUM, Summer 2001).