A Research and Analysis Framework for a Strategic-Level Lessons Learned Process

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Abstract

The second in a series on military strategic-level learning in DND/CF, this paper establishes a framework for strategic-level lessons learned by developing an analytical hierarchy for organizational analysis. Grounded in the seminal work on military effectiveness by Allan Millett and Williamson Murray, the paper articulates overarching and subordinate questions to guide strategic-level learning that focus both on military strategy and the overlap between military strategy and government policy, to assist in guiding assessment of effectiveness in force development, force generation and force employment. Pursued via research grounded in a common understanding of strategy, executed at the appropriate analytical levels, and driven by "a relentless empiricism", these questions should serve to guide strategic-level learning, innovation and adaptation, and demonstrate how strategic-level lessons identification and analysis can and should inform strategic planning in DND/CF.

Résumé

Dans ce second volet d'une série de documents portant sur l'apprentissage militaire sur le plan stratégique au sein du MDN et des FC, nous élaborons un cadre de leçons stratégiques en établissant une hiérarchie analytique organisationnelle. En nous inspirant de l'ouvrage précurseur sur l'efficacité militaire de MM. Allan Millet et Williamson Murray, nous formulons des questions globales et secondaires servant à orienter l'apprentissage ayant trait à la stratégie militaire ainsi qu'au chevauchement entre la stratégie militaire et la politique gouvernementale, et ultimement, à guider l'évaluation de l'efficacité du développement, de la mise sur pied et de l'emploi des forces. Formulées dans le cadre d'une recherche s'appuyant sur une compréhension commune du mot « stratégie », mises en œuvre à un niveau analytique approprié et motivées par un « empirisme implacable », ces questions devraient permettre d'orienter l'apprentissage, l'innovation et l'adaptation sur le plan stratégique, et démontrer comment l'établissement et l'analyse des leçons stratégiques peuvent et devraient éclairer la planification stratégique au MDN et dans les FC.

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Executive summary

A research and analysis framework for a strategic-level lessons learned process:

Neil Chuka; Donald A. Neill ; DRDC CORA TM 2011-210; Defence R&D Canada – CORA; December 2011.

Introduction or background: This is the second in a series of papers on military strategic-level learning and lessons identification and analysis ('lessons learned') in DND/CF prepared in response to a request from the Canadian Forces Warfare Centre. Its purpose is to establish a framework for strategic-level lessons learned that would, amongst other things, articulate a set of universal strategic-level questions intended to focus organizational learning activities within DND/CF. These questions, which are derived from the seminal work on military effectiveness by Allan Millett and Williamson Murray, are intended to form the basis from which context- or mission-specific questions may be derived.

Results: The paper begins with a definition of terms. This is followed by the description of levels of analysis to serve as the basis of a research and analytical framework, proceeding from grand strategy and policy, which are the province of government, down through (in the DND/CF context) departmental/military strategy, operations and tactics. An analytical framework designed to assess and improve the fighting capability of the CF is based on three criteria: political-military effectiveness (proficiency in acquiring resources to support the execution of defence tasks, aka force development); military effectiveness (proficiency in converting resources into fighting power, aka force generation); and strategic effectiveness (proficiency in using military forces to achieve the government's policy objectives, aka force employment). This framework requires focusing analysis at the military strategic level (which is the sole province of DND/CF), the level of grand strategy and policy (which is the sole province of government, informed by clear and unfiltered advice from those charged with conducting operations), and what we have termed the 'political/military-strategic overlap,' which for the purposes of this paper is understood to comprise all activities where collaboration between government and the military is essential to creating and generating military capability, and employing it to achieve the government's policy objectives.

The paper examines the nature of learning in military organizations and discusses a variety of caveats about lessons learned processes (specifically, impediments to organizational learning; the importance of leadership in strategic-level lessons identification and analysis exercises; and the indispensability of empiricism, especially in military learning endeavours). It then develops lists of overarching and subordinate questions to guide research and analysis at the strategic level, grouping these into the two areas of analysis identified above: questions applicable to the purely military-strategic level, and those deriving from the political/military-strategic overlap. The paper offers three general conclusions. First, rigorous strategic-level lessons identification and analysis cannot proceed without a common understanding of what is meant by "strategy", and what precisely constitutes the strategic, political and grand strategic levels of analysis (and more importantly, what does not). Second, rigorous analysis demands a comprehensive understanding and assessment of the foundations of strategy in policy and what is generally understood to be grand strategy – the source of policy in the government's assessment of vital national interests

and threats to those interests – in order to ensure that military strategy is at all times based on and guided by the government's intent. Third, rigorous analysis cannot proceed from imagined futures, but rather must be grounded in what Cohen and Gooch have called "a relentless empiricism." Learning cannot be based on events that never happened.

Significance: The small staff of the Canadian Forces Warfare Centre will face challenges, first in narrowing down what tasks indeed fall in the strategic realm, and second in arguing the appropriate course of action that most efficiently employs the limited available resources to complete those tasks in a meaningful and rigorous manner. The theory and questions developed in this paper should ease this chore, and assist the Centre in better articulating how to design and execute a programme for lessons-identification and analysis at the strategic level.

Future plans: The research and analysis in this series of papers suggests a need for practical guidance on how analytical products can and should feed the strategic planning process. The logical conclusion to the framework for strategic-level learning, innovation, and adaptation articulated to date is a paper that employs case-study evidence to illustrate how methodologically unsound analysis has led to military failure in the past, while methodologically rigorous analysis of the sort argued for here has been employed successfully by strategic planners in the past. Such research should provide a reasonably complete outline for strategic-level lessons learned activities, help focus current demands from senior military and political authorities, and lead to research and analysis products to better inform and guide strategic-level thinking in DND and the CF.

Sommaire

A research and analysis framework for a strategic-level lessons learned process:

Neil Chuka; Donald A. Neill; DRDC CORA TM 2011-210; R & D pour la défense Canada – CORA; Décembre 2011.

Introduction : Nous présentons ici le second volet d'une série de documents sur l'apprentissage militaire sur le plan stratégique et sur la détermination et l'analyse des leçons (leçons retenues) au sein du MDN et des FC. Ces documents sont rédigés en réponse à une demande du Centre de guerre des Forces canadiennes. L'objectif est d'établir un cadre pour les leçons retenues sur le plan stratégique qui comprendrait, entre autres choses, un ensemble de questions stratégiques universelles visant à orienter les activités d'apprentissage organisationnel du MDN et des FC. Ces questions – que nous avons formulées en nous inspirant de l'ouvrage précurseur sur l'efficacité militaire de MM. Allan Millet et Williamson Murray – formeront la base sur laquelle nous nous fonderons pour aiguiller les questions précises liées à une mission ou à un contexte donné.

Résultats : Dans le présent document, nous commençons par définir les termes principaux, puis nous décrivons les niveaux d'analyses servant de fondement à l'établissement d'un cadre de recherche et d'analyse découlant tant des grandes orientations stratégiques, qui sont du ressort du gouvernement, que des stratégies, des opérations et des tactiques militaires et ministérielles (en ce qui concerne le MDN et les FC). Pour mettre au point un cadre analytique permettant d'évaluer et d'améliorer les capacités de combat des FC, nous avons tenu compte de trois critères : l'efficacité politico-militaire (expertise en acquisition de ressources permettant l'exécution des activités militaires – également appelée « développement des forces »); l'efficacité militaire (expertise en conversion de ressources en forces combattantes – également appelée « mise sur pied des forces »); et l'efficacité stratégique (expertise en utilisation des forces militaires pour atteindre les objectifs stratégiques du gouvernement – également appelée « emploi des forces »). Ce cadre analytique sera centré sur la stratégie militaire (qui est du ressort du MDN et des FC uniquement), sur les grandes orientations stratégiques (qui sont du ressort du gouvernement uniquement et qui sont établies en s'appuyant sur des conseils clairs et directs donnés par les responsables des opérations), et sur ce que nous appelons la « stratégie politico-militaire ». Aux fins du présent document, ce dernier concept comprend toutes les activités où une collaboration entre le gouvernement et la Défense est essentielle à la mise sur pied et à l'emploi des capacités militaires nécessaires pour réaliser les objectifs stratégiques du gouvernement.

Dans le présent document, nous examinons la nature de l'apprentissage au sein des organisations militaires ainsi que diverses lacunes concernant les processus de leçons retenues (plus particulièrement, les obstacles à l'apprentissage organisationnel, l'importance du leadership dans l'établissement et l'analyse des leçons stratégiques, et l'indispensabilité de l'empirisme, en particulier en ce qui concerne l'apprentissage en contexte militaire). Nous constituons ensuite des listes de questions globales et secondaires servant à orienter la recherche et l'analyse stratégiques, puis nous regroupons ces questions en deux secteurs d'analyse, c'est-à-dire celles qui relèvent purement de la stratégie militaire et celles qui portent sur la stratégie politico-militaire. Notre réflexion débouche sur trois grandes conclusions. D'abord, il est impossible d'établir et d'analyser rigoureusement des leçons stratégiques sans que tous s'entendent sur la signification

du mot « stratégie » et sur ce qui constitue (et encore plus important, sur ce qui ne constitue pas) les niveaux d'analyse des stratégies, des politiques et des grandes orientations stratégiques. En second lieu, une analyse rigoureuse exige une connaissance approfondie des principes fondamentaux en matière de stratégie politique et de ce qui est généralement désigné lorsqu'on parle de grandes orientations stratégiques (la source des politiques liées à l'évaluation gouvernementale des intérêts nationaux de premier ordre et de ce qui menace ces intérêts) afin que les stratégies militaires se fondent en tout temps sur les objectifs du gouvernement. Troisièmement, une analyse rigoureuse ne peut s'appuyer sur des scénarios imaginés, mais plutôt sur ce que Cohen et Gooch ont appelé « un empirisme implacable ». En d'autres termes, l'apprentissage ne peut se baser sur des événements qui n'ont jamais eu lieu.

Portée : Plusieurs défis attendent le personnel restreint du Centre de guerre des Forces canadiennes. Premièrement, il faudra passer en revue les diverses tâches afin de déterminer lesquelles appartiennent vraiment à la sphère stratégique. Ensuite, il faudra établir un plan d'action visant à employer le plus efficacement possible les ressources limitées afin d'être en mesure d'exécuter ces tâches de manière rigoureuse et constructive. La théorie et les questions élaborées dans le présent document devraient faciliter ce processus et ainsi aider le Centre de guerre des Forces canadiennes à concevoir et à mettre en œuvre un programme d'établissement et d'analyse des leçons stratégiques.

Perspectives : La recherche et l'analyse que nous avons effectuées nous ont permis de conclure qu'il serait nécessaire de formuler des conseils pratiques quant à la façon dont les produits analytiques peuvent et devraient alimenter le processus de planification stratégique. Il serait logique de conclure le cadre stratégique d'apprentissage, d'innovation et d'adaptation élaboré jusqu'à présent en publiant un document dans lequel on s'appuierait sur des données tirées d'études afin d'expliquer pourquoi des analyses méthodologiquement inadéquates ont conduit à des échecs militaires par le passé, alors que des planificateurs stratégiques se sont déjà appuyés avec succès sur des analyses méthodologiquement rigoureuses comme celles dont il a été question dans le présent document. Une telle recherche devrait produire un plan relativement complet des activités liées aux leçons retenues sur le plan stratégique en plus de nous aider à cibler les impératifs actuels des hautes autorités militaires et politiques et de nous amener à découvrir des produits de recherche et d'analyse qui nous permettront d'éclairer et d'orienter la réflexion stratégique au MDN et dans les FC.

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1 Introduction

> *In time of war or of preparation for war, in which the Empire is concerned, arrangements must always be based to an exceptional degree on the mutual relation of naval, military, and political considerations. The line of mean efficiency, though indicated from home, must be worked out locally, and worked out on factors of which no one service is master. Conference is always necessary, and for conference to succeed there must be a common vehicle of expression and a common plane of thought. It is for this essential preparation that theoretical study alone can provide; and herein lies its practical value for all who aspire to the higher responsibilities of the Imperial service.*
>
> \- Julian S. Corbett[1]

The Department of National Defence (DND) and the Canadian Forces (CF) at present have no strategic-level lessons identification and analysis process or doctrine. The purpose of this paper is to articulate a research and analysis framework to guide the creation of such a process. The challenges inherent in establishing, implementing, and institutionalizing a strategic-level lessons learned process are sufficiently diverse and daunting that it is not practicable to simply rely on extensions of the operational or tactical level learning processes already in place. Prior research and work have led the authors to identify three fundamental problems likely to impact any effort to develop and implement any lessons learned process above the operational level. These are, first, difficulty in defining the full scope of the strategic level, and the overlapping margins both above and below; second, the problem of identifying a strategic-level leader to own and drive organizational learning; and third, articulating a series of framing questions to spur thinking and help initiate the design and implementation of a strategic-level lessons identification and analysis process.

Applied research and analysis aimed at guiding the development of a new area of endeavour necessarily incorporates a blend of theoretical and practical advice. Those responsible for crafting and implementing doctrine must understand fully not only the purpose, scope and limitations of their task, but also its origins, foundational underpinnings and context. This is required to ensure that the outcome can not only be defended and taught, but also incorporated as an enduring and indispensable element of organizational routine. The authors consider that it is important to provide more than just a list of questions to frame strategic-level inquiry. Such questions must be situated both in theory, and in relation to inextricably-linked national historical, constitutional, legal, and political forces.

The purpose of this paper, accordingly, is to articulate a research and analysis framework to guide the development of a strategic-level lessons learned (LL) process specific to the needs of DND and the CF. Section two of the paper will begin by delineating levels of analysis to identify the proper focus for strategic-level learning, and offering a series of definitions to provide a degree of fidelity to terms whose meanings have become clouded through overuse. This will assist the discussion by providing, in Corbett's words, "a common vehicle of expression" that proceeds along "a common plane of thought."

---

[1] Julian S. Corbett, *Some Principles of Maritime Strategy* (Annapolis, MD: Naval Institute Press, 1988, originally published 1911), 8.

Section three will apply organizational learning theory to the specific structure of DND and the CF in order to establish the efficiency/effectiveness model that underlies the approach to learning described herein. Section four will discuss some of the characteristics and potential pitfalls peculiar to organizational learning at the strategic level, and amongst other things will clearly identify the historical and legal bases for, and the authorities that must therefore be engaged in, the development and implementation of any strategic-level LL process. Based on the foregoing, section five will provide practical guidance on the type of questions that should be contemplated when a strategic-level LL project is undertaken. The intent of this section is to provide questions that facilitate the type of structured but unconstrained thinking necessary to support organizational learning and planning at the highest levels. These questions are derived in large part from the seminal work on military effectiveness by Allan Millett and Williamson Murray.[2]

This is the second in a series of papers requested by the Canadian Forces Warfare Centre (CFWC) on the subject of military strategic-level learning and lessons identification and analysis ('lessons learned') in DND/CF.[3] The first paper in this series presented a framework for learning, innovation, and adaptation. It then compared related joint-level activities undertaken by DND/CF from the beginning of the original 'Transformation' process in 2005-06 to that framework in order to determine whether the defence establishment was in practice basing strategic planning activities on an appropriate empirical foundation.[4] This report is intended to build on the first paper in this series by providing theoretical and practical support for organizational learning; by discussing impediments to learning that were beyond the scope of the first paper; and by proposing framing questions to guide the nascent strategic-level lessons identification and analysis process in DND/CF. This sets the stage for a third paper that will, on a basis of historical case studies, assess the utility and applicability of the framework proposed below.

1.1 Definitions

In order to ensure that readers are on the same "common plane of thought," it is necessary to begin with some definitions. Discussions of strategy invariably pose acute etymological challenges. There are few terms in the history of military studies that have been defined and redefined as often as 'strategy' and its various subordinate and super-ordinate analogues.[5] A contemporary approach to structuring definitions is to divide them into three hierarchical categories on the basis of what a government hopes to achieve (ends), how it intends to pursue those ends (ways), and the resources it has allocated to doing so (means).[6] These categories offer convenient subdivisions for the hierarchy of analysis that will be articulated in Part Two.

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[2] Allan Millett and Williamson Murray, eds. *Military Effectiveness: Volumes 1-3* (New Edition), (New York: Cambridge University Press, 2010).

[3] For the purposes of this paper it should be understood that "lessons identification and analysis" and "lessons learned" are considered synonymous. The authors do not prefer the military term "lessons learned" as it presumes that once a problem has been identified a solution is immediately determined and then learned by the entire organization.

[4] For the purposes of this paper, "strategic planning" will be understood to comprise all force development and force generation activities related to converting assigned resources into military capability, and the planning activities for employment of military capability to achieve the government's intent.

For the purposes of this paper, 'strategy' as a general term is understood to mean the organization and employment of all available resources to achieve a defined goal. We shall adhere to the following specific definitions, some of which will be discussed in greater detail in the course of this paper:[7]

- **National Interests**: specific, national-level factors the defence and advancement of which is considered essential to the *well-being* of the state.

- **Vital National Interests**: that subset of national interests the defence and advancement of which is considered essential to the *survival* of the state;[8]

- **Grand Strategy**: the organization of all of the resources available to the state in defending and advancing its national interests;

- **Policy**: the stated aims of government. Ideally, policy would be designed by government to give effect to its grand strategy;

- **Political Strategy**: the development and execution of the government's plan to achieve its policy (and thus ideally its grand strategy);

- **Lessons learned**: the process by which a military force measures the efficiency and effectiveness of its actions against both the costs of those actions and the desired ends, for the purpose of improving future performance. Lessons learned may be conducted at any level of analysis, from the tactical to the political;

- **Military Effectiveness:** The proficiency with which the armed forces convert resources into fighting power. A fully effective military is one that generates maximum combat power from the resources physically and politically available to it. The most important attribute of military effectiveness is the ability to adapt to the *actual* conditions of combat and conflict (vice those that were assumed would occur);

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[5] We shall remain focussed on discussions of 'strategy' as defined by students of military history and military studies, and eschew the more esoteric variants proposed by game theorists. See, for example, Thomas C. Schelling, *Strategy of Conflict* (Cambridge, Mass.: Harvard University Press, 1960).

[6] The relationship between ends, ways, means, national interests, and threats to national interests, is discussed by Brad Gladman and Peter Archambault in "A Role for Effects-Based Planning in a National Security Framework", *Journal of Military and Strategic Studies*, Vol. 13, Issue 2 (Winter 2011), *passim*.

[7] Most of these definitions are drawn from a host of historical and analytical works; however, the definitions involving effectiveness and the explanatory text are drawn nearly verbatim from the introductory essay by Millett and Murray to their three-volume treatment of military effectiveness. See Allan Millett, Williamson Murray and Kenneth Watman, "The Effectiveness of Military Organizations," in Allan Millett and Williamson Murray, eds., *Military Effectiveness: Volume 1: The First World War* (New Edition) (New York: Cambridge University Press, 2010).

[8] This prioritization of vital over other national interests is reflected in CF documentation: "…strategic effects related [to] vital national security interests have priority over other, desirable interests." Strategic Joint Staff, CF Force Employment Priorities Guidance (Draft), 24 September 2008.

- **Military Political Effectiveness:** The effort to obtain resources for military activity in relation to the goals set by the polity and the proficiency in acquiring those resources. Resources consist of reliable access to financial support, a sufficient military-industrial base, a sufficient quantity and quality of manpower, and control over conversion of those resources into military capabilities. Military political effectiveness hinges on a clear understanding of national grand strategy. This, as previously discussed, necessarily includes strong comprehension of vital national interests, the enduring and immediate threats to those interests, and a grasp of likely activities and tasks and the resources to carry out those activities and tasks to counter the threats to those interests;

- **Military Strategic Effectiveness:** The measure of effectiveness in using armed forces to secure national goals as defined by the political strategy. This requires strategic-level interpretation of government direction and intent to guide the development of Departmental policy and plans, and enable the communication of strategic direction and intent to operational-level commanders. Ideally, this process should be able to link strategic intent and objectives to vital national interests and more immediate interests informed by political and other imperatives.

- **Military Strategy**: the design and execution of campaigns to shape and win national military endeavours ('wars').

- **Strategic Planning**: activities undertaken at the strategic level to design, create, employ, and support the employment of the military forces of the state; to wit, force development, force generation and the development of campaign strategy;

- **Operations**: the use of engagements to prosecute theatre-level campaigns;

- **Operational Effectiveness:** The analysis, selection, and development of institutional concepts or doctrines for employing engagements to achieve strategic objectives within a theatre of war. Operational activity involves the analysis, planning, preparation, and conduct of the various facets of a campaign. This includes such things as the disposition and marshalling of military units, the selection of theatre objectives, the arrangement of logistical support, and the command and control of deployed forces.

- **Tactics**: the use of military personnel and equipment to shape and win engagements;

- **Tactical Effectiveness:** The proficiency of combat units in securing operational objectives. Tactical activity involves the movement of forces on the battlefield against the enemy, the provision of destructive fire upon enemy forces or targets, and the arrangement of logistical support directly applicable to engagements.

The reader will note that the above list contains no definition for 'national values'. While values undeniably play a role in policy formulation, their impact tends to manifest over the short term in response to episodic concerns, including public sentiment. National interests, by contrast (especially vital national interests), tend to reflect more enduring factors. This paper proceeds from the understanding, that "national strategy depends…upon a very few elementary and brutal facts. All nations are captives of their geography, their history, and their interests."[9] The epistemic confusion over whether national policy should be driven primarily by either values or interests is a manifestation of the larger problem identified by Hew Strachan, who has argued that the lexicon applicable to these activities has become muddled and incoherent.[10] While a detailed discussion of the relationship between national values and national interests would be beneficial, this is beyond the scope of the present paper.

In order to delineate levels of analysis it is necessary to describe how grand strategy is translated into military strategy, capability and activity. This requires re-establishing the classical meaning of words like 'policy', 'strategy', 'interests', 'values', and a variety of other terms. While the broader problem of etymological confusion is beyond the scope of the present paper, the conflation of interests and values impedes the development of sound policy and strategy and, therefore, also has the potential to undermine lessons identification and analysis at the strategic level. This paper focuses exclusively on national interests as the *fons et origo* of national or grand strategy.

Based on the above definitions, the levels of analysis outlined in the following discussion are represented graphically at figure 1 (below). Figure 2 displays how the levels of analysis and categories of effectiveness intersect to produce a matrix that will serve as the basis for the framing questions developed in section five.

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[9] Innumerable authors have articulated this principle. The illustrative citation is drawn from R.J. Sutherland, "Canada's Strategic Situation and the Long Term Basis of Canadian Security", (Ottawa: Defence Research Board, 19 July 1962), 16.
[10] Hew Strachan, "The Lost Meaning of Strategy", *Survival*, Vol. 47, No. 3 (October 2005), 34.

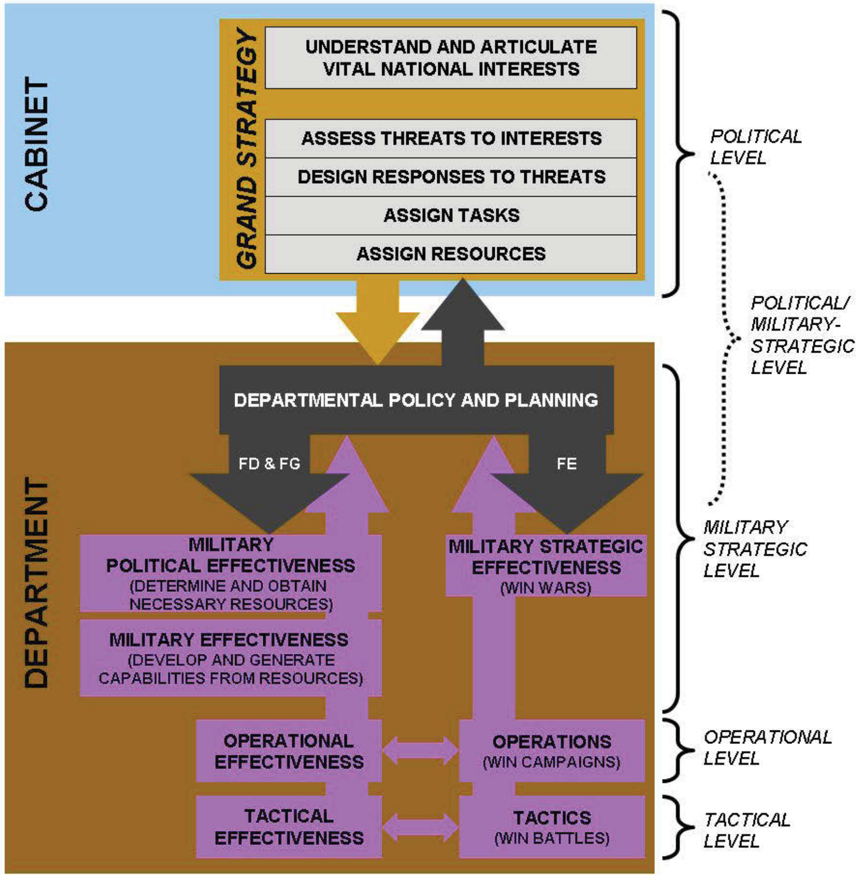
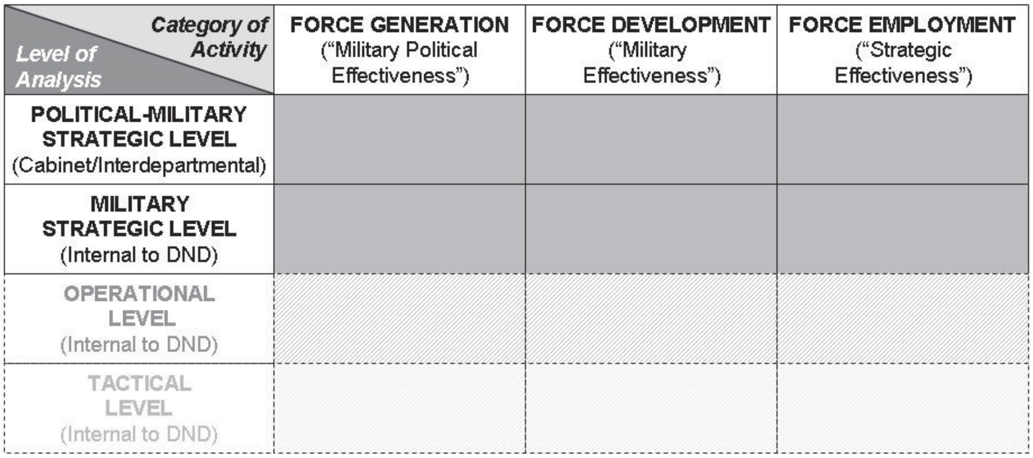

CABINET
GRAND STRATEGY
UNDERSTAND AND ARTICULATE VITAL NATIONAL INTERESTS
ASSESS THREATS TO INTERESTS
DESIGN RESPONSES TO THREATS
ASSIGN TASKS
ASSIGN RESOURCES
POLITICAL LEVEL
POLITICAL/ MILITARY-STRATEGIC LEVEL
DEPARTMENT
DEPARTMENTAL POLICY AND PLANNING
FD & FG
FE
MILITARY POLITICAL EFFECTIVENESS (DETERMINE AND OBTAIN NECESSARY RESOURCES)
MILITARY EFFECTIVENESS (DEVELOP AND GENERATE CAPABILITIES FROM RESOURCES)
MILITARY STRATEGIC EFFECTIVENESS (WIN WARS)
MILITARY STRATEGIC LEVEL
OPERATIONAL EFFECTIVENESS
OPERATIONS (WIN CAMPAIGNS)
OPERATIONAL LEVEL
TACTICAL EFFECTIVENESS
TACTICS (WIN BATTLES)
TACTICAL LEVEL

Figure 1 – Levels of analysis: tactics, operations, strategy and politics



Category of Activity *Level of Analysis*	**FORCE GENERATION** ("Military Political Effectiveness")	**FORCE DEVELOPMENT** ("Military Effectiveness")	**FORCE EMPLOYMENT** ("Strategic Effectiveness")
POLITICAL-MILITARY STRATEGIC LEVEL (Cabinet/Interdepartmental)			
MILITARY STRATEGIC LEVEL (Internal to DND)			
OPERATIONAL LEVEL (Internal to DND)			
TACTICAL LEVEL (Internal to DND)			

Figure 2 – Framework for analysis

2 Levels of analysis

The following discussion will delineate the principal analytical levels under examination in this paper: to wit, grand strategy, government policy, military strategy, and the significant and complicating areas of overlap between them. Most authors distinguish between 'military strategy' – according to John Gooch, "a method of solving problems by the application of military force"[11] – and other varieties less directly related to the profession of arms. The term enjoys nearly as many definitions as it does students. Archer Jones, for example, defines military strategy as the combination of "tactics and logistics to shape the conduct of operations," and argues for a tripartite hierarchy of strategy: "grand strategy," which "integrates political objectives with military means to determine the broad outlines of the plan for the conduct of war," and which incorporates politics, economics, and "other such factors affecting the relations between powers"; "strategy proper," i.e., military strategy, which concerns "the concentration and movement of armies and navies"; and "grand tactics," which he defines as the "manoeuvre of armies" and other "activities that create the conditions for battle."[12] Strategy as applied to military forces is not fixed and evolves in response to changing conditions; and the general, according to Sun Tzu, by revising his strategy "according to the changing posture of the enemy," is able to "determine the course and outcome" of military endeavours.[13]

The distinction between military and other forms of strategy, and between the levels of thought and action above and below the strategic, is rooted in classical military theory. Liddell Hart distinguished between military strategy, for which he used the definitions offered by Clausewitz ("the art of employment of battles as a means to gain the object of war") and Moltke ("the practical adaptation of the means placed at the general's disposal to the attainment of the object in view"), and policy, or "the higher conduct of war," which he deemed "the responsibility of the government and not of the military leaders it employs as its agents in the executive control of operations."[14] Strategy and policy have traditionally been separate functions, he argued, and their conflation cannot be justified now that the responsibility for deciding policy and executing strategy are no longer normally combined in the same person.[15] Drawing heavily on the work of Clausewitz (who defined strategy as "the use of engagements for the purpose of the war"[16]),

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[11] John Gooch, "History and the nature of strategy", in Williamson Murray and Richard Hart Sinnreich, *The Past as Prologue: The Importance of History to the Military Profession* (Cambridge, UK: Cambridge University Press, 2006), 139.

[12] Archer Jones, *The Art of War in the Western World* (New York: Oxford University Press, 1987), 54-55.

[13] Sun Tzu, *The Art of Warfare*, trans. Roger T. Ames, ed. Robert G. Hendricks (New York: Ballantine Books, 1993), 162.

[14] Jomini also employs a military-specific definition of strategy, calling it "the art of making war upon the map," and constraining its sphere of interest to "the whole theatre of operations." Henri Antoine de Jomini, *The Art of War*, original trans. Captain G.H. Mendell and Lieutenant W.P. Craighill (Westport, CN.: Greenwood Press, N.D.; originally published in 1862 by J.B. Lippincott & Co. of Philadelphia, PA.), 62.

[15] B.H. Liddel Hart, *Strategy*, 2nd Revised Ed., 1967 (New York: Penguin Books, 1991), 319.

[16] Carl von Clausewitz, *On War*, Michael Howard and Peter Paret, ed. and trans. (Princeton, N.J.: Princeton University Press, 1984), 177. This definition is taken from Chapter One of Book Three ("On Strategy In General"). The definition is first stated in Chapter Two of Book One; there, Howard and Paret render it "the use of engagements for the *object* of the war" (*ibid*., 128), a very subtle difference that does not reflect theoretical inconsistency; as the editors themselves note, "Clausewitz himself was far from consistent in his

Liddell Hart proposed a briefer definition of military strategy, dubbing it "the art of distributing and applying military means to fulfill the ends of policy,"[17] which of course necessitates a discussion of what policy is and where it fits in the hierarchy of the national *ratio ad bellum*.

In obedience to Clausewitz's overarching organizing dictum viewing war as one of the primordial levers of state policy, Liddell Hart proposed the term "grand strategy" (or "war policy"), defining this as "policy-in-execution," and considering as its principle function the coordination and direction of "all the resources of a nation, or band of nations, towards the attainment of the political object of the war."[18] Such a definition underwrites the hierarchical relationship proposed by Archer Jones, which considers "military strategy...the servant of the political objective,"[19] and which, under Liddell Hart's formulation, severed what had hitherto been a perceived military monopoly on the subject of strategy.[20] The practical as well as theoretical subordination of military strategy to overarching political or grand strategy has since been cemented both by the principles of civilian control of the military as one of the constitutional components of representative democratic government, and by the practical considerations resulting from the introduction and spread of nuclear weapons, political control over which, to borrow a phrase from Clemenceau, is arguably "too important to be left to the generals."[21,22]

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terminology, as might be expected of a writer who was less concerned with establishing a formal system or doctrine than with achieving understanding and clarity of expression." (*ibid*., xii).

This passage, incidentally, illustrates the need for the new translation offered by Howard and Paret. An earlier translation, by J.J. Graham, rendered the definition of strategy as follows: "the employment of the battle to gain the end of the war." In English, there is a stark difference between the connotation of a single battle and "engagements" in the plural (amongst other things, the former reinforces the commonly-held belief that Clausewitz was a staunch advocate of the "decisive clash"); and "the end of the war" can easily be taken to mean something very different from "the purpose of the war." Carl von Clausewitz, *On War*, ed. Anatol Rapoport, trans. J.J. Graham (London: Penguin Classics, 1968; originally published by Routledge and Kegan Paul, Ltd., 1908), 241. Christopher Bassford reinforces this point by inserting a parenthetical adjective into the phrase defining strategy as the use of "combats" to support "the [political] purpose of the war." Christopher Bassford, *Clausewitz in English: The Reception of Clausewitz in Britain and America 1815-1945* (New York: Oxford University Press, 1994), 22.

[17] Liddel Hart, 321.

[18] Liddel Hart, 321-22 and 353.

[19] Jones, 82.

[20] John Garnett, "Strategic Studies and its Assumptions", in John Baylis, Ken Booth, John Garnett and Phil Williams, *Contemporary Strategy: Theories and Policies* (London: Croom Helm, 1975), 7.

[21] Some, for example Edward Luttwak, have proposed an even broader definition of strategy; he deems it "the conduct and consequences of human relations in the context of actual or possible armed conflict." Edward N. Luttwak, *Strategy: The Logic of War and Peace* (Cambridge, Mass.: Harvard University Press, 1987), 4 and Appendix 1. While such a panoramic definition is not without its merits, its breadth complicates analysis and renders it unsuitable to a project aimed at defining a framework for strategic lessons learned for a military organization.

[22] It is worth noting that the term "strategy" is, in the sense in which it is currently understood, itself a fairly recent innovation. In translating and editing Frederick the Great's *Military Instructions to his Generals* and other treatises, Jay Luvaas notes that Frederick, who wrote in French, never used the word "strategy" because it was not part of his vocabulary. Luvaas used "strategy" in its military connotation, in place of "campaign plans." Jay Luvaas, ed. and trans., *Frederick the Great on the Art of War* (New York: The Free Press, 1966), 306. That said, even Frederick acknowledged that strategy is based not only on friendly and enemy forces and the situation in the country where battles are likely to take place, but also on "the actual political condition of Europe." (*ibid*., 307-08).

The term ‘grand strategy’ in its contemporary sense came into general usage in the interwar period as a consequence of the emergence of the concept of ‘total war’ – conflict which sees “all the resources of the nation...directed toward the making of war.” Edward Mead Earle advanced the term in 1940 to “designate the integration of the policies and armaments of the nation,”[23] which would thereafter be the defining characteristic of inter-state conflict. It is “the interactive and holistic process of understanding, defining, and achieving the long-term goals of an entire society…the tapestry vision of a decade, or a lifespan, or many lifetimes.”[24] Edward Luttwak defines grand strategy as the “highest level” of strategic thought and organization, “where all that is military happens within the much broader context of domestic governance, international politics, economic activity and their ancillaries.” It is at this level, he argues, and only this level, that “ultimate ends and basic means are both manifest”; and it is therefore at the level of grand strategy that the “resource limits of military action” are defined by the political authorities.[25] This ordering is consistent with the principles espoused by Clausewitz, who averred that the role of the strategist is to “define an aim for the entire operational side of the war that will be in accordance with its purpose,” proposing to use that aim to “determine the series of actions intended to achieve it...[to] shape the individual campaigns and, within these, decide on the individual engagements.” This can only happen, Clausewitz argued, “[once] it has been determined, from the political conditions, what a war is meant to achieve and what it can achieve.”[26]

It is important to note that classical sources often conflate what are today understood to be clear distinctions between hierarchical levels of analysis. When Clausewitz and Jomini were writing, for example, what we today consider to be the operational level of war did not exist. The articulation of an operational level of war was not incorporated into Western doctrine and literature until the 1980s. For this reason, it is important to understand that we are using modern concepts, and that while the differing levels exert influence both upwards and downwards, for analytical purposes we must maintain a clear distinction between the tactical, operational, strategic and political levels. As noted above, the focus of this paper is on the strategic and political levels, and the overlap between them.

While Luttwak warns that “definitional nets made by abstract phrasemaking can capture only the hollow forms of strategy and not its protean content,”[27] the development of a framework for analysis demands the articulation of a hierarchy of definitions. One such is offered at Figure 1. Adopting an amalgam of the definitions offered by Clausewitz, Jomini, Moltke, Luttwak and others, we may – beginning at the lowest organizational level of combat activity, the clash of arms between individuals – posit that ‘tactics’ comprise the use of military personnel and equipment to win engagements or local battles; that ‘operations’ involve the use of engagements or battles, and such additional military resources as may be necessary, to win campaigns on a theatre-wide basis; and that (military) strategy comprises the use of the outcomes of contests in varied operational theatres (i.e., campaigns) – again, with such additional military resources as may be necessary – to win wars, which is to say, to achieve the military objectives required to support the government's policy.

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[23] Karl Haushofer, one of the fathers of the school of geopolitics, used the term “political strategy” to denote the difference between war policy, the province of government, and military policy, the province of generals. The Earle passage is cited in Derwent Whittlesey, “Haushofer: The Geopoliticians”, in Edward Mead Earle, *Makers of Modern Strategy: Military Thought from Machiavelli to Hitler*, 1971 ed. (Princeton, NJ: Princeton University Press, 1943), 393.

[24] Gregory R. Copley, “Grand Strategy in an Age of Tactics”, *Defense & Foreign Affairs Strategic Policy*, Vol. XXXVI, No. 1 (January 2008), 5-6.

[25] Luttwak, *Logic*, 70.

[26] Clausewitz (Howard and Paret), 177-78.

[27] Luttwak, *Logic*, 71

Sustaining the combat (or to use a less bellicose term, 'force employment') hierarchy requires super-ordinate activities that are distinct from, but that closely influence and are intimately influenced by, combat activities. These non-combat activities, according to Millett and Murray, are focussed primarily on designing and creating the forces necessary to carry out the combat activities that are, or that may be, needed to support the government's policy. They term these activities 'military effectiveness', and note that they are supported by 'military political effectiveness', complementary activities within the military structure that are aimed at determining and obtaining, from the appropriate political authorities, the resources necessary to create the force structure needed to support the government's objectives. All of these non-combat activities take place within the military organization at the same level as military strategy, but they tend to be executed by a different array of military staffs; and as with the process of formulating military strategy, they inherently involve interaction with political authorities.[28]

In the post-Transformation organization currently in place in DND, the principal division between the combat and the non-combat activities is that the latter fall under the responsibility of the agencies responsible for building the force structure required to support government policy (force development) and generating forces for employment (force generation). These activities are the domains, respectively, of the Chief of Force Development and the environmental commands. The combat activities, by contrast – the actual employment of the forces that have been built and generated for operational employment by the non-combat activities – are the province of the operational commanders.[29]

Continuing the process diagram upwards, and again working from the definitions outlined above, we see that the combat and non-combat activities are directed by the strategic-level agency responsible for devising and executing the military organization's overall plans for the creation and use of military forces in order to execute the tasks assigned by government within the scope of allocated resources. This, to borrow a phrase from Chester Barnard, is the "function of the executive" level of the organization.[30] The military executive receives tasks and resources from a constitutionally or legally empowered authority, and provides direction and resources to its subordinate agencies. These agencies produce their own plans to meet the assigned tasks within the scope of assigned resources, providing feedback to the executive authority in due course. The activities of the executive level of the military organization, the upper echelon of combat activities, and the entirety of the non-combat activities necessary to enable the organization to undertake combat activities together constitute the strategic level of activity that is the principle focus of the present study.

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[28] There are of course analogous force (re-)generation and sustainment activities at the operational and tactical levels, but as this study is focussed on developing a framework for lessons learned at the strategic level, they may be overlooked for now.

[29] This simplified explanation is not intended to convey the impression of impenetrable barriers between horizontally or vertically related activities; it is acknowledged that, for example, Special Forces Command conducts some specialized force development and force generations functions in order to create the sort of capabilities it requires to execute its assigned tasks. Furthermore, it should be noted that Operational Support Command is an enabling command rather than a force employer.

[30] Barnard defines three essential "functions of the executive" in any organization: first, to provide for the system of communication necessary to enable cooperation; second, to promote the securing of "essential efforts" by individuals, without which the organization cannot execute its tasks; and third, to formulate and define purpose. Other functions are necessary to enable an organization to run smoothly, but without these indispensable ones, it cannot run at all. Chester I. Barnard, *The Functions of the Executive*, 30th Anniversary ed. (Cambridge, Mass.: Harvard University Press, 1968, printed 2002), 217.

The executive level of the military organization, however, also serves as part of the next analytical level, which is to say that of policy. Although it stands at the head of the military organization, the military executive in liberal democratic states characterized by constitutional subordination of the military to civilian control remains at all times subject to civilian authority.[31] As one of the principal tools of policy available to the state, the military organization – like all organizations subordinate to the formal executive – requires direction, tasks and resources. These should be, respectively, assigned and allocated by government via the formulation of a national security strategy consisting at its core of three key elements: an articulation of the national interests of the state,[32] with a determination (to borrow a notion from Lord Palmerston) of which interests are enduring, and therefore vital; an assessment of extant and near-term threats to national interests;[33] and a plan for defending and advancing the national interests of the state consisting of an articulation of the government's strategic goals; the derivation therefrom of tasks to be carried out by government agencies; and the allocation of resources required by those agencies in order to carry out their assigned tasks.[34]

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[31] It is noteworthy that Moltke, a Prussian, argued that while a commander should be free in the execution of military operations, civilian authority in the realm of politics remains paramount, and that "fluctuating political aims and circumstances" are certain to affect military strategy. Hajo Holborn, "Moltke and Schlieffen: the Prussian-German School", in Earle, 178.

[32] Jomini argued that governments go to war for six reasons: "to reclaim certain rights, or defend them; *to protect and maintain the great interests of the state*; to maintain the balance of power; to propagate religious or political theories, to crush them, or to defend them; to increase the influence and power of the state by acquisitions of territory; [and] to gratify a mania for conquest." (emphasis added) While modern liberal democracies are likely to launch war only for one (or both) of the first two reasons, examples of all six can easily be found in the 20th Century alone. Henri Antoine de Jomini, *Summary of the Art of War*, ed. J.D. Hittle, in *Roots of Strategy, Book 2* (Harrisburg, PA.: Stackpole Books, 1987), 439.

[33] A threat is defined by human agency and consists of the intent to harm the interests of the state combined with the capability to do so. This distinguishes threats from challenges, which although they may be enormously destructive, are not directed by human intention. Assessments of threats to national interests must, in order to be useful, focus primarily on assessments of the capabilities of those who intend to inflict harm. As John Mearshimer notes, "intentions are ultimately unknowable, so states worried about their survival must make worst-case assumptions about their rivals' intentions. Capabilities, however, not only can be measured but also determine whether or not a rival state is a serious threat. In short, greats powers balance against capabilities, not intentions." John Mearshimer, *The Tragedy of Great Power Politics* (New York: W.W. Norton and Company, 2001), 45. At the same time, it is possible to go too far; as Richard Ned Lebow notes, "attempts to predict war on the basis of military balance are...likely to be misleading" and may "encourage prediction of wars that never come to pass." Even if perfect knowledge is inherently impossible, assessment of intentions is a vital component of threat analysis. Richard Ned Lebow, "Windows of Opportunity: Do States Jump Through Them?", in Steven E. Miller, ed., *Military Strategy and the Origins of the First World War* (Princeton, N.J.: Princeton University Press, 1985), 185.

[34] Interests as the motivating elements of state policy are not new. Thucydides, for example, chronicled the Melian Debate that took place in the sixteenth year of the war between Athens and Sparta in the 5th Century B.C., in the form of a comparison of the interests of the two parties expressed in terms easily recognizable to any modern student of *realpolitik*. Thucydides, *The History of the Peloponnesian War*, ed. and trans. By

Between the political level, which in a liberal democratic state is at least in theory the exclusive province of government, and the level of military strategy, which is largely if not exclusively the province of the armed forces of the state (under civilian direction in the person of their organic civilian Minister, Secretary or other official), lies an area of significant overlap. We have termed this rather unsatisfactorily the "political/military-strategic" level of analysis. The purpose of highlighting the existence of this level (which is acknowledged to exist in practice, if not necessarily in formal organization or legislation) is to underscore the fact that while the military forces of a democracy are both by custom and by law subordinate to civilian authority, there are elements of the political process – in particular, those concerned with the formulation of grand strategy and its translation into security and defence policy – that are difficult to undertake logically and rigorously without participation by those senior leaders among the armed services responsible for the formulation and execution of the military strategy that is the ultimate purpose of the policy process.

Even if elected or appointed civilian officials are experts in strategic and military affairs – and this is rarely if ever the case – participation by senior military leaders will still be required in order to ensure that the civilian officials engaged in policy formulation have all of the data necessary to enable informed decision-making.[35] The responsibility for the provision of advice concerning the "control and administration of the Canadian Forces" legally falls to the Chief of Defence Staff, as these are the duties attending the post specified by the *National Defence Act*.[36] The *Act* makes no similar provision for the Deputy Minister (indeed, the *Act* specifies no duties or responsibilities whatsoever for that appointment[37]; the Deputy Minister's authority to act in his or her Minister's stead derives from the 1985 *Interpretation Act*[38]). While the *Interpretation Act* gives the Deputy Minister the authority to act in the Minister's stead in a vast array of circumstances, the provision of military advice to government remains the legal responsibility of

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Sir Richard Livingstone (London: Oxford University Press, 1943), Book V, paragraphs 87-111, pp 266-272. Gaddis, incidentally, highlights the Melian Debates as an example of Thucydides' particular genius for combining painstaking detail with abstracted generalizations. John Lewis Gaddis, *The Landscape of History: How Historians Map the Past* (Oxford: Oxford University Press, 2002), 14.

[35] Such participation cannot be taken for granted. During the Cuban Missile Crisis, for example, "serious obstacles prevented…dialogue between senior military and political leadership, the end result of which was a lack of essential information upon which to make clear decisions." As a result, "Canadian political leadership hesitated at a key time when, despite misgivings over a lack of prior consultation, it was time to close ranks with our closest ally in defence of the continent." Brad W. Gladman and Peter M. Archambault, *Confronting the 'Essence of Decision': Canada and the Cuban Missile Crisis*, DRDC CORA TM 2010-250 (Ottawa: DRDC CORA, November 2010), 56.

[36] *National Defence Act* (1985), §18(1).

[37] In practice, the Deputy Minister is responsible for the management of the Department of National Defence; however, unlike the Chief of Defence Staff, this responsibility has no basis in legislation. The *Act's* only provision for the position and function of Deputy Minister is a single sentence: "There shall be a Deputy Minister of National Defence who shall be appointed by the Governor in Council to hold office during pleasure." *National Defence Act* (1985), §7.

[38] The *Interpretation Act* provides that "Words directing or empowering a minister of the Crown to do an act or thing, regardless of whether the act or thing is administrative, legislative or judicial, or otherwise applying to that minister as the holder of the office, include… (*c*) his or their deputy." *Interpretation Act* (1985), §24(2).

the CDS.[39] The unfettered upwards flow of military and administrative advice from (respectively) the CDS and DM is an indispensable input to decision-making at the political/military strategic level about the use of force in the national interest. While it is constitutionally acceptable to bypass this formal mechanism both to seek military advice and to deploy the armed forces, [40] circumventing legislated mechanisms risks weakening them. This, as Gladman and Archambault warn, can result in "strategic laziness" that may impede or even prevent sound decision-making in time of crisis or war.[41]

The flow of information and advice, moreover, must be bidirectional. Richard Hart Sinnreich reminds us of what ought to be a blinding flash of the obvious: that "developing and fielding military capabilities without, at the very least, considering their grand strategic implications probably is unwise."[42] But how do force planners and developers do this? It is, after all, the activities at the uppermost level of the hierarchy that comprise 'grand strategy' – the organization of all of the resources available to government in the defence and furtherance of what Mahan called "the political necessities and interests of states."[43, 44] Canadian governments, it must be noted, have historically been lax in articulating the vital interests of the state, with the result that Canada's defence needs have been equally poorly articulated; as Desmond Morton notes, "Beyond supporting civil authority, meeting explicit alliance commitments and answering urgent calls from the United Nations, there has seldom been a clear definition of what Canada must do in its own defence."[45]

Because vital national interests are enduring and grand strategies are designed to protect and advance vital national interests as a priority, grand strategies should also display enduring characteristics.[46] The historical laxity in defining Canada's vital national interests has led to the perception that they are arbitrary in nature, rather than enduring, and has led to confusion as to whether grand strategy should be driven by interests or by abstract notions like national values. This also is a consequence of the "strategic laziness" identified by Archambault and Gladman.

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[39] Further definition of the roles and responsibilities of senior Departmental officials dervies from, *inter alia*, the *Federal Accountability Act* and the *Financial Administration Act*. There is no hierarchy among Acts of Parliament; all are equal.

[40] See, for example, Philippe Lagassé, "Accountability for National Defence: Ministerial Responsibility, Military Command and Parliamentary Oversight", IRPP Study No. 4 (March 2010), especially pages 6-7.

[41] Gladman and Archambault (2010), 58-59.

[42] Richard Hart Sinnreich, "Patterns of Grand Strategy", in Murray, Sinnreich and Lacey, 267.

[43] Another parallel definition of grand strategy, in more contemporary terms, is "the co-ordinated packaging and use of all the instruments and power, military and non-military, at the disposal of a nation or an alliance to attain prescribed objectives." Greg D. Foster, "A Conceptual Foundation for the Development of Strategy", in James C. Gaston, ed., *Grand Strategy and the Decisionmaking Process* (Washington, D.C.: National Defense University Press, 1992), 72.

[44] Alfred Thayer Mahan, *The Influence of Sea Power Upon History 1660-1783* (New York: Dover Publications, 1987), 92.

[45] Desmond Morton, "What to Tell the Minister", in M. Douglas Young, *Report to the Prime Minister* (Ottawa: Minister of National Defence, 25 March 1997), 10-11.

[46] One of the authors (Neill) argued 20 years ago that Canada's national security interests might best be viewed as a series of concentric circles, with national security at the centre, followed by regional (Canada-US), trans-Atlantic (NATO) and global security. Successive defence White Papers and policies (in 1994, 2005 and 2008) have reinforced this view, suggesting that some interests are indeed enduring. Donald A. Neill, "Back to the Basics: Defence Interests and Defence Policy in Canada", *Canadian Defence Quarterly*, December 1991, 42.

A grand strategy by definition also tends to reflect what might be termed the nation's animating idea to an extent not seen in subordinate expressions of government intent and activity. While Bismarck's approach to grand strategy, for example, according to Marcus Jones, was based on "a coldly unsentimental understanding of the state's interests and how to pursue them,"[47] his assessment of the ends and means by which they were to be pursued remained at all times subordinate to an overarching vision of what a greater Germany could, and ought, to be: an industrial giant, a military powerhouse, and a living national embodiment of the principle that greatness lay within the reach of any nation willing to expend "blood and iron" to achieve it. Germany's vital interests, in Bismarck's vision, were those that served the ends of this overarching animating idea.

There are modern parallels to the Bismarckian exemplar. One example of an enduring core component of a grand strategy designed to organize the efforts and resources of a state in the service of a super-ordinate idea is NSC-68. A National Security Council Report issued in April 1950, NSC-68 proposed 'containment' as the key element of policy to counter the threat of Soviet expansion. NSC-68 was approved by President Truman in September 1950 via an implementing directive specifying three broad strategic objectives: rebuilding America's shrunken conventional forces, both for Korea and for contingencies elsewhere; strengthening strategic nuclear forces to "present a more credible deterrent to aggression against [America's] truly vital interests"; and assisting European allies in bolstering their respective deterrent postures.[48] In conjunction with other axes of political-strategic effort (e.g., development of international institutions aimed at advancing free market democracy, like the General Agreement on Tariffs and Trade, the International Monetary Fund, the World Bank, etc.), containment was seen as the only practical alternative to grossly unpalatable options like declining to assist European political and economic reconstruction, or direct confrontation with the Soviet Union.[49]

Containment, of course, was merely a new strategic approach intended to counter an emerging threat (Soviet expansionism), much as previous themes had emerged to counter previous threats to US vital national interests. The grand idea that NSC-68 served, of course, was that which had been first expressed by the Puritan John Winthrop, the first governor of the Massachusetts Bay Colony, who, in describing the new colony, cited Matthew 5:14: "Ye are the light of the world; a city on a hill cannot be hid" – the unquestioned, possibly unquestionable, understanding that representative liberal democracy as exemplified by the United States was the best of all governmental systems, and that America was truly exceptional. Monroe's refusal to permit interference in America's sphere of influence, Lincoln's conception of the division between federal and state powers, and Roosevelt's determination to combat fascism, were similarly all responses to existential threats. The primordial aim of Washington's grand strategy, accordingly, was to prevent Soviet totalitarianism from rolling back the gains that had been won for democracy in war, at a terrible cost in lives and treasure.

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[47] Marcus Jones, "Strategy as character: Bismarck and the Prusso-German question, 1862-1878", in Williamson Murray, Richard Hart Sinnreich and James Lace, eds., *The Shaping of Grand Strategy: Policy, Diplomacy, and War* (Cambridge, UK: Cambridge University Press, 2011), 87.

[48] Paul Nitze, "The Grand Strategy of NSC-68", in Gaston, 33-35. Nitze was part of the study group that drafted NSC-68 – as was George F. Kennan, author of the 1946 "Long Telegram" from Moscow that coined the term and concept of "containment."

[49] Colin S. Gray, "Harry S. Truman and the forming of American grand strategy in the Cold War, 1945-1953", in Murray, Sinnreich and Lacey, 210-253.

Over two decades, the grand strategy grounded in NSC-68 resulted in the comprehensive reorientation of America's military posture and the redirection of a significant proportion of its national resources to counter the Soviet threat; and it both informed and led directly to, *inter alia*, the Eisenhower doctrine, the nuclear arms race, Washington's enormous and long-standing troop deployments in Western Europe and the Western Pacific, America's long war in Vietnam, and to a certain extent the space race – all with the intent of countering Moscow's global ambitions and protecting America's vital national interests. Until Nixon inaugurated the era of US-Soviet détente and normalized relations with China, NSC-68 constituted Washington's predominant strategic *weltanschauung* ('world view'), enormously influencing how successive administrations, regardless of their political stripe, anticipated, observed and responded to international events;[50] and it continued to serve as a strategic plimsoll line against which subsequent strategic visions (e.g., Nixon's détente efforts, and Reagan's rearmament and competition programme) were measured, until its ultimate goal was achieved in the crumbling and final collapse of the Soviet Union.

Not all grand strategies are as durable, naturally, and not all elements of a grand strategy are equal. Figure 1 posits a gap between the articulation of national interests and the other, subordinate activities that together comprise 'grand strategy'. As noted above, vital national interests are by definition sufficiently permanent that they tend to outlast governments; and they are of interest to the analyst because threats imperilling vital interests are the principal reason for which modern states risk war.[51] Unlike 'policies' and 'values', which tend to reflect the political leanings and character of the government of the day and the predispositions of its most influential members (resulting in eponymous doctrines that as a rule rarely outlast their originators), vital interests do not change when governments do; if they do not transcend political predilections and transitory concerns or preoccupations, they cannot be said to be truly 'vital'. By contrast, *who* a given government understands to pose a threat to the vital interests of the state; *how* that government plans to overcome identified threats; and *what* tasks and resources it assigns to its subordinate agencies in support of its plans are all inherently political questions, and as such the manner in which a government answers them tends to be influenced by the political concerns and predispositions of the government formulating and giving effect to grand strategy.[52] Thus, even though all of these activities share the upper level of what has been referred to as 'political strategy', vital interests occupy a special place *primus inter pares*, precisely because they are by definition above politics.

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[50] This interpretation is still debated. John Lewis Gaddis, for example, considered that the essential elements of the policy of 'containing' the USSR antedated Kennan and endured until the collapse of the Soviet polity. John Lewis Gaddis, *Strategies of Containment*, Revised and Expanded Ed. (New York: Oxford University Press, 2005).

[51] "[W]hatever the theory or rationalization, in practice, war has been resorted to in response to the subjective interpretation of their interests by the entities actually possessing political power." Quincy Wright, *A Study of War*, 2nd Ed. (Chicago: University of Chicago Press, 1964), 94 and 110.

[52] Because a threat derives from the intent to do harm in conjunction with the capability to do so, threats to national interests are defined principally by 'who' – an adversary – and only secondarily by 'how' they intend to strike. The tendency to add to lists of potential threats events ('what' may happen) without considering the actors that are likely to perpetrate them ('who' intends to cause the event to happen), or to include natural events that lack actors altogether, misrepresents the most important characteristic of a threat – the human intent behind it. Earthquakes, storms or droughts, while potentially damaging, do not constitute threats because there is no intent to cause harm, and the vital interests of the affected state are not specifically targeted. See Peter Archambault, "Reflections on the Proliferation of Threats", DRDC CORA TN 2009-020, June 2009.

Recalling the categories of activity posited in the introduction, the hierarchy outlined above may be subdivided as follows: current policy, derived from enduring grand strategy, constitutes the 'ends' sought by government; the strategies articulated by the various government departments to execute their assigned tasks (and coordinated by a central agency, in Canada's case, the Privy Council Office) constitute the 'ways' whereby policy is given effect; and the resources allocated to departments along with their assigned tasks constitute the 'means.'

Returning to Figure 1, then, a framework for strategic-level lessons learned should encompass, for the purpose of reviewing organizational actions and, where appropriate, offering recommendations for remedial or adaptive measures, all activities that take place at the *strategic* level – to wit, the development and execution of departmental plans in response to tasks and in accordance with resource levels assigned by government; and, from these plans, the strategic-level activities in the interrelated fields of force development and force generation (defining and creating the shape, size and characteristics of the force required to execute the tasks assigned by government; and determining and obtaining the resources necessary to do so), and the use of force to achieve strategic objectives in accordance with government policy. A lessons learned process supported by rigorous analysis at the strategic level enables all subsidiary lessons learned activities; as Millett and Murray posit, "without the guiding framework of strategic judgment, all tactical and operational expertise counts for nothing."[53] Research and analysis undertaken in the interest of developing and implementing a lessons learned process at the strategic level should be focussed on issues and questions emerging from military actions that involve (a) the use of force to achieve the political objectives assigned by government; (b) the central design and development of the force structure necessary to give effect to government policy; and (c) the political-strategic activities aimed at acquiring and allocating resources in order to accomplish (a) and (b). Together these criteria encompass strategic-level force employment, force development, and force generation activities. This is specifically intended to exclude operational-level activities as defined by Gladman.[54]

Research and analysis in these areas cannot, however, be confined only to the "strategic" level. Just as the military estimate and operational planning processes enjoin practitioners to "think one up and plan two down," so it is with research and analysis. In order to arrive at a comprehensive understanding and assessment of the effects of strategic-level decisions and actions, it will be necessary to consider not only their impact on downstream decisions and actions at the operational and tactical levels of military activity (which is where, after all, any weaknesses in strategic planning usually first become evident), but also the extent to which strategic-level activities conform to, follow logically from and are impacted by the political objectives established, the political direction set, and the resources allocated by government. This fact alone necessitates both a thorough appreciation of the process whereby the key elements of grand strategy – the articulation of national interests, the assessment of threats to those interests, the design of responses to threats, and the assignment of tasks and resources – are arrived at by government and translated into direction to departments, and an analytical obligation to assess the impact of any lacunae in higher direction.[55]

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[53] Millett and Murray (2010), xix. And, one might add, vice-versa.

[54] See Brad Gladman, *The Requirements for a Canada Command Integrated Operating Concept*, DRDC CORA TR 2006-39. Ottawa: DRDC CORA, January 2007.

Figure 1, we hasten to add, is not intended to offer either a comprehensive list of the policy, planning, force development and force employment activities of a state and its military forces, nor is it intended to serve as a definitive hierarchical ordering among them. It is nothing more than a shorthand sketch, intended to provide only the foundations of a framework for analysis. The hierarchical linearity of such a model notwithstanding, it is important to bear in mind, as Luttwak advises, that we cannot afford to "see strategy as a multilevel edifice, offering a different truth on every floor."[56] The levels of activity and analysis form a contiguous spectrum of contemplation and activity, and the divisions between them are epistemic and permeable rather than rigid. As such, we defer once again to Clausewitz, whose preferred method of critical analysis (*kritik*) advocates the study of war via the interrelationships between cause and effect at all analytical levels.[57] The vertical divisions are more appropriately viewed as graduated steps in a continuum in which tasks and resources flow continually downward, while the outcomes of events and advice flow ever upwards, informing – hopefully – the next iteration of the process of assigning tasks and resources to those charged with giving effect to the government's grand strategy.

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[55] MacMillan, citing Sir Michael Howard, reminds us that the "proper role for historians" is to "challenge and even explode" the conventional wisdom represented by accepted narratives. Margaret MacMillan, *The Uses and Abuses of History* (Toronto: Viking Canada, 2008), 39.
[56] Luttwak, *Logic*, 112.
[57] Eliot A. Cohen and John Gooch, *Military Misfortunes: The Anatomy of Failure in War* (New York: The Free Press, 1990), 45. Emphasis added.

3 Analyzing the military organization

In their seminal work on failure in war, Eliot Cohen and John Gooch argue that in order to produce useful and objective results, the study of military disasters is best approached from a standpoint not of individual but rather of organizational failure. While the complexity, geographic scale and frequency of modern warfare tend to dilute errors by individuals, modern technology has the potential to amplify individual errors. Although such errors do not necessarily always lead to the sorts of military disasters discussed by Cohen and Gooch, individual errors can lead to significant strategic consequences. This is an additional factor beyond those addressed by Cohen and Gooch in their discussion of the sorts of cascading errors that may lead ultimately to the collapse of an armed force.[58] One of the goals of learning at the strategic level is to identify post-facto those combinations of critical events and errors that, had events played out differently, might have led to vastly different outcomes.

The authors of *Military Misfortunes* focus their discussion on "the organizational dimension of strategy," probing through detailed historical analysis the linkages between the political and strategic levels of decision and command in order to establish what actually happened, and why. In their view, "it is in the deficiency of organizations that the embryo of misfortune develops."[59] At its most basic, an organization may be defined as a "system of consciously co-ordinated personal activities or forces,"[60] the complexity of which increases proportional to the number of goals the organization must achieve and the number of "personal activities or forces" that must be co-ordinated in order to achieve them. While organizations are composed of individuals, it is the organizations, not the individuals, that constitute the basic structural element of governmental activity, and that therefore serve as the fundamental unit of analysis.

> [G]overnments perceive problems through organizational sensors. Governments define alternatives and estimate consequences as their component organizations process information; governments act as these organizations enact routines. Government behaviour can therefore be understood...less as deliberate choices and more as outputs of large organizations functioning according to standard patterns of behaviour.[61]

Organizations, Graham Allison argues, display inertia as it was defined by Newton; like an object in motion, "the parameters of organizational behaviour mostly persist," continuing on in the same direction and at the same speed unless an external force is imposed on them.[62] But organizations can change, and when they do, it is generally also in response to external forces, whether environmental conditions or human agency.[63] Organizations can also "learn," which is to say they are able to transform their own structural, compositional and operational characteristics in response to lessons derived from experience.

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[58] Cohen and Gooch argue that it is possible to gain perspective on military failures by comparing them to industrial accidents. Cohen and Gooch, 232.

[59] Cohen and Gooch, 38 and 56-57.

[60] Chester I. Barnard, *The Functions of the Executive*, 30th Anniversary ed. (Cambridge, Mass.: Harvard University Press, 1968, printed 2002), 71.

[61] Graham T. Allison, *Essence of Decision: Explaining the Cuban Missile Crisis*, 2nd Ed. (New York: Longman, 1999), 143.

[62] Alison, 171.

The goal of any organizational lessons learned process is to minimize the requirement for reactive adaptation by maximizing anticipatory adaptation leading to the incremental and continuous improvement of the ability of the organization to produce the outputs that it is designed to provide. Learning processes aimed at transforming an organization in response to evolving environmental factors leading to, amongst other things, changes in required outputs may consist of both anticipatory adaptation, i.e., changes adopted before the fact in response to a perceived but not yet actual need; and reactive adaptation, i.e., changes adopted during or after a crisis in response to an observed gap in capability or performance.[64] Anticipatory adaptation is the most difficult to achieve because organizational weaknesses and gaps often do not become apparent until a crisis erupts.[65] Anticipatory adaptation, moreover, entails prediction and speculation, especially concerning the formulation of assumptions about what a crisis may look like and how the military organization will likely react to it. The nature of making assumptions about the future is such that accuracy is inversely proportional to specificity.[66] Predictions and projections that are broad enough to avoid error are generally too broad to be useful to the policy and force planning and development processes; while predictions that are sufficiently specific to be useful are virtually guaranteed to be wrong.

Improving an organization means first and foremost improving its system for coordinating the "personal activities or forces" that constitute its raison d'être. The key criterion for organizational success is the ability to identify the desired end-state consistent with overarching strategic goals; identify the objectives needed to reach that end-state; and then design and execute actions to reach the desired end-state. Barnard defines an *effective* action as one through which "a specific desired end is attained"; an *ineffective* action, therefore, is one which fails to attain the desired end. This is a binary measure, and therefore obviously distinct from the definitions of 'effectiveness' proposed by Millett and Murray, who hold that "the basic characteristics of military effectiveness cannot be measured with precision," and argue that "instead, any examination must rely on more concrete indicators of effectiveness at the political, strategic, operational and tactical levels."[67]

An *efficient* action, by contrast, is one in which "the unsought consequences [of action] are unimportant or trivial," while an *inefficient* action is one in which the "unsought consequences…are more important than the attainment of the desired end and are dissatisfactory."[68] A composite of these definitions allows for the evaluation of any given organizational action on two axes: effectiveness, i.e. whether an organization's stated ends are achieved; and efficiency, i.e. the extent to which the method or manner of achievement results in "unsought consequences" that may potentially outweigh the benefits of achievement (see Figure 2).

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[63] Ernst B. Haas, "Words can hurt you; or, who said what to whom about regimes", in Stephen D. Krasner, ed., *International Regimes* (Ithaca, N.Y.: Cornell University Press, 1983), 42.

[64] D.A. Neill, *The Evolution of Organizational Structures, Policies and Procedures for Crisis Management: NATO, Kosovo and the Transition from Collective Defence to Collective Security* (University of Kent, 2006; doctoral dissertation, unpublished), 21.

[65] These theoretical conclusions are reinforced by Williamson Murray, who concluded that in practice, adaptation tends to take place under wartime pressures, while innovation tends to take place during periods of relative peace. Williamson Murray, *Military Adaptation in War* (Alexandria, VA: Institute for Defence Analysis, June 2009), *passim*.

[66] Murray, *Military Adaptation*, 8-6 and 8-7.

[67] Millett, Murray and Watman, "The Effectiveness of Military Organizations," in Millett and Murray (2010), 3.

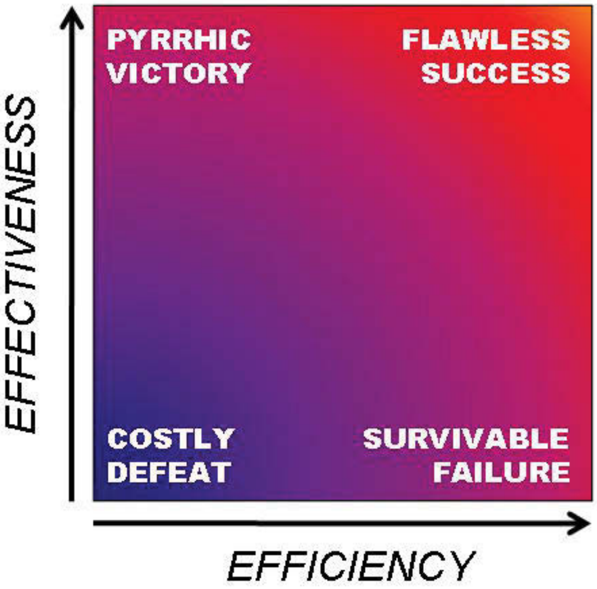

Figure 3 – A biaxial model for effectiveness/efficiency of organizational actions

Based on the quadrants deriving from such a bi-axial performance matrix, variations on four general outcomes of an organizational action are possible: flawless success (high effectiveness, high efficiency); survivable failure (low effectiveness, high efficiency); Pyrrhic victory (high effectiveness, low efficiency); and costly defeat (low effectiveness and efficiency). While transient organizations established to realize a single, temporary goal do not necessarily require efficiency because they are not intended to endure beyond achievement of the ends sought, organizations aspiring to permanence and durability – like armies – in general need to be both effective *and* efficient if they are to survive.[69]

Assessing the effectiveness of a given action is straightforward; one need only measure outcomes against intentions to determine whether an action has achieved its stated goals, an evaluation that may be as simple as a success/failure criterion. While in an era of persistent conflict it may be seen as desirable to conduct continuous reassessments of strategic effectiveness, in a DND/CF context, as a general rule, it may be difficult, and ultimately misleading, to attempt to reach final judgements until after – in some cases, long after – the guns have fallen silent.[70]

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[68] Barnard, 19.

[69] Barnard, 82.

[70] The episodic character of DND/CF involvement in operations is fundamentally different from the experience of states that tend to find themselves engaged in continuous operations (e.g., the US, Israel). As such, it is often possible to identify defined end-dates for Canadian commitments, thereby facilitating

Assessing efficiency may be more challenging, and requires (amongst other things) a broad and profound understanding of what is at stake in a given enterprise. With respect to an action intended to achieve a strategic result, efficiency can only be assessed in light of a comprehensive assessment of strategic interests and aims and how these are likely to be affected by the potential risks, costs and benefits of action (or inaction). Because only interests and aims can be fully known from the outset – risks, costs and benefits are of course subject to speculation, but can only be fully known after the fact – strategic assessments conducted ante-bellum are by their very nature exercises in judgement based on informed speculation. Only once an action has played out is it possible to achieve a comprehensive accounting of the risks engaged, the costs incurred and the benefits gained as the result of an action. These outcomes may then be measured against ante-bellum strategic interests and aims in order to determine the extent to which the organization's aims have been achieved, and broader strategic interests bolstered or undermined, by the action in question.[71]

Such a comparative analysis of the inputs to and outcomes of an organizational action is the foundation of the strategic lessons learned process. The importance of assessing organizational actions on both axes – whether the organization's aims were achieved, and whether the costs of the actions, regardless of their outcome, were commensurate with the gains achieved – implies that any strategic lessons learned process should proceed along two axes of investigation analogous to those featured in Figure 2. The framing questions proposed herein will be designed with these two axes in mind. It also follows that the process, in order to have a reasonable chance of bearing relevant fruit, has four key characteristics that ought to be satisfied before even the initial research question is posed. First, researchers must be able to count on the honest, accurate and transparent accounting by all involved of the logic underlying the risks taken, the costs (especially of any "unsought consequences") incurred, and the benefits obtained in the course of planning, preparing for and executing the action. Absolute transparency is a necessary counter to the problem of what McGeorge Bundy euphemistically described as "selective truth-telling" by individuals and organizations.[72] Second, rigorous research will entail generating a comprehensive understanding of the aims of the action (both at its outset, and subsequent to any evolution of political goals in the course of the conflict) in the context of the strategic interest(s) that the action was intended to serve. Third, achieving universal acceptance of

INTELLECTUAL CHARACTERISTICS OF A LEARNING ORGANIZATION

- **honest, accurate and transparent accounting of risks, costs and benefits**
- **comprehensive understanding of the aims of military action in the context of the interests it is intended to serve**
- **organizational willingness to work towards self-improvement in good faith through frank and open discussion**
- **analytical perspective, temporal distance, and objectivity**

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strategic-level research and analysis. For example, the Canadian engagement in Afghanistan may be broken into clearly delineated periods for analytical purposes.

[71] Clausewitz, Sun Tzu and Machiavelli all warned their political masters about the possibility that the costs of war can easily outweigh its benefits. William C. Martel, *Victory in War*, Revised and Expanded Ed. (Cambridge, UK: Cambridge University Press, 2011), 83.

[72] McGeorge Bundy, *Danger and Survival: Choices about the Bomb in the First Fifty Years* (New York: Vintage Books, 1990), 611.

the research programme will require a willingness on the part of the organization and its constituent agencies to work toward their own betterment in good faith through maximal disclosure and thorough discussion and analysis of error and its many sources.

The fourth requirement is analytical perspective and objectivity, which as a rule can only be achieved through investigation by a disinterested external agency. A certain degree of distance is key because organizations tend to devote "considerable energy to developing collective understandings of history" that are heavily dependent upon frames of experience evolved in the course of organizational actions and within which a collective, agreed version of events develops.[73] Organizational learning, consequently, may be subject to artificial bounds and constraints that may not be obvious to 'insiders'; as Allison notes, while organizations are often able to assimilate new situations with "considerable skill," they tend to do so "within the world view of the organization's culture."[74] Periodic objective reassessments by disinterested external observers not only of assumptions but also of internally-developed narratives may be necessary to help an organization escape an analytically limiting paradigm. Such reappraisals may also be necessary to smooth out the "uneven" nature of learning from action to action,[75] and to assist in rupturing stultifying prejudices and narrow perspectives. The goal of organizational learning, after all, is to effect needed organizational change; and change is complicated, and can even be forestalled, by the fact that organizations have two fundamental purposes. While the first is of course to accomplish a specific goal, the second, which for a variety of reasons may take bureaucratic precedence, is "to maintain themselves as organizations." Effecting fundamental change in organizations may, therefore, be complicated if not stymied by the fact that "many of their activities are directed towards the second purpose" rather than the first.[76, 77]

A related limit to internally-directed organizational transformation is the difficulty inherent in fundamentally altering the foundations of an edifice without disturbing the structure and activities those foundations support. This is particularly true in organizations optimized for action on the basis of decisions reached via inflexible methodologies. Alliances, for example, represent in their essence a temporary and constantly shifting point of agreement between otherwise sovereign states acting in their national interest, and tend to be constituted according to agreed rules of procedure, exemplifying Barnard's dictum that the "act of decision is a part of the organization itself."[78] NATO's principle of taking decisions by consensus is an example of an element of organizational procedure that is nowhere constitutionally defined and that therefore is in theory subject to change; but in practice, the principle of taking decisions by consensus is adhered to with sufficient rigidity that it is for all practical purposes inviolable. Changing the consensus principle – for example, to one based on majority rule – would fundamentally alter the character not only of the political decision-making bodies (the North Atlantic Council, the Defence Planning Committee, and the Nuclear Planning Group) but of the Alliance itself – one reason why the organizational resistance to altering the consensus principle has been adamant.

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[73] Barbara Levitt and James G. March, "Chester I. Barnard and the Intelligence of Learning", in Oliver E. Williamson, ed., *Organization Theory: From Chester Barnard to the Present and Beyond*, Expanded Edition (New York: Oxford University Press, 1995), 19.

[74] Allison, 171. External analysis can also help to dissolve ideological barriers to objectivity. An example of this was the reflexive dismissal by Democrats during the 1980s of the Reagan initiative to bankrupt the USSR through competitive defence expenditures, which was grounded less in political opposition than in an ideological unwillingness to grasp the essential weaknesses of centrally-planned state economies vis-à-vis free market competition. John O'Sullivan, *The President, the Pope, and the Prime Minister* (Washington, D.C.: Regnery Publishing, Inc., 2006), 257. Paul Kennedy, for example, predicted as late as 1984 that the Reagan rearmament programme would be unlikely to allow America to " 'reassert' the country's place in world affairs." Paul Kennedy, "The First World War and the International Power System", in Steven E. Miller, ed., *Military Strategy and the Origins of the First World War* (Princeton, N.J.: Princeton University Press, 1985), 39.

[75] Betty Glad, "Limited War and Learning: The American Experience", in Betty Glad, ed., *Psychological Dimensions of War* (London: Sage Publications, 1990), 270.

[76] Kenneth N. Waltz, "Anarchic Orders and Balances of Power", in Robert O. Keohane, ed., *Neorealism and its Critics* (New York: Columbia University Press, 1986), 109.

[77] These observations, incidentally, echo and reinforce the deductions arrived at via different analytical routes in the first paper in this series. Chuka, Letter Reports 2011-017 and 2011-046, *passim*.

Where organizations are concerned, learning processes can help to identify problems stemming from foundational elements of structure or operational procedure; but these can be difficult or impossible to alter (much less jettison) via internally-directed processes of transformation. Change may thus require direction imposed by a higher authority. This is, obviously, easier for a state to manage than an international organization. Even after analyses of the conduct of Operation ALLIED FORCE led to the identification of profound weaknesses in NATO's consensus-based decision-making model, the idea of changing that model, despite being "bantered about by academics," was never formally considered by the North Atlantic Council.[79] The presumed inviolability of the consensus principle is all the more startling given that it has never been enshrined in any formal agreement or treaty, and is in reality nothing more than an "habitual principle accepted as fundamental by long exercise."[80] That an informal decision-making mechanism may come to be seen as so fundamental that it is effectively off-limits during discussions of internal transformation highlights the importance of taking organizational culture into consideration when designing lessons learned processes to examine, at the strategic level, how and why an organization does what it does. Change may be imposed on an organization by an external authority; but in the case of international organizations, there is generally no super-ordinate authority empowered to impose change. Within the architecture of the state, by contrast, organizations subordinate to government may always appeal to their political masters for assistance in the form of direction to enable the organization to overcome internal barriers to transformation. This dichotomy points to certain conclusions about the importance of leadership of organizational change that will be examined further along.

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[78] Barnard, 188.

[79] D.A. Neill, telephone interview with Dr. Bernd Goetze, Secretary of the North Atlantic Council, 27 September 2004.

[80] Neill (2006), 234.

4 The challenge of strategic learning

Creating, executing and sustaining any lessons learned process is a daunting undertaking, but the difficulties inherent in doing so at the strategic level are especially challenging. Research subjects and their attendant questions cross inter-Departmental lines and impinge upon political issues and interests, engaging the Government's cherished prerogative of *in camera* deliberation and decision-making. This section discusses three areas where the challenges are difficult not only to resolve, but even to recognize: the nature of organizational learning; the role of leadership in strategic learning; and the crucial importance of empiricism in developing and implementing strategic lessons.

4.1 Impediments to organizational learning

There are a number of important caveats that must be observed when analyzing the structures and operational procedures of any large, complex organization. Barbara Levitt and James March warn that "[p]owerful organizations, by virtue of their ability to ignore competition, are less inclined to learn from experience and less competent at doing so"; [81] and that organizational structures tend to create what they call "advocates for routines" whereby policies are protected from alteration by those responsible for them, leading (under normal operating conditions) to "rule zealotry," and impeding organizational learning and transformation.[82] For the same reason, individuals naturally resent criticism and are resistant to analyses that may prove critical of their actions. The answer, according to Cohen and Gooch, is for the analyst to acknowledge the existence of individual contributions to organizational failure but to steer clear of sitting in judgement. For the analyst seeking to draw generalizable lessons from military actions, the "chief concern is not the awarding of demerits or prizes to defeated or successful commanders, nor deciding whether a decision to relieve them from or retain them in their positions was just, but to discover why events took the turn they did."[83] Needless to say, such objectivity is more often aspired to than achieved; but it is easier for an external analyst than it is for a critic internal to the organization to achieve it.

Balance in any process of organizational transformation is required between the Charybdis of preserving outmoded structures leading to the continued misapplication of resources (inertia), and the Scylla of a state of permanent transformation in which organizations are "continually recast to ensure a perfect fit between structures and changing needs." This latter problem is more prevalent in organizations where change, for whatever reason, is seen as an unalloyed benefit, and where through the creation of agencies dedicated to permanent transformation, change becomes an eternal feature of organizational culture. The result of such policies (according to Luttwak, who witnessed it at the Pentagon) is less likely to be useful, deliberate, focussed and considered change, but rather "chaos that would dwarf any possible benefit."[84]

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[81] Levitt and March, 27.
[82] Levitt and March, 24.
[83] Cohen and Gooch, 46.
[84] Edward N. Luttwak, *The Pentagon and the Art of War* (New York: Simon and Schuster, 1985), 140.

Because organizations are made up of individuals, any organizational learning process must be cyclical and iterative lest the lessons of history be lost through personnel turnover. Retrieval and exploitation of experience will be haphazard and ineffective unless formalized through procedure.[85] The absence of any of these criteria will imperil the learning process and call into question any lessons that may be derived from it. This caveat, because it focuses on the importance of retaining data in the form of experience, also highlights the importance of distinguishing between what is, and what is not, data. At the same time, experience – history – can never offer perfect knowledge, and the unpredictability of historical events makes historians rightly suspicious of analogies; there is "danger as well as value in historical parallels."[86] The fact that the lessons of history may be equivocal, hard to extract from what we know about past events, and difficult to adapt to contemporary problems does not alter the fundamental reason for studying history: "it is all that we have in the way of concrete knowledge – rather than theoretical speculation – to give us help in facing the present and future."[87]

Organizational learning normally takes place gradually, and is likely to be "influenced by existing organization[al] capabilities and procedures". However, "dramatic organizational learning" is also possible, and generally occurs in response to "dramatic performance failures," "major disasters," or significant shifts in the strategic landscape.[88] Galvanizing and largely unforeseen events like the fall of the Soviet Union and the terrorist attacks of 9/11 continue to cause organizations to focus on the events themselves – often at the expense of working to achieve an appreciation of the broader strategic picture and the long-term trends that lead to such events, in order to be better prepared to adapt when such unforeseeable events occur. This fact has led to an emphasis on "shocks" and "strategic surprises" (as exemplified by, *inter alia*, such popular but methodologically shallow works as Talber's *The Black Swan*, Levitt and Dubner's *Freakonomics*, and Gladwell's *The Tipping Point*) as sources of both motivation and material for organizational learning. In a resource-constrained environment, basing a large component of organizational learning on such non-empirical approaches may be unwise.

Clausewitz, for his part, while acknowledging the value of surprise at the tactical level, shrugged it off as inconsequential at the strategic level, arguing that

> …while the wish to achieve surprise is common, and, indeed, indispensable, and while it is true that it will never be completely ineffective, it is equally true that by its very nature surprise can rarely be outstandingly successful. It would be a mistake, therefore, to regard surprise as a key element of success in war.[89]

Clausewitz's dismissal of the value of strategic surprise as a key determinant of victory in war is another example of how the strategic level of analysis differs from the operational and tactical levels. His assessment, it is worth noting, was based on his appreciation of military history, and it has since been reinforced by nearly two centuries during which there have been no significant instances of a state or alliance of states emerging victorious from a conflict they launched with a surprise attack.[90]

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[85] Levitt and March, 23.

[86] Maurice Matloff, "The Nature of History", in John E. Jessup Jr., and Robert W. Coakley, eds., *A Guide to the Study and Use of Military History* (Washington, D.C.: US Army Center of Military History, 1979), 15.

[87] Gooch, 147.

[88] Allison, 143 and 172.

[89] Clausewitz (Howard and Paret), 198. Cohen and Gooch also cite this passage at page 42 of their book.

The tendency of organizations – particularly organizations with a role in crisis management – to gloss over day-to-day activities and to focus instead on preparing to deal with unlikely but potentially costly events like surprise attacks, natural disasters, or other catastrophes places a premium on observed data as the key material input to the analytical process. There is a difference between a crisis that was unforeseen – military history, after all, is replete with examples of failures of intelligence and imagination – and one that was inherently unforeseeable. The problem with unforeseeable crises that evolve into catastrophes ("black swans," in the current vernacular) is that they occur seldom, tend to be unique in character, are unlikely to repeat themselves (and likely to be just as unpredictable if they do), and are apt to have significant implications that go well beyond the organizations and individuals affected by the crisis. A catastrophe, according to Cohen and Gooch, is the most complex kind of disaster to befall a military organization, and if they are the easiest to recognize, they are also the most difficult to explain.[91] They tend to be 'catastrophic' because the organizations charged with responding to them did so poorly or not at all.[92] The proper focus of analysis, however, is not on the 'surprise' as such, as surprise (whether in the case of inherently unpredictable natural events, or attacks by a patient enemy that is focussed on achieving surprise) may be inevitable, but rather on the organizational response to surprise. Organizations that are integrated, flexible, experienced, practised in effecting their purpose, adaptive, and resilient in the face of damage tend to respond better to surprise than organizations lacking these qualities. Surprise may be inevitable, but organizational failure in the face of surprise is not, and as such is the proper focus of the learning effort.

As a final caveat, any strategic-level framework for organizational learning must recognize that there are fundamental and irreconcilable differences between the civilian bureaucracies and the commercial business sector that are the source of the vast bulk of organization (and organizational learning) theory, and military organizations like DND/CF. The primordial role of the military organization is the use of force in the interest of the state. This fact, along with the military's status as the government's force of last resort (*ultima ratio regis*, the 'final reckoning of kings'), imposes specific structural and organizational characteristics and, perhaps more importantly, unique methodological, psychological and ethical requirements on armies that are largely absent from non-military organizations. It is not our intent to argue that military organizations are so alien that comparative analysis is impossible, nor is it to suggest that limited comparative analysis between military and non-military organizations cannot, with adequate caveats, bear fruit. However, unconstrained comparisons that do not adequately consider the differences between defence and non-defence organizations are unlikely to be useful. Military organizations are more likely to display characteristics in common with each other than with organizations – like corporations or government departments – that do not share their defining characteristics.[93] Accordingly, treating the military establishment as if it were no different from any other large, complex organization risks deriving and applying inappropriate lessons to strategic planning.[94] Those engaged in strategic-level learning must be cognizant of these differences in order to ensure that relevant lessons are derived and applied.

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[90] As Chuka, citing Cohen and Gooch, has noted, "surprise in warfare is rarely an indicator of the ultimate outcome of a conflict…this is not even an original conclusion but rather one that has been ignored." Chuka, *Learning from (Recent) History*, 25. Lest this be misinterpreted as a categorical statement, we acknowledge that it is always possible to offer counterexamples if one accepts a sufficiently flexible definition of "victory." One such is Egypt, which in 1973 arguably gained a strategic propaganda victory in the Yom Kippur War that solidified Anwar Sadat's hold on power and enhanced his (and his country's) status throughout the Arab world. This does not change the fact that Egyptian (and even more so, Syrian) forces, despite beginning the war with absolute strategic surprise, were badly mauled by the IDF, and failed to capture and hold any significant strategic objectives. Cohen and Gooch, 110-111.

[91] Cohen and Gooch, 228.

[92] This is the crux of the problem with 'shocks'; an incident can be considered a 'shock' only in retrospect, because if it can be foreseen, then it cannot 'shock' us. Dubbing a crisis a 'strategic shock' blurs the line between foreseeable crises that could have been forestalled but, as a consequence of failures of intelligence or imagination, were not; and inherently unforeseeable crises. No amount of data-gathering, analysis or lessons learned activities will help an organization prepare for events that are inherently unforeseeable.

4.2 Leading strategic-level learning

The day-to-day working of organizations tends to drive a focus on management; however, organizational learning and change demand leadership, of which management is only a tiny subset.[95] The goal of organizational learning is not to perpetuate extant structures and operational patterns, but to change them in the interest of improving the ability of the organization to execute its key functions. Few organizations (especially military organizations) can afford to simply close up shop while new policies or procedures are designed, trialled, validated and implemented. Most organizations must continue to execute their functions, whether these consist of the generation of profit, the provision of 'security', or the fighting of wars, while change is ongoing.

Effecting organizational learning and change while ensuring uninterrupted organizational operation is, therefore, a function of leadership rather than simply one of management. While leadership and management are, like policy and strategy, often conflated in contemporary managerial parlance, this is an historically unwarranted conceit that bears only a passing resemblance to reality. To 'manage' means to handle or wield a tool, to carry out an undertaking, or to organize or regulate a group of things or activities. To 'lead', by contrast, means to 'cause to go with one'; to direct movements; and to conduct or guide an activity, 'especially by going in front'.[96] 'Management' connotes a supervisory role in routine activities; but organizational change, if not necessarily traumatic, is decidedly not routine. Change is an original, innovative act; a deliberate disruption of routine in the interest of establishing a new and different one. Moreover, the very concept of organizational change connotes a top-driven and -sanctioned activity (if only because bottom-up organization change constitutes 'revolution'); thus, the role of a leader is implied even before a strategic-level lessons learned process is conceived or launched.

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[93] As an example of the problematic nature of overly extensive and insufficiently parsimonious comparisons between military and non-military organizations, see Bent Erik Bakken, "Learning Lessons in the Field and Applying them to Defence Planning", NATO Joint Analysis and Lessons Learned Centre, pre-publication draft, release scheduled for 22 September 2011.

[94] Donald A. Neill, "Ethics and the Military Corporation", *Canadian Military Journal*, Vol. 1, No. 1 (Spring 2000), 34.

[95] As Granatstein has noted, "while every leader needs to be a manager, every manager is not a leader." J.L. Granatstein, "For Efficient and Effective Military Forces", in M. Douglas Young, *Report to the Prime Minister* (Ottawa: Minister of National Defence, 25 March 1997), 8. As Dr. Granatstein is a military historian of some note, the title of his paper, which reflects the measures crafted by Millett and Murray, is probably not accidental.

[96] *Concise Oxford Dictionary*, 570 ('lead') and 614 ('manage').

Once such a process is underway, active leadership is required to ensure that the process is adequately independent and objective; that the right questions are asked; that data is provided transparently and forthrightly by intramural participants; that analysis is rigorous, penetrating and thorough; that conclusions deriving from analysis are logically and empirically justified; that they are transformed into organizationally relevant and valid lessons; that these lessons are promulgated and applied uniformly across the organization; and that the resultant changes are validated and confirmed (or falsified), both by testing and in subsequent operations. The present organizational structure of DND and the CF require that the leadership function in a strategic learning process be vested in a change authority with the influence and span of control required to overcome institutional resistance; a central authority is critical to overcoming parochial interests and jealousies that inevitably arise in any large organization. Therefore, the process must be owned by a military authority with sufficient rank to force institutional change. The 'change authority' must be able to override unwarranted objections to be able to break any parochialism or other bias sure to exist in large organizations. This is also an important factor (but no guarantee) that an intellectual environment suitable for honest self-reflection will be created and sustained.[97]

4.2.1 Identifying change authorities in DND/CF

In DND/CF, the only strategic-level leader(s) that meet the criteria is the Deputy Minister of National Defence / Chief of Defence Staff diarchy.[98] This is not the case at present, where the organizational structure for change authority remains ill-suited to the Department's needs. As one of the authors of this present paper has elsewhere written, "If the current structure and process are maintained, the problem cannot be overcome unless some official process mechanism that routes change authority to the CDS is implemented."[99] While it might seem satisfactory to assign different axes of responsibility to these two officials – for example, by allocating to the CDS responsibility for research into, and development and implementation of, strategic level lessons learned particular to the Department alone ("military strategic" lesson), while making the DM responsible for those aspects of the lessons learned process that are external to the Department, in practice this would be impractical. Neither level may be deemed to be either purely political or purely military, and the principle of joint decision-making on critical strategic issues precludes an artificial division between the two. In the context of the present discussion and of the hierarchical levels-of-analysis model presented above, therefore, leading the research into and implementation of military strategic lessons that are entirely internal to DND/CF should be the responsibility of

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[97] Chuka, DRDC CORA LR 2011-17, 10. The utility of a high-level change authority in creating and maintaining an intellectual environment conducive to innovation and adaptation has been noted by others, e.g., Jonathan Bailey in his "Military History and the Pathology of Lessons Learned: the Russo-Japanese War, a Case Study," in Murray & Sinnreich, 184. The same point is also made by Paul Harris in "Obstacles to Innovation and Readiness: the British Army's experience, 1918-1939", also in Murray & Sinnreich, 213.

[98] While the bulk of historical source material argues against division of command, the diarchic structure of the DND/CF hierarchy is an unavoidable organizational fact that must be accommodated in any solution.

[99] Chuka, DRDC CORA LR 2011-046, 15.

DM/CDS, with these two senior leaders deciding between them how best to divide the tasks and responsibilities involved.[100]

As has already been noted, the diarchic nature of joint DM/CDS strategic-level management and leadership of the Department and the Canadian Forces poses a number of questions not only for the translation of government policy into military strategy but more particularly for the framing constructs posited by Millett and Murray: military effectiveness, and political-military effectiveness. This situation, as Morton notes, has endured since the establishment of Canada's permanent military forces in 1868. The challenges in making a combined military-civilian decision chain function not only well but also swiftly (a crucial consideration, as Gladman and Archambault have noted, in time of crisis or war[101]) have already been noted in detail. Douglas Bland, writing in 1995, noted that "deputy ministers have gained considerable authority over defence policy and the operations of the armed forces," calling such events "lapses."[102] Several of the series of reports commissioned by then-Minister of National Defence M. Douglas Young in the late 1990s remarked on this matter. Desmond Morton, for example, a vocal proponent of civil-military integration, noted that the "diarchy of military commander and deputy minister" is highly dependent on the personalities of the incumbents; if they do not work well together, "they become enemies with a paralysing sting."[103] Jack Granatstein suggested at the same time that there was a "pervasive sense in the CF that NDHQ [had] become civilianized to the point that military advice [mattered] very little in making consensus-based policy."[104] David Bercuson expressed doubt that, as a consequence of the (perceived) civilian domination of Defence headquarters, "professional and considered *military* advice…[was] flowing directly to the Cabinet."[105]

The strength of the diarchic relationship, according to Morton, lies not in redundancy, overlapping functions or the diffusion of responsibility implied by the mechanism of dual signatures, but rather in theoretically ensuring that the CDS and DM serve their respective required areas of expertise: "The CDS is the senior military advisor to the government but protected from its political whims. Both the Minister and the CDS need a strong Deputy Minister, not to second-guess military policies or public relations, but to manage finances, non-operational administration and relations with the rest of the Ottawa bureaucracy."[106] They also serve – or should serve – a mutual challenge function. Granatstein made a similar observation, arguing that "the CDS and the DM must continue to work together and sign off jointly on advice to the Minister on everything other than strictly operational questions";[107] and Albert Legault offered three reasons not to reintroduce a divide between the civilian and military branches of the Departments, the most convincing of which was that "a new separation of the administration would merely restate at the ministerial level the issues of coordination between the civilian and military arms, the sole effect of which would be to hugely increase the burden of ministerial tasks."[108]

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[100] Responsibility ultimately lies, via the mechanisms of ministerial accountability and the electoral process, with the Minister and Prime Minister.

[101] Gladman and Archambault (2010), 58-59.

[102] Douglas L. Bland, *Chiefs of Defence: Government and the Unified Command of the Canadian Armed Forces* (Toronto: Brown Book Company Ltd., 1995), 129. As the DM is responsible for the formulation of defence policy for Ministerial and Cabinet approval, this cannot be construed as a "lapse"; however, as will be discussed further along, the DM has no statutory authority over the operations of the armed forces..

[103] Desmond Morton, "What to Tell the Minister", in M. Douglas Young, *Report to the Prime Minister* (Ottawa: Minister of National Defence, 25 March 1997), 2.

[104] Granatstein, 6.

[105] D.J. Bercuson, "Report to the Minister of National Defence", in M. Douglas Young, *Report to the Prime Minister* (Ottawa: Minister of National Defence, 25 March 1997), 23.

[106] Morton (1997), 18.

[107] Granatstein, 6.

The observations and recommendations provided by these and other sources culminated in a series of Ministerial decisions announced in March 1997. Among these was a decision clarifying that "military advice for the Minister and Cabinet is provided only by the CDS and his military staff." The Final Report of the Minister's Monitoring Committee on Change in DND and the CF noted that, according to the Department, this Ministerial direction had been "completed."[109]

4.2.2 The constitutional and statutory foundation

One of the outcomes of the Minister's direction was the publication in March 1997 of a document entitled *Authority, Responsibility and Accountability* to help military personnel "better understand how the work of national defence is conducted."[110] In response to comments from the Minister's Monitoring Committee, this document was revised and reissued in 1999 as *Organization and Accountability*, laying out the "primary responsibilities" of the DM and CDS. In this later document, issued under the joint signatures of then-CDS General Maurice Baril and then-DM Jim Judd, the DM was assigned "the central role in formulating advice for the Minister on policy matters and on alternative means of achieving Government objectives, and on implementing effectively the Government's policies and programs."[111] Given that, as noted above, the DM's authority, while not specified in the NDA, derives via the *Interpretation Act* from the Minister's responsibility for "the management and direction of the Canadian Forces and of all matters relating to national defence";[112] and given that the *Act* authorizes the DM "in law to carry out, on the Minister's behalf, the management and direction of the Department…subject to the Minister's direction,"[113] the formulation expressed in *Organization and Accountability* constituted little more than a codification in internal Departmental policy of the DM's statutory authority.

Similarly, the section outlining the responsibilities of the CDS states that "the Chief of the Defence Staff is charged with the command, control and administration of the Canadian Forces and advises the Minister on all these matters," a restatement of the roles and responsibilities of the CDS contained in the *National Defence Act*.[114] While the language employed in *Organization and Accountability* seems to imply that the CDS is the 'junior partner' in the diarchy, an internal policy document does not override statue and does not alter the legislated responsibilities of either the DM or the CDS. "Defence policy and operations of the Canadian Forces", to use Bland's formulation, are two separate tasks and are the responsibility of two separate officials. Where the latter are concerned, the key statutory mechanism links the CDS, who alone is authorized by the NDA to issue commands to the armed forces, and the Prime Minister, who via the Governor in Council appoints and dismisses the CDS.[115]

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[108] Albert Legault, "Bringing the Canadian Armed Forces into the 21st Century", in M. Douglas Young, *Report to the Prime Minister* (Ottawa: Minister of National Defence, 25 March 1997), 18. Legault, a staunch proponent of complete integration of the military and civilian components of the Department, differed from his colleagues in opining that the CDS, DM and Minister should "speak with a single voice and be jointly responsible for the entire set of defence policies." (Legault, 19). Given the legislated divisions of responsibilities, such a transformation (in effect, to a triarchy) would have required changing the *National Defence Act*.

[109] Minister's Monitoring Committee on Change in the Department of National Defence and the Canadian Forces, *Final Report – 1999* (Ottawa: 1999), 39-40.

[110] The document was required pursuant to Ministerial Recommendation 51 dating from the Minister's report to the Prime Minister of 25 March 1997. Minister's Monitoring Committee, *Final Report* – 1999, 26.

[111] *Organization and Accountability: Guidance for Members of the Canadian Forces and Employees of the Department of National Defence*, 2nd Ed. (Ottawa: Department of National Defence, September 1999), 9.

[112] *National Defence Act* (1985), §4.

[113] *Organization and Accountability, idem.*

The statutory mechanisms for command of the armed forces deriving from legislation are further buttressed in Canadian law by the constitutional persistence of the Crown prerogative. As Lagassé notes, because section 15 of the *Constitution Act* vests command of the armed forces in the Queen, those authorized to wield the prerogative of the Crown in Canada – the Governor in Council and the formal executive, to wit, the Prime Minister and Cabinet – may issue commands to the armed forces.[116] This mechanism, deriving from the royal prerogative dating back to the era of absolute monarchs and the principle – stamped into the breeches of cannon – that the use of force is *ultima ratio regis*, the final argument of kings, has been reinforced in recent jurisprudence. In the case of *Black v. Chrétien* (2001), for example, the Ontario Court of Appeal held that the Prime Minister, in intervening to prevent the Queen from conferring a British honour upon a Canadian citizen, was exercising prerogative power, and that such exercise was not judicially reviewable.[117]

Similarly, in *Canada v. Khadr* (2010), the Supreme Court held that while the courts "have the jurisdiction and the duty to determine whether a prerogative power asserted by the Crown exists; if so, whether its exercise infringes the *Charter* or other constitutional norms; and, where necessary, to give specific direction to the executive branch of the government", the courts did not have the authority to override the "constitutional responsibility of the executive to make decisions on matters of foreign affairs."[118] The Court further explicitly ruled that the Crown prerogative over foreign affairs was not overruled by legislation (specifically, the *Department of Foreign Affairs and International Trade Act* (1985)), thereby suggesting that in the Court's view, the prerogative power may enjoy precedence over legislated mechanisms for government action. The existence of this alternate, arguably super-ordinate, mechanism for directing departmental action creates what Lagassé terms "a parallel source of authority",[119] enabling the formal executive to order the armed forces to act even in circumstances not circumscribed by statue.

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[114] *Organization and Accountability*, 10; and the *National Defence Act* (1985), §18. It is also curious that the Act specifies that the Governor in Council *shall* appoint a Deputy Minister; but only *may* appoint a Chief of Defence Staff. Such a legislative formulation lends credence to those who argue, only somewhat in jest, that the Department of National would exist even without the Canadian Forces.

[115] There is a further legislative relationship between the CDS and civilian officials; §277 of the *Act* empowers Provincial Attorneys-General and judges of superior, county or district courts to require the CDS to call out "the Canadian Forces, or such part thereof as the Chief of the Defence Staff or such officer as the Chief of the Defence Staff may designate considers necessary" to quell a "riot or disturbance."

[116] Philippe Lagassé, "Accountability for National Defence: Ministerial Responsibility, Military Command and Parliamentary Oversight", IRPP Study No. 4 (March 2010), 6-7.

[117] Court of Appeal for Ontario, *Conrad Black v. Jean Chrétien and the Attorney General of Can*ada, Docket C33887, 18 May 2001, paragraphs 41 and 64.

[118] *Canada (Prime Minister) v. Khadr*, 2010 SCC 3 [2010] 1 S.C.R. 44, Docket 33289, 29 January 2010, 6.

The ambiguities and potential for friction in such a complex web of interdependent roles and responsibilities places a premium, as Morton noted, on close, continuous collaboration between the CDS and DM, particularly where the provision of advice to Government is concerned. From the perspective of the Department and the Canadian Forces, the existence of alternative statutory (the NDA) and constitutional (the Crown prerogative) mechanisms for issuing commands to the armed forces augurs against treating the provision of advice to government as an informal dialogue, and places a premium on the provision of accurate, considered and timely military (and administrative) advice to the formal executive using the long-established statutory and constitutional mechanisms.[120] While the provision of such advice necessarily entails collaboration between DND and CF experts and authorities, it must be acknowledged that erring on the side of excessive collaboration risks muddling the "primary responsibilities" of the respective sides of the diarchy. For example, the use of the dual-signature protocol for the provision of military advice to Government would be inconsistent with the direction issued by the Minister in 1997, and recorded as a completed recommendation by the Minister's Monitoring Committee.

4.2.3 The political-military relationship and strategic level learning

With respect to political-military strategic issues leading to questions and eventually to lessons with implications for other government departments or for the executive organs of government itself (i.e., Cabinet), the appropriate change authority is the Minister. At a minimum, Ministerial awareness would be a prerequisite for the sort of inter-Departmental activity necessary to engage in a rigorous innovation and adaptation process (what Corbett refers to as "conference"); more likely, as issues arose requiring resolution, or as the research and/or recommendation activities began to broach questions that could only be resolved through reference to Cabinet, the Minister would have to become actively engaged in the learning and innovation process. Ministerial authorization (and perhaps engagement) would be a prerequisite for (a) interdepartmental contacts and research; (b) information, i.e., the identification of issues to his/her Cabinet colleagues for interdepartmental resolution; and, (c) any issues identified through research that can only be resolved at the political, above the Department's purview. And in the absence of grand strategy or policy designed and promulgated by government to give effect to its strategic vision, the Minister is the key conduit via whom the CDS and DM may seek clarification from government as to its assessment and understanding of interests, threats to interests, and goals. Together, these form the “higher intent” underlying the government’s allocation of tasks and resources. Strategy may be formulated at the departmental level without published formal guidance from government; this has happened in the past, and it will happen again. But strategy *cannot* be formulated without an understanding by departments of the “higher intent” that strategies are crafted to serve. Achieving such an understanding and translating it into departmental strategy is the role and responsibility of strategic-level leaders.[121]

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[119] Philippe Lagassé, "Crown prerogative and ambivalent executive power in Canada", DRAFT, 15.

[120] This is by no means a revelation. One of the defining characteristics of representative democracies is the existence of constitutional and legal frameworks designed to determine how advice and orders flow between the military forces of the state and their political masters. These formal mechanisms are not invalidated by occasional recourse to informal, ad-hoc processes in time of crisis. It is therefore unsurprising that different authors, even when working towards different ends, employ similar matrix structures to unravel the complex web of activities that lead to success or failure in security and defence endeavours. See, for example, Cohen and Gooch, *Military Misfortunes*, 55; and Project on National Security Reform, *Toward Integrating Complex National Operations: Lessons from the National Counterterrorism Center's Directorate of Strategic Operational Planning* (Washington, D.C.: PNSR, February 2010), 2-4.

Strategic-level leadership is also necessary to ensure compliance with both the spirit and the letter of organization change directives; to validate the learning process at the strategic level; and to ensure that research and analysis efforts are unencumbered by excessive opacity and secrecy. In any strategic learning exercise there will always be some issues that can be dealt with in unclassified media, and many more that can only be thoroughly investigated in a classified setting, and that are likely to result in at least some classified conclusions and recommendations. It is important in this context to recall that there is a difference between ‘classified’ and ‘contentious’. A rigorous investigation and analysis programme cannot, if it is to succeed, be permitted to avoid controversial or potentially embarrassing material or conclusions. The requirement for analytical transparency is assisted by legislation in this regard; while the *Access to Information Act* (1985), for example, permits exemptions for a variety of legitimate reasons (e.g., information obtained in confidence [§13], international affairs and defence [§15], and advice to government [§20], the Act contains no provision for exemptions on the grounds that disclosure might embarrass the Department or the Government.[122] As such, there are no legitimate grounds for shying away from the obligation for complete transparency and disclosure in internal fora in the interest of ensuring that the strategic learning process is both rigorous, and has access to all of the data needed to attain the best possible picture of the flow of events. As always, when analysts find themselves on uncertain evidentiary ground, their recourse is to trust in the robustness, thoroughness, transparency and honesty of their methodology, and to cleave to the conviction that while investigation and analysis may turn up errors, even grievously costly ones, the greatest shame would be to repeat them by failing to learn lessons that were paid for in blood.

Further, it is both the prerogative and the responsibility of the strategic-level leadership of the military organization to continually assess the progress of all military campaigns with a view to identifying changing strategic circumstances. This allows the provision of advice to political leaders concerning, amongst other things, whether the political aims of the campaign can be achieved through military force; whether assigned tasks and allocated resources are still appropriate; and whether strategic factors have changed to the point that political aims may require readjustment. This process, however, is part and parcel of the day-to-day execution of military tasks, and as such is distinct from the process of learning lessons for the purpose of improving the future execution of military tasks. While the conclusions deriving from a process of continual strategic reassessment should feed a strategic-level LL activity, the processes and purposes are different. One is meant to help ensure immediate success in current operations; the other is intended to improve the chances of success in future operations.

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[121] Strategic activity may be generated either by top-down direction or as the result of a “CDS query”. Director General Plans, “The CF Force Employment Planning Process: An Aide-Mémoire” (Ottawa: Department of National Defence, Strategic Joint Staff, 17 September 2008), paragraph 0204.

[122] *Access to Information Act* (1985). [http://laws-lois.justice.gc.ca/eng/acts/A-1/index.html]. Accessed 13 July 2011.

Strategic-level leadership is also essential to ensure that organizations are allocated appropriate time to conduct in-depth research and analysis. Strategic level learning endeavours require more time than their operational and tactical level equivalents. In most cases, this will augur against any attempt to derive strategic-level lessons while a given military operation is still under way. While operational and tactical lessons learned processes may, and indeed should, operate in conjunction with the events they have been struck to analyze in order to ensure that the necessary lessons are captured and incorporated into operational and tactical procedures as rapidly as possible, strategic-level learning is by necessity a longer-term, more contemplative process requiring widespread data-gathering, a thorough appreciation of the circumstances surrounding the event under investigation, objectivity, and temporal distance.

The turn-around time for strategic learning also differs markedly from that for operational and tactical-level learning. Tactical-level learning can (and should) be very rapid; as one of us has noted, for example, measures implemented by the German Army during the Battle of the Somme to derive tactical lessons from ongoing battle experience and inculcate them in soldiers being sent into the line paid quick dividends. Operationally, the experience of the Allied landings in Sicily in 1943 was capitalized upon by the Royal Navy in preparing for the invasion of Normandy the following summer. The nature of strategic-level learning, however, is such that it is unlikely that any lessons that may be derived during a conflict will be directly applicable in the course of that same conflict. Consider, for example, the difficulties with training and equipping the first drafts of Dominion troops dispatched to Europe in 1914. While lessons learned from this experience (say, by 1916) would have been unlikely to be directly applicable to a nation that was already at war, they might have been applicable by the late 1930s, when Canada was in a similar state of strategic unreadiness, and war with Nazi Germany was beginning to seem increasingly likely.[123] Or, as a more familiar strategic example, Hitler's decision to invade Russia while Britain remained undefeated has been cited as a failure to learn from Napoleon's experience.[124] Gathering data, conducting rigorous analysis, thoroughness, and achieving the perspective afforded by distance all take time; and thus time is the crucial factor in ensuring that all relevant evidence and experience are captured and incorporated in the course of any strategic-level learning process..

Impatience, often a hallmark of military organizations, is the enemy of sound research and analysis. Military organizations especially, "like all bureaucracies…tend to cast a baleful eye on rumination and reflection."[125] One of the principal functions of senior-level strategic leadership in the learning process is to ensure that there is adequate time and patience to permit the "rumination and reflection" that are essential to the learning process. Another is to ensure the maintenance of the distance between action and analysis that is necessary to ensure perspective and objectivity. One of the key differences between learning at the operational and tactical levels, and learning at the strategic level, is that while the former ought to be done while the conflict is still under way in order to maximize efficiency and minimize casualties and the expenditure of resources, the latter is virtually impossible to accomplish until after the guns have fallen silent. Investigating the strategic and political questions outlined above will require access to classified documents, including Cabinet confidences, that are unlikely to be available or complete *in medias res*; after-action reports which, not surprisingly, will not be written until after the action is over; interviews with political and strategic-level leaders in order to obtain forthright answers about what they knew, what they thought, and why they did what they did – answers the accuracy and candour may be affected by proximity to the events in question, particularly if they were controversial – and a plethora of administrative and logistic details about the availability and performance of weapons and materiel, for much of which the analyst will likely have to wait until the data are available, and the knowledgeable authorities have had time to collate and interpret them. Strategic-level learning, in short, relies upon an historical perspective, which – as Margaret MacMillan has argued – requires a thorough knowledge of what really happened and comes only with time, often years after events have concluded. A "comprehensive view of what was really happening" in a crisis, she warns, is often only achievable with "hindsight and much research and analysis."[126] Performing research and analysis – achieving "hindsight" – takes time. Patient, visionary leadership is necessary to ensure that the analytical process has the time it needs.

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[123] This is not, of course, to suggest that a strategic-level lessons learned process must necessarily take decades; simply that while (as Clausewitz put it) there is much that is similar between different wars, certain events – for example, a surprise attack, as at Pearl Harbour in 1941 – may take place only once in a given conflict. This is another distinction between strategic-level learning and its operational- and tactical-level equivalents.

[124] John Lewis Gaddis, *We Now Know: Rethinking Cold War History* (New York: Oxford University Press, 1997), 11.

[125] Paul A. Rahe, "Thucydides as Educator", in Murray and Sinnreich, 98.

4.3 Indispensable empiricism

There is an understandable tendency in any lessons learned endeavour to direct the bulk of one's attention to the analysis of failure – and the greater the failure, the more attractive the event often seems to analysts. Too tight a focus on catastrophes, however, to the detriment of in-depth study of organizational performance in the day-to-day operations that comprise the vast bulk of an organization's activities constitutes a misapplication of effort, and complicates the role of the historian. Because they are infrequent and unique, catastrophes offer few historical lessons for the improvement of an organization. The goal of the analyst in the lessons learned process, after all, is to distil "from the experience of the past, or from so much of the experience of the past as is accessible to him, that part which he recognizes as amenable to rational explanation and interpretation"; and from this distillation, to draw "conclusions which may serve as a guide to action."[127] The uniqueness and infrequency of catastrophes, Levitt and March argue, augur against drawing what Carr called "fruitful generalizations" from extreme situations:

> The sample-size problem is particularly acute in learning from low-probability, high-consequence events. Not only is the number of occurrences small, but the organizational, political and legal significance of the events, if they occur, often muddies the inferences made about them with conflict over formal responsibility, accountability and liability.[128]

Levitt and March argue that one possible strategy for mitigating the impact of these epistemological challenges on the analysis of crises with a view to organizational learning is to "supplement history with histories of hypothetical events" – in other words, through the creation of ‘scenarios’. The problem with ‘analyzing’ imaginary events, of course, is that “their hypothetical nature induces error.”[129]

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[126] Margaret MacMillan, *The Uses and Abuses of History* (Toronto: Viking Canada, 2008), 46-47.
[127] Carr, 104.
[128] Levitt and March, 29.

“Grand strategy,” Gregory Copley opines, “must embrace trend analysis of the broadest possible nature.”[130] This breadth of research is necessary because, as Williamson Murray and Mark Grimsley argue, “strategic thinking does not occur in a vacuum, or deal in perfect solutions; politics, ideology, and geography shape peculiar national strategic cultures. Those cultures, in turn, may make it difficult for a state to evolve sensible and realistic approaches to the strategic problems that confront it.”[131] Accounting for these inherent complexities requires a comprehensive understanding of the historical and organizational context of the military organization in question. Unlike political scientists however,[132] who often seek through theory to identify and isolate an independent controlling variable as an aid to simplifying and decrypting social phenomena, historians tend by and large to be comfortable with the irreducible interdependence of multiple variables, because this is their stock in trade. Artificial parsimony, Gaddis argues, “is a life preserver for social scientists: it keeps them from drowning in complexity. Historians, who swim in that medium, have little need of it.”[133] In analyses deriving from the study of consequences in an attempt to identify possible discrete causes, the premium will always be on achieving as thorough an accounting as is practicable of the events preceding and surrounding the incident that is the subject of study; in a word, of the flux and flow of history. While intuition can and often does guide judgement in the heat of battle, deriving valid, enduring lessons from the experience of battle requires perspective, deliberation, and above all other things, clarity and accuracy of evidence and argumentation. This is especially true when the goal of the learning process is not merely to improve one’s own organization, but to promulgate crucial deductions to neighbouring organizations, and to convince one’s superiors of the validity of one’s analysis and conclusions:

> …when it is a question not of taking action yourself, but of convincing others at the council table, then everything depends on clear conceptions and the exposition of the inherent relations of things. So little progress has been made in this respect that most deliberations are merely verbal contentions which rest on no firm foundation, and end either in every one retaining his own opinion, or in a compromise from considerations of mutual respect—a middle course of no actual value.[134]

There is a natural human propensity to avoid intramural conflict, and in the absence of convincing arguments based on observed data, the tendency is to attempt to achieve consensus by finding common ground between participants. The outcome of such a process (for which consensus-based organizations like NATO, the UN, and all international arms control and disarmament organizations have been justly criticized) is likely to reflect nothing more than the midpoint between a diverse array of bargaining positions; a disjointed hodgepodge of unjustified assumptions deriving from ignorance and (as Allison advises) bureaucratic self-interest, and flavoured with at best the barest *soupçon* of empirical evidence. Faced with a decision-making process characterized if not dominated by competing organizational interests, rigorous analysis based to the greatest possible extent on hard data provides the sole unimpeachable argument. Millett and Murray put it thus: “an understanding of the past is the best way to understand the present.”[135]

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[129] *ibid*., 29.

[130] Copley, 7.

[131] Williamson Murray and Mark Grimsley, “Introduction: On Strategy,” in Murray, Knox, and Bernstein, *The Making of Strategy: Rulers, States, and War* (New York: Columbia University Press, 1995), 3.

[132] This observation applies to positivists, if not necessarily to classical realists.

[133] Gaddis, *The Landscape of History*, 65, 76-77.

[134] Corbett, 6.

The key to critical historical analysis, of course, is that it is based on “the *experience* of the past,” and not on hypothesized events that perhaps could have happened, but have not.[136] ‘Alternate futures analysis’ is a peculiarly contemporary affectation that Colin Gray has dubbed “the gratuitous nonsense of what-if-style virtual history.”[137] Recent years have seen governments throughout the Western world emit a spate of documents that rely on “future studies” or “future security analysis” as tools for predicting possible “futures” to thereafter serve as a basis for policy and force planning and development.[138] The acceptance of such methodologically vacuous methods unsurprisingly parallels the growth of “institutes,” “academies,” “departments,” and “forums” dedicated to various forms of “futurology.”[139] The least objectionable of the ungrounded products such “analysis” produces tend to project current trends into the future – a hazardous undertaking at best given that the future is inherently unpredictable.[140]

Still less reliable approaches include predictions of possible futures based on attempts to model complex non-linear systems, a problematic proposition at best even when predictive horizons are relatively near, and one that abandons all pretence at predictive validity when horizons are stretched to decades; while other ‘futures’ exercises are entirely divorced from what most would accept as methodological rigour. Such methodologies may be internally consistent, but internal consistency is no special virtue. Astrology, for example, is both internally consistent and subjectively logical within its own limited epistemological context, but by any objective standard it is nonsense. ‘Futures’ methodologies are also subjectively logical and internally consistent, provided that practitioners are willing to dispense with the requirement that hypotheses be derived from and predictions validated against observed data.[141] Organizations tasked with spending valuable lives and scarce treasure to address real-world problems cannot afford the luxury of dealing in imagined realities.

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[135] Millett and Murray, xxi.

[136] Cohen and Gooch, 237. Emphasis added. For a more comprehensive discussion of the epistemological frailties of “futures” work, see G. Smolynec, D. Neill, B. Gladman, P. Archambault, M. Roi, C. Morrisey, *Defence Scientists’ Reflections on CFD’s Future Security Environment 2007-2030, Part One dated November 2007*, DRDC CORA TN 2008-01 (Ottawa: DRDC CORA, February 2008).

[137] Colin S. Gray, “Harry S. Truman and the forming of American strategy in the Cold War, 1945-1953”, in Murray, Sinnreich and Lacey, 211.

[138] Such documents disingenuously aver that it is “impossible to predict the future” immediately before proceeding to do precisely that. *The Future Security Environment 2008-2030 Part One: Current and Emerging Trends* (Ottawa: DND, 27 January 2009), for example, states on page 10 that “it is not the purpose of [the] document to predict the future”; and then, in the course of listing 45 “deductions” about the shape of the future security environment, uses the verb “will” no less than 80 times (pp. 93-98).

[139] This is dealt with in the first paper in this series; see Neil Chuka, DRDC CORA LR 2011-046, *Re-Examining the CF Joint Level Lessons Identification and Analysis (Lessons Learned) Process Part Two: Applying the Learning and Innovation Framework* (Ottawa: DRDC CORA, 21 April 2011), 18, fn 56.

[140] In mathematical terms, human society is a sterling example of a complex, coupled, interdependent non-linear (i.e., chaotic) system. The long-term prediction of how non-periodic systems are likely to evolve is by definition impossible. James Gleick, *Chaos* (New York: Viking Penguin, 1987), 11-31.

[141] Nor can such methodologies be rescued by eloquence; arguments not grounded in observed data are valueless regardless of their internal logic or glossy packaging. Logical mechanisms when fed nonsense

Cohen and Gooch argue that learning lessons from history demands of the analyst a "relentless empiricism," and they therefore enjoin those engaged in improving the military organization through structured learning to "cultivate the temperament of the historian, the detective, or the journalist, rather than the theoretical bent of the social scientist or philosopher."[142] Gaddis reinforces this principle, opining that, as in the hard sciences, "Imagination in history…must be tethered to and disciplined by sources."[143] "The greater the disregard of history," Robert Kaplan advises, "the greater the delusions regarding the future."[144] These injunctions echo Clausewitz, who in penning the introduction to his first volume argued against allowing the "philosophical argument" to "run out into too thin a thread," and opined that when it does, the analyst should pare it back

> and fall back upon the corresponding results of experience; for in the same way as many plants only bear fruit when they do not shoot too high, so in the practical arts the theoretical leaves and flowers must not be made to sprout too far, but kept near to experience, which is their proper soil.[145]

When speculation – or theory and philosophy, as students of military events from Clausewitz onwards have put it – is allowed to outrun fact, the evidentiary bases of rigorous analysis are undermined.[146] While hypothetical situations may prove useful in providing notional targets for planning activities like the creation of (for example) contingency operating plans, real targets – *genuine* data – is, whenever available, infinitely preferable. Gathering such data is time-consuming, painstaking work, and may lead to inconclusive or contradictory results and partial or unsatisfactory answers; but these are the characteristics of the real world in which military organizations must operate, and must learn to operate more effectively and efficiently. History, as Colin Gray argues,

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produce nonsense. "The madman is not the man who has lost his reason," G.K. Chesterton opines; "He is the man who has lost everything *except* his reason."

[142] Cohen and Gooch, 237.

[143] Gaddis, *The Landscape of History,* 43.

[144] Robert D. Kaplan, *Warrior Politics: Why Leadership Demands a Pagan Ethos* (New York: Random House, 2002), 39.

[145] Clausewitz (Howard and Paret), Introduction to Vol. 1, 61. Cohen and Gooch cite this same passage in support of a similar appeal to empiricism, noting that it in fact the first element of Clausewitz's three-step critical methodology (the discovery of facts; the tracing of events to causes; and the investigation and evaluation of means). Cohen and Gooch, 45.

[146] This is a common problem in the field of climate science, where an introductory citation from a recent paper in a peer-reviewed journal succinctly illustrates the methodological lure of modelling: "Lacking significant impact from anthropogenic warming so far, the best way to assess the potential influence of climate change on disaster losses may be *to analyze future projections rather than historical data*." In other words, because observed data have failed to conform to model projections, the proposed solution is to analyze the model projections instead of the observed data. A military-strategic analogy would be to express a preference for learning organizational 'lessons' from artificial scenarios over using data obtained from actual combat operations. L.M. Bouwer, "Have Disaster Losses Increased Due To Climate Change", *Bulletin of the American Meteorological Society*, No. 92 (2011), 39. Emphasis added.

> for all its imperfections, is the only confirmable evidence available. Simulation and other games may be valuable, even essential, but they cannot substitute for the real experience of conflict and war, accessible only through history… Futurology in its many guises is probably unavoidable and necessary, but if it does not rest on historical education, it is useless.[147]

Scenarios, model outputs, projections and "analysis" based on speculation about the potential shape and characteristics of a postulated "future security environment" cannot be used in place of actual historical fact without washing away the empirical foundations upon which the framework of rigorous analysis must rest if answers drawn therefrom are to have any substantive value as a guide to organizational adaptation. Artificial data – which is of course an oxymoron – is of no use to any rigorous organizational learning process. Insights applicable to contemporary and potential future military crises can only be learned from comprehensive analysis of how militaries have historically responded to crises past. Fruitful generalizations cannot be drawn from "events" that never happened. We can know the future "only by the past we project into it. History, in this sense, is all we have."[148]

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[147] Colin S. Gray, "Clausewitz, history, and the future strategic world", in Murray and Sinnreich, 116.

[148] Gaddis, *The Landscape of History*, 3.

5 A starting point for inquiry

Any lessons identification and analysis effort can be seen as an attempt to determine the effectiveness of a military force with the aim of improving it. The previous sections have provided the intellectual background and theory that should underpin any credible strategic level attempt to determine the effectiveness of a military force. This section will now provide more focused practical guidance on the type of questions that should be contemplated when a lessons identification and analysis project is undertaken. The intent is *not* to provide a checklist; to do so would violate both the intellectual spirit and the principles of research and analysis that must form the foundation of any legitimate analysis project. However, there are broad, near-universal questions that likely will require answers in almost all such projects. It is from these broad universal questions that context specific research questions should emerge. Such questions formed the basis of Murray and Millett's three edited volumes on military effectiveness.[149] Indeed, the questions that formed the basis of Murray and Millett's guidance to their contributing authors are a reasonable starting point for this section. Accordingly, we have based our considerations of what universal questions might be appropriate to Canadian purposes on their work. The sagacity and relevance of Murray and Millett's guidance some 25 years ago is evidenced by the fact that this and other of their works have largely spurred, and continue to drive much of the research on the subject of military effectiveness, adaptation, and innovation.

As the purpose of this paper is to initiate the development of a strategic-level LL process, we must discuss the dichotomy between the approach to lessons identification and analysis normally used by the CF for operational and tactical level learning, and that which we believe should be employed in the course of strategic-level research and analysis. Typically, the military begins an operational or tactical LL project by defining and gaining command approval for a "critical topics list" (CTL).[150] For the authors the more likely basic starting point would be very broad, overarching questions of the sort detailed below. Existing knowledge or preliminary research would then allow for the narrowing of research questions that allow for the research and analysis to be broken into manageable components. If a critical topic list ever came into play it would be the result of, as opposed to the driver of the research program. The argument for having a CTL is fairly straightforward; absent a CTL, how can it be assured that the concerns of the relevant military authority are being addressed in a timely fashion? Further, such a list is often seen as a means of narrowing the scope of a collection effort. From a military point of view there is some legitimacy to such arguments. However, recalling that strategic level LL activities can as a general rule only properly be conducted after the fact (meaning, in most cases, after the guns have fallen silent), launching into a strategic level effort without having first conducted the preliminary research that will help narrow the focus of a collection (research) program is akin to adopting a tactical (immediate) approach to what should be a strategic (broader, longer-term) activity. As noted in Part Four, there is a fundamental difference between continual strategic reassessment intended to deliver success in ongoing campaigns, and strategic-level lessons identification and analysis intended to improve the execution of future campaigns. This point has been made in a number of previous reports from DRDC CORA but it bears repeating for emphasis.[151]

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[149] Millett and Murray (1988/2010), see the original introductory essay in either edition.

[150] Canadian Forces Joint Doctrine Note JDN 04/08 *The Lessons Learned (LL) Process* (Ottawa: Department of National Defence, August 2008), 3.

To emphasize the dichotomy between the type of short-timeline, immediate-impact work necessary to inform operational and tactical level adaptation, and the longer-term, more contemplative research necessary to support strategic-level learning, it is worth recalling historian E.H. Carr's description of his research and writing process:

> The commonest assumption appears to be that the historian divides his work into two sharply distinguishable phases or periods. First, he spends a long preliminary period reading his sources and filling his notebooks with facts: then, when this is over, he puts away his sources, takes out his notebooks and writes his book from beginning to end. This is to me an unconvincing and unplausible [*sic*] picture. For myself, as soon as I have got going on a few of what I take to be the capital sources, the itch becomes too strong and I begin to write – not necessarily at the beginning, but somewhere, anywhere. Thereafter, reading and writing go on simultaneously. The writing is added to, subtracted from, re-shaped, cancelled, as I go on reading. The reading is guided and directed and made fruitful by the writing: the more I write, the more I know what I am looking for, the better I understand the significance and relevance of what I find. […] I am convinced that, for any historian worth the name, the two processes of what economists call 'input' and 'output' go on simultaneously and are, in practice, parts of a single process. If you try to separate them, or give one priority over the other, you fall into one of two heresies. Either you write scissors-and-paste history without meaning or significance; or you write propaganda or historical fiction, and merely use facts of the past to embroider a kind of writing which has nothing to do with history.[152]

If this passage is read by substituting 'research' for 'reading,' 'analysis' for 'history,' and 'analyst' for 'historian' it becomes much clearer that what Carr is describing is the necessarily messy and time-consuming process of teasing lessons from past experience, no matter how recent. At the strategic level, this process cannot be significantly truncated without jeopardizing the validity of the results. Although some lessons may be readily and rapidly apparent from even a cursory analysis of recent events, it is difficult, and may be misleading, to attempt to conduct the type of analysis being argued for in this and previous papers in the short term. At the risk of belabouring the point, turning again to Carr (and again reading 'analyst' in place of 'historian'):

> The historian starts with a provisional selection of facts, and a provisional interpretation in the light of which that selection has been made – by others as well as by himself. As he works, both the interpretation and the selection and ordering of facts undergo subtle and perhaps partly unconscious changes, through the reciprocal action of one or the other. And this reciprocal action also involves

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[151] See for example Brad Gladman, *The Requirement for a Canada Command Integrated Operating Concept*, DRDC CORA TR 2006-39 (Ottawa: DRDC CORA, January 2007), 48.

[152] Edward H. Carr, *What is History?* 2nd ed. London: Penguin, (1961) 1990, 28-29.

> reciprocity between present and past, since the historian is part of the present and the facts belong to the past.[153]

A CTL may serve as the point of departure for a research project, but only in the most general sense, and should not constitute set of constraints defining the scope of research. A CTL may emerge from analysis, but it would simply be the impetus for further research, not the primary driver of the research on a given strategic subject; and not an excuse for limiting the scope of research. Any analyst, civilian or military, must be empowered to follow the evidence. This is not to say that military investigators, for their immediate purposes, should not employ a CTL for information collection purposes; any data so collected may still constitute a valuable, if necessarily limited, body of source material that may be exploited by a broader-based research programme at a later date. Indeed, such activities may prove useful, as one of the goals of a lessons identification and analysis project should be to identify potential issues that have otherwise escaped notice. The principle aim of the lessons learned process is to help senior decision makers by identifying not only issues that have gone unnoticed, but also the underlying causes of the issues, the context in which they became problems, and the reasons that they were overlooked. As noted above, even if an organization is able to identify flaws in outcomes, it can be difficult for that organization to recognize how and why the flaws occurred if the root cause lay in internal structures or processes.

To answer the question of how the concerns of senior leaders can be addressed, it must be understood that those concerns are rooted in the requirement for timely and useful advice that will help them to better understand the ambiguity of the strategic situation within which they are being called upon to act. Strategic level lessons identification and analysis can achieve this only through the provision of knowledge generated from systematic and recurrent analysis of operations to help guide decisions leading to the employment (or not) of military forces in the future. Thus, the questions presented and discussed below are ultimately considered, chosen, and designed to provide guidance to those conducting analysis meant to help clarify some of the ambiguity sure to always exist. They are meant to help make the linkages between the present and the past, always with a cautious eye to what might come.

5.1 Framing questions

The definitions employed in this paper allow for a better understanding of the dividing line between strategic and operational questions, and those questions which address the overlapping components of the political and military-strategic level from the purely military strategic level. Military political effectiveness involves two major issues: grand strategy, and the attainment of economic and other resources to properly fulfill the military component of the sum of government activities meant to attain the goals of that grand strategy. Political interests and concerns are not enduring, meaning they often change at the whim of political leaders and perceived public attitudes. However, formulating and working towards achieving grand strategic aims is an idiosyncratic process influenced by politics, the polity, and constantly changing ambiguity of the international environment.[154] Both Lord Salisbury and Bismarck equated the achievement of grand strategic aims with attempts to influence the trajectory of a vessel floating in a sometimes lazy, sometimes rapid current.[155] Thus, it is impossible to separate the enduring and mutable elements of grand strategy but the differing characteristics of the interests involved demand distinct questions to help understand what the major influences on any particular military mission might have been. Only after the questions meant to differentiate between enduring vital national interests and immediate political interests are answered can questions regarding the attainment of national resources for military purposes be addressed. This is because there are often immediate political interests driving the allocation or reduction of resources to military purposes and this inevitably will affect any strategic lessons identification and analysis process. The framework questions also serve as a triage function to sort genuinely strategic problems from those which are operational or tactical (and should be dealt with at lower levels), and also from those that lie wholly within the political realm (and which should therefore be dealt with at higher levels). This implies that the framework can also serve as a mechanism for passing issues upwards for resolution by political authorities.

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[153] Carr, 29-30.

[154] Williamson Murray, "Thoughts on Grand Strategy," in Murray, Sinnreich, and Lacey, *The Shaping of Grand Strategy: Policy, Diplomacy, and War* (New York: Cambridge University Press, 2011), 8-9.

The framing questions are divided into two categories deriving from the levels of analysis described in section 2 and illustrated at figures 1 and 2. The first category – *political/military-strategic* – comprises questions relating to overlapping political-strategic issues that cross departmental and/or governmental (Cabinet) mandates, and that may only be fully addressed and resolved via consultation between the Department's senior strategic leaders, their colleagues, and their political masters. The second category – purely *military-strategic* questions – comprises questions relating to strategic issues that fall entirely within the mandate of the Department, and that may therefore be addressed and resolved without recourse to external agencies or authorities.[156]

Within the political-military and military strategic categories, questions are further subdivided by the areas of effectiveness identified in Figure 1 and adapted for Canadian purposes from the work of, *inter alia*, Millett and Murray: *military political effectiveness*, or the proficiency of the Department in obtaining resources to support the government's plans; *military effectiveness*, or the proficiency of the Department in converting resources obtained from Government into fighting power; and *military strategic effectiveness*, or the proficiency of the Department in using force to execute Government policy (see figure 4, below). As has already been noted, military political and military effectiveness largely correspond to the Department's force development and force generation activities, while strategic effectiveness corresponds to force employment.

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[155] Richard Sinnreich, "Patterns of Grand Strategy," in Murray, Sinnreich and Lacey, 254.

[156] Two further categories – operational and tactical level questions – likewise fall entirely within the mandate of the Department, but will be left out as these levels of analysis are beyond the scope of this paper (for reference purposes, Millett and Murray's operational- and tactical-level questions are listed verbatim at Annex A).

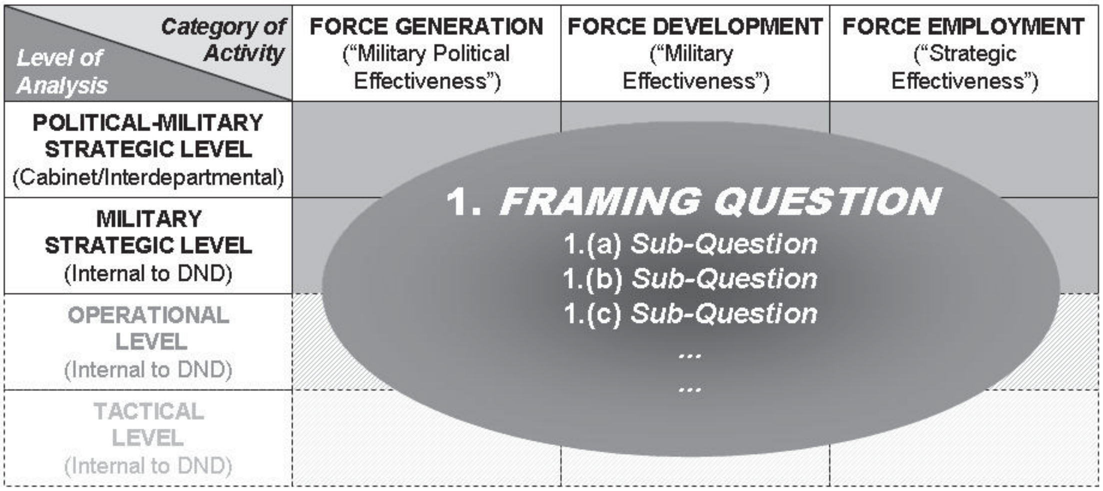
Category of Activity
Level of Analysis
FORCE GENERATION ("Military Political Effectiveness")
FORCE DEVELOPMENT ("Military Effectiveness")
FORCE EMPLOYMENT ("Strategic Effectiveness")
POLITICAL-MILITARY STRATEGIC LEVEL (Cabinet/Interdepartmental)
MILITARY STRATEGIC LEVEL (Internal to DND)
OPERATIONAL LEVEL (Internal to DND)
TACTICAL LEVEL (Internal to DND)
1. FRAMING QUESTION
1.(a) Sub-Question
1.(b) Sub-Question
1.(c) Sub-Question
...
...

Figure 4 – Framework for strategic-level lessons learned research and analysis

Strategic-level questions by their very nature will form an integral part of the Department's (and for that matter, the Government's) estimate process when deciding whether and how to employ military force. The same questions that must be answered before the Government commits forces to an operation – for example, what is the national interest at risk, and how will it be defended or advanced through the use of force – would drive all strategic planning, including both contingency planning for potential future operations, and post-conflict assessment of the appropriateness of the military mandate assigned by Government vis-à-vis the assessed threat. It is only through such an approach that strategic-level lessons may be identified and corrective action implemented to improve how Government considers future engagement in conflict. Moreover, only by revisiting questions posed prior to a conflict in light of the realities of the battlefield can lessons be derived from empirical analysis. As has already been noted, post-bellum assessments require not only data and objectivity, but also a certain degree of analytical distance and a grasp of the theoretical foundations of analysis; "[t]hat the true nature of a war should be realised by contemporaries as clearly as it comes to be seen afterwards in the fuller light of history is seldom to be expected."[157] Beyond their post-bellum utility, however, the questions that follow are equally applicable to all elements of strategic planning, including force development, force generation, force employment, and contingency planning activities. Indeed, all of the primary questions should form the basis of the estimate process before military operations are undertaken.

Brief explanations will be provided with the questions, along with sample sub-questions that derive logically from the framing of context-specific research. We implore the reader not to see any of these questions as being set in stone or as a checklist to be satisfied. Rather, we hope that this list will be seen simply as a point of departure to stimulate thought for the betterment of the decisions leading to a better understanding of best to structure, sustain and employ the military as a tool of government policy.

With this in mind, the following numbered questions are considered to be universal. Those distinguished by letters subordinate to the numbered questions are considered malleable to fit the particulars of a specific analysis project and by no means represent a complete list. These are only included to help stimulate thinking and provide clarity.

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[157] Corbett, 6.

5.2 Political / Military Strategic questions

5.2.1 Grand strategy and policy

The first three major questions are meant to help differentiate between national interests, which are enduring, and political interests, which, even if they exist relatively unchanged for several decades, are more fleeting and prone to change than true national interests. It is important to understand the difference between a contemporary component of defence policy such as a particular mission, and the underlying national interest that drives that policy. For example, the current emphasis on Arctic operations is a policy decision. The inviolability of Canadian sovereignty is the underlying national interest at stake. Thus while some may see the division below of national interests and political interests as confusing, incorrect, or even controversial, no proper analysis of strategic issues can take place without discerning the political interests that drive involvement in a particular mission and the national interests at stake.

1. What are the vital national interests at stake?

    a. What is/are the linkage(s) between the mission being analysed (or proposed) and those vital interests?

    b. Has this linkage been made clear by the political authorities?

        i. If not, were the linkages sufficiently clear for military planning purposes?

2. What are the immediate political interests or concerns that drove involvement in the mission?

    a. Are there clear links to national grand strategy (vital national interests)?

    b. Is there an obvious (or ambiguous) policy basis for involvement?

    c. Are the political interests driving a mission sufficiently fleeting to warrant the presentation of arguments against dedicating resources to a mission?

3. What are the threats to vital interests?

    a. Is there a clear threat to the national interest driving the mission?

        i. If not, is the employment of military forces suitable for the goals being sought by the government?

        - ii. Is it clear what end is desired via the employment of military resources and can this be achieved? In other words, is the military the best tool of government to achieve the desired ends given that there is no extant threat?
    - b. Who are the key actors that constitute the threat?
    - c. What are the capabilities of those actors?
        - i. What is the specific nature of the threat?
        - ii. Can those enemy capabilities be mitigated by military means?
        - iii. Are there clear linkages between the threat and the mission being contemplated (or how the mission was conducted)?

4. If there is no extant threat, does the employment of military resources serve as deterrence to an impending or potential threat?
    - a. If so, are there obvious negative primary or secondary effects that might result from the employment of military resources?
        - i. For example, might the use of military resources create an undesired response from an adversary, potential adversary, neutral, or ally?
    - b. Are the resources tasked to the mission sufficient to create an impression of strength or is it possible that those dedicated to the mission highlight material or moral weakness or indecision?

5. If an extant threat is present, do the national armed forces possess the capabilities needed to counter the threat? In other words, do the armed forces possess the capabilities necessary to protect the vital national interests against the range of threats? Alternatively, can existing capabilities be properly and effectively adapted to address the threat?

Military capabilities should be developed in light of a rational assessment of the strategic environment, the likely security conditions to be faced in the near-term future, and a military assessment analyzing the implications of the strategic and future security assessments. Along with this set of assessments, military capabilities are developed in light of the government-of-the-day’s policy intent, normally articulated via some form of foreign, security, and defence policy. Some important facets of the matching of military capabilities to threat are better dealt with in the section discussing military strategic effectiveness below. However, the policy basis for matching military capability to threats is most appropriately dealt with here. Thus, the following sub-questions should be the sort contemplated when investigating military political effectiveness:

- a. Is there an existing or historic policy basis for the mission?
    - i. If so, has there been analysis of past successes, errors, and problems in trying to meet the particular policy with military means?

    - ii. If so, were there any ambiguities with the policy that created minor or major planning or execution difficulties for the military?
    - iii. If so, how were these difficulties overcome?

- b. *Post facto*, did the use of military resources cause, in practice, a new policy that creates a gap in the military ability to meet the requirements of the government?
    - i. If this is the case, is the new *de facto* policy stance of a character that implicitly or potentially commits the armed forces to campaigns with characteristics unsuited to existing defence organizational structures?
    - ii. If this is the case is there heightened potential for involvement in campaigns that may have no obvious end or an end that might be unachievable?

- c. Alternatively, did the campaign or mission make irrelevant previous defence commitments?
    - i. If this is the case is existing organization readily adaptable to meet the new conditions?
    - ii. Do the new conditions require the acquisition of new capabilities and the elimination of now-redundant capabilities or do the conditions call for the retention of all existing military capabilities along with the acquisition of new capabilities (meaning an expansion of defence responsibilities)?

- d. If a given threat cannot be completely mitigated by military force is it clear what role the military is to play in countering the threat?
    - i. Are contingency plans and standard procedures in place that allow for the coordination of the military component with the other government agencies involved in countering the threat?
    - ii. Does existing legislation adequately cover the conditions created by the response necessary to counter the threat?

These are but a sample; it becomes obvious that the potential policy questions that fall out of the matching of military capabilities to threats are almost endless. For example, Operation Mobile, the CF contribution to NATO operations against the Libyan government of Colonel Ghadaffi, implicitly revives notions of the "Responsibility to Protect" (R2P) policies from the end of the 20th Century. If this is indeed the government's intention then there are important implications for the CF. For example, such a policy begs consideration of the role of the UN and other international bodies in gaining approval for Canadian and coalition actions, not to mention the requirement for criteria to determine when military engagement is appropriate.

5.2.2 Relationship of mandate to resources

Consistent funding over multiple years is necessary for militaries to maintain, develop, procure, and integrate the major equipment requirements that are essential to establish and nurture capabilities. Although there are many factors affecting defence budgets and the consistency of those budgets that are completely beyond the control of the military and, in some cases even the national government, there are some questions that can be asked that improve the armed forces' chances of being granted the fiscal resources necessary for meeting the mandate given by the government. From the departmental perspective the most important issue is linking budgetary requests to mandate. The following questions drive towards this crucial point.

6. To what extent can military organizations assure themselves a regular share of the national budget sufficient to meet their major needs?

    a. Has the rationale for the department's budgetary estimates been clearly articulated?

    b. Does this rationale clearly link the military capabilities being argued as necessary with the grand strategic components of national interest and the protection of those interests from specific threats?

    c. Is the process by which this rationale was generated intellectually and methodologically defensible?

    d. Are the risks of not meeting defence estimates articulated?

    e. Does the internal budgetary estimate process indicate that the department has a clear understanding of its purpose and role?

    f. Is allowance made for the costs of operations not expected or known to occur at the time the estimates were generated?

    g. Are there considerations that might cause the government to deny funding deemed necessary by the Department?

    h. Does the denial of any particular portion of the budgetary request raise the risk of failure to current or projected missions?

These are obviously very broad questions that invite a host of subordinate questions. However, the point to be taken from this is that there is a better chance that defence budgetary requests will be fulfilled if the logic for those requests rests on a methodologically sound, empirically-derived foundation. This process must also be open and transparent so that the polity, those that ultimately fund defence procurement, can see that the requests are not spurious or departmentally self-serving. If nothing else, addressing these sorts of questions will allow the department to state that it has conducted their part of the budgetary process with thoroughness and, to the degree possible, objectivity. The government may choose for any number of reasons not to fund the estimates entirely or at all; regardless, it is the responsibility of the department to provide sound advice to government without regard to what the ultimate decision might be. From a strategic LL perspective, these questions are important because they allow for a tracing of military capabilities employed in a given mission and the process by which these capabilities are justified and supported. If for example a specific capability has been downgraded in importance in the force development process yet is proving critical to execution of a mission, there is an obvious disconnect between force development, force employment, and government policy that must be reconciled.

7. To what extent does the state possess the industrial and technological resources necessary to produce the equipment needed?

This again is a question whose answer contains many factors well beyond the mandate of an armed forces bureaucracy because it speaks to the myriad factors influencing whether a country possesses the technological-industrial capacity to develop and produce military equipment and also the political alliances and formalities necessary to assure access to such equipment that might be produced in foreign states. In contemporary times it cannot be expected that equipment would be completely designed and produced domestically. From the military perspective, it may prove useful to devise some form of critical technologies list but, like the process by which defence budgetary estimates should be produced, such a list must be developed through consideration of national interest, vital interests, policy objectives, threats, and all of the derivative factors that determine what capabilities a military requires to fulfill their mandate. Just as important is the responsibility of the military to identify what domestic industrial capacities it requires to allow for the repair, maintenance, overhaul, and refurbishment of equipment. Indeed, this may be more important than ensuring equipment is domestically manufactured because it allows for the rapid upgrading and repair of equipment to meet any urgent operational needs that may occur outside of any consideration of foreign production lines or political problems that might occur. Such considerations are also necessary to be able to integrate new technologies into existing platforms concurrent with development in order to be best prepared for operations.

The importance of this particular question to a strategic-level LL process whether the military is able to easily and rapidly bring equipment to an operational standard to suit the actual conditions of warfare. Just as important is the ability to overhaul and return to service equipment that has become worn or damaged during operations. Recent or current examples include the process used to bolt-on various upgrades to naval platforms at the time of the first Gulf war in 1991; the lengthy time to make operational the Victoria-class submarines; and, the inability to field recently purchased Leopard II tanks due to lack of overhaul facilities and personnel. These concerns will always exist and should be as foremost in strategic planning thoughts as consideration of whatever next-generation platform is desired for acquisition.

How to integrate this question into a LL project? It is relatively simple. For example, if a project was looking into the logistics of maintaining combat capabilities in the field, questions regarding the repair and refurbishment of damaged or worn-out armoured vehicles, and the replacement of stocks in theatre should quickly lead to conclusions about whether there were sufficient organic CF or private-sector facilities available to sustain the capability. If there was not, a strategic capability gap with serious implications for future missions exists. This is much more than a spare-parts issue; given that Canada designs and produces very little military equipment domestically, the maintenance of political relationships and the myriad memoranda and agreements that assure the supply of the bits and pieces necessary to field a combat-capable force is indeed a political strategic issue. During wartime, when demands on existing stocks, production, and supply lines are heavy, the issue of strategic capacity, and therefore of access to strategic materials, becomes paramount. Only strong political relationships will ensure the supply of critical material that is produced outside of Canada but which is also in heavy demand by the armed forces of the country within which the material is produced. This example shows how tactical and operational imperatives lead inevitably to strategic-level issues.

8. To what extent do military organizations have access to manpower in the required quantity and quality?

When this question was originally drafted by Millett & Murray it was in the context of the 1914-1945 timeframe for the military effectiveness volumes. At that time the main concern with regard to manpower was sheer numbers, an appropriate percentage of people with the technical skills or aptitude to acquire the skills to operate and maintain increasingly complex machinery, people with appropriate levels of education to flesh out the officer corps of military forces, and moral and legal legitimacy sufficient to motivate citizens to feel some obligation to serve. To some degree these remain valid considerations although the requirement for sheer numbers is clearly less important now than between 1914-1945.[158] One factor that was not fully addressed by Millett & Murray was the political limits on the size of an armed force. One important question that must be asked is whether the manning limits set by a government are commensurate with the manpower requirements of a military to meet the entirety of its mandate. Simply put, has the government matched the military mandate with appropriate personnel levels? Some potential subordinate questions for this topic might include:

a. Do the recruits of an armed force reflect the overall characteristics of the polity it is meant to serve?

    i. If it does not, in what way is it unreflective and does it lessen the legitimacy of the institution?

b. Do the recruits possess education levels sufficient to fill military requirements?

c. Does the military properly exploit the education levels of its available personnel?

d. Does government defence policy and strategy allow for personnel flow-through consistency over time (meaning, gaps do not occur due to time lag between retirements and other personnel losses and the development of replacements)?

e. Do reserve forces have a sensible mandate and funding structure that ultimately allows effective integration for operational purposes?

f. Do the armed forces project an image that stimulates motivation within the polity to view the military as a fulfilling and honourable career choice?

These subordinate questions relating to recruitment are themselves very broad, but their strategic implications are serious. For example, a military may have all of the equipment it requires but if it has difficulty attracting sufficient recruits with the proper skills to man the equipment it is obviously lacking in effectiveness in this regard. This can be attributed to a number of reasons, many of which are beyond the traditional notions of remuneration and competition with the private sector for desirable candidates. One reason could be that the government and/or the military itself have failed to articulate a role for the armed forces that resonates with the polity. This is directly related to the clear understanding, and explanation of national interests, threats to the national interest, and the measures necessary to protect those interests. In essence, grand strategy and the manner by which it is communicated and acted towards remain critical even when considering recruitment and retention of military personnel. While remuneration and benefits certainly play a role in developing motivation, history suggests that other, primarily moral factors play as important a role.

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[158] This is not to say that mass of manpower might not be necessary again in the future, only in the contemporary context large personnel numbers of those typical of the 1914-1945 period are not a major consideration for most missions contemplated.

5.2.3 Military Strategic questions

The previous section presented and discussed the questions that lie in the overlapping portions of the political and military strategic spheres of responsibility. In essence, those questions address subjects and problems that span multiple departmental and/or political mandates. The military strategic questions in the present section, however, fall exclusively within the mandate of DND, meaning that, any issues that might arise theoretically can be solved within the department without recourse to the political level. The questions have linkages to the operational level but are outside the remit of the force employment commands, which are responsible for operational level LL activities.

1. To what degree would achievement of (or failure to achieve) the defence organization's strategic objectives result in securing (or placing at risk) the political goals of the nation?

    a. Are the capabilities being sought or developed by the military suitable to protect the identified national interests from extant or developing threats?

This question is directed at understanding whether there was/is a strong relationship between political ends and military means. In other words, are the capabilities sought by the military suitable for working towards attainment of grand strategic and political goals? There is a relationship between force development and strategic decision-making and clearly these can only be effective if they are predicated on realistic and rational appraisals of national interests and threats. Force development based on ungrounded 'blue sky' projections of hypothetical future conditions and threats can only tenuously be linked to real-world conditions. The fact that defence procurement programs can take decades does not change the requirement for force development and other strategic planning activities to be strongly matched to known threats. To paraphrase former US Secretary of Defence Donald Rumsfeld, we can't completely understand or know what we don't know; some things will be beyond our capacity to uncover, and there will always be threats that go unappreciated for what they represent. No amount of futures-based 'analysis' can change this fact. But it is far better to have strong linkages between military capabilities and known threats than to become distracted by trepidation that the organization might get something wrong; it will, and it is the responsibility of the organization to the polity to acknowledge and explain the inevitability of this fact.

2. To what degree are the risks entailed in the desired strategic objectives consistent with the stakes involved and the consequences of failure?

It is difficult to conceive of a situation in which Canada would adopt a course of action that would lead to catastrophic defeat of the sort suffered by Germany and Japan in the Second World War. It was this sort of consideration that factored heavily in Millett & Murray's discussion of this question. However, the question is still relevant for Canadian purposes as it should drive thinking on the linkages between strategic intent, actions, and possible results of those actions. It is incumbent on military leaders to both consider and communicate their assessment of the risks and consequences of a possible course of action to political authorities when a given course of action is being debated. In other words, one of the most important questions to be asked by military leaders of civilian political authorities upon entering discussions of possible military action is: What interest is being served by this operation? What event or series of events can be seen as symbolic of success? What might be considered too extravagant a cost to pay for the desired end? The point is that the proposed mission must be framed in relation to the potential costs to properly understand what risks might be entailed in a given course of action. If those costs do not mesh with the perceived value of the interest being served then military leaders are obliged to argue as much.

3. To what degree were the leaders of the military organization able to communicate with and influence the political leadership to seek militarily logical national goals?

For Canadian purposes, this question is not based on whether senior leaders have access and opportunity to communicate their thoughts on militarily logical goals to political leaders. There is no question that legislated channels to ensure this exist. For strategic LL purposes, this question is meant to force inquiry into whether the military leaders availed themselves of the opportunity to influence the political decision-making process. When considering effectiveness, if the military were unable to convince the political authorities that the goals of a mission were unrealistic, the effectiveness of the military leaders would have as unfavourable a ranking as if they had not offered reasoned advice in the first instance.

 a. Is the strategic decision-making process employed by the organization thorough, forthright, and committed to providing realistic advice to political authority?

 b. Did the organization's senior leaders clearly indicate to political authorities the limits of the military capabilities available at the time of commitment to a mission?

 i. If actual conditions faced during the mission caused severe difficulties for the military, was this foreseen and clearly indicated to political authority along with an assessment of the risk of failure should the mission result in collapse of a capability? If not, what caused the planning gap between anticipated and actual conditions?

 c. Was the strategic decision-making process able to draw on realistic contingency planning?

Recent missions highlight the importance of understanding and communicating not only the capacity limits of the armed forces but also the limitations of the capabilities that might be drawn upon for a mission. For example, preliminary retrospection leads one to question whether the CF was prepared for the conditions faced in Kandahar when that portion of the Afghan campaign was assumed by the CF. Similarly, with the ongoing Operation Mobile, a suitable strategic LL question would ask whether the limitations of airpower in that particular context were understood and communicated before the CF was deployed. Another question that might have been asked was what options were planned should the anticipated collapse of the Khadafy regime not occur in the manner and timeframe anticipated (and desired) by military and civilian planners.

4. To what degree are force size and structure consistent with the strategic goals and courses of action?

Millett & Murray break this question down into a discussion of numbers, structure, and internal organization and composition of forces. This question addresses the military-specific aspects of those questions in the political / military strategic section dealing with resource availability. This question specifically looks to the structure and organization of an armed force in comparison to the conditions that force considers likely to face on a future battlefield. Millett & Murray use the example of the completely inappropriate force size, structure and organization of the German *Wehrmacht* for attacking the Soviet Union and the reasonably well organized, if numerically deficient, organization of the US Navy and Marine forces for the war against Japan to illustrate opposite ends of the spectrum of matching forces to likely conditions. For contemporary CF strategic LL purposes reasonable questions may include:

   a. Was the operational employment of military forces consistent with force structure and doctrine? For example, were the traditional army structures of regiment, battalion, and company effective given the composite nature of the 'battle group' structure employed in, e.g., Kandahar province?

      i. What were the (if any) positive or negative attributes of extant force structures given the character of the mission?

   b. Were contemporary regular force-reserve concepts and organization effective in providing fully-capable combat forces?

      i. Was the reserve force expected to supplement or provide unique capabilities to the regular forces?

      ii. If the provision of unique capabilities was expected were those capabilities fully operational and were they integrated with the regular force structure with few negative issues?

   c. Given the composite nature of the battle group organization were there any strategic level doctrinal gaps that became apparent during the integration of forces from the various service environments?

5. To what degree are the military's strategic objectives consistent with their logistical infrastructure and the national industrial and technical base? Included in the industrial base are manufacturing capabilities and rates, reserve capacities, sophistication, vulnerability, and access to raw materials.

   a. Does the state possess the industrial and educational / intellectual capacity to provide resources matching the strategic objectives assigned by Government?

    i. Does the military have the ability to rapidly draw on the national industrial and intellectual capacity to meet strategic requirements?

    ii. Does the military have the capacity to execute assigned strategic objectives without surging national logistic or other support?

b. Does the military require significant support from allies for key capabilities? For example, does the military possess the full array of required logistic and support capabilities necessary to sustain the types of operations likely to emerge as a result of the Government's strategic commitments?

    i. If not, are the required political and commercial agreements in place to ensure access to extra-organizational supporting capabilities when and as required?

    ii. If the armed forces do not possess sufficient organic logistic and support capabilities does the deficiency undermine the ability of the armed force to meet the mandate bestowed by government?

c. Can the military draw upon national resources to bolster its capabilities when required? In other words, does a mobilization plan exist?

    i. Does the legislative authority for such mobilization exist?

    ii. Has contingency planning identified circumstances when such mobilization may be necessary?

    iii. Does domestic civilian supporting capacity exist that may be drawn on? For example, does domestic civilian aviation possess aircraft potentially useful for military use, e.g., strategic lift?

d. Are military stockpiles of critical equipment and supplies consistent with what would be required to execute the types of operations likely to result from strategic objectives assigned by Government?

    i. Has contingency planning identified critical shortages likely to imperil strategic success?

    ii. Are there plans in place to access industrial surge capacities?

6. To what degree are military organizations successful at integrating their strategic objectives with those of their allies and/or persuading them to adopt consistent strategic objectives?

When devising this question, Millett & Murray were primarily concerned with determining whether coalitions demonstrated efficiency through integrated strategic military command structures, the collective negotiation of strategic objectives, and the necessary cooperation to militarily pursue those objectives. For Canada, which normally deploys forces in some form of NATO context or at least alongside NATO allies, the integration of strategic command structures is normally achieved (but with no judgement on efficiency being levied here). Also, given that NATO employs a consensus-based system for decision-making and devising objectives, Canada normally has some influence on the outcome of strategic deliberations. Thus, for CF strategic LL purposes suitable sub-questions might include:

a. To what degree were Canadian representatives able to influence allied strategic objectives and plans?

  i. In what manner was the planning process influenced? For example, did Canadian representatives provide unique insight into the formulation of militarily attainable strategic goals?

  ii. Could that influence be determined to be less than, commensurate, or greater than that which could be expected given the level of Canadian involvement in a mission?

    a) If less or greater than, what were the factors that led to that outcome?

7. To what degree do the strategic plans and objectives place the strengths of military organizations against the critical weakness of their adversaries?

In providing context to this question Millett & Murray correctly noted that it is often difficult if not impossible to properly reconcile one's own strengths with the weaknesses of potential enemies because these are "often not sufficiently complementary or clearly recognized."[159] Therefore the most logical course, they conclude, is to devise methods of realising strategic goals in a manner that allows for the full exploitation of one's own strengths. Understanding who potential adversaries might be, what their capabilities and weaknesses are, and what threat they represent to vital national interests cannot be properly ascertained without a complete "assessment trilogy" consisting of a strategic, future security, and military assessment, as argued by one of the present authors in an earlier related paper.[160] Indeed, in light of the question of a military's ability to plan strength against weakness at the strategic level, highlights the requirement for a complete and routinely updated assessment trilogy. Furthermore, this question also forces contemplation of how traditional combat capabilities can best be adapted to the characteristics of the threats likely to be faced in the field. For example, those who advocate the removal of conventional combat capabilities in an effort to better match the types of adversary faced in, for example, Afghanistan, must be careful not to argue a course of action that removes the strengths of the CF. To wit: asymmetry works both ways; what is important is possessing the ability to adapt doctrine and training to employ capabilities (strengths) in a manner that exploits the weaknesses and mitigates the strengths of an enemy. One of these approaches tends to lead to the short-sighted discard of capabilities based on narrow visions of what is deemed likely occur in the future; while the other approach recognizes first, that not all capabilities will be employed in a mission, no matter how extensive; and second, that successful militaries are those that have proven skilful at rapid adaptation. Finally, this question forces consideration of what constitutes strategic success, both from a friendly / allied perspective and from that of the adversary. Strategic planning must understand what constitutes success. This, of course, is predicated on a clear understanding of national interests. Ultimately, if an adversary does not possess the military means to threaten the vital interests of the state, which, in the most severe sense means the ability to threaten the existence of a state, strategic planners must be very careful not to adopt a strategic course of action that focuses on what in reality might be discretionary missions at the risk of undermining the military capabilities required to guarantee the sovereignty of the state itself. To be clear, this is an argument for all aspects of strategic planning to be founded upon an empirically-derived, clear-minded grasp of vital as opposed to discretionary national interests. For CF strategic LL purposes the following sub-questions are offered as an example of those that might be asked:

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[159] Millett & Murray (2010), Vol.1, 11.

[160] See Neil Chuka, *Re-Examining the CF Joint Level lessons Identification and Analysis (Lessons Learned) Process, Part One: Learning and Innovation Framework*, DRDC CORA LR 2011-017. Ottawa: DRDC CORA, 25 February 2011, 6-7.

a. Does a complete assessment trilogy consisting of a strategic, future security, and military assessment exist, and are the requisite documents regularly revisited to ensure currency?

b. Do current strategic planning processes allow the military to fully understand and exploit its strengths, mitigate its weaknesses, and permit rapid adaptation to the actual conditions of the battlefield? In other words, does the defence institution possess the mental agility to recognize when it is necessary to move from the conditions of peacetime innovation to wartime adaptation?

c. Do strategic planning products indicate that the institution clearly distinguishes between tactical and operational success, on one hand, and strategic success, on the other?

d. Do strategic planning products indicate an understanding of what might constitute strategic success for existing or potential future adversaries in a meaningful manner?

8. Does the department possess the means to determine the degree of mobilization required for a particular campaign or mission? In effect, does the defence institution possess mobilization plans that are graduated in a manner that links scale of threat to the degree of military effort required to counter a given scale of threat?

a. If the degree of mobilization is high is there a process by which activities and tasks can be realigned to transition from a peacetime to wartime footing?

b. If it is shown that the military has indeed mobilized, were the stages of mobilization executed efficiently, in the sense that the military organization remained capable of further sustained activity?

    i. What mobilization plans were in place?

        a) What legislative measures were in place to support mobilization?

    ii. Were those plans relevant?

    a) Did they include the necessary force generation provisions, e.g., for recruiting and training of mobilized personnel?

  iii. Did the plans include provisions for undertaking personnel generation and replacement, and the repair, overhaul, and return to service of equipment rendered unserviceable by operations outside of the normal planned life cycle of the equipment?

  iv. Did the plans include provision for the timely acquisition of replacement for completely destroyed equipment, recognizing that pressures resulting from wartime mobilization will be vastly different from peacetime?

  v. Was the need for supplemental budgetary support identified and communicated to the government in a timely fashion?

  vi. Were supplemental resources obtained and efficiently employed?

  vii. Was the organization able to quickly recognize and rectify deficiencies in force generation activities to adapt to the realities of the mission(s)?

  viii. Was the military strategic LL organization properly staffed and able to influence the direction of strategic planning for force development and force generation as a result of insights from the realities of operations?

    a) Was there a process to incorporate both lessons derived from long-term analysis and those available via short-term insights, to improve strategic planning during an ongoing campaign?

9. During wartime, was there a requirement to shift strategic planning activities such as those for force development to an ‘adaptation’ footing to counter the actual as opposed to the ‘envisioned’ threat?

  a. If so, did the department communicate this necessity to the government?

  b. If not, was the threat to national interests not considered significant enough to warrant the realignment of resources?

  c. If resources were realigned, were they realigned and applied effectively or was there significant bureaucratic resistance to the realignment?

5.3 Summary

The questions posed in this section are equally applicable to all elements of strategic planning, including force development, force generation, the use of force, and contingency planning activities. Indeed, all of the primary questions should form the basis of the estimate process before military operations are undertaken. It is appropriate that the relationship between strategic planning and strategic LL questions is strong because ultimately, the strategic LL process can only serve to influence the various strategic planning activities through the presentation of empirically derived research and analysis.

Another useful purpose is that these questions help to clarify what sorts of activities fall into the strategic realm in order to focus strategic-level lessons identification and analysis. These are, first, the political-military strategic level; and second, the purely military strategic level of analysis. This then is a rough template for what issues should be passed upwards outside of the department to higher levels or to other departments, what issues should be carefully considered in concert between the military and political levels, and what issues fall exclusively within the defence institution's mandate. The department is obliged to conduct strategic-level lessons identification and analysis on anything that falls within the domain of the political-military strategic and military strategic categories of analysis as described above. While there may be some discomfort at the prospect of conducting analysis within the political-military strategic category, no other analysis can properly take place unless those highest level questions are first considered. All of the useful literature on strategy, strategy formulation, and strategic-level military analysis infers or explicitly notes the difficulty of addressing strategic level issues as they invariably lead to some number of political questions. This difficulty, however, cannot stand as a justification for omitting inquiry into such questions as there is likely a correlation between the level of discomfiture caused by a question and its importance to strategic planning.

Finally, the military strategic framework questions can help sort strategic from operational and tactical issues within the department, and help identify which agency or agencies should be responsible for addressing whatever issue has been identified.

6 Conclusion

> *I would like you to know into what sort of struggle you are going: learn its nature from one who knows.*
>
> - Cyrus the Younger to his soldiers before Cunaxa, 401 BC[161]

As noted in the introduction, this paper is the second in a series intent on providing theory and practical frameworks to guide strategic-level learning, innovation and adaptation. The papers all adopt the position that the only valid foundation for strategic planning activities, which are considered to include all force development, force generation, and campaign planning, is empirically-derived research and analysis. Almost exclusively, this empirical foundation can only stem from investigation into the political and military activities involved in the planning and conduct of actual operations. The specific purpose of this paper is to present a framework for strategic-level lessons learned that would, amongst other things, articulate a set of universal framing questions intended to focus organizational learning activities at the strategic level within DND/CF. These questions are intended to form the basis from which context- or mission-specific questions may be derived.

To this end, we began with a discussion of definitions to establish the "common vehicle of expression and…common plane of thought"[162] that are the *sine qua non* of any analytical endeavour. We then examined the levels of analysis as a basis for structuring the framework for inquiry, and determined that there are three key focal points for strategic-level learning: the political level of analysis, where policies are crafted, and tasks and resources assigned; the military strategic level, where departments turn resources into capabilities to enable them to execute their assigned tasks; and the necessary overlap between the two levels, where a key input to government policymaking is advice from those responsible for departmental-level strategy – what we have termed, in the case of DND and the CF, the "political/military-strategic overlap." From this, we discussed the nature and some of the potential pitfalls of organizational learning; and then discussed some of the challenges involved in lessons identification and analysis at the strategic level, grouping our concerns and caveats under three general headings: impediments to organizational learning, in which we discuss some of the potential pitfalls lying in wait for those attempting to restructure large bureaucracies; the requirement for leadership to ensure rigour and transparency in any learning process, and to seek as required outside assistance in effecting necessary transformations; and finally the critical importance of empiricism in the learning process.

We then proceeded to the development of questions to guide strategic-level learning, dividing the questions into three hierarchical categories deriving from the levels of analysis – grand strategy and policy, the relationship of mandates to resources, and military strategy – and structuring them in tiers of overarching and subordinate questions, using the effectiveness criteria outlined by Millett and Murray as a guide for adaptation of individual questions to unique Canadian requirements and circumstances. The result, we hope, is a useful framework of questions for strategic-level lessons identification and analysis that may be adapted as required to guide strategic-level learning.

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[161] Xenophon, *Anabasis*, Chapter VII, paragraph 1.

[162] Corbett, 8.

We would be remiss, however, if we failed to highlight that one of the overarching goals of this paper was to underscore the importance of three general conclusions regarding key requirements for rigorous lessons identification and analysis. First, it is necessary to establish a basis for common discussion of strategy in DND/CF. Strategic-level lessons identification and analysis – or 'lessons learned', to use the common vernacular – by definition requires coordination between all organizational stakeholders, especially in view of the framework we have delineated herein, which places political efficiency (force generation), military efficiency (force development), and military strategy (campaign strategy) on the same plane of strategic activity and analysis. Coordination – or as Corbett terms it, "conference" – is impossible unless collaborators speak a common language. The inevitable conclusion therefore is that strategic-level learning demands that force generators (the environmental commands), force developers (Chief of Force Development) and force employers (the operational commands) not only work together, but that they also work from a common understanding of the framework for strategic learning. This in turn demands, as highlighted in the citation from Corbett heading this paper, "a common vehicle of expression and a common plane of thought."[163]

Second, strategic-level learning cannot proceed unless the "common plane of thought" that is necessary to sustain "conference" is grounded firmly in the classical understanding of what is meant by "strategy" and its various super-ordinate and subordinate permutations. As has been noted by numerous authors both inside and outside of government (including both of the authors of this paper), the formulation by government of grand strategy and policy and the translation of these into the allocation of tasks and resources, and subsequently into departmental strategies, policies and activities, is often irregular and disjointed, suffering from gaps in rigour that tend to imperil both the formulation of policy by government, and its execution by governmental organizations and agencies. We hasten to add that this is not a problem peculiar to Canada; the lack of a grand strategy afflicts governments worldwide, with consequences ranging from the banal to the genuinely catastrophic. We also wish to emphasize, in anticipation of the argument that Canada "doesn't do grand strategy" because it is not a "great power,"[164] that regardless of the size of or level of international ambition professed by a state, it is the formulation of strategy on a basis of interests and the design of policy to defend and advance those interests that comprises "grand strategy." Some states do this; some do not.

The formulation by government of grand strategy proceeds logically from the articulation of national interests and the identification of which of those interests are vital to the survival of the state to the identification of threats to those interests; the design of responses to those threats; and the assignment and allocation of tasks and resources to subordinate agencies of government charged with executing those responses. Strategy at the departmental level thus consists of the organization of all resources allocated by government in executing the tasks assigned by government. The inherent impossibility of crafting relevant, logically and rigorously-derived departmental strategy and plans without a detailed understanding of the government's intent (i.e., its grand strategy and policy) underscores the importance of the "assessment trilogy" described in one of the papers that led to this present study.[165]

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[163] Corbett, 8.

[164] Granatstein, for example, argues that smaller powers "do not have Grand Strategies because they lack the human, industrial and military resources to sustain them." This is arguing that national strategies differ in degree rather than in kind – which is precisely what has argued above. The proof of the pudding, according to the above analysis, lies in the rigour and fidelity of the process of formulating and implementing a national strategy, and in the durability and comprehensiveness of the result – not in its scope. A strategy need not be grandiose in order to be grand. See J.L. Granatstein, "Can Canada Have a Grand Strategy? Presentation to the Canadian Forces College, Toronto, 6-7 April 2011", (Calgary, AB: Canadian Defence and Foreign Affairs Institute, April 2011), 2-3.

In a military department disposing of military resources to execute military tasks, the assessment trilogy constitutes the rigorous foundation of military strategy. Activities below this level may (indeed, must) contribute to the achievement of strategic objectives, but they are not in and of themselves "strategic." The second general conclusion of this paper, therefore, is that strategic-level learning can only proceed from a solid understanding of what sorts of activity are, and more importantly what sorts of activities are not, "strategic"; and from a detailed understanding and analysis of the government's intent as expressed through grand strategy and policy.

The third general conclusion of this paper, which we discussed in some detail in Section Four, is that rigorous, rational strategic-level learning cannot proceed absent a conscious determination on the part of its advocates and practitioners to ground their work solidly in analytical empiricism.

Empirical evidence from the large number of recent and historical military operations is readily available to be exploited through serious research and analysis. The conduct of such analysis is what constitutes a rigorous strategic-level lessons identification and analysis process. Cohen and Gooch's demand for "a relentless empiricism" must be the touchstone of any strategic-level lessons learned process. In this context, there is no better guide than Carr, who described history as "progress through the transmission of acquired skills from one generation to another."[166] Lessons identification and analysis is an inherently historical exercise; and history depends for its reliability on tried and tested principles of methodological rigour that cannot be flouted without undermining the learning process. One cannot learn valid lessons from events that never happened.

The importance of establishing and maintaining rigour in lessons identification and analysis is more than a *pro forma* plea for one methodological approach. Distilling the experience of costly and often bloody military operations into relevant strategic lessons is the only reliable means of learning from not only our own successes and failures, but, crucially, from those of our enemies and allies as well. This is the only *historically proven* route to improving both the fighting power of military forces, and the decision-making processes that lead to their employment in support of a nation's policy objectives. A rigorous, comprehensive, and above all *empirical* strategic lessons identification and analysis framework is – as Gaddis said of history – "the best method of enlarging experience in such a way as to command the widest possible consensus on what the significance of that experience might be."[167]

The method advocated here is also the best method of establishing priorities – which is essential not only because resources are finite, "but also because strategy becomes exponentially more difficult to manage as strategic commitments proliferate and as the interconnections among them become more difficult to diagnose."[168] At the same time, however, it is important not to venture beyond necessary prioritization and stumble into oversimplification. In military organizations, as Paul Rahe notes, "there is a powerful propensity to turn reading into rote, to reduce complex narratives to lessons easily learned. It is this propensity that retards innovation and makes it as difficult for military organizations as for other large bureaucracies to adapt to circumstances forever in flux."[169] Strategic learning requires that those engaged in it develop a certain tolerance for the ambiguity and complexity that are inevitable whenever one attempts to impose a tidy theoretical framework upon the messy reality of human endeavour. Here too the perspective, objectivity, patience and methodological rigour of the historian are likely to prove helpful. Historians, after all, appreciate better than most the fact that complexity, far from being a recent phenomenon, has in fact been a feature of warfare throughout the whole history of human conflict; and that the ability to cope with complexity in war has more often than not been one of the hallmarks both of the great generals, and of the most knowledgeable and insightful students – and teachers – of strategy.

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[165] Neil Chuka, "Re-Examining the CF Joint Level lessons Identification and Analysis (Lessons Learned) Process, Part One: Learning and Innovation Framework", DRDC CORA LR 2011-17 (Ottawa: DRDC CORA, 25 February 2011), 6-7.
[166] Carr, 114.
[167] Gaddis, *The Landscape of History*, 9.

What does all this mean for the strategic-level lessons learned section at the CF Warfare Centre and those in related positions of authority at the Strategic Joint Staff? First, given the centrality and critical nature of strategic-level analysis of operations to all strategic planning activities in the department, it is clear that the small staff (the size of which was critiqued in the first paper in this series) will face a tough chore first in narrowing down what tasks indeed fall in the strategic realm, and second in arguing the appropriate course of action that most efficiently employs the limited available resources to complete those tasks in a meaningful and rigorous manner. We hope that the theory and questions in this paper ease their problems in this regard. Second, the CFWC arguably has a responsibility to better articulate how to apply the strategic-level analysis that should take place. By this we do not mean reference to existing process charts and documentation. What we mean is that the CFWC should be providing practical guidance on how the conclusions derived from strategic-level analysis should drive all components of departmental strategic planning.

If the conclusions of this series of papers are accepted as valid, it indicates a fundamental shift in thinking about strategic planning away from that which has been employed since the most recent "transformation" process began circa 2005-06. This then is the link to the proposed third paper in this series. The research and analysis in this series of papers to date has pointed to the requirement for practical guidance on how analytical products can and should feed the strategic planning process. The authors believe that the logical conclusion to the skeleton framework for strategic-level learning, innovation, and adaptation represented by this series is a paper that employs case-study evidence to illustrate how methodologically unsound analysis has led to military failure in the past, while methodologically rigorous analysis of the sort argued for here has been employed successfully by strategic planners in the past. Although much more can and should be done, we believe that following this line of research will provide a reasonably complete outline for strategic-level lessons learned activities that can help focus current demands from senior military and political authorities, and that may lead to products that will help inform and guide strategic-level thinking in DND and the CF.

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[168] Richard Hart Sinnreich, "Patterns of Grand Strategy", in Murray, Sinnreich and Lacey, 263.

[169] Rahe, 98.

Annex A Questions for operational and tactical LL

For purposes of completeness, the following are the questions devised by Millett and Murray for the evaluation of operational and tactical effectiveness.

A.1 Operational Effectiveness

- To what extent do the military organizations of a nation possess a professional ethos and integrity that allows them to deal with operational problems in a realistic fashion?

- To what degree are the military organization's operational methods integrated? To what degree do organizations attempt to combine combat arms to take full advantage of their strengths while covering their weaknesses?

- To what extent are the military organizations mobile and flexible at the operational level? Can the organization move rapidly both intellectually and physically in either anticipated or unanticipated directions?

- To what extent are a military organization's operational concepts and decisions consistent with available technology?

- To what extent are supporting activities well integrated with the operational concepts of the military organization? Do the military organizations have the capability to support their operational practices with the required intelligence, supply, communications, medical, and transportation systems?

- To what extent is the military organization's operational concept consistent with the strategic objectives assigned to it?

- To what degree does the operational doctrine of military organizations place their strengths against their adversary's weaknesses?

A.2 Tactical Effectiveness

- To what extent are military organizations' tactical approaches consistent with their strategic objectives?

- To what extent are tactical concepts consistent with operational capabilities?

- To what extent does the military organization's tactical system emphasize integration of all arms?

- To what extent do a military organization's tactical conceptions emphasize surprise and a rapid exploitation of opportunities?

- To what extent is the military organization’s tactical system consistent with its approaches to morale, unit cohesion, and relations between officers, NCOs, and the enlisted ranks?

- To what extent is the military organization’s approach to training consistent with its tactical system?

- To what extent are military organizations’ tactical systems consistent with support capabilities?

- To what extent do tactical systems place the strengths of military organizations against their adversary’s weaknesses?

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List of acronyms

CDS	Chief of Defence Staff
CFWC	Canadian Forces Warfare Centre
CTL	Critical Topics List
DM	Deputy Minister
DND	Department of National Defence
DRDC	Defence Research & Development Canada
LL	Lessons Learned
NDHQ	National Defence Headquarters
NSC	National Security Council (US)
SJS	Strategic Joint Staff

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The second in a series on military strategic-level learning in DND/CF, this paper establishes a framework for strategic-level lessons learned by developing an analytical hierarchy for organizational analysis. Grounded in the seminal work on military effectiveness by Allan Millett and Williamson Murray, the paper articulates overarching and subordinate questions to guide strategic-level learning that focus both on military strategy and the overlap between military strategy and government policy, to assist in guiding assessment of effectiveness in force development, force generation and force employment. Pursued via research grounded in a common understanding of strategy, executed at the appropriate analytical levels, and driven by "a relentless empiricism", these questions should serve to guide strategic-level learning, innovation and adaptation, and demonstrate how strategic-level lessons identification and analysis can and should inform strategic planning in DND/CF.

Dans ce second volet d'une série de documents portant sur l'apprentissage militaire sur le plan stratégique au sein du MDN et des FC, nous élaborons un cadre de leçons stratégiques en établissant une hiérarchie analytique organisationnelle. En nous inspirant de l'ouvrage précurseur sur l'efficacité militaire de MM. Allan Millet et Williamson Murray, nous formulons des questions globales et secondaires servant à orienter l'apprentissage ayant trait à la stratégie militaire ainsi qu'au chevauchement entre la stratégie militaire et la politique gouvernementale, et ultimement, à guider l'évaluation de l'efficacité du développement, de la mise sur pied et de l'emploi des forces. Formulées dans le cadre d'une recherche s'appuyant sur une compréhension commune du mot « stratégie », mises en œuvre à un niveau analytique approprié et motivées par un « empirisme implacable », ces questions devraient permettre d'orienter l'apprentissage, l'innovation et l'adaptation sur le plan stratégique, et démontrer comment l'établissement et l'analyse des leçons stratégiques peuvent et devraient éclairer la planification stratégique au MDN et dans les FC.

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