Accepting – and Understanding – Uncertainty: The Use of History for Military OR&A

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This paper provides a Strategic Analysis perspective on one of this year's themes, namely, "Expanding OR - hard situations requiring soft analysis (such as the Grey Zone): Taking uncertainty to a new level – and providing insights to tackle it." As the authors are Strategic Analysts, or what might be considered representatives of the "soft" component of Operational Research, the initial reaction to this theme is to identify its implicit assumptions and underlying logic in order to break down the core analytical challenges that arise. The initial observations are as follows: "Soft" or qualitative analysis is already part of OR, and therefore does not incite the need for "expansion" of the craft. Second, the description of analysis as "soft" suggests that it relies less on evidence, and is therefore less defensible, than "hard" analysis. As a result, this paper will focus on typical errors to be avoided when using history and historical analysis. From there, some initial thoughts will be offered on how the use of history and historical methods to support decision-making places a premium on evidence as a way to frame military problems, and thus cannot accurately be described as "soft" analysis. Finally, and with all this in mind, a few examples are provided of how these methods have been applied in different professional contexts in order to understand how best to use history in support of decision-making.

At the outset, it is necessary to establish the parameters of the discussion by answering a simple question: What is a "hard situation"? For present purposes, it might be characterised as one requiring decisions of such import as to potentially affect the institutional decision-making context for many years after. If this characterisation is accepted, it must be acknowledged that decision-making in such situations is 'messy' in the sense that the decision-maker must consider myriad variables, not all of which may be quantifiable, to trigger actions with effects difficult to envision accurately over the long-term. In this sense, the contemporary world is no more or less complex than the world of fifty or one hundred years ago. Existing in the present day means that decisions must be made within the context of the current time.

How, then, do OR analysts support the decision-maker in making better or even more defensible decisions given that certainty is always elusive? At its root, military OR is seized with providing the best focused analysis possible, in the time available, using the evidence at hand or obtainable within the time constraints of a given problem. In this sense, OR is neither "hard" nor "soft" science—it is the application of scientific knowledge to particular problems using a variety of approaches and methods which are themselves tailored to the problem and context at hand. For the messy process of decision-making in hard situations, historical thinking and the application of historical analysis are essential – perhaps indispensable.

This is so because although uncertainty within the strategic environment is the rule rather than the exception, decision-makers faced with hard situations have no choice but to continue to search for practical solutions knowing that their decisions will affect matters for years to come. Because historical analysis is based on something concrete—events that have occurred—such analysis and the ability to think historically are the best means to illuminate the fundamental issues upon which strategic analysis should be based, provide essential context, and instil a sense of humility and pragmatism that comes from the knowledge that others have dealt with similar, if not duplicate, hard situations. In short, historical analysis and thinking historically can make contemporary hard situations easier to understand.

Thinking About History

As noted above, OR is the application of the scientific method to specific problems in constrained timeframes, with, inevitably, incomplete information. Similarly, those faced with making decisions related to hard situations will do so under some degree of time constraint and can never have confidence that they enjoy oracle-like ability to assess and synthesize all possible relevant information. Historians and those who apply historical knowledge assume, as a start-point, that they can never identify, understand, and rank order the influence of all the variables that affected decision-making at a given point in time. Moreover, it is impossible, given inherent bias, to account fully for contingency – those tangible and intangible factors, including human

agency, that shape decisions – even when a decision-maker provides their account of a given event. In short, the application of the historical method is fraught with difficulty and can easily be misapplied. However, when applied properly and transparently, the historical method can arm both the OR analyst and those they support with an honest and measured confidence that the problem definition, assumptions, and plausible courses of action have been balanced against an acknowledgement of what cannot be known. Moreover, the proper application of the historical method will guard against reductionist tendencies to simplify inherently complex situations, and it helps to differentiate among the various degrees of certainty or confidence in the information and judgements peculiar to specific decisions. It can also help to understand what has remained constant over time and what has actually changed. Put simply, the historical method, as a matter of course, frames problems in a way that must account for evidence, the extent of its veracity, and the limits of its relevance to the issue at hand.

Of course, analysts can commit innumerable errors in the application of any scientific method and the use of history is no different. Indeed, the many and varied fallacious applications of history in craft and analysis have received book-length treatment.[1] For present purposes though, it is sufficient to detail a few of the more common errors encountered in the professional duties of OR practitioners. These errors include presentism, false analogy, 'cherry-picking' or 'grab-bag' analysis, and the improper framing of research questions. In one way or another, all of these errors stem from the fact that historians and those who use history must manipulate time, space, and scale in their investigations because a truly literal representation or recitation of any event is impossible and impractical.[2] The necessity in doing so demands that one be "endlessly engaged in a process of selection" as evidence is sifted to select and interpret historical facts that

[1] David Hackett Fischer, *Historians' Fallacies: Toward a Logic of Historical Thought* (New York: Harper & Row, 1970).
[2] John Lewis Gaddis, *The Landscape of History: How Historians Map the Past* (New York: Oxford University Press, 2004), 26.

assist in framing a given problem or question.[3] It is in this process of sampling that inadvertent or willful error is introduced regardless of whether the sampling is considered at the macro- or micro-level.

Common Errors in the Use of History

'Presentism' is a cognitive force exerted by present day concerns that can impair an objective look at the past and what it has to say about today's problems. In other words, presentism is the tendency to look to history to draw ready-made answers, useful tidbits, or quotes drawn out of context to support a preconceived notion. In studying, writing, and using history, past events must be assessed objectively and without warping them to prove one's point.[4] Historical events must be interpreted within the context of the time at which the events occurred rather than from the standpoint of the present day. Moreover, our analysis of historical events must not treat the outcomes of decisions or events as pre-ordained; the historical actors involved were afflicted by the same uncertainty of the future that exists at this moment. This analytic error results from historians viewing their subject in teleological terms – as though "the historical agents singled out as major contributors to the movement studied were *deliberately* trying to bring about the future state in which it terminated, although in fact they had no such long-term aims."[5] In other words, one must not give an account of a situation that projects upon it features of the modern problem which it may not (although it may) possess. Doing so would falsify or fundamentally misrepresent what happened, and thereby draw incorrect or inappropriate conclusions.

[3] Fischer, *Historians' Fallacies: Toward a Logic of Historical Thought*, 64-65.
[4] Douglas Porch, "Writing History in the "End of History" Era—Reflections on Historians and the Global War on Terrorism," *The Journal of Military History*, 70 (October 2006): 1065-1080.
[5] William H. Dray, "Presentism, Inevitability and the English Civil War," *Canadian Journal of History* 17, 2 (Summer 2016): 262. Emphasis in original.

'Cherry-picking,' or the improper selection of preferred evidence to support preconceived ideas or desired analytic conclusions, is another common misapplication of historical analysis.[6] The worst case, as Douglas Porch has written, is "when partisans, polemicists, and ideologues pluck examples from past military campaigns or wars that are subsequently interpreted in ways that support policy and strategy decisions" because this then leads to misguided policy at the highest levels, that, when thinking of the role of OR, undermines military effectiveness in ways so aptly described by Williamson Murray and Allan Millet.[7] 'Cherry-picking' distorts the view of past events, and disregards or diminishes the context within which individuals of the time experienced events and made decisions.

Closely related to cherry picking is the error of false analogy. In fact, the two errors are so closely related that distinguishing the two may be impossible. Nevertheless, as N.A.M. Rodger points out, "bad history […] provides people with ready-made solutions to new problems, and it 'proves' that they are the right solutions." Citing Neustadt and May, Rodger observes that the inclination of many is to begin their use of history by assuming that favorite or preferred options are legitimate and that the inclination is to ignore all or most evidence that does not support the desired end. Such arguments are frequently supported by the use of cherry-picked facts and presented in the form of analogies. The problem is, as Rodger accurately determines, that the "analogies will be drawn from [personal] experience, that is, from history, and most likely from

[6] 'Cherry-Picking has also been referred to as 'grab-bag' analysis. This occurs when evidence is taken without understanding the context and used to support a preferred course of action. The historical record becomes a 'grab-bag' from which to pull useful quotes often out of context to support a position. It is thus an unbalanced view of history, and runs the risk of drawing inappropriate or dangerous conclusions. See Ernest R. May, *"Lessons" of the Past: The Use and Misuse of History in American Foreign Policy* (New York: Oxford University Press, 1973); also Brad Gladman and Peter Archambault, *Confronting the 'Essence of Decision': Canada and the Cuban Missile Crisis* (Ottawa: DRDC CORA TM 2010-250, 2010), 1.

[7] Porch, "Writing History in the "End of History" Era—Reflections on Historians and the Global War on Terrorism," 1067; Murray and Millet's argument is central to their seminal three-volume study of military effectiveness. See Allan Millett and Williamson Murray, eds., "Military Effectiveness," 2nd edition (New York: Cambridge University Press, 2010). Volume 1: The First World War; Volume 2: The Interwar Period; Volume 3: The Second World War.

the history that has the most emotional power."[8] This error or, more accurately, series of compounded errors can affect the way decision-makers think about the challenges they face and the implications of their decisions "and will continue to be influenced by past events and what they believe those events teach."[9] The author of that passage, Jeffrey Record, was discussing the use of history by US presidents in their deliberations on the use of force, but the same can be said about other uses of history. For example, national myths are a persistent feature of the decision-making context and are often constructed over time by idealised notions of the past that serve to underpin national narratives and, therefore, long-term features of national policy. From a political perspective, the preservation of, or adherence to, national mythology may be right and proper. However, from an OR analyst perspective, viewing national myth as historical fact must be avoided when developing options, courses of action, or when trying to understand the actual problem at hand.

An Approach to Using History Effectively

The danger is that conclusions drawn from a superficial analysis of history, with present biases not appropriately checked, could be unsuitable or counter-productive. In short, one must not look to history to draw ready-made answers to today's problems, as sometimes history provides no answers. Moreover, one must not attempt to force past events and developments into a straightjacket of proving one's point in the context of a current debate or discussion. The question then remains how does one apply historical analysis to current hard challenges? It is at those key decision points, during which tough choices are called for, where historical study "can prove not only helpful but perhaps indispensable."[10] Its study may not provide ready-made answers to today's problems, but it will provide a useful context and a theoretical or mental

[8] The references to N.A.M. Rodger are from his article "The Hattendorf Prize Lecture," *Naval War College Review*, 66:1 (Winter 2013), 9.
[9] Jeffrey Record, *Making War, Thinking History: Munich, Vietnam, and Presidential Uses of Force from Korea to Kosovo* (Annapolis: Naval Institute Press 2002), 165.
[10] Scot Robertson, "The Development of Royal Air Force Strategic Bombing Doctrine between the Wars: A Revolution in Military Affairs?" *Airpower Journal* (Spring 1998), 37.

framework for looking at change over time. In other words, proper historical analysis allows for a better grasp of what has changed and what endures. In so doing, analysts and decision-makers should view time as a stream carrying what came before. Moreover, they should be guided by the maxim '*what is the story?'* rather than '*what is the problem?'* This principle, first articulated in Richard Neustadt and Ernest May's *Thinking in Time,* originated in (of all places) from Avram Goldberg, former chief executive officer of Stop and Shop, a New England chain of grocery and discount department stores. During "a brief sermon on the usefulness of issue histories, he exclaimed, "Exactly right! When a manager comes to me, I don't ask him, 'What's the problem?' I say, 'Tell me the story.' That way, I find out what the problem *really* is."[11]

The story of Canada's defence tells much about how to focus force development discussions, because Canada's strategic context sets the conditions for near and long-term defence planning. This approach is consistent with that espoused by RJ Sutherland in his 1962 paper *Canada's Strategic Situation and the Long Term Basis of Canadian Security*. Sutherland argued that policies and interests must be aligned because "National strategy depends, in the final analysis, upon a very few elementary and brutal facts."[12] What such facts must be considered when approaching the challenge of force development for the Canadian Armed Forces (CAF)? Barring involvement in a major war, Canada's defence budget makes unrealistic the development of all-singing, all-dancing forces. As a result, Canada should identify those elements of the future operating environment that should be emphasised for its own force and capability development activities. As such, Canada's context is dominated by geography, which dictates that Canada will always be affected by US actions. Also, Canada's choices are shaped by the capacity available to a medium or small power, and Canada's influence in the international system is related to its ability to meet core allied (especially the US) expectations. In terms of the types of operations for

[11] Richard E. Neustadt and Ernest R. May, *Thinking in Time: The Uses of History for Decision-Makers* (New York: The Free Press, 1986), 106. Emphasis in original.
[12] RJ Sutherland, *Canada's Strategic Situation and the Long Term Basis of Canadian Security* (Ottawa: Defence Research Board, 19 July 1962), 16.

which it should plan, Canada, like other nations, "must have armed forces to fight those conflicts they cannot afford to lose, and must balance those demands against the more frequent 'small wars' that normally do not represent an existential threat."[13]

With this in mind, the following section provides some examples of how using historical methods about military problems helped to refine the institution's approach to "hard situations." For Canada, the best such example is the challenge of managing the defence relationship with the United States. As new challenges present themselves, it is of great utility to draw on the history of the relationship, something which has never been a simple or straightforward task for Canadian political and military leaders faced with "hard situations." The account of how historical methods were used to provide an orientation both into the relationship but also how an examination of historical records from a decision support point of view (as opposed to that of an academic historian) yields insights tailored to the decision to be supported. In this case, the insights were geared toward enduring military problems of Force Posture and Force Employment as they manifested during the Cold War. Secondly, an account will be provided of how knowledge of history and historical methods in general contributed to the development of a pragmatic, defensible decision-support framework for long term Force Development.

An Example of a Hard Situation: The Canada-US Strategic Defence Relationship

The benefits of historical analysis were demonstrated in the decision-support work conducted for the Deputy Commander of the North American Aerospace Defence Command (ND) and the Commander of Canada Command in 2008-2012. The question asked of the strategic analysts at Canada Command was how to develop the tri-command relationship (Canada Command, USNORTHCOM, and NORAD). This Tri-Command Study (TCS) was undertaken at the direction of the Canadian Chief of the Defence Staff (CDS) and the American Chairman of the Joint Chiefs of Staff. In the problem definition phase it was realised that there were many

[13] Neil Chuka, Peter Archambault, Brad Gladman, Emily Robinson, Ben Taylor, Alan Auger, Brad Wallace, "Implications Development Framework," DRDC-RDDC-2018-L167 (S\\REL FVEY), July 2018, 3. While this overall report is classified, the title and the noted passage is unclassified.

ways that Operational Research and Analysis (OR&A) and science and technology (S&T) in a broader sense could help the commands. Chief among them could have been analysing information flow to ease its passage, command and control relationships in crisis situations, and the development of methods to improve situational awareness through intelligence sharing, just to name a few. But from a strategic analyst's perspective, it was obvious that the most appropriate problem was not analysis supporting the development of courses of action, but rather challenging the study's guiding assumptions.

The close economic, social, and political ties Canada and the US now enjoy are undeniable and have a long history, but despite recent claims that the level of cooperation enjoyed today has consistently been close throughout the history of both nations, the reality is somewhat different. For example, just prior to the start of the Tri-Command Study, in a speech to the Conference of Defence Associations Annual General Meeting, the former Commander of NORAD and USNORTHCOM, General Victor Renuart, argued that "We have been friends for centuries. We have been partners for centuries."[14] In another speech to Georgetown University, he argued that Canada is "has been our friend, fought at our side, really as long as our history has been alive, even in the Civil War."[15] This seeming misunderstanding of history is not unique to the military leadership. As one example of many, in a 2009 press conference with then Canadian Prime Minister Stephen Harper, former US President Barack Obama claimed that "the very success of our friendship throughout history demands that we renew and deepen our co-operation".[16] Again, while a laudable sentiment it is not one supported by the historical record, which indicates that the relationship has been as strongly shaped by the negative experiences as the positive. Indeed, the two nations have at times fought wars which contradict the claim of constant friendship throughout history. The assumption of a consistent level of cooperation and

[14] Brad W. Gladman and Peter M. Archambault, "Advancing the Canada-US Alliance: The Use of History in Decision-Support," *Journal of Military and Strategic Studies*, 14, No. 3&4, (2012), 4.
[15] *Ibid.*
[16] "PM, Obama talk economy, environment and security," https://www.ctvnews.ca/pm-obama-talk-economy-environment-and-security-1.371638 (accessed 23 April 2019).

friendship ignores central aspects of the relationship which may, in turn, have led to unacceptable recommendations for its evolution on both sides of the border.

In a similar fashion, a report on Canada-US relations for the US Congress by the Congressional Research Service argued that over "the past century U.S.-Canadian defense cooperation has been close", but the evidence provided in support went back no further than the establishment of the Permanent Joint Board on Defense (PJBD).[17] There was no reference to roughly the first third of 'the past century' from 1906 to 1940, suggesting that same level of close relations as after the Ogdensburg declaration and the PJBD. Standing in sharp contrast to this portrayal, historian David Bercuson has written that it "is a continuing source of amusement to Canadian military historians that the first interwar defence plan put together by Canada's tiny interwar military had at its heart a Canadian cavalry attack into the US Midwest."[18] While at times there has been congruity in approach, at other times, and over other issues, different perspectives have soured the relationship. The study aimed to understand the personalities and the other factors involved, so to better define and understand the nature of Canadian and American strategic culture. As well, the study expected to illuminate areas requiring attention in the national security framework and the mechanics of decision-making within Government of Canada. All of this was to be done using historical analysis to provide the full 'story' of Canada-US relations, and to use that understanding as the foundation upon which to shape the relationship to meet the challenges faced.

In order to understand the Canada-US strategic defence relationship of ten years ago and where it may be in need of evolution or drastic change, this approach was adopted to trace the story (or stories) back to its roots. From there, it would be possible to understand all the pertinent

[17] Carl Ek, *et. al*., *CRS Report for Congress: Canada-U.S. Relations* (Washington DC: Library of Congress, updated 1 May 2006), CRS-9.
[18] David Bercuson, "Canada-US Defence Relations Post-11 September," in David Carment, Fen Osler Hampson, and Norman Hillmer, eds., *Canada Among Nations 2003: Coping with the American Colossus* (Ottawa: Oxford University Press, 2003), 123.

factors, what has motivated decision-makers when key choices were at hand, and thus what this story says about the nature of 'strategic culture' in both countries.

Strategic Culture

There has been some scholarly work devoted to the idea of strategic culture, but almost none on Canadian strategic culture.[19] It is thus important to describe briefly what the term means in this context. Simply put, a nation's strategic culture flows from its unique history and experience, and is thus distinctive in itself. For example, British strategists approach security issues differently than do their French counterparts; so too do Canadian decision-makers view matters differently than their American colleagues. This comes from their own unique, if interrelated, history and distinctive national perspectives.[20] These different perspectives, influenced by other factors such as geography and economics, reflect dissimilar modes of thought and action on defence and security matters.[21]

This concept is important in a full understanding of why Canadian leadership made the decisions they did at key points in history, and to help understand the kind of information provided and wanted to inform those decisions. But in no way is an understanding of strategic culture predictive or deterministic, which is one of the main criticisms of the concept. Even if its main features endure over time, at most strategic culture is "the milieu within which strategic ideas and defense policy decisions are debated and decided" and not something that can foretell future behaviour.[22] One of the originators of the strategic culture concept, Jack Snyder, points out

[19] For examples of this literature, see: Colin S. Gray, "Comparative Strategic Culture," *Parameters,* (Winter 1984); Jeffrey S. Lantis, "Strategic Culture and National Security Policy," *International Studies Review,* 4, no. 3, (2003); Jack L. Snyder, *The Soviet Strategic Culture: Implications for Limited Nuclear Operations* (Santa Monica: RAND, 1977); Michael Evans, "The Tyranny of Dissonance: Australia's Strategic Culture and Way of War 1901-2005," Land Warfare Studies Centre, Study Paper no. 306, February 2005; Alastair Iain Johnston, "Thinking about Strategic Culture," *International Security,* 19, no. 4, (1995); Adrian Hyde-Price, "European Security, Strategic Culture, and the Use of Force," *European Security* 13, no. 4, (2004); Anja Dalgaard-Nielsen, "The Test of Strategic Culture: Germany, Pacifism and Pre-emptive Strikes," *Security Dialogue* 36, no. 3, (November 2005); Glen Fisher, *Mindsets: The Role of Culture and Perception in International Relations,* 2nd edition (Intercultural Press, October 1997).
[20] Colin Gray, "Comparative Strategic Culture," 26.
[21] *Ibid.,* 28.
[22] *Ibid.*

that a nation's political culture and national style socialises individuals into a distinctive mode of strategic thinking that do endure in a 'semi-permanent' state "that places them on the level of 'cultural' rather than mere policy."[23] As a result, new defence and security challenges would be assessed through this semi-permanent strategic cultural lens. Again, its usefulness is not in its predictive ability but in what that strategic culture provides (or detracts) from the decision-making process – the essential context needed to inform those decisions. It is here that the careful study of history can provide that context even if it has no answer to the specific problem at hand. Setting the context is an important initial step in a determined effort to overcome parochialism and the associated active and passive resistance to decisions that impact institutional agendas. Strategic culture is thus a useful tool with which to analyse and to help explain past actions, but also to understand how preconceived notions of what is possible in any situation can unduly limit the range of strategic options available.

Decision Points and History

It is at key decision points where difficult choices face leadership dealing with tough challenges where historical study can prove not only helpful but perhaps indispensable. Not only can it provide a theoretical mental framework for looking at change over a period of time, but through the setting of context around a problem one can better understand the factors at play and the true problem to be solved. By understanding the past, one can better look at the present circumstances armed with a more comprehensive understanding of, in the case of the Canada-US defence relationship, that Canadian and American decision-makers frame problems in different ways. This type of analysis helps to define the decision space and explain how it has evolved.

Determining the story behind the specific incident in question is not normally how decisions are made. As one example of this, in July 1979 President Jimmy Carter received intelligence on the presence of Soviet combat troops in Cuba. Instead of determining the full story, key figures in the Carter Administration, including the President, sought analogy with the

[23] Jack Snyder, *The Soviet Strategic Culture: Implications for Nuclear Options,* 8.

Cuban missile Crisis. The presence of the Soviet brigade in Cuba only became an issue "because Carter and his aides did not know the brigade had been there all along," and was not some new move of the Soviets in violation of agreements made after the Cuban missile crisis.[24] Thus, a failure to understand the whole story caused an over-reaction to a situation that really did not exist. The US intelligence community did not have historical material at hand, and had not been asked to provide it by the Carter Administration. What is particularly odd is that those present in the Pentagon in 1962, like Cyrus Vance who would serve for a time as Carter's Secretary of State, must have known that Kennedy did not press for the removal of Soviet troops, yet "it seems not to have occurred to him to ask, "When did they *leave?'*"[25] Instead of developing the full story that there was no issue requiring action, the Carter Administration found itself in another embarrassing position. The careful use of history in this instance may have prevented this from happening.

The Canada US SDR project revealed how the types of questions analysts might pose today can lead to key insights into decision-making which otherwise go unnoticed, in this case related to how Canada handled the Cuban Missile Crisis itself. [26]The case study approach adopted facilitated the ability to deepen an understanding of Canadian strategic culture by focusing on the decision point.

What presented as a clear and present danger to Canada and the United States in 1962 was met on the US side with determination and, although not perfect and with lasting impact on civil-military relations, more coherent decision-making.[27] The Canadian response was anything

[24] *Ibid.,* 96.
[25] *Ibid.* Emphasis in original.
[26] The material below was produced in various forms of documentation as the research and analysis progressed. See Brad W. Gladman and Peter M. Archambault, *The Canada-US Strategic Defence Relationship: Methodology and Case-Study Synopses* (Ottawa: DRDC CORA TM 2009-063, 2009); Brad W. Gladman and Peter M. Archambault, *Confronting the 'Essence of Decision': Canada and the Cuban Missile Crisis* (Ottawa: DRDC CORA TM 2010-250, November 2010); Brad Gladman and Peter M. Archambault, "Advice and Indecision: Canada and the Cuban Missile Crisis," *Canadian Military History Journal* 23:1(Winter 2014): 9-30.
[27] H. R. McMaster, *Dereliction of Duty: Lyndon Johnson, Robert McNamara, the Joint Chiefs of Staff, and the Lies That Led to Vietnam* (New York: Harper Collins, 1997), 328.

but coherent. It was, in fact, the essence of indecision brought about by a confused decision-support structure, instances of bureaucratic self-censorship, and military blunders. Those factors have driven the relationship between Canada and the US, and are important to understanding methods needed to advance it to meet present challenges.

Central to any understanding of Canada's handling of the Cuban Missile Crisis is the confusion around the Government of Canada (GC) and Department of National Defence (DND) War Books. The first of these was written in 1942 while at war with the Axis powers in Europe and the Pacific. The main effort was mobilisation of economic and manpower resources needed to fight the war. This strategic concept, mobilisation versus the maintenance of large forces in-being, endured after the end of the Second World War. The advent of nuclear weapons, and the possibility of attack with very little or no warning, required a somewhat different paradigm, one based on deterrence or rapid response to enemy action. This was well-understood even shortly after the end of the war, and the Canada-US Basic Security Plan of 1947 outlined plans for Canadian and US forces based on a shared perception of the military threats to North America. For example, it was agreed that the Soviet Union would not be able to deliver "weapons of mass destruction in significant quantity on vital areas of Canada and the United States" until 1952. Enemy action would be met by efforts to seize the offensive quickly and with maximum strength, requiring the ability to raise readiness quickly and without aggravating the situation.[28] In January 1957, this need was reiterated by Arnold Heeney, then Ambassador to Washington, who recognised that crises may arise "where time does not permit consultation before the declaration of an alert because the imminence of attack seems to either Government to be a matter of hours rather than days."[29] The War Books had not kept up with this change in the strategic environment.

[28] Library and Archives Canada (LAC), MG 26 J4, Volume 318, File 3365 PJBD 1946-1948, "Memorandum by the Canada-United States Military Co-operation Committee: Implementation of the Canada-United States Basic Security Plan, 23 July 1947.
[29] Directorate of History and Heritage (DHH), Raymont Papers, Series IV, File 2126, ADP Heeney, "Draft Letter to US Secretary of State," January 1957.

But that did not need to have been the case. Prior to the Cuban Missile Crisis of October 1962 there had been a long bureaucratic review of the Department of National Defence (DND) War Book since early 1961. The proposed changes had not been approved before the crisis occurred. The main changes involved an acknowledgement of the changed security environment where crises could erupt into war with little warning, the existence of large forces in being, and most notably a delineation of those instances where the Minister of National Defence (MND) and the Chairman of the Chiefs of Staff Committee had the authority to raise CAF alert levels.[30] This long review and continuous debates may have obscured from the mind of the Chairman of the Chiefs of Staff Committee, Air Chief Marshal Frank Miller, that measures to raise alert levels of the CAF had already been added to the extant 1955 DND War Book in 1959.

The revisions added to the DND War Book in 1959, and which were available in 1962, were the 'States of Military Vigilance.'[31] These measures applied only to the CAF, and would increase its alert level "during a period of international tension prior to the declaration of an Alert by the Canadian Government."[32] The two proposed states of military vigilance – 'Discreet' and 'Ready' – would be called by the Chiefs of Staff, and the Chairman of the Chiefs of Staff Committee would inform the Minister. It is this understanding that may have led to the questionable military advice given on 22 October 1962.

The 'Discreet' state of military vigilance called for the services to unobtrusively review their emergency plans, place aircraft and ships on short notice to move, increase the readiness of intelligence and communications facilities.[33] By contrast, the 'Ready' state of military vigilance cancelled military leave, increased force protection measures at CAF bases and defence installations, alerted standby battalions for deployment, and brought units up to wartime strength.

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[30] DHH, Joint Staff Fonds, 2002/17, Box 83, Memorandum to the Minister, "Revised DND War Book," August 1961, 2.
[31] *Ibid.*
[32] LAC, RG24 vol 549 file 096 103 v.3, Joint Planning Committee to the Chiefs of Staff Committee, "Canadian Forces States of Increased Military Vigilance, 23 December 1958."
[33] *Ibid.*

These states of military vigilance were meant to be used before the existing Canadian formal alert system of Simple, Reinforced, and General alerts which had to be invoked by the Federal Cabinet.[34] Before these measures were added to the DND War Book in 1959, the military did not have the ability to raise its alert levels in lock-step with those of the US. But the point here is that these changes were made to the DND War Book in place during the Cuban Missile Crisis. The Chairman of the Chiefs of Staff Committee (COSC) could have used these measures without appealing to the Canadian Cabinet for approval.

These measures would be important immediately following the briefing on 22 October 1962 by US special envoy Livingston Merchant on the forthcoming quarantine of Cuba. After this meeting, which included MND Douglas Harkness, Foreign Minister Howard Green, and Prime Minister John Diefenbaker, Harkness met with the Chairman COSC, Frank Miller, and told him to "order the Chiefs of Staff to put their forces on the 'READY' state of alert."[35] According to Harkness, Miller questioned whether this authority was available to the MND. Miller may have been arguing that it was his responsibility, not the Minister's, or that the matter had to be cleared with the Prime Minister. However, only Harkness's later recollection on this conversation is available. In any event, either a military advisor protecting his own domain or suggesting an unnecessary appeal to political leadership opened the door for extended debate at a time when united action was needed to defend the continent against a clear and present threat.

While this incident may have no direct applicability to today's hard problems, it does serve as a clear example of the need for a national security structure with clear institutional pathways to bring forward all relevant information to decision-makers to ensure coherent decision-making. The alternative is confusion, which is what occurred in October 1962, contributing to an enduring view in the US that Canada was an unreliable partner in continental defence. This example also demonstrates that, even in a case where faulty assumptions on

[34] *Ibid.*
[35] LAC, MG 32, Papers of Douglas Harkness, Vol. 57, "The Nuclear Arms Question and the Political Crisis Which Arose From it in January and February, 1963," 8–9.

authorities framed the CCOSC decision in a straightforward way, the courses of action available to him were broader and the situation was not only "hard" but also far from certain in terms of options or outcomes.

Force Development: Another Hard Situation

Given the tendency amongst many military forces to retain equipment for, in many cases, decades, and the inherent, and justifiable conservatism of military organisations that, amongst other things, contributes to a reluctance to make major force structure changes, decisions regarding CAF force development also constitute a "hard situation." Choices regarding capability investments must balance national expectations, the expectations of allies and close partners, and pragmatic assessments of the future operating environment in order to ensure the CAF remained a credible force consistent with Canada's strategic context.[36]

Achieving this balance has never been a simple task, even for a country such as Canada that has a number of strategic invariants that have contributed to macro-level national policy consistency for almost the entirety of the post-World War II period. The seemingly permanent changes to the operating environment rendered by the collapse of the Soviet Union and certain policy assumptions regarding the validity of military intervention led to a mischaracterisation of key assumptions and questions regarding capability investments.

In Canada, the defence institution sought to adapt military force development to the geopolitical change wrought by the collapse of the Soviet Union by instituting new processes such as Capability Based Planning (CBP), new foresight (or futures) practices, and concept development. CBP, as was the common thinking in Canada and in many allied states at the time, was thought superior to supposedly inadequate or simplistic 'threat' based planning employed during the Cold War. New futures methods as documented in the first joint-level Future Security

[36] Neil Chuka, Peter Archambault, Brad Gladman, Emily Robinson, Ben Taylor, Alain Auger, Brad Wallace, "Implications Development Framework," DRDC-RDDC-2018-L167 (S\\REL FVEY), July 2018. This publication overall is classified. The title of this publication is unclassified as is the general description of the implications framework.

Environment document published in 2010, sought to study "trends in the future security environment" to "limit surprise and prepare for situations that might reasonably be foreseen or expected."[37] The 2010 Integrated Capstone Concept, which built upon the FSE, was meant to enable the CAF to adapt to the changing security environment partly through providing the justification to break out of institutional 'stovepipes,' overcome institutional inertia hindering change, and overcome organisational bias affecting consideration of new essential military capabilities.[38] Unfortunately, many of these early efforts misapplied or ignored history in generating questions and assumptions.

In the 20 years following the end of the Cold War certain assumptions about the future of warfare came to colour thinking about the conditions the CAF would face, and for which it would be required to plan. These assumptions, many of which were predicated on supposed permanent change to the nature of geopolitics, a dramatic reduction in the possibility of inter-state warfare, and assessment of operational experiences and contemporary conflict—led to prognostications that future warfare would be unlike warfare of the past. For example, the ICC states that "recent conflicts have shown a shift from predominantly conventional warfare to asymmetric or irregular warfare." Such statements were often accompanied by assertions that past conflict had been linear and simple. These arguments ignored historical realities of conflict and war by focusing on Canadian and Western experiences and characterisations of warfare and strategic planning over a limited timeframe. Such arguments also assumed as correct the broad and common interventionist Western policy approach regarding the use of military force in local or regional conflicts. Whether the policy basis was correct is not the issue; the concern is misunderstanding the

[37] Chief of Force Development, *The Future Security Environment 2008-2030 Part 1: Current and Emerging Trends*, (hereafter FSE), http://publications.gc.ca/collections/collection_2011/dn-nd/D4-8-1-2010-eng.pdf (accessed 26 June 2019), 9.

[38] Similar assumptions are implied in the June 2014 version of the Chief of Force Development Capability Based Planning Handbook which states "[CBP] offers a different perspective to that taken by those seeking to sustain or enhance current systems and current ways of achieving the results required by Canadians." The assumption being, of course, that sustainment or enhancement of current systems and doctrine has no defensible basis. See 6.

frequency, novelty, or importance of military missions that fall in a certain portion of the spectrum of conflict. The danger comes from misunderstanding, for example, why major interstate warfare is less frequent compared to other types of conflict, which, in turn, could lead to a push for institutional change based on erroneous conclusions.[39]

There are a number of major problems with the approach taken in the ICC, the FSE, and early iterations of the CBP process. First, an underlying assumption that force planning during the Cold War was simple or straight forward because it was threat based.[40] Second, those efforts misunderstood shorter-term policy decisions – namely those predicated on notions of 'Responsibility to Protect' – as indicative of fundamental changes in the nature of warfare. Third, and in relation to the second, the tendency to equate personal operational experience since the end of the Cold War as typifying what was surely to come in the future. Consequently, statements such as "Recent conflicts have shown a shift from predominantly conventional warfare to asymmetric or irregular warfare"[41] without consideration of whether Western policy might be biasing that outcome while simultaneously arguing that past conflict was simple in that it was linear & open, state vs. state and accompanied by Jominian-like illustrations of forward lines, flanks, and rear areas.[42] The language employed in the ICC belies an overarching assumption of institutional inflexibility, perhaps best summed up by the statements that "existing linear tools and legacy constructs that we currently use for problem solving may be inadequate for the challenges brought about by future complex systems" and "Existing stovepipes may not be the answer."[43]

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[39] Neil Chuka, *Revisiting Joint Concept Development* (Ottawa: DRDC-RDDC-2018-R172, October 2018) (S//Rel US, GBR), 13. While this document is classified, the title and noted passage are unclassified. The main arguments in this and the preceding paragraph are derived or adapted from this classified document. They are transcribed here in a manner befitting an unclassified publication.

[40] One of the authors, Neil Chuka, was invited in late 2013 to provide corrective material on this point as part of the regular revision and update cycle for the CBP handbook.

[41] Chief of Force Development, *Integrated Capstone Concept* (hereafter ICC) (Ottawa: Department of National Defence, October 2009), 21.

[42] *Ibid.*, 22, figure 4.

[43] *Ibid.*, 6, 11.

The authors of this paper were all present throughout this period and one was directly involved in the joint-level force development organisation at the time. All sensed and witnessed the transposition of operational experience, particularly that most recent for most—Afghanistan, for evidence that the future operational environment was certainly to be identical or at least bear close similarity, to that current operational theatre. Moreover, it was assumed that existing doctrine, which, beyond tactical level TTPs (tactics, techniques, and procedures) must have applicability across the spectrum of conflict, was grossly inadequate or, worse, inappropriate for the tasks at hand and those to come in the future. While doctrine is meant to be 'living' and should change as necessary, such assumptions seemed more an error of application than inherent inflexibility. Finally, a defence institution adjusts based on political-strategic and military strategic direction. If a perception of inflexible, illegitimate stovepipes was held, it would have benefited the "transformation" effort to have a better sense of why those seeming stovepipes existed. In other words, the question could have been asked: "what is the story of CAF force development?"

CAF Force Development: one view of the story

The NATO and NORAD treaties and participation in UN mandated operations have been constant features of Canada's defence policy and activities.[44] Throughout the Cold War the first priority for CAF capability development was, in general, the development and sustainment of conventional naval, land, and air combat capabilities able to integrate with NATO naval, land, and air elements. CAF force posture and readiness focused upon the threat posed by the Soviet Union and Warsaw Pact forces. Concurrently, Canada sought to contribute forces to UN peace operations, or UN mandated peace and security activities that aligned with Canadian national interests. However, it is important that the relationship between the forces developed to meet

[44] Neil Chuka, *Revisiting Joint Concept Development, DRDC-RDDC-2018-R172* (Ottawa: DRDC, October 2018) (S//Rel US, GBR), 17. While this document is classified, the title and noted passage are unclassified. The main arguments in this and the following two paragraphs are adapted from this classified document. They are transcribed here in a manner befitting an unclassified publication.

Canada's treaty commitments and UN operations is clear. UN peace operations have spanned simple observer missions through to warfighting.[45] Canada was able to contribute to this entire range of UN peace operations because the CAF possessed adaptable, combat capable forces originally developed to meet NATO and NORAD commitments.[46]

Looking back, the collapse of the Soviet Union signaled the end of some four decades of organizational tradition for the CAF. That signal, however, was difficult to discern at the time and for at least a decade after. Through that immediate post-Cold War period, Canada's defence institution faced competing demands to reduce the size and expense of the forces, maintain an operational tempo that saw the CAF deployed with increased frequency to farther-flung regions, while adapting to the rapidly evolving technological change that continues to affect modern military affairs. This situation created conditions where it was an achievement for Canada's military forces to ensure workable integration and interoperability with US, NATO, or coalition forces outside of a traditional NATO in-area context—interoperability and workable integration being core issues affecting credibility.[47]

In the absence of a political, military strategic, or operational imperative to change, the Canadian Army, Royal Canadian Navy (RCN), and Royal Canadian Air Force (RCAF) continued to tailor force development activities under the assumption that interoperability with allied service counterparts within the Five-Eyes group (in the first instance) or with NATO and the preservation of core combat capabilities were primary requirements to ensure credibility. Operational integration of the RCN, RCAF and Canadian Army was, for the most part, an afterthought. This

[45] An overview of definitions related to UN operations is in K. Heard, H. Hrychuk, and N. Chuka, *Framing Peace Operations* (Ottawa: DRDC-RDDC-2016-L258, 22 July 2016).
[46] D. Dewitt and D. Leyton-Brown, "Canada's International Security Policy," in Dewitt and Leyton-Brown, eds., *Canada's International Security Policy* (Scarborough: Prentice-Hall, 1995), 10.
[47] Although Canada deployed forces around the globe in support of UN mandated operations throughout the Cold War, the increase in missions of all types from the end of the Cold War onward significantly increased the operational tempo. This was a change from the planned rotation of major forward-deployed forces in support of Alliance deterrence measures in Western Europe that represented the norm for forty years. See Milner, 303-310; Granatstein, especially 396-428. It should be recalled that for much of the 1990s, debate over NATO's role centred on the Alliance role in 'out-of-area' operations. At the time, 'out-of-area' included the Balkans.

is not an indictment; the political will power and resources necessary to drive a fundamental shift in CAF structure, organization, and thinking did not exist, even had the full military implications of the end of the Cold War been recognised. Moreover, it was not readily apparent against what threats the CAF might have to plan over the long-term and there was no official direction as to what level of ambition regarding 'joint' the CAF should aspire.

In concert with this, the CAF over the period from the end of the Cold War until very recently struggled with balancing operational demands and the aging of core platforms. The stark reality was that some of the conditions noted in the ICC were correct—the CAF did need to look to increased internal operational integration and the development of new military capabilities but those had to be balanced against the knowledge that the planned replacement of core platforms required to ensure the CAF remained relevant and credible was not assured. Indeed, the steady degradation of capability, perhaps most obvious in the RCN surface fleet is well known.

The point is this: the transposition of personal experience for an obvious signal of what the future would hold led to a largely ill-considered attempt to drive institutional change. While the ICC, first FSE, and original conceptions of joint CBP had legitimate purpose, the processes and analysis were not historically grounded and, worse, cherry-picked historical evidence, drew false analogies, and improperly framed the questions and problems. Furthermore, the ill-considered assumptions pointed to the desired outcome rather than buttressing legitimate bounds to scope the overall transformation effort.

Applying history appropriately would have emphasised different approaches and, perhaps led to different outcomes. First, regarding military force development, a body of relevant literature exists pointing to common characteristics shared by military forces that have been able to adapt to current and emerging operational conditions and plan for future uncertainty. Critically, that literature suggests the comprehensive requirements for military learning, adaptation, and innovation and does not argue for ill-considered cleaving of the past from the present or the future. The ICC suggests an understanding of the linkages between military learning, adaptation,

and innovation, but the start point of the concept was complexity science rather than military history. The question must be asked: are the challenges of military force development, which are not shared by any other government department or any organisation, better served by a start point based on theory or experience? Moreover, there is much historical evidence indicating that the most successful conceptual change in military affairs is accomplished by institutions (and, of course, the individuals that comprise those institutions) that are able to conceptualise new capabilities in relation to what currently exists. This is partly due to recognising that militaries are necessarily conservative, that the crucible of combat is necessary evidence that the conceptual change is sufficiently correct, and that governments are loath to risk past investments being seen as a waste.[48]

Second, the assumptions and misperceptions of contemporary operating conditions and mission type in the post-Cold war period that were used in the FSE, ICC, and original conceptions of CBP had no longer-term historical grounding and a very poor consideration of state behavior. In some ways, this is understandable given that much of the commentary throughout that period noted the rise of regional powers and a supposed disappearance of great-power competition. In the West, contemporary material largely trumpeted the benefits of economic integration as a guarantor against conflict. Less excusable is the argument that a shift in the predominant types of conflict had occurred meaning that the implication for long-term force development was that the CAF would necessarily be involved in smaller intra-state conflicts featuring 'asymmetric' and 'irregular' warfare. The historic reality is that major, global wars or wars that encompass significant portions of the globe are anomalies. Smaller intra-state and inter-state conflicts that affect regions or limited locales have always been present. Regardless, this matters less for present purposes than the fact that these assumptions, along with a simple counting of 'types' of CAF missions post-1945 and post-Cold War, have been used to provide assessments of likely mission types for the future. Leaving aside the fact that such simple

[48] Neil Chuka, *Revisiting Joint Concept Development*, 24.

accounting ignores consideration of the political decisions that directed those missions at a particular point in time (i.e. the context pointed out above) and the force posture and readiness implications of those policy decisions, the case can be made that the assessment of likely missions based on frequency completely ignores the geopolitical reality within which policy decisions are made.

In other words, it is entirely legitimate to suggest that the frequency of CAF military mission type seen in the period 1990-2010 (roughly that which informed the ICC) was only possible because geopolitical conditions (e.g. Russia being subdued and China not yet fully assertive internationally) allowed for Western states to follow, more-or-less, interventionist policies that championed the use of military forces with increasing frequency and on a global scale.[49] Today, geopolitical conditions are not nearly as permissive. For example, China's assertiveness and Russia's targeted geopolitical pressuring do not allow for the use of military forces without a fuller consideration of deterrent measures necessary to counter negative pressures against international conditions favorable to Canadian and allied interests. Moreover, the deterrence of major state actors is, as during the Cold War, the primary consideration for the US and NATO. Given Canada's enduring strategic context, this must affect long-term military force development.

Thus, while the purpose of those early revamped CAF joint force development processes and products were instigated for legitimate reasons, and correctly argued for the development of some critical new military capabilities, they got everything else wrong—the results were unbalanced. A proper application of historical thinking, including how evidence is gathered and evaluated, would have led to a more institutionally relevant outcome.

Conclusion

In military affairs, there is no shortage of hard situations or problems. They are hard because they are, as ever, complex, confounding, and fraught with the risk of potentially severe

[49] See for example, *Future Security Environment,* 3, 5, 7, 93, 114.

consequences, and are presented to decision-makers armed with incomplete information but of whom results are expected. OR&A professionals must always remain mindful of the integral role history plays in the identity and shape of the profession of arms. As Paul Van Riper so convincingly described his combat experience in Vietnam, history shaped his professional knowledge and judgment in a way difficult to quantify, but real nonetheless:

> I could never identify a direct cause-and-effect relationship between the orders I gave in combat and the books I had previously read, but clearly a symbiotic connection existed. The second hand wisdom gained from reading thousands of pages of military history synthesized over time in my mind and eventually merged with the experiences of previous firefights in the Dominican Republic and during my first tour in Vietnam. This combination of real and vicarious learning provided the ability to make well-informed judgments despite the inherent stresses of war."[50]

Van Riper's memories were of how his reading of history shaped him as a soldier. And he is quite correct in suggesting that drawing direct connections between historical knowledge and decisions or actions is not a useful exercise. However, the value of historical knowledge and a sensitivity to history has an impact on how decision-makers judge a hard *military planning* situation in the same way Van Riper describes his experience.

For the OR analyst, it is prudent to assume that historical knowledge – of some sort and of varied quality – will shape decisions and the perspective of decision-makers. It is also prudent, and of material value, to use historical knowledge and methods to help decision-makers think about problems in a way that draws on the judgments, successes and failures of others in similar situations. Moreover, for our purposes as analysts, the historical method places a premium on inquiry and empirical evidence. The Cuban Missile Crisis case study demonstrates the need not only to challenge assumptions but also to understand the sources – and limitations – of information pertinent to a given decision.

Within the parameters of military decision-making, the examples provided in this paper indicate that a respect for history and historical inquiry can help guide the defence institution, and

[50] Paul K. Van Riper, "The Relevance of History to the Military Profession," in Williamson Murray and Richard Hart Sinnreich, *The Past as Prologue: The Importance of History to the Military Profession* (New York: Cambridge University Press, 2006), 40.

its leaders, into a future that will always be uncertain, but never as the result of a clean break with the past. Finally, this paper has provided some methods and approaches OR&A practitioners can apply to challenge decisions built on errors of historical inquiry that contribute to a mischaracterisation of history.