

BATTLE GROUP DECISION MAKING AND RELATED PLANNING PROCESSES: INTUITIVE OR DELIBERATE? AN ONGOING DIALOGUE

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Over the past 100 years... the estimate process has been subject to a nearly constant doctrinal battle between those seeking to hone command intuition and those seeking a more scientifically based staff decision-making process.¹

INTRODUCTION

United States Army War College researchers Kristan Wheaton and James Morningstar, in a recent *War Room* article, accurately captured the dialogue between those who favour intuitive processes for decision making—and, by extension, planning—and those who support more deliberate and structured models. The crux of the argument appears to be a perceived tension between thinking and acting rapidly, guided by command intuition, and conducting a slower methodical estimate and formal planning cycle. Despite the seeming gap between these two positions, one can argue that current Canadian Army tactical decision-making doctrine permits battle groups the flexibility for both approaches and a myriad of permutations between them.²

The current operations planning process (OPP) has been used by the Canadian Army for more than 20 years, following work at the Canadian Army Command and Staff College (CACSC) to “Canadianize” the United States Army Military Decision Making Process and create a systemic and consistent planning model for tactical utilization. Initial usage and testing were completed using CACSC courses and elements of 1st Canadian Division Headquarters. These efforts proved successful, and the Canadian version evolved.³ The latest version aligns the Canadian OPP with NATO Standardization Agreements and corresponding Allied Administrative Publications. This doctrine also reflects interoperability requirements with the United States Army from brigade level and below under the America, Britain, Canada, Australia, New Zealand treaty and Canadian Army bilateral training initiatives. Despite this ongoing work to keep Canadian Army doctrine relevant within current operational obligations, there have been recent instances of other decision-making/planning models being used successfully by units in lieu of doctrine at the Canadian Manoeuvre Training Centre (CMTC). Given these events, an examination of tactical decision-making and planning doctrine is warranted.⁴

THE CANADIAN ARMY IN THE SECOND WORLD WAR⁵

Before examining the current situation vis-à-vis tactical decision making and planning, it is useful to understand how previous Canadian commanders dealt with the dilemmas of decision making and planning in a complicated and violent time-constrained environment. During the Normandy breakout and exploitation battles from June to August 1944, Lieutenant-General Guy Simonds, Commander II Canadian Corps, and his subordinate

commanders were beset by numerous challenges as they attempted to destroy the withdrawing and hard-fighting German *Wehrmacht*. Tactical decisions needed to be made, planned and disseminated quickly. An illustrative example is Simonds's command-driven processes prior to the 07 August 1944 commencement of Operation TOTALIZE, the second-last operation prior to the closing of the Falaise Gap and the link-up with the United States Army from 12 to 21 August.

Simonds did this [estimate] in isolation. As Elliot Rodger [then Brigadier General Staff], stated: I well recall his O Group before Operation Totalize when the several div comds sat in a circle under the pine trees (all being much older than GGS [Guy Granville Simonds] and some with desert sand in their ears) to whom he opened, 'Gentlemen, we will do this attack at night with armour.' Their jaws dropped noticeably. Prior to then I believe that not I nor any of the Corps HQ Brigs [Brigadiers] knew of this plan. Perhaps he had some prior discussion with Clark (CSO) [Chief Signals Officer] on the considerable plans needed to help the tanks and defrocked priests [prototype infantry carriers] keep direction in the dark. But the whole plan poured forth complete and crystal clear.

One of the division commanders pointed out that it had never been done before, to which Simonds replied, "That's why I'm doing it."⁶

Simonds's approach offers a Canadian example of the intuitive command-led approach to a tactical problem together with dissemination of a concept of operations, which was executed soon afterwards. II Canadian Corps used this methodology, along with abbreviated combat estimates and orders derived from them, to ensure rapidity of decision and action in a quickly changing environment of violence. Moreover, it was observed that once Falaise was taken Simonds no longer issued Corps direction on paper; instead, he commanded via oral orders and constant personal visits. An operations order amid the violence and chaos of the Falaise pocket would no doubt have been a hindrance to decision making and tactical action. The 4 Canadian Armoured Brigade Pro-forma of Immediate Mental Appreciation and Orders is illustrative of this process:⁷

[Mental Appreciation]

1. Object—My task is...
2. Location of Enemy—Where are his likely positions?
3. Firepower of Enemy—Tanks, guns or inf?
4. Ground—From where can I deal with him best?
5. Courses Open to the Enemy—What is he likely to do if I do so and so?
6. Plan—My plan is...

Orders

1. Information—
 - Enemy (location/strength/armament)
 - Own Troops (strength/positions)
2. Intention—I will destroy/capture/seize...
3. Method—
 - My plan is...
 - I will do it like this...
4. Administration—Petrol, ammunition and wounded will be dealt with as follows...
5. Any Questions

(From Appendix B to “4 Cdn Armd Bde Trg Instr No. 28, d/23 Mar 44, Pro-forma of Immediate Mental Appreciation and Orders, To be practiced by all ranks until it becomes a drill.”)⁸

Key to this rapid decide, plan and execute sequence were standardized tactical decision-making and planning directives that allowed for intuition or “*coup d’oeil*” like that of Simonds, along with more deliberative processes, to be framed consistently and transmitted quickly. Current Canadian doctrine appears to possess similar degrees of flexibility.

CANADIAN AND ALLIED DOCTRINE

The Canadian Army continues to utilize the estimate process within a consistent planning process, the OPP. This process begins with a commander’s estimate that provides planning guidance. The estimate is the primary tool in command and staff decision making at the unit level and can be a lengthy formal process or a truncated combat estimate. Canadian doctrine acknowledges that, due to the rapidity of decision making, combat estimates are derived intuitively but as a minimum should include (1) ground, (2) enemy, (3) friendly forces, (4) surprise and security and (5) time and space. All of this is very similar to the Second World War example laid out previously. In addition, the staff follows an estimate process to develop supporting plans with the OPP cycle. The OPP consists of five stages: (1) Initiation, commencing the cycle and creating a warning order, (2) Orientation, confirming the mission and refining the warning order, (3) Course of Action Development, generating workable options, testing them, and selecting the most appropriate, (4) Plan Development, resulting in orders being generated to support the chosen course of action and (5) Plan Review, monitoring the execution, with adjustments, further orders, branches or sequels occurring as required. This process can be adjusted to fit the time available. For fluid operations, fragmentary orders based on the initial orders, rather than re-commencement of a planning cycle, are the norm. The OPP is a scalable process and can be truncated as much as possible given the situation.⁹

Our allies use similar processes. The United States Army utilizes a seven-step military decision-making process (MDMP) which corresponds approximately to the Canadian OPP. Similar forms of estimates are used. Commanders' estimates are articulated as mental processes tied to their "visualization," which make use of all types of inputs from intuition to subordinate commander and staff inputs to inform their planning guidance and ongoing assessments of the operation. Instinct is utilized where facts are incomplete, and timely decisions and actions are of the essence. Staffs produce estimates within the MDMP, much the same way they are done in Canada. There are two types of estimates: initial estimates, which initiate activities, and "running" estimates, which are ongoing, resulting in amendments to ongoing planning or execution.¹⁰ These visualizations and estimates are created in the following way:

Commanders and staffs use the operational and mission variables to help build their situational understanding. They analyze and describe an operational environment in terms of eight interrelated operational variables: political, military, economic, social, information, infrastructure, physical environment, and time (PMESII-PT). Upon receipt of a mission, commanders filter information categorized by the operational variables into relevant information with respect to the mission. They use the mission variables, in combination with the operational variables, to refine their understanding of the situation and to visualize, describe, and direct operations. The mission variables are mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC).¹¹

Although on the surface there seems to be little formal structure to a commander's visualization, it is in fact informed by the need to consider the significant aspects of the operational environment and mission variables. The level of resolution in how these factors are approached for both visualizations and staff estimates will be dependent on time and information. In the U.S., as in Canada, the decision and planning processes can be abbreviated. U.S. Army doctrine emphasizes the role of commanders in providing "expertise, intuition, and creativity" in shortening the MDMP, as well as the need for the staff to ensure that all requirements are addressed through understanding of the MDMP and practice in using it.¹²

The British Army takes a more Socratic approach, using its version of the combat estimate, known as the "seven questions," in operational settings where the tactical aspects are known and accelerated decisions and planning are required:

1. What is the situation and how does it affect me?
2. What have I been told to do and why?
3. What effects do I need to achieve and what direction must I give to develop my plan?
4. Where can I best accomplish each action/effect?

5. When and where do the actions take place in relation to each other?
6. What control measures must I impose?

The purpose of the seven questions remains the same as that of other military decision-making systems: to determine “What is my goal, and what factors do I need to consider in achieving it?” Like Canadian doctrine pertaining to the estimate process, the seven questions can be utilized for guidance in a longer directed planning process or a much shorter cycle resulting in rapid orders.¹³

Australia uses a military appreciation process and connects it to a planning system. Appreciations are done by commanders and staff to inform the planning cycle, which is command-led. Commanders complete combat appreciations when time is short. Those mental assessments lead directly to a course of action and orders:

The combat military appreciation process is a combat decision-making tool that is derived from the individual military appreciation process and is used post-H-hour in response to a contact or incident that requires an immediate response. It draws on the commander’s knowledge of previous planning processes, accumulated battlespace knowledge, military judgement and tactical experience. A commander will normally conduct a combat military appreciation process when there is insufficient time to consider all factors. There are four steps in the combat military appreciation process:

- mission analysis
- enemy/threat analysis
- terrain analysis
- develop and execute.

It is largely based on intuition and situational awareness (SA).

Neighbouring New Zealand adapts Australian Army doctrine for its own use¹⁴.

Another Canadian ally, France, also uses a planning process that is guided by a commander, who must define the “Why,” “What” and “How” of the operation in the planning guidance to the staff. The process utilized is a series of sub-questions that provide resolution to these three primary foci. The scope of the questions and the deductions that are derived from them are very similar to those in the Canadian estimate process. The French army procedure allows for options and determinations that are communicated to subordinates via tactical orders. The French tactical doctrine has been adapted from operational and strategic decision making.

It seems to encourage a deliberate and structured, rather than intuitive, approach, although it also emphasizes that “Doctrine is a guide that maintains freedom of action for the combined arms commander in charge of the organization of forces in operations, and of the design, planning and execution of missions.” In other words, it allows for different approaches.¹⁵

CANADIAN ARMY BATTLE GROUPS AND THE CONTEXT OF TACTICAL DECISION MAKING AND PLANNING

The battle group (BG) is an ad hoc grouping based on an infantry battalion or armoured regiment, which is normally commanded by a lieutenant-colonel. It usually consists of a headquarters (HQ) and a combination of integral and attached infantry and armour sub-units, with their integral combat service support, or sustainment, elements. Also included are combat support organizations, which provide immediate tactical assistance, in the form of reconnaissance, mobility, counter-mobility or direct and indirect fire support, to combat elements. Additional combat service support elements may be attached when necessary. For the Canadian Army, the BG is arguably the principal land tactical manoeuvre unit for current deployed operations. The BG is expected to be able to operate throughout the continuum of conflict, ranging from peace to general war. In order to span this range of operations, the Canadian BG must be able to execute both “shaping” and “decisive” operations. At the tactical level, shaping includes the activities that link, support or create the favourable conditions for other operations. Decisive operations are the vital tactical actions that are necessary to achieve operational objectives.¹⁶

In order to support command of the BG in a wide variety of possible missions from humanitarian assistance to warfighting, the BG HQ is structured and equipped to ensure deployability, continuity of command, survivability, fusion of command and staff effort, interoperability, size, modularity, capacity and range. These characteristics enable the BG HQ to execute four overarching functions necessary for tactical activities. These roles are to plan future operations, coordinate current operations, develop intelligence, and support decision making.¹⁷ With broad parameters for operations and often with the requirement to execute these four functions simultaneously throughout the continuum of operations, the BG HQ must be an organization that can think both critically and creatively. These dual capabilities are recognized in Canadian doctrinal decision making and planning as the “rational approach” and the “intuitive approach.” The rational approach is to produce the optimal solution through methodical analysis and reasoning guided by experience. This method encompasses a command-led, staff-driven operational planning process, while the intuitive approach supplants or enhances methodical analysis with subjective, intuitive assessment because of a lack of information and/or time, with the aim being to produce a satisfactory solution rather than the optimal one. The success of the intuitive approach depends on sound military judgement, which is based on an informed perception of the situation that stems from a commander’s professional knowledge, intellect and experience.¹⁸ This approach is best represented in the Recognitional Planning Model (RPM) developed by American researchers John Schmit and Gary Klein. This planning model utilizes recognitional (intuitive) decision making as a prescriptive process to increase speed of planning and as

a descriptive model to better utilize the strengths of experienced planners. It presupposes a detailed understanding of the planning environment, experienced staff and the involvement of commanders.¹⁹

Canadian BGs utilize both cognitive systems, either simultaneously or consecutively. This creates a tension in planning between tempo and process. Elements of the BG HQ may need to engage intuitively, guided by a commander, for rapidly moving current operations, while using rational processes in planning for later missions. Canadian doctrine highlights that the rational approach “should be used whenever possible and is the preferred method for planning.”²⁰ Rational and structured processes reduce or eliminate cognitive bias that may be present in intuitive processes and provide assured planning outputs throughout the process, leading to a coordinated plan.²¹

Israeli-American psychologist Daniel Kahneman, in *Thinking, Fast and Slow*, describes these modes of thought as System 1 (intuitive, or “thinking fast”) and System 2 (structured, or “thinking slow”). The ideas in *Thinking, Fast and Slow*, which were originally considered by the Israeli military for aerial combat, have helped inform discourse on military cognition.²² Moreover, these descriptions are helpful in describing what military HQ must accomplish during planning. A BG must utilize both systems, either simultaneously or consecutively. This creates a tension in planning between tempo and process. Battle group HQ may need to engage System 1 (intuitive, or “thinking fast”) for rapid-tempo tactical activities, while planning for subsequent missions and tasks using System 2 (structured, or “thinking slow”). Kahneman argues that, despite the belief of many that System 2 thinking is dominant, it is System 1 thinking that informs most actions.²³ This is an important distinction, as it is likely the source of tension between commanders who rely on “thinking fast” and staffs who rely on “thinking slow.” Figure 1 demonstrates this dichotomy within a HQ.

Consequently, friction between commanders “thinking fast” and staffs “thinking slow,” coupled with an increase in command-enabling technology, has resulted in commanders seeking ways to enable their intuitive thinking processes. This tension has been exacerbated by an evolving threat environment and the constant need to maintain information flow and connectivity to subordinate and higher HQ.

THE CONTEMPORARY TACTICAL THREAT ENVIRONMENT IN EASTERN EUROPE

The present conflict in Ukraine illustrates the emerging security setting within which a BG will be required to operate. This operational environment is very unlike that of the deployments in Afghanistan between 2002 and 2014, which came to be characterized by deliberate operations launched from immobile forward operating bases. The insurgents were normally lightly armed and depended on asymmetric means, including suicide bombers and improvised explosive devices, to attack coalition forces.

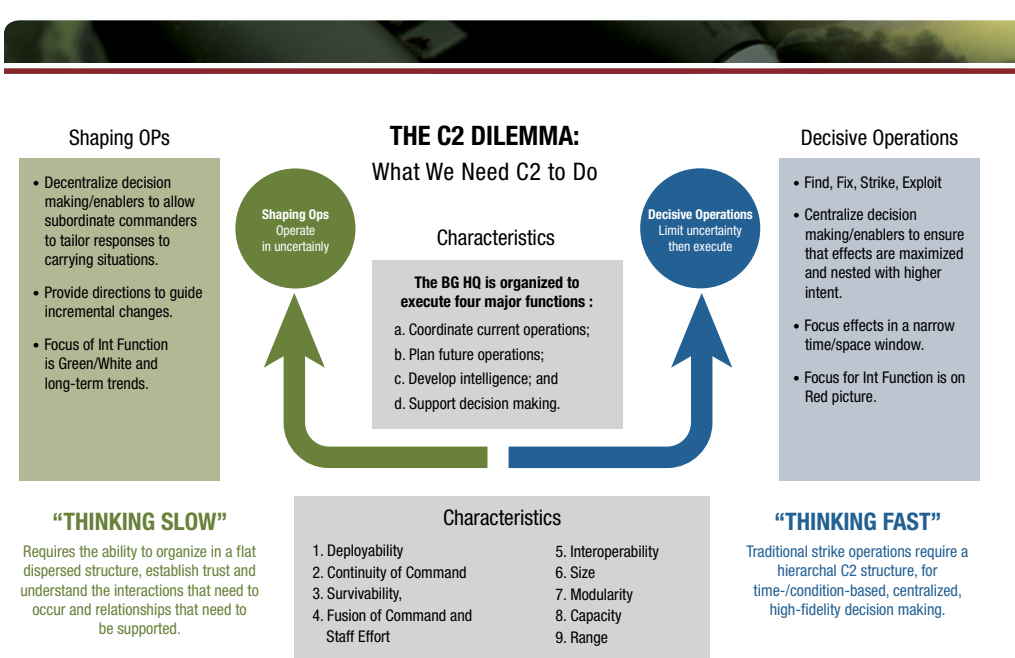


Figure 1: The Command and Control Dilemma: What We Need Command and Control to Do²⁴

Contrast the recent past with today’s potential battlespace in Eastern Europe. That environment is characterized by the presence of massed fires and omnipresent intelligence, surveillance, and reconnaissance coverage within a distributed, or low-density, battlespace. High-density fires and unmanned aerial surveillance of all types could quickly be used against Canadian units. Countering these threats requires flexibility, agility and mobility with constant repositioning of command and control (C2) assets. Headquarters must move frequently. In addition, belligerents, the threats they normally pose and the range of tools they utilize are not always easily discernable or attributable, as they range from covert to overt across the spectrum of conflict. Participants in Eastern Europe rely mostly on unconventional means, such as propaganda, economic pressure and non-state actors that do not constitute formal state-on-state conflict.²⁵ This operational setting is illustrated in Figure 2.

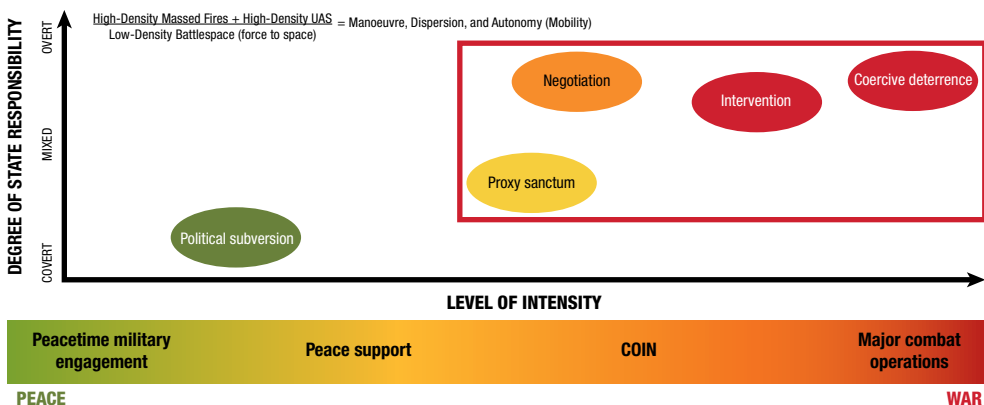


Figure 2: Contemporary Continuum of Conflict²⁶

In this environment, there is increased demand for preparedness to pre-empt or counter wide-ranging hybrid, as well as grey-zone, threats and to be ready, if necessary, for major combat operations. Speed of decision making and planning is paramount for any BG HQ.

CANADIAN MANOEUVRE TRAINING CENTRE BATTLE GROUPS: DECISION MAKING AND PLANNING 2014–2019 (QUANTITATIVE OBSERVATIONS)

Canadian Manoeuvre Training Centre Take Home Packages, consisting of the pertinent observations on units participating in the Exercise MAPLE RESOLVE series from 2014 to 2019, were reviewed to obtain a perspective on the types of decision making and planning conducted by armoured- and infantry-based BGs during that period. The data demonstrates that many BGs follow the established doctrinal norms for decision making and planning: the estimate and the OPP. Of 21 battle groups during that period, 1) 13 or 62% utilized doctrinal models; 2) five or 24% utilized the RPM; 3) three or 10% utilized “bespoke,” or customized, unit methods; and 4) one or 4% utilized the United Kingdom tactical doctrinal model based on the “seven questions.” Figure 3 illustrates this distribution of battle group decision making and planning processes.²⁷

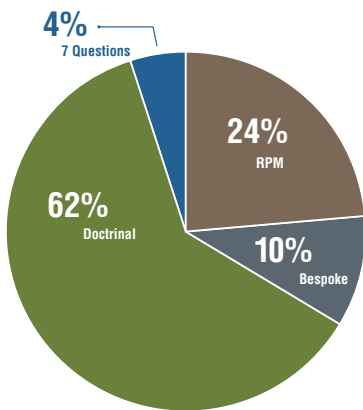


Figure 3: Distribution of Battle Group Decision-Making and Planning Models, 2014–2019

Two interesting observations can be made based on this quantitative data. Firstly, the BG decision making and planning models differ from one formation to another: 1) BGs of 5 Canadian Mechanized Brigade Group (5 CMBG) utilize Canadian doctrine; 2) 1 CMBG increasingly uses RPM, and 3) 2 CMBG uses Canadian doctrine, bespoke and the seven questions.²⁸ Secondly, from a timeline perspective, most BGs have not used doctrinal models since 2016. From 2016 to 2019, eight BGs used non-doctrinal models and seven used doctrine. There seems to be a perception in the field force, more anecdotal than not, that alternate forms of decision making and planning better represent the requirements of those utilizing them than does doctrine.

However, further study will be required to determine whether this trend is temporary or permanent, as well the implications of the specific formation usage. For example, one avenue of inquiry is whether the use of non-doctrinal models for decision making and planning is attributable to individuals or part of a broader movement. As Canadian Army BGs deal with the realities of current and future battlefields, ensuring that Canadian doctrine is as tight as it can be is a critical necessity.

Despite the recent increasing, but seemingly localized by formation, use of non-Canadian doctrinal models, there are no specific quantitative indicators assessing the results of these non-standard types of BG decision making and planning. Nevertheless, these figures reflect BG decision making and planning processes over a six-year period. It is also important to recognize that all BGs, regardless of the process each one used, had a decision-making and planning foundation of Canadian doctrine. Some type of estimate was utilized, and the

OPP formed the basis of planning.²⁹ Consequently, the use of other methodologies instead of Canadian doctrine could be viewed as an adaptation of, rather than an outright departure from, that doctrine.

CANADIAN MANOEUVRE TRAINING CENTRE BATTLE GROUPS: DECISION MAKING AND PLANNING 2014–2019 (QUALITATIVE OBSERVATIONS)

A myriad of battle group qualitative trends emerged in the review of the six years of CMTC observations. These comments concern the execution of planning, time management, and information technology and its impact on HQ. It must be stressed that these qualitative assessments are not the products of consistent measurement or methodology; they simply reflect observer controller team opinions of the described combat functions at that time.³⁰

Battle Group Planning Outcomes. Only 4 of 21 BGs, or 19%, were deemed to be lacking in planning processes and received recommendations to continue to develop their planning ability in their follow-on training. Among the four that required improvement, all types of BGs were represented: one light infantry, one mechanized infantry, and two armoured units. Of these four BGs, two used doctrine and two followed bespoke unit methods. This would seem to indicate that the planning issues identified arose from other challenges within the unit systems, rather than the processes that were followed. Overwhelmingly, planning was a strength of the BGs exercised at CMTC, specifically during the deliberate planning cycle at the commencement of the CMTC exercises.

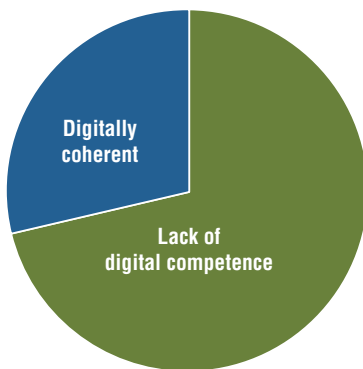
The trends in BG planning that were common areas for concern, directly affecting planning or transitioning those plans to execution, were 1) time-compressed planning, 2) the impact of digital tools, 3) digitization and process and 4) the transition of planning to operations. Importantly, while these issues are staff-related, they all enable a commanding officer's ability to command, and they will affect how successfully the results of the CO's decision making can be operationalized. Commanding officers, in turn, inform these processes.

Time-Compressed Planning. In the early phases of Exercise MAPLE RESOLVE, BGs tended to demonstrate a lack of ability in receiving formation orders and processing them in a way that would give battle group sub-units time to conduct their own battle procedure and to prepare for operations. In 2017, this observation was made

[At the beginning of the exercise] the bde did not follow the general rule of using 1/3 available time for planning and reserving the other 2/3 time for subordinate comds, greatly impacting the BG. This trend improved as the exercise progressed, but it initiated a discussion on the utility of the 1/3 - 2/3 Rule. Eventually, the bde's rapidity in passing information and its ability to share draft documents for collaborative and parallel planning evidenced that a strict adherence to the rule may be excessive. *Regardless, the CO committed to increasing the BG's planning tempo, thereby ensuring that subordinate comds had the necessary time to plan and prepare for operations.*³¹ (Emphasis added.)

Though warning orders were heavily utilized to enable subordinates to commence planning, many waited for the formation and BG to make decisions on operational concepts and resource allocation prior to commencing a detailed evaluation of courses of action or options. The seven BGs that followed RPM did so in order to abbreviate planning in a time-compressed planning environment.³² The seven questions, in the middle ground between intuitive and rational decision making and planning, also facilitated planning timelines. The time savings for the one BG using it seemed to result from focused command engagement and the utilization of graphics rather than text for communication. This facilitates production of overlay orders, which can be quickly transmitted via data links to subordinates. In any case, the initial issue is that BGs had challenges with managing time in the decision-making, planning and dissemination of orders cycle but, regardless of methodology, almost all improved.

Impact of Digital Tools. Of the 21 BGs, 15, or 71%, struggled with digital tools.³³ No exercise year was exempt from these challenges, but in general they lessened with time. Despite this, the ability to fully exploit the full capability of digital tools had a direct correlation in enabling rapid decision making and planning. A CMTC comment from 2016 clearly lays out the impact of digitization:



The Battle Group Command Post (CP) clearly demonstrated that they can operate in a digitally degraded environment, using maps, transparent overlay and pins. However, their usage of the digital tools is very limited. *Digitization offers commanders the ability to accelerate decision making and collaborative planning.*³⁴ (Emphasis added.)

Figure 4 – Battle Group Competency with Digital Tools, 2014–2019

Digital competence, or the ability to consistently maintain digital communications, is the mechanism by which BGs create a shared understanding and synchronize their efforts with those of superiors and subordinates. High levels of digital competence were often exhibited during the initial stage of Exercise MAPLE RESOLVE when BGs were static. On the other hand, during periods requiring movement and manoeuvre, the inability to maintain the digital operating picture negatively impacted battle group ability to anticipate and plan, and it also frustrated formation HQ ability to communicate direction and plans. This 2017 example illustrates the difficulty:

Situational Awareness and Information Passage. While there was a dramatic improvement from the beginning of MR17 to the end, there is still room to improve SA and information passage in the ... TOC. Data feeds information which feeds knowledge which turns into understanding. This understanding allows the commander the requisite tools to make timely and accurate judgements which in turn speed his decision action cycle. It is recommended that the ... BG continue to refine and increase it[s] staff function of assessment, knowledge and passage of information to the Comd, Higher HQ and Sub-Units. A06701002E – Establish and Maintain Command and Control.³⁵

This tension between digitization and mobility is elaborated on in the following section.

Digitization and Process. Battle group HQ seem to have been slow to fully adopt digital tools for planning and execution, due to the competing demands of digitization, decision making and planning, along with mobility and survivability.³⁶ This conflict is embodied in the time it takes to work effectively in the digital realm combined with the obligations to maintain mobility and a low emissions signature. The latter obligations must be met in order to offset peer competitor electronic warfare, intelligence, surveillance, target acquisition and reconnaissance, in conjunction with their capability for rapid and devastating fires.

Canadian divisional HQ communicate exclusively in the digital domain, brigade HQ increasingly communicate digitally, and BGs receive information digitally but must translate that data into analog (voice or paper), orders for their sub-units who do not have digital capacity. This immediately slows processes, as BG need to speak the digital language of their higher HQ, while constantly reducing information into suitable voice or paper formats. Furthermore, digital tools are enabled by servers that are not necessarily responsive to the demands of agility imposed by the contemporary conflict environment. This has negative impact on the availability of digital tools whenever servers are displaced. Presently, digital coherence cannot be maintained while mobile, which could be often. During Exercise MAPLE RESOLVE 2019, this gap in digital capability was underscored:

Command – Maintain Situational Awareness – Control / Command Post Structures and Process: Despite the inherent transportable (not mobile) nature of CA C4ISR (command, control, communications, computers, intelligence, surveillance and reconnaissance) structures and the data gap which exists at the BG level with data-enabled bde CPs and analog sub-unit CPs, the refinement of defined CP structures would enhance the BG. The CP was sub-optimal at times, affecting SA and resulting in some degradation of common operational picture (COP) at critical junctures through degraded or lost communications or cutting secure data altogether too early. Defined scalable CP structures and more detailed and synchronized SOPs and plans for CP movement and handover of control would enhance SA and preserve COP through CP movement.³⁷

The question of data processing has driven much planning procedure evolution as BGs attempt to build manageable data packets that can be moved through relatively small data pipelines, or within compressed time windows when they are static. This creates a requirement to reduce map detail and text, both of which are prominent in the estimate and OPP. In addition, due to the requirement for BGs to maintain analog files and voice communications to sub-units, staffs often use both digital and analog efforts, making methodical processes more work-intensive. Subsequently, the necessity in a high-threat environment to be digitally competent while maintaining mobility and survivability is sometimes at odds with a methodical estimate and OPP, encouraging intuitive, less process-intensive, models.

Transition of Planning to Operations. The 24-hour tempo of the conflict environment forces battle groups to streamline the movement of plans to operations. Battle group planning processes, along with the transition of plans to execution, must take place concurrently alongside operations. Given these multiple demands, it is often the ability of those involved, rather than a specific decision-making or planning model, that facilitates success. This comment from Exercise MAPLE RESOLVE 2016 illustrates the role of training and experience:

[The battle group] had an efficient planning process that was more detailed than the combat estimate and faster to execute than the OPP. The steps were well understood from all planning staff in the BG CP, enabling timely and effective decision making. *However, the coordination between the current operations and the plans battle rhythm was not always efficient.* When no bde orders were issued, the plans officer was employed on security tasks. A better way of employing him could be to develop contingency plans to refine the existing plan when it has been handed over to the Ops. This is even more important when bde does not allow sufficient planning time to subordinate units. During the defensive ops, many supporting plans were missing. The plans officer could have helped the Ops cell in developing those plans.³⁸ (Emphasis added.)

At the same time, when BG staff understand a more intuitive model and are empowered and enabled by a commanding officer, positive results can be achieved. One such example was brought forward during Exercise MAPLE RESOLVE 2017:

Execute Operational Planning. [The battle group] does not use the CA OPP, instead using the Recognition Primed Decision Making Model (RPM). Key to the RPM is the early and regular engagement of the CO in the identification and operationalizing of the COA to be used during the assigned operation. The use of RPM in the HQ was well understood and worked well to transform the CO's concept into a detailed plan. Of particular note was that RPM still remained effective as the pace of operations increased and plans were conducted concurrently to operations. *Brief touchpoints from the CO allowed the staff to understand his COA concept, and work within his intent in its development.*³⁹ (Emphasis added.)

For the BGs that participated in the Exercise MAPLE RESOLVE series from 2014 to 2019, the need to transition plans to execution, together with concurrent planning and operations, were consistently important themes. The challenges experienced by various BGs in these areas are not necessarily attributable to a specific doctrine or process but could just as easily be related to expertise within specific BG. These issues were also present when RPM was utilized. Further study of the differences between BG HQ structures may be worthwhile, as light infantry, mechanized infantry, and armoured battle groups have different capabilities to support planning and operations functions.⁴⁰

CONCLUSION


“Doctrine is not dogma. Doctrine provides principles relevant to current operational imperatives however it is never constraining.”⁴¹

—Colonel Mike Cessford,
“Ex MAPLE GUARDIAN 0604 After Action Report” (2006).

The Deputy Commander Joint Task Force – Afghanistan, Colonel Mike Cessford, made that pithy observation in 2006. Doctrine is meant to create shared perspective and provide a common methodology in military activities. There are aspects of doctrine that can be taken as descriptive, while other parts are prescriptive. However, doctrine as a whole should never be dogma, rigidly adhered to regardless of circumstances. In some ways, this examination of aspects of battle group decision making and planning in Exercise MAPLE RESOLVE between 2014 and 2019 has demonstrated that Cessford’s maxim is as true today as it was in 2006, when Canada commenced significant levels of combat operations in Afghanistan.

In retrospect, based on a review of the results of six years of Exercise MAPLE RESOLVE, it can be stated that the majority of 21 BGs used Canadian doctrine, followed by RPM, then bespoke methods, and lastly, the seven questions. These trends differ between the three Canadian formations, with the growing use of RPM over recent years being more evident in 1 CMBG than in the other two brigades. The reason for this localized increase was not apparent in the material examined while conducting this research. However, based on theories of knowledge transmission such as those of Thomas Kuhn and Ludwik Fleck, one could suggest that it originated with specific individuals. Both theorists emphasize the role of experts and concurring practitioners in the spread of knowledge. Consequently, if RPM was the preferred model of a formation commander, then subordinate battle group commanding officers would likely adopt the same methodology. That seems to have been the case in 1 CMBG during Ex MR 2019.⁴² In addition, it is important to recognize that all of the battle groups had a sound foundation of Canadian doctrine regardless of the decision-making and planning model they utilized.

In the course of this research, it was determined that tactical planning, and by extension decision making, was a battle group strength. Despite that, recognition of the impact of the factors that enable tactical decision making and planning is still evolving. Those factors range from available technology and information handling, through HQ workflow, to the conduct of critical thinking and decision making by BG commanding officers and the relationship of this activity to the operational planning process.⁴³

Consequently, we can conclude that current Canadian tactical decision making and planning seem to be suitable for current operations in hybrid, grey-zone environments. What may be less than adequate is our grasp of the doctrine's application in this evolving context or of the ways in which doctrine can be amended to accommodate commanding officers' cognitive methodologies. Another thing that needs to be clarified is the implications for existing doctrine in a highly digitized, consistently time-compressed setting, requiring continuous and overlapping planning and execution cycles. Most important, we need to gain a better understanding of the sufficiency of existent technological tools and interfaces. It is unclear whether technology and its users' expertise is adequate to deal with blended analog and digital tactical settings that sometimes require transmittal of the same information through both mediums. In addition, the sheer quantity of information available to battle groups, in addition to the information demands of higher HQ, and the concomitant need to stay digitally linked, may together mitigate against manoeuvre command.⁴⁴ The quest to resolve these factors may, at least in part, explain the rise of RPM, along with other decision-making and planning methods. These facets of the operational environment and their connection to decision making and planning should form lines of inquiry during future BG training activities such as Exercise MAPLE RESOLVE. 

ABOUT THE AUTHORS...

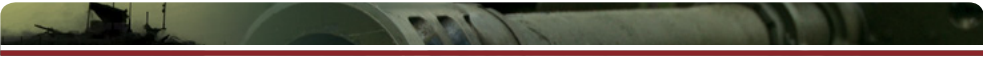
Colonel Howard G. Coombs, OMM, CD, Ph.D., retired from regular duty with the Canadian Armed Forces in 2003 and transferred to the Canadian Army Reserve, where he continues to serve on a part-time basis with the Office of the Chief of Reserves, located at National Defence Headquarters. He is currently the Associate Chair, War Studies Program, at the Royal Military College of Canada. Coombs has deployed to the former Yugoslavia and Afghanistan, on regular and reserve service, in addition to being employed as a civilian advisor in Afghanistan.

Lieutenant-Colonel (Retired) Steven K. MacBeth, MSC, MSM with bar, CD, MDS, after completing various command and staff positions, including leadership of the 1st Battalion, Royal Canadian Regiment, retired from the Canadian Armed Forces in 2019 after leading the NATO Enhanced Forward Presence Battle Group in Latvia. In addition to his most recent deployment to Latvia, MacBeth has served in Yugoslavia and multiple times in Afghanistan. He is currently the Visiting Canadian Defence Fellow, Centre for International and Defence Policy, Queen's University.

ENDNOTES

1. Kristan Wheaton and Dr. James Kelly Morningstar, "Estimating the Situation: Intuition, Deliberation, or a Third Way?" (Carlisle, PA: US Army War College, *War Room*; available at <https://warroom.armywarcollege.edu/articles/estimating-the-situation/>), accessed 14 November 2019.
2. Ibid. See also Canada, Department of National Defence, Canadian Army, B-GL-335-001/FP-001, *Decision-Making and Planning at the Tactical Level* (2017).
3. The Commandant of the CACSC and 1st Canadian Division during this initial period was Colonel (later Brigadier-General) Serge Labbé. Some of the initial work of creating a Canadian Army planning process was led by Lieutenant-Colonel (later Colonel) Peter Kramers, a United States Army Command and General Staff College graduate.
4. Canada, Department of National Defence, Canadian Army, B-GL-335-001/FP-001, *Decision-Making and Planning at the Tactical Level* (2017); and Canada, Department of National Defence, Canada and United States Bilateral Army Training Strategy 2020–2027 (Draft) (2019).
5. I would like to thank Major (Dr) John Rickard, Canadian Army Staff College, for his assistance in assembling this historical background.
6. Elliot Rodger, letter to Dominick Graham, in *The Price of Command: A Biography of General Guy Simonds* (Toronto: Stoddart, 1993), 148. Rodger was occupying a position analogous to today's Chief of Staff and was a witness to these events.
7. Email from Major John Rickard, Fri 2019-11-29 7:26 AM.
8. Appendix B to 4 Cdn Armd Bde Trg Instr No. 28, d/23 Mar 44, "Pro-forma of Immediate Mental Appreciation and Orders, To be practiced by all ranks until it becomes a drill" (Library and Archives Canada, Record Group 24, C-3, Vol. 14,051).
9. Canada, Department of National Defence, Canadian Army, B-GL-335-001/FP-001, *Decision-Making and Planning at the Tactical Level* (2017); and, Canada, Department of National Defence, Canada and United States Bilateral Army Training Strategy 2020–2027 (Draft) (2019), 2-13, 3-1 to 3-2, 4-1 to 4-26. See also Canada, National Defence, Canadian Army Command and Staff College, "CACSC-PUB-500, The Operational Planning Process: OPP Handbook" (April 2018), which clearly lays out the connection between a commander and the various stages of the OPP.
10. See United States, Department of Defense, United States Army, *Army Doctrine Publication 5-0, The Operations Process* (2012); and United States, Department of Defense, United States Army, *Army Tactics, Techniques and Procedures: Commander and Staff Officer Guide* (2011).
11. United States, Department of Defense, United States Army, *Field Manual 6-0, Commander and Staff Organization and Operations* (2014), A-2.
12. United States, Department of Defense, United States Army, *Army Tactics, Techniques and Procedures: Commander and Staff Officer Guide* (2011), 4-39.
13. United Kingdom, Ministry of Defence, British Army Land Warfare Centre, *Army Doctrine Publication AC 72099, Planning and Execution Handbook (PEHP)* (2018), 3-6 and 3-73 to 3-76.
14. Australia, Australian Defence Force, Australian Army, *Land Warfare Doctrine 5-0, Planning* (2018), 30; and New Zealand, New Zealand Defence Force, *New Zealand Defence Doctrine Publication: New Zealand Defence Doctrine*, 4th ed. (November 2017), 61.
15. France, Ministry of Defence, French Army, Doctrine Division, *PFT 5. 1 (CDT 60.001), Tactical Decision Making Process for Operations / Methode d'Elaboration d'une Decision Operationnelle Tactique (MEDOT)* (2014), 2-4, 16, 19 and 43. Quote from page 2.
16. Canada, Department of National Defence, Canadian Army, B-GL-321-005/FP-001, *Battle Group in Operations* (2012), 1-6, 2-3 and 3-7.
17. Ibid., 4-8 to 4-9.
18. Canada, Department of National Defence, Canadian Army, B-GL-335-001/FP-001, *Decision-Making and Planning at the Tactical Level* (2017), 1-1.
19. Both Schmit and Klein have produced a considerable body of work in this area. In particular, for details of the RPM, see John Schmit and Gary Klein, "A Recognition Planning Model," (paper presented at the Command and Control Research and Technology Symposium, held at the U.S. Naval War College, Newport, Rhode Island, 29 June–01 July, 1999; available at <https://apps.dtic.mil/dtic/tr/fulltext/u2/a461179.pdf>), accessed 15 December 2019.

20. Canada, Department of National Defence, Canadian Army, B-GL-335-001/FP-001, *Decision-Making and Planning at the Tactical Level* (2017), 1-1.
21. “[T]hink of these cognitive biases as heuristics, simple rules of learning that have evolved to help us think faster, deal with too much information (and too little meaning), and to decide what is worth remembering.” Researcher Buster Benson, cited in Kristan Wheaton and Dr. James Kelly Morningstar, “Estimating the Situation: Intuition, Deliberation, or a Third Way?” (Carlisle, PA: US Army War College, *War Room*, 14 November 2019; available at <https://warroom.armywarcollege.edu/articles/estimating-the-situation/>), accessed 14 November 2019.
22. See Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus & Giroux, 2011).
23. Cited in Ameet Ranadive, “What I learned from ‘Thinking Fast and Slow’” (*Medium*, 20 February 2017; available at <https://medium.com/leadership-motivation-and-impact/what-i-learned-from-thinking-fast-and-slow-a4a47cf8b5d5>), accessed 09 December 2019.
24. Lieutenant-Colonel Steven K. MacBeth, “2 CMBG – Lessons Learned from MR 17 – Battle Group C2” (presentation for 2 Canadian Mechanized Brigade Group at Canadian Forces Base Petawawa, September 2017).
25. See Dani Belo and David Carment, “Grey-Zone Conflict: Implications for Conflict Management” (Ottawa: Canadian Global Affairs Institute, December 2019; available at https://www.cgai.ca/grey_zone_conflict_implications_for_conflict_management?utm_campaign=pp_greyzone&utm_medium=email&utm_source=cdfai), accessed 14 December 2019. See also Phillip A. Petersen and Nicholas Myers with Jānis Bērziņš et al., *The Baltic Security Net Assessment*, 2nd ed. (Vienna and Tartu: The Potomac Foundation and Baltic Defence College, 2018; available at <https://www.baltdefcol.org/files/files/publications/BalticSecurityNetAssessment2018.pdf>), accessed 14 December 2019.
26. Adapted by Major Ben Rogerson, Chief of Staff, Enhanced Forward Presence Battle Group Rotation 3, from Phillip A. Petersen and Nicholas Myers with Jānis Bērziņš et al., *The Baltic Security Net Assessment*, 2nd ed. (Vienna and Tartu: The Potomac Foundation and Baltic Defence College, 2018, 74; available at <https://www.baltdefcol.org/files/files/publications/BalticSecurityNetAssessment2018.pdf>), accessed 14 December 2019. Proxy sanctum includes consolidating controlled areas using a core cadre of “volunteers” or militia, and destroying government infrastructure. It is characterized by local recruitment. Major Anthony M. Clas, “Commanding in Multi-Domain Formations,” *Military Review* (March–April 2018): 92. This *Military Review* article is valuable for its perspectives on command in a hybrid, grey-zone conflict environment.
27. See Canada, Department of National Defence, Canadian Army, Canadian Manoeuvre Training Centre, “3500-1 (Snr OCT), Exercise MAPLE RESOLVE 1401 (MR 1401) Take Home Package, 24 June 14”; Canada, Department of National Defence, Canadian Army, Canadian Manoeuvre Training Centre, “4500 1 (Snr OCT), Take Home Package (THP) – Exercise MAPLE RESOLVE 1501 (EX MR 1501), 29 June 2015”; Canada, Department of National Defence, Canadian Army, Canadian Manoeuvre Training Centre, “3500-1 (Chief OCT), Take Home Package (THP) – Exercise MAPLE RESOLVE (EX MR) 16, 19 July 2016”; Canada, Department of National Defence, Canadian Army, Canadian Manoeuvre Training Centre, “3500-1 (Chief OCT), Take Home Package (THP) – Exercise MAPLE RESOLVE (MR 17), 17 Aug 2017”; Canada, Department of National Defence, Canadian Army, Canadian Manoeuvre Training Centre, “3500-1 (CMTC OCT Coord), Take Home Package (THP) – Exercise Maple Resolve 18, 04 June 2018”; and Canada, Department of National Defence, Canadian Army, Canadian Manoeuvre Training Centre, “3500-1 (Chief OCT), Take Home Package (THP) – Exercise MAPLE RESOLVE 19, 3 June 2019” (henceforth *CMTC THPs 2014–2019*).
28. One of the widest unit variances was observed during Ex MR 17, where each of the four Battle Groups utilized a different planning model: OPP, RPM, the seven questions, and a bespoke methodology. See Canada, Department of National Defence, Canadian Army, Canadian Manoeuvre Training Centre, “3500-1 (Chief OCT), Take Home Package (THP) – Exercise MAPLE RESOLVE (MR 17), 17 Aug 2017.”
29. See *CMTC THPs 2014–2019*.
30. *Ibid.*
31. Canada, Department of National Defence, Canadian Army, Canadian Manoeuvre Training Centre, “3500-1 (Chief OCT), Take Home Package (THP) – Exercise MAPLE RESOLVE (MR 17), 17 Aug 2017,” A-4/5.
32. See John Schmit and Gary Klein, “A Recognition Planning Model” (paper presented at the Command and Control Research and Technology Symposium, held at the U.S. Naval War College, Newport, Rhode Island, 29 June–01 July 1999; available at <https://apps.dtic.mil/dtic/tr/fulltext/u2/a461179.pdf>), accessed 15 December 2019.
33. *CMTC THPs 2014–2019*.

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34. Canada, Department of National Defence, Canadian Army, Canadian Manoeuvre Training Centre, “3500-1 (Chief OCT), Take Home Package (THP) – Exercise MAPLE RESOLVE (EX MR) 16, 19 July 2016,” C-2/2.
 35. Canada, Department of National Defence, Canadian Army, Canadian Manoeuvre Training Centre, “3500-1 (Chief OCT), Take Home Package (THP) – Exercise MAPLE RESOLVE (MR 17), 17 Aug 2017,” D-4/5.
 36. See Canada, Department of National Defence, Canadian Army, Canadian Manoeuvre Training Centre, “3500-1 (Chief OCT), Take Home Package (THP) – Exercise MAPLE RESOLVE (EX MR) 16, 19 July 2016.”
 37. Canada, Department of National Defence, Canadian Army, Canadian Manoeuvre Training Centre, “3500-1 (Chief OCT), Take Home Package (THP) – Exercise MAPLE RESOLVE 19, 3 June 2019,” G-3/3.
 38. Canada, Department of National Defence, Canadian Army, Canadian Manoeuvre Training Centre, “3500-1 (Chief OCT), Take Home Package (THP) – Exercise MAPLE RESOLVE (EX MR) 16, 19 July 2016,” C-1/2.
 39. Canada, Department of National Defence, Canadian Army, Canadian Manoeuvre Training Centre, “3500-1 (Chief OCT), Take Home Package (THP) – Exercise MAPLE RESOLVE (MR 17), 17 Aug 2017,” B-1/3.
 40. Light infantry battalions and mechanized battalions utilize their Deputy Commanding Officer to facilitate a Chief of Staff and planning function. In addition, mechanized infantry battalions, by and large, use their Combat Support Company Commander to create a dedicated planning capacity and work in conjunction with the Deputy Commanding Officer to facilitate headquarters staff effort, and the armoured regiments do not have a Combat Support Company Commander nor do they normally forward deploy their Regimental Second in Command (Deputy Commanding Officer). Thus, armoured regiment headquarters are often left with an inexperienced captain to deal with planning. This variance has been noted, and Lord Strathcona’s Horse (Royal Canadians) (1 CMBG) deployed its Regimental Second in Command to assist with this function on Exercise MAPLE RESOLVE 2019 – an indication that this may close the gap. However, the trend cannot be confirmed. The structures of the different units result in different capacity, and staff organization is often left to commanding officers rather than following a standardized model. See Canada, Department of National Defence, Canadian Army, Canadian Manoeuvre Training Centre, “3500-1 (Chief OCT), Take Home Package (THP) – Exercise MAPLE RESOLVE 19, 3 June 2019,” E-1/4.
 41. Canada, Department of National Defence, Joint Task Force – Afghanistan, “1000-1 (DComd) Ex MAPLE GUARDIAN 0604 After Action Report – DComd JTF-AFG (ROTO 3), 13 Dec 06,” 4/8.
 42. See Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 3rd ed. (Chicago: University of Chicago Press, 1996) and Ludwik Fleck, *Genesis and Development of a Scientific Fact*, with a foreword by Thomas S. Kuhn, edited by Thaddeus J. Trenn and Robert K. Merton, translated by Fred Bradley and Thaddeus J. Trenn (Chicago: University of Chicago Press, 1979; reprint 1981; original edition Basel, Switzerland: Benno Schwabe & Co., 1935). See also Canada, Department of National Defence, Canadian Army, Canadian Manoeuvre Training Centre, “3500-1 (Chief OCT), Take Home Package (THP) – Exercise MAPLE RESOLVE 19, 3 June 2019.”
 43. Efforts have been made to address some of these processes with the impending publication of Canada, National Defence, Canadian Army, “Tactics, Techniques and Procedures, Canadian Army Doctrine Note (CADN) Unit and Formation Headquarters TTP CADN 19-02” (forthcoming, 2020).
 44. “Subordinate commanders are to be given, to the greatest extent possible, the responsibility, information, and resources to act as the tactical situation demands, *without further reference to higher authority*. In effect subordinates are empowered to perform and respond to situations as their commander would have, had the commander been there in person. To realize this command philosophy, leaders must know their subordinates intimately and trust them implicitly; subordinates in turn, must not only be skilled in the military art, but fully aware of their responsibilities to their commander and committed to fulfilling them.” (Emphasis added.) Canada, Department of National Defence, B-GL-300-000/FP-00, *Canada’s Army: We Stand on Guard for Thee* (01 April 1998), 86–87. In the digital environment, which creates constant awareness and understanding of subordinates’ actions, one wonders whether unfettered manoeuvre command is possible.