

## Archived Content

Information identified as archived on the Web is for reference, research or record-keeping purposes. It has not been altered or updated after the date of archiving. Web pages that are archived on the Web are not subject to the Government of Canada Web Standards.

As per the [Communications Policy of the Government of Canada](#), you can request alternate formats on the "[Contact Us](#)" page.

## Information archivée dans le Web

Information archivée dans le Web à des fins de consultation, de recherche ou de tenue de documents. Cette dernière n'a aucunement été modifiée ni mise à jour depuis sa date de mise en archive. Les pages archivées dans le Web ne sont pas assujetties aux normes qui s'appliquent aux sites Web du gouvernement du Canada.

Conformément à la [Politique de communication du gouvernement du Canada](#), vous pouvez demander de recevoir cette information dans tout autre format de rechange à la page « [Contactez-nous](#) ».

CANADIAN FORCES COLLEGE / COLLÈGE DES FORCES  
CANADIENNES  
CSC 32 / CCEM 32

**MASTER OF DEFENCE STUDIES (MDS) RESEARCH PAPER**  
**CANADIAN FORCES TRANSFORMATION AND LOGISTICS**

By /par Cdr S.E. Irwin

24 April 2006

*This paper was written by a student attending the Canadian Forces College in fulfilment of one of the requirements of the Course of Studies. The paper is a scholastic document, and thus contains facts and opinions which the author alone considered appropriate and correct for the subject. It does not necessarily reflect the policy or the opinion of any agency, including the Government of Canada and the Canadian Department of National Defence. This paper may not be released, quoted or copied except with the express permission of the Canadian Department of National Defence.*

*La présente étude a été rédigée par un stagiaire du Collège des Forces canadiennes pour satisfaire à l'une des exigences du cours. L'étude est un document qui se rapporte au cours et contient donc des faits et des opinions que seul l'auteur considère appropriés et convenables au sujet. Elle ne reflète pas nécessairement la politique ou l'opinion d'un organisme quelconque, y compris le gouvernement du Canada et le ministère de la Défense nationale du Canada. Il est défendu de diffuser, de citer ou de reproduire cette étude sans la permission expresse du ministère de la Défense nationale.*

**TABLE OF CONTENTS**

<b>Abstract</b>	iii
<b>Introduction</b>	1
LITERATURE SURVEY	3
<b>Chapter 1 – Supporting Transformation</b>	13
CHANGING WORLD	13
MILITARY TRANSFORMATION	15
LOGISTICS	26
<b>Chapter 2 – Strategic Organization</b>	33
ROLE OF GOVERNMENT	33
STRATEGIC COMMAND AND CONTROL	39
DEFINING CAPABILITY NEEDS	46
DEVELOPING CAPABILITY	49
<b>Chapter 3 – Outputs</b>	55
SUPPORTING THE COMMANDER	55
OPERATIONAL SERVICE DELIVERY	61
MEETING FUTURE OPERATIONAL NEEDS	71
<b>Conclusion</b>	76
<b>Bibliography</b>	79

## ABSTRACT

This paper explores the relationship between Canadian Forces transformation and the logistics. This is accomplished through a survey of literature relevant to Canadian Defence policy, transformation and logistics. These documents provide the foundation for an analysis detailing how the changing global security environment has forged the requirement for new Canadian Forces' roles. These new roles are not exclusive to Canada and are part of what has been termed military transformation, an international phenomenon. This has precipitated a need for new capabilities. Logistics is the critical enabler that will procure and maintain the equipment necessary for force projection and sustaining operations. However, as part of transformation, logistics functions must also evolve to support effectively new organizations. Canadian Forces transformation will fundamentally change command and control relationships. Significantly transformation will involve a renewed focus on operations as well as clear delineation between strategic and operational headquarters. This transformation will have an impact on logistics functions on both levels. As the bridge between the economy and combat forces, logistics needs to be a major concern at the strategic level where capability based planning will determine what capabilities need to be generated. At the operational level, Commanders need to control their logistics and be fully engaged in logistics planning. However, between these two levels is where the majority of logistics functions are executed. Procurement warehousing and maintenance are neither fully strategic nor operational. Reforming these functions to reflect, joint, operationally focused Forces is the paper's major thrust.

## INTRODUCTION

The introduction of the Canadian Defence Policy Statement nearly a year ago was accompanied by proposals for dramatic changes for the Canadian Forces. Some of these changes have already been implemented. Canadian Forces transformation seeks to significantly alter command and control relationships as well as the type and means of future operations. These changes are certainly not a uniquely Canadian phenomenon; they are evident in most western armed forces, all of which are facing threats dramatically different from those experienced in the Cold War. Aiming to meet these threats, Canadian Forces transformation recognizes the necessity of a makeover of CF headquarters structure and means of force projection.

To a high degree these measures are a response to changing threats, which substantiates an inquiry into the new direction. As in other countries these changes are part of a collection of reforms referred to as *transformation*; yet the term is not necessarily understood and one may legitimately question what is meant by it. What are its origins and what are its implications?

Although the end state of transformation is not known, there is no doubt that it will involve substantial changes to the capabilities to be employed by the Canadian Forces. While there is general acceptance of the need to change, the definition of specific capabilities requirements has yet to be achieved. This evolution should be directed and supported by government in close cooperation with military leadership. The

development and deployment of these capabilities will pose a significant challenge for the foreseeable future.

The development of these capabilities is a logistics function. Consequently there will be an immense challenge for logisticians as they procure and maintain new materiel for new roles. At the same time logistics functions will be subject to transformation. New command and control structures will have a tremendous impact on who is involved in developing capabilities: How will new priorities be established? What should the relationship with government be? Once they are generated, how will they be sustained? Transformation rhetoric stresses the need for command-centric approaches and the supremacy of operations. Yet the enabling functions for transformation have not received much attention, and some of what they have received contradicts the principles of the very changes they are to support. What is required is an effective link between the strategic level of National Defence Headquarters (NDHQ) and the operator in the field. This link must leverage national economic potential to generate military capability. This will be the role of transformed logistics.

This paper explores the changes in global security environment and how that has resulted in the need for military transformation and discuss the role of logistics as the critical enabler to that transformation. The challenges for the strategic level of the organization will be probed. In doing so the role of government in providing strategic direction for the Forces is reviewed. The command and control relationship between the strategic and operational levels of the forces will be probed with particular attention paid

how roles envisaged by governments translate into capabilities. Finally the needs of the end user are assessed. Whether or not the CF is on the appropriate course for meeting future operational needs is considered.

## **LITERATURE SURVEY**

In the aftermath of the September 11, 2001 attacks, the SARS outbreak, the 2003 Blackout, and the Madrid train attacks, it became apparent that Canada must become better prepared to handle a variety of crises. In April 2004 the government of Paul Martin released *Securing an Open Society: Canada's National Security Policy*.<sup>1</sup> The government's responsibility to protect its citizens, and safeguard national values is the central theme of this document. While recognizing that throughout its history, Canada has risen to meet a variety of threats ranging from the Influenza epidemic of 1918 to two world wars, the document aims to provide a more integrated policy needed to meet new challenges.

The document identifies three timeless principles: the protection of the nation as well as the safety and security of Canadians at home and abroad, ensuring that Canada is not used as a base for any group that threatens the security of our allies, and furthering international security.<sup>2</sup> While these principles are not new, the threats to them have shifted dramatically. During the Cold War, Soviet aggression was seen as the greatest

---

<sup>1</sup>Privy Council Office, *Securing an Open Society: Canada's National Security Policy*. (Ottawa: Privy Council Office, 2004).

<sup>2</sup>Privy Council Office, *Securing an Open Society...*, 5.

potential menace, but the National Security Policy identifies a variety of new threats to Canada's well-being including, terrorism, the proliferation of weapons of mass destruction, failed and failing states, foreign espionage, natural disasters, critical infrastructure failure, organised crime, and pandemics.<sup>3</sup> Clearly not all of these threats require a direct military response but the policy does recognize the need to balance domestic emergencies against diplomatic and military actions, as well as the need to find new roles for the Canadian Forces. While the document does not give much detail about the role of the future role of the CF, the general direction is outlined.<sup>4</sup> In addition to responding to problems at home, the document stresses the need to examine Canadian Forces' efforts to ensure their relevance to national security interest. Restoring peace, order, and good government, in failed and failing states will figure prominently in future CF missions. This requirement will include support in Afghanistan and efforts to respond to the activities of North Korea and Iran. The policy finally acknowledges the need to engage the international community and build consensus-supporting national security priorities.<sup>5</sup> This document sets the tone and general direction for future defence requirements but is non-committal with respect to new defence commitments or funding

The general direction provided by the National Security Policy serves as precursor to more specific directions. In April 2005, the Canadian government published *Canada's International Policy Statement: A Role of Pride in the World – Defence* which

---

<sup>3</sup>Ibid., 7.

<sup>4</sup>Ibid., 49.

<sup>5</sup>Ibid., 52.



articulates a Defence Policy Statement (DPS).<sup>6</sup> The statement seizes the themes outlined in the NSP and offers a response to many of the threats posed by failed and failing states, terrorism and weapons of mass destruction as well as domestic operations.<sup>7</sup> In the announcement of 5,000 more regulars and 3,000 more reservists, the policy statement lays the groundwork for the transformation of the Canadian Forces. This transformation aims to make the Canadian Forces more effective, relevant and responsive.<sup>8</sup> The implementation of the new vision involves the adoption of an integrated and unified approach to operations through transforming the command structure and establishing fully integrated units. The stated objective is to have three types of joint formations, one for special operations, a standing contingency task force capable of deployment anywhere in the world on 10 days' notice, and mission-specific task forces which could deploy as a follow-on to the other two groups.<sup>9</sup> In addition to the emphasis given to overseas deployments, protecting Canada and Canadians is a major theme. To this end, Canada Command will take responsibility for national contingencies. This need for protection at home is closely related to continental defence, where better relations with the US are sought through an updated NORAD agreement.<sup>10</sup> This requirement speaks to operations that will likely be combined as well as joint. Finally the policy speaks to future tasks for the Canadian Forces. In very general terms it identifies the type of operations that the CF

---

<sup>6</sup>Department of National Defence, *Canada's International Policy Statement A Role of Pride and Influence in the World – DEFENCE*, (Ottawa: DND 2005) .

<sup>7</sup>Ibid.,5-6.

<sup>8</sup>Ibid.,11.

<sup>9</sup>Ibid.,13.

<sup>10</sup>Ibid.,23.

can expect to be engaged in as well as what type of capabilities they will need.<sup>11</sup> The policy does not include any mention of specific funding, or description of how these new capabilities will be created. Furthermore, while reform of operations was discussed at length, there is no mention of transformation for enabling functions.

While the two documents discussed above express the intention of the government, they should be examined within the traditional context of Canadian defence policy. Douglas Bland provides an excellent overview of this policy area in, *Everything Military Officers Need to Know About Defence Policy Making in Canada*.<sup>12</sup> He argues that despite what other documents may declare, defence policy in Canada is what the Prime Minister says it is. He proceeds to make nine observations about Canadian defence policy-making. The first is that there are no credible threats to Canada, and even if there were, the US would likely defend us. Secondly, he asserts that politicians and senior public servants do not see a need to include national defence as part of a national strategy. These first two points may be open to debate as the national security environment has shifted dramatically since September 11, 2001. The remaining points are as current today as when the article was published in 2000. Bland makes it clear that because funds are always limited and the imperative for defence is weak, the defence expenditures are based on what funds are left over as opposed to what is needed. His fourth point is that Prime Ministers are elected on domestic issues, few have any

---

<sup>11</sup>Ibid.,30.

<sup>12</sup>Douglas Bland, "Everything Military Officers Need to Know About Defence Policy Making in Canada," in *Advance or Retreat? Canadian Defence in The 21<sup>st</sup> Century*, ed. David Rudd, Jim Hanson and Jessica Blitt, 15-29 (Toronto: Canadian Institute of Strategic Studies, 2000).

knowledge or experience in foreign affairs or defence. Consequently, they are not likely to engage in debates about the effectiveness or efficiency of defence policy which is his fifth point. The sixth is that political leaders generally know little about defence, believing Canada to be a peacekeeping nation, and they have no use for, or understanding of, combat capabilities. Bland's next point deals with the poor relationship between senior officers and politicians. This is the result of the embarrassments that the Canadian Forces may have caused politicians as a result of poor policy advice or scandal. The eighth point recognizes that the strong service identities that military officers carry in their particular environments serve as an obstacle to developing a coherent national policy. Loyalty to service is hard for politicians to understand. Finally, it must be accepted that officers or civilian officials at DND cannot force politicians to accept military principles or rational management schemes. An understanding of these facts of national life simplifies the study of policy.

The agenda for transformation is a concept that has had considerable coverage for the past few years. In an article in the *Canadian Military Journal* Dr. Paul Mitchell explains what is meant by the term and why it is important for Canada to embrace it.<sup>13</sup> He asserts that Canada is at risk of losing its relevance to the rest of the world and needs to embrace a concept he refers to as full spectrum influence. He distinguishes between the revolution in military affairs and transformation. Noting that RMA is more about technological change, transformation covers a broad spectrum of changes. First among these is the need to develop a joint force structure, secondly a willingness to embrace

---

<sup>13</sup>Paul T. Mitchell, "A Transformation Agenda for the Canadian Forces: Full Spectrum Influence," *Canadian Military Journal*, 4, no. 4 (Winter 2005) [journal on line]; available from [http://www.journal.dnd.ca/engraph/Vol4/no4/transformation\\_e.asp](http://www.journal.dnd.ca/engraph/Vol4/no4/transformation_e.asp); Internet; accessed 16 March 2006.

change and finally the application of new technology. In order to achieve full spectrum influence, Canada must strive for salience, relevance and interoperability. Salience is separate from relevance in that it deals with operational performance and effect. Relevance deals with being able to make a significant contribution. Finally interoperability is concerned with the ability to work effectively in combined situations as allied operations will become more important in the future. The article provides a description of what the Forces should become but does not offer advice on how to get there.

Using the Defence Policy Statement as a guideline, transformation has begun in the Canadian Forces. The emphasis on jointness often leads to concerns that it is a return to the unification policies of the 1960s and 1970s. Also writing in the *Canadian Military Journal*, Dr. Craig Stone and BGen Daniel Gosselin differentiate between transformation and unification.<sup>14</sup> They stress that the two stem from fundamentally different origins. Minister Hellyer's approach was driven with a view to improving efficiency and creating economies whereas the aim of transformation is improving operational effectiveness. He also chose to implement these changes at the top of the organization, creating the office of the Chief of Defence Staff, and work his way down. Operational command is the key theme to transformation and it is at this level where most of the changes have taken place. The authors note that shifting authorities at the operational level from environmental commands to joint operational commands will probably be the most difficult part of the

---

<sup>14</sup>Bgen Daniel Gosselin and Craig Stone, "Canadian Forces Transformation From Minister Hellyer to General Hillier: Understanding the Fundamental Difference Between The Unification of the Canadian Forces," *Canadian Military Journal*, 6 no. 4 (Winter 2005-2006) (Kingston, CDA, 2006)

new agenda. Unlike unification, transformation does not seek a single colour of uniform; rather it seeks to integrate the distinct areas of expertise and warrior culture distinct to each environment. The challenge not mentioned is the enabling functions that will bring about this change.

The discussion in the publications listed thus far deal with proposed roles and operational capabilities. Recognizing that the Canadian Forces are in a period of transition, the Minister of National Defence established an Advisory Committee on Administrative Efficiency, which presented its report *Achieving Administrative Efficiency* on 21 August 2003.<sup>15</sup> The report contains four general observations that are relevant to all headquarters functions. According to this document, the senior leadership is transactional rather than strategic, by which they imply that managers are so pre-occupied with the routine that the strategic never gets attention. They also found that accountabilities were too diffuse. Not enough attention is given to identifying, assigning and enforcing senior management accountability, which results in the department over-relying on consensus as decision-making model. The low tolerance for risk was also noted, as the committee found a cultural aversion to risk which leads to resistance to change. Finally, it was found that core competencies were not clearly defined. Roles that were not essential to the core defence mission were consuming considerable human and materiel resources that should have been directed into essential capabilities. These observations lead to a series of key findings and recommendations that are grouped under four headings: Governance, Procurement, Information Management, and Civilian Human

---

<sup>15</sup>Department of National Defence, *Achieving Administrative Efficiency, Report to the Minister of National Defence by the Advisory Committee on Administrative Efficiency*, (Ottawa, DND, 2003).

Resources. The recommendations with respect to procurement are particularly germane to this paper.

The proposed governance and management reforms are intended to help enable transformation. The recommendations for improvements to procurement are particularly noteworthy. Among the more important findings is that the realization that the average 15-year time frame for the acquisition of major capital projects is too long to meet the demands of transformation. Moreover, the overlap of work between Public Works and Government Services Canada is counter productive. DND's internal procurement approval process adds work but not value. The total value of projects included in the long-term capital plan exceeds available funding, yet significant staff resources and overheads continue to be invested in projects that will never be approved. These are significant inefficiencies that draw resources away from strategic investments.

The challenges of procurement loom large, particularly insofar as defining capabilities exist. Elinor Sloan has written a paper for the Canadian Defence and Foreign Affairs Institute entitled *The Strategic Capability Investment Plan: Origins, Evolution and Future Prospects*, which deals with the challenges stemming from this issue.<sup>16</sup> Drawing on observations similar to those made in *Achieving Administrative Efficiency*, she gives considerable attention to how capability gaps are determined and the SCIP is generated. She observes that the plan which represented an achievable goal in 2004 has been allowed to grow almost uncontrollably as new transformation projects are added.

---

<sup>16</sup>Elinor Sloan, *The Strategic Capability Investment Plan: Origins, Evolution and Future Prospects*, (Calgary: Canadian Defence and Foreign Affairs Institute, 2006).

Recognizing the need for capability-based planning, she points out that it will be 2008 before the scenarios that will drive this planning will be determined. Therefore, it may not be realistic to anticipate a workable investment plan before that time. Furthermore, that plan is only as good as the government's commitment to fund it. In her recollection, there has only been one occurrence in the last decade of a minister accepting a capital planning, and supporting its submission to Treasury Board.

Actually generating capability is the business of Logistics. While much is written about the technical aspects of combat service and support there is not a great body of writing dealing with the fundamental principles of the subject. However, in 1959, retired Rear Admiral Henry E. Eccles wrote *Logistics in the National Defense*, which continues to be regarded as one of the finest books on the subject.<sup>17</sup> Admiral Eccles thoroughly examines the entire spectrum of support to military operations from economic production to the front line. In fact he considers logistics to be the bridge between the economy and forces in the field.<sup>18</sup> Conceptually, he explains strategy as deciding on objectives and the general methods of attaining them, tactics or operations as the use of weapons and forces to attain these objectives, and logistics as the generation of the needed capabilities.<sup>19</sup> The relationship of the three levels is important to the understanding of deploying forces. Naturally, there are limits to what the economy can provide and national strategy must be

---

<sup>17</sup>Henry E. Eccles, *Logistics in The National Defense* , (Harrisburg: The Stackpole Company 1959).

<sup>18</sup>Ibid.,17.

<sup>19</sup>Ibid., 19.

grounded in what can be supported.<sup>20</sup> The role of the commander figures prominently in Eccles' book particularly as it relates to planning. While the commander must be engaged in logistics planning, Eccles warns of the "snowball effect" when logistics concerns are allowed to grow beyond the actual needs of the mission.<sup>21</sup> In planning, he stresses the need for flexibility, in order to give the commander more flexibility. While he submits that at the area, army and fleet level the commander must control his own logistics, he offers the corollary that the commander is obliged to exercise sound judgement and restraint in that control.<sup>22</sup> He also offers considerable insight into joint and combined logistics, emphasizing the need for coordination and the achievement of unity of effort.<sup>23</sup> In his view, since logistics limits strategy and tactics, "the objective of all logistics effort must be the attainment of sustained combat effectiveness in operating Forces"<sup>24</sup> The principles he outlines provide outstanding guidance for translating new policy into effective capability.

---

<sup>20</sup>Ibid.,41.

<sup>21</sup>Ibid.,103.

<sup>22</sup>Ibid.,209

<sup>23</sup>Ibid.,258.

<sup>24</sup>Ibid.,316.



## CHAPTER ONE – SUPPORTING TRANSFORMATION

### CHANGING WORLD

In a relatively short period of time the world has changed significantly. The seemingly enduring threat posed by the Soviet Union during the Cold War less than 20 years ago is a distant memory. While there was a temptation to relax and enjoy the peace dividend new threats have emerged. The National Security policy has identified threats to Canadian security that are fundamentally changing the demands for security.<sup>25</sup> Terrorist threats rooted in religious extremism, violent secessionist movements, domestic extremism and state sponsored terrorism are now considered major threats. The instability found in failed and failing states has provided a fertile breeding ground for instability that can be readily exported. Likewise, the proliferation of weapons of mass destruction has given reason for concern as these dangerous tools may fall into the wrong hands. The past few years have seen a disproportional number of natural disasters requiring military intervention. These domestic situations have included floods in the Saguenay, and Winnipeg, the Ice Storm in Eastern Ontario and Quebec and BC forest fires. All these threats pose a potential challenge to our well being and the preservation of Canadian values.

---

<sup>25</sup> Privy Council Office, *Securing an Open Society...*, 6.

In the pursuit of a new defence policy, Canada must ensure that it is not left behind or is unable to participate in international efforts. As a nation Canada enjoyed a great deal of respect and influence during the Cold War era as committed member of NATO. This engagement involved building bases in Europe and making a substantial contribution to the alliance's activities. During this period, our training, equipment and command and control were designed to integrate with NATO allies. With major European bases our contribution was considered to be both relevant and significant. However, the alliance recognizes a changed threat environment and seeks to bring new members into a broader organization that seeks to defend against new threats.<sup>26</sup> According to Dr. Paul Mitchell, Canada runs the risk of losing credibility as an international player if the Forces are not transformed to meet these threats.<sup>27</sup> In order to achieve this end, he maintains that *jointness*, concepts and interagency cooperation need to be addressed. Again emphasizing jointness, he points out that Canadians have been content to provide assets to operate as part of a single service as part of an allied force, while not realizing that the Canadian unit will operate as a joint task force. This need dictates addressing the operational concepts under which Canadians deploy. Finally, he comments on the need to work with the full range of national agencies in a united manner. The 2001/2002 Unified Command Plan resulted in the creation of regional commands within the United States military, including United States Joint Forces Command. This commitment to joint operations and command and control was reiterated in the *Quadrennial Defense Review Report of 2006*, which commits to:

---

<sup>26</sup> North Atlantic Treaty Organization, NATO Office of Information and Press, *NATO Handbook*, (Brussels, NATO) 2001, 37.

<sup>27</sup> Paul Mitchell, "A Transformation Agenda for the Canadian Forces", ... 59

“Transform designated existing service operational headquarters to fully functional and scaleable Joint Command and Control Joint Task-force capable headquarters.”<sup>28</sup>

Mitchell’s argument that this US policy should be adopted in Canada in order to create a working relationship that will leverage each organization’s strength in achieving a common goal grows ever stronger.<sup>29</sup> These observations are recognized and addressed in the Defence Policy Statement (DPS), which serves to focus the Canadian Forces transformation on the areas highlighted by the NSP.<sup>30</sup> The transformation of the CF has its genesis in the DPS. The changing global environment has precipitated new security requirements that will drive the need for new capabilities that will ensure security and relevance as a nation.

## **MILITARY TRANSFORMATION**

During General Hillier’s short tenure as Chief of the Defence Staff, *transformation* became the Canadian Forces buzzword of choice. In fact it has come to be commonly used throughout militaries around the world. Although it is used often, its definition is sometimes ambiguous. Richard Bitzinger maintains that transformation is “more than the mere modernization of one’s armed Forces...it requires fundamental

---

<sup>28</sup>Department of Defense *Quadrennial Defense Review Report February 2006* (Washington , Department of Defense 2006) available from [/www.dtic.mil/futurejointwarfare/strategic/2006qdr.pdf](http://www.dtic.mil/futurejointwarfare/strategic/2006qdr.pdf) Internet: accessed 3 April 2006.

<sup>29</sup>Mitchell, “A Transformation Agenda for the Canadian Forces”, ... 61

<sup>30</sup>Department of National Defence, *A Role of Pride ...*, 5-6.

changes in doctrine operations and organization.”<sup>31</sup> Much of the change has been driven by a dramatically changed global security environment coupled with a revolutionary change in information technology. To that end, in addition to having network-centred operations, a transformed force will likely have “shared situational awareness; more accurate and standoff engagement; agility, speed, rapid deployability and flexibility; jointness and interoperability.”<sup>32</sup> The impetus to adopt these characteristics is the common denominator of transformation within Canada and among Canada’s allies.

For a several years the need to update how the Canadian Forces’ command and control, as well as doctrine for deployed operations, has been recognized. Retired Vice Admiral Garry Garnett writing in the *Canadian Military Journal* observed that restructuring in the Canadian Forces is long overdue. The 1994 White Paper did not address command and control or joint and combined operations, which had become standard operating procedures in militaries around the world by the mid 1990s. This oversight was a missed opportunity to address the lessons learned in the first Gulf War.<sup>33</sup> Garnett refers to a 1994 *Chief of Review Services Report*, which calls for clarification of joint terminology and identifies the need to learn how to set up and run a joint force

---

<sup>31</sup>Richard Bitzinger, “Come The Revolution” published in *Naval War College Review*, Autumn 2005 Vol 58 issue 4 . <http://www.proquest.com>; Internet; accessed 6 April 2006.

<sup>32</sup>Ibid.

<sup>33</sup>G.L. Garnett, “The Evolution of the Canadian Approach to Joint and Combined Operations at the Strategic and Operational Level,” published in *Canadian Military Journal* 3 no. 4 (Winter 2003) [journal on-line]; available from [http://www.journal.dnd.ca/engraph/vol3/no4/pdf/3-8\\_e.pdf](http://www.journal.dnd.ca/engraph/vol3/no4/pdf/3-8_e.pdf); Internet; accessed 20 March 2006.

headquarters.<sup>34</sup> However, after the Cold War the Canadian government was far more interested in finding a peace dividend through scaling back the size and infrastructure of the military than it was in making any substantive changes. It was not until the late 1990s when the so-called revolution in military affairs caused more serious discussions about new capabilities and reforming command and control.

The 1990s represented lean years for the Forces, despite a rapidly changing global environment that was generating many new threats. This drawdown of resources did not impede the government from increasing the operational tempo of the Canadian Forces throughout that decade and into the new millennium to levels not previously seen in peacetime.<sup>35</sup> The Canadian Forces were involved in deployments all over the globe, a great proportion of which required close liaison with allies, using equipment that had been procured for the Cold War. The ability of the Canadian Forces to achieve their missions with existing equipment did not spur any major new procurement programs. Arguments for new capital investment fell on deaf ears in a public that had been tainted by the Somalia Inquiry and had begun to question the worth of their armed forces.

Awareness of the need to change developed a sense of urgency after the World Trade Center and Pentagon attacks. Dr. Paul Mitchell makes the argument that since 11 September 2001 transformation is largely the result of a need to change from a military that envisages mass battles to more nimble and flexible organizations that can quickly

---

<sup>34</sup>Ibid.

<sup>35</sup>Department of National Defence, *A Role of Pride and Influence...7*.

deploy to diverse theatres, and that these new changes require jointness, new operational concepts and new technology.<sup>36</sup> Jointness is vital to the success of transformation, as service level concerns can no longer dominate the defence agenda; it recognizes that no one service can achieve the mission on its own.

These concepts that came to the fore after 9/11 and rose to greater prominence with the appointment of General Hillier as CDS are not new; in fact there is very little in transformation that was not either directly or indirectly mentioned in *Strategy 2020*.<sup>37</sup> According to a recent article by BGen Gosselin and Dr. Craig Stone the outgoing CDS General Henault had clearly articulated the need to transform and re-equip if the CF is to remain relevant.<sup>38</sup> *Strategy 2020*, which was published in 1999, identifies the importance of jointness to develop a capability to deal with weapons of mass destruction and asymmetric threats. It also recognizes the need for jointness in command and control as well as in logistics.<sup>39</sup> Unfortunately these 'urgent' requirements were not progressed during Henault's tenure.<sup>40</sup> The government's selection of General Hillier as the new CDS came with an acceptance of his vision for the Canadian Forces that dovetailed nicely into the Martin administration's international policy, which has a prominent role

---

<sup>36</sup>Mitchell, "A Transformation Agenda for the Canadian Forces", ...57

<sup>37</sup>National Defence, *Shaping the Future of the Canadian Forces: A Strategy for 2020*, (Ottawa, DND) internet accessed through IRC 18 March 2006.

<sup>38</sup>Gosselin and Stone, *Canadian Forces Transformation*...9.

<sup>39</sup>National Defence, *Shaping the Future*....,6.

<sup>40</sup>Gosselin Stone *Canadian Forces Transformation*...9.

for defence.<sup>41</sup> Reinvigorated support for defence, along with increases in multi-year funding, represents a resolve on the part of the government to see the necessary changes identified in the defence policy statement of 2005. This desire for change has been a critical enabler for the clear articulation by the CDS of the aims of transformation and the empowerment to act upon them.

The Canadian experience to date has been observed in changes at both the strategic and operational levels. The average member of the Canadian Forces is most familiar with the transformation of operations, largely because this affects how the typical serviceperson deploys. Changes at the most senior level are a response to longstanding observations about departmental ineffectiveness at the strategic level. Although initially not as noticeable, these reforms will profoundly impact the future roles and capabilities of the Canadian Forces.

Within the direction given to the architects of transformation the Chief of Defence Staff has identified six principles for transformation,<sup>42</sup> which firstly seek to build a CF culture vice functional or environmental cultures. Within an institution that values tradition this new culture will be a great challenge. Command and control must cease to be staff centric and become command centric, which will enable leadership to make the changes necessary to meet new challenges. Thirdly, the chain of command must change from a risk adverse norm to using a mission command approach. The command and

---

<sup>41</sup>Ibid.

<sup>42</sup>Department of National Defence, CDS Action Team 1 (Command and Control), *Executive Summary and Key Recommendations*, (Ottawa, DND, 2005), 3.

control structure must change from a staff matrix to a chain of command with authority, responsibility and accountable to higher command; the fifth point states that the primary focus of the CF must be on operational effectiveness. Finally, the Regular and Reserve components of the Canadian Forces, along with civilians, must be part of a single solution. Most of these principles speak to a need to change the collective CF mindset and doctrine as opposed to any specific new capabilities. Additionally a statement such as placing primary importance on operations is a motherhood statement within the military; this requirement has always been the case. What is different about these pronouncements is that they have been the forerunner for major institutional change.

Recognizing that everything cannot be changed at once, translating these principles into a transformation will take place in four phases.<sup>43</sup> The first, which is now complete, involved achieving a unified vision for the CF that was congruous with the Defence Policy Statement. The second phase concerns the restructuring of Canadian Forces operational command and control through the creation of the Operational Commands as well Strategic Joint Staff and the Chief of Force development. The new command headquarters have been established and the third, as yet undefined, phase will soon begin, which will involve aligning the broader service delivery functions of the CF with the new operational structure. This phase will address corporate activities and will undoubtedly have a significant impact on logistics organizations. The final phase is intended to provide analysis and feedback, making recommendations for future change. The third part of transformation will be tremendously important for logisticians, as this

---

<sup>43</sup>Gen Rick Hillier, CDS *Planning Guidance – CF Transformation*, (NDHQ: file 1950-9 (CT) 18 October 2005.



enabling process will link combat forces to the economy. Organizations such as ADM MAT can anticipate significant changes in structure and operating procedures. In its current format, this massive enterprise is involved in activities ranging from strategic materiel requirements, through to running depots. The decision to reserve transformation of corporate functions to the third phase is curious. These functions are the critical enablers for the rest of transformation; a logical argument could be made to transform them before the supported functions are changed.

The priorities for transformation reflect those made in Canada's Defence Policy Statement (DPS), which has provided the guidelines for change. The implementation of the transformation vision will require a completely integrated and unified approach to operations through a transformed command structure and establishing fully integrated units.<sup>44</sup> The vision also foresees continual improvement of force structure, eliminating outdated structures and building new capabilities as required. A key development is the proposed cooperation with other government agencies and interoperability with allied forces. Recognizing that Canada may be involved in coalition with nations that have not been traditional allies, transformation aims to expand the strong relationships already established within NATO but seeks to create and expand extra-military ties and interoperability with other government departments and civilian agencies. This concept is not just Canadian; transformation in the United States likewise places a heavy emphasis

---

<sup>44</sup>Ibid.

on interagency operations.<sup>45</sup> Transformation also identifies the need for better command control communications surveillance and reconnaissance capability. It will also place an emphasis on the need for experimentation as well as the continued investment in people.<sup>46</sup> Inherent in all these changes will be new materiel and new means of operational support that reflect these new realities.

First and foremost in the transformational initiatives announced is the formation of “a unified Canadian Forces national command structure and system”.<sup>47</sup> While the new policy refers to using a combination of maritime, air or land forces, the emphasis is on using them together in a command structure that subordinates the individual environments to an integrated command. After the priorities for establishing a new means of command and control are spelled out, the document then identifies the capabilities that must be created or expanded, within Special Forces and the three environmental commands. As a high-level policy document, few specifics are provided with respect to future capability requirements. Nor would that degree of granularity be expected in a policy document. Although the DPS has yet to be supported by a White Paper, the Chief of Defence Staff has boldly moved ahead, making many of the changes called for in the DPS.

---

<sup>45</sup>United States, Department of Defense, *Quadrennial Defense Report*, (Washington, DOD 2006) 84.

<sup>46</sup> National Defence, *A Role of Pride...*,12.

<sup>47</sup>Ibid, 13.

The Chief of Defence Staff's planning guidance for CF transformation calls for "irreversible momentum" in achieving the operational focus for the CF, which he establishes as the highest priority.<sup>48</sup> This resulted in an immense sense of urgency to establish quickly the operational commands. The aim was to create a chain of command that responded to domestic issues through Canada Command (CANCOM), international events through Canadian Expeditionary Force Command (CEFCOM) and the use of Special Forces both at home and abroad through Canada Special Operations Force Command (CANSOFCOM). As an integrated support organization would be essential to the success of the operational headquarters Canadian Operational Support Command (CANOSCOM) was established on 3 February 2006. The role of CANOSCOM is difficult to define as it has the greatest potential to disturb the status quo. This situation is due largely to the redistribution of authority over a significant portion of the CF. In addition to the creation of the operational headquarters the Strategic Joint Staff (SJS) and Chief of Force Development were also set up in this timeframe.

As these organizations develop over the coming months one potential area must be addressed further. This change involves the identification of the environmental commands as strategic, which implies that they must be removed from the operational level, if the recommendations made to improve operational effectiveness are to be taken seriously. This speaks to the proposed role of the operational commands as force employers and the unanswered questions about force generators. CANCOM will be responsible for the defence of Canada and domestic operations and represents a fundamentally different construct for command and control, as this function had been

---

<sup>48</sup>Hillier, *CDS Planning Guidance* ...

executed previously by the environmental commands. CEFCOM will operate much in the same fashion as did the DCDS group that preceded it. Units will transfer from under the command of their force generator to come under the command of this organization when they deploy internationally. This arrangement has worked well in the past and has been generally well received by all concerned. However, there are significant complications stemming from the reconciliation of the proposed roles for CANCOM and the ECs.

In view of the aim to separate strategic from operational, EC organizations must divest themselves of non-strategic roles. After considerable study CDS Action Team 1 recommended that their primary mission become the “provision of advice to the CDS, as well as oversight on specific issues such as requirements, tactics, techniques, and procedures, environmental or functional safety issues.”<sup>49</sup> Included in this recommendation was the need to move the command responsibility for generating forces to the operational command. Despite independent research confirming that this is organizationally the best course of action, the environmental commanders have strenuously resisted this move and for the time being, force generation remains an environmental concern.<sup>50</sup> Included in the complex issues that must now be resolved is the question of who will be responsible for logistics organizations at the tactical, force-generation level.

---

<sup>49</sup>CDS Action Team 1, *Executive Summary*...,8

<sup>50</sup>Defence Research and Development Canada was tasked with supporting the CDS Action teams during the development of their plans for transformation. Ivan Taylor, *Quantities Analysis of Transformation Options: Preliminary Results 29 April 2005*. referred to in CDS Action Team 1(Command and Control) *Report 29 June 2005Executive summary and Key Recommendations*, (Ottawa, DND, 2005) 6

Accepting greater integration is fundamentally important to the success of transformation. Douglas Bland refers to a loyalty to the individual environments that has become “an article of faith” to the extent that changes that would diminish a single environment (Army, Navy or Air force) for the sake of a greater good are often resisted.<sup>51</sup> The conservative nature of military culture can create a reluctance to experiment with unproven methods and procedures but this will have to be overcome in order to adapt to rapidly changing situations. Such institutional inertia is an often underestimated force; however General Hillier recognizes it as the opposing centre of gravity on his guidance on CF transformation.<sup>52</sup> This challenge may be the greatest to transformation.

The direction given by the CDS sets a tone and direction that is unequivocal; the CF will be operationally focussed and joint at the operational level. While little is said directly about the strategic and tactical level logistics, it is not hard to see that greater integration and unification will figure prominently as the third phase starts to evolve. The lack of emphasis on the environmental commands may be emotive for those who are particularly sensitive about traditional structures. This sensitivity is a likely indicator that the future of these organizations will be limited as their importance at the strategic level diminishes. In order to be effective in future, operations logistics organizations must be credible with operators and fully integrated at all levels.

---

<sup>51</sup>Douglas Bland. *Chiefs of Defence Government and the Unified Command of the Canadian Armed Forces*, (Toronto, Canadian Strategic Studies Institute, 1995), 16.

<sup>52</sup>General Hillier CDS Planning Guidance CF Transformation

## LOGISTICS

Providing a workable definition for logistics is a task that can be quite a challenge. It has evolved in its day-to-day use, which has become particularly evident since the term has become widely used within business circles. The Logistics Institute has as its motto: “the driving force of human achievement”; unfortunately the same could be said of greed, envy, the pursuit of revenge, or lust. The industry and commercial understanding of logistics is rooted in supply chain management and the movement of goods, usually for retail or manufacturing operations. There are many even within senior levels of the military that have a comprehension of logistics as no more complex than moving materiel, while in reality it is significantly more complicated.

The process of military logistics is not often regarded by operators as glamorous but its critical nature should never be overlooked. More than two centuries ago Benjamin Franklin composed a few lines that demonstrate the ripple effects of even the smallest of military logistics failures:

For the want of a nail, the shoe was lost  
For want of a shoe the horse was lost  
For want of a horse the rider was lost  
For want of a rider the battle was lost.<sup>53</sup>

---

<sup>53</sup>This story was quoted in Moshe Kress, *Operational Logistics, The Art and Science of Maintaining Military Operations* (Dordrecht, NL Kluwer Academic Publishers 2002), preface viii.

While this allegory provides a simplistic view of the long-accepted importance of logistics, more detailed consideration has been given to the subject by pre-eminent military thinkers for many years.

Jomini asked, is “logistics simply a science of detail?” Or, on the contrary, “is it a general science forming one of the most essential parts of the art of war?”<sup>54</sup> He explains that the origins of the term *logistics* were rooted in the simple functions of establishing camps and providing quarters for soldiers. He continues to explain that as war fighting evolved, the need for camps lessened and requirement for support became a much more complex process, “that embrace not only the duties of ordinary staff officers but of generals in chief.”<sup>55</sup> Jomini opines about the importance of the commander to ensure that his materiel is in good order and the necessity to plan for the movement of that equipment so that a battle may be effectively waged, “making arrangements of marches and attacks which are fixed by the general.”<sup>56</sup> More recently it has been argued that increasing complexity of the modern battle space, with its dependence on high technology, has made “supporting the war at least as important as fighting the war.”<sup>57</sup> The generic intended results of transformation such as speed, agility, net-centred, will involve a more sophisticated level of combat service support. Detailed analyses of support can demonstrate a complex inter-mingling of many functions. However, Moshe

---

<sup>54</sup> Baron Antoine Henri de Jomini, *The Art of War*, first published 1838 *Precis de L’Art de Guerre*, quote taken from edition published (London: Greenhill Books, 1996) 252

<sup>55</sup>Ibid., 254.

<sup>56</sup>Ibid., 8.

<sup>57</sup>Clayton R. Newell, *The Framework of Operational Warfare*, (London: Routledge 1991) 99.

Kress believes that throughout all military history support to troops can be distilled into a combination of one or more of three functions: “*obtain* needed resources at the battlefield; *carry* the resources with the troops; or *ship* the resources from the rear area and distribute to Forces in the battlefield.”<sup>58</sup> While this process may be true, the complexity of these functions will grow as the need for faster deployment of more sophisticated equipment becomes even more essential to mission success. Kress further explains that military logistics is concerned with taking means and resources and using them in a production process that is combat operations; he defines logistics as a discipline that takes the resources needed to sustain military operations in order to achieve the desired outputs or objectives. This process includes planning, managing, treating and controlling these resources.<sup>59</sup> In a sense, war has become a production system that takes national inputs in the form of human and materiel forces and fashions from them a combat capability.<sup>60</sup> This according to Clayton Newell “requires a mixture of art and science”, which he explains by noting that despite the presence of more and more scientific projections and calculations used to prepare for a battle, the unpredictable nature of war will always require an understanding of its art in its support.<sup>61</sup> The nature of the blend of art and science is difficult to measure, but as the modern security environment becomes more complex it is more important to get it right.

---

<sup>58</sup>Kress *Operational Logistics...*, 10.

<sup>59</sup>*Ibid.*, 7.

<sup>60</sup>*Ibid.*, 11.

<sup>61</sup>Newell, *The Framework of Operational...*, 99.



The meeting of art and science involves the employment of capability. William Tuttle explains defence logistics by breaking it into two components: force projection and the sustainment of Forces.<sup>62</sup> Force projection involves moving forces to meet the requirements of a mission; this is sometimes described as the strategic or operational deployment of forces. The sustainment of Forces involves ensuring that the Forces, once moved into theatre, are kept at the highest possible level of readiness. This sustainment involves maintaining people and equipment. The commander's concern is that force projection and sustainment capabilities be achieved through the "timely delivery of support with minimum battle space footprint."<sup>63</sup> The emphasis on maintaining a limited footprint is frequently used in current logistics doctrine; it may also be expressed as economy of force. It is an essential consideration for the wise commander to recognize that his efforts to conserve resources facilitates an increase in the scope and tempo of other operations that may be brought to bear against an enemy.<sup>64</sup> Economy of effort will become more important as a transformed force will need to be able to deploy faster, into more complex and demanding theatres, than previously envisaged.

Functionally logistics has been used to describe most military functions other than actual combat. Within CF doctrine it may include health services, comptroller functions,

---

<sup>62</sup>William G.T. Tuttle Jr. *Defense Logistics for the 21<sup>st</sup> Century*, (Annapolis MA, Naval Institute Press 2005), 1.

<sup>63</sup>Ibid., 301. This is also an accepted part of US Joint Force Doctrine as explained in ; United States, Joint Chiefs of Staff, *Doctrine for Logistic Support of Joint Operations*, <http://stinet.dtic.mil/> Internet; accessed ,16 March 2006.

<sup>64</sup>Eccles, *Logistics in the National Defense...*, 252.

human resources and personnel administration in addition to materiel support.<sup>65</sup> While these are all important functions, the focus of this paper is on the latter group of activities which are involved in the materiel generation of capability from the strategic to the operational level. These are the functions to which Eccles was referring when discussing the bridge between strategy and operations. In writing *Logistics in the National Defense* he identifies six themes that are essential to the study of modern logistics; these should be considered in the study of support to any military policy and are particularly relevant to Canadian Forces transformation.

First amongst the themes he espoused, Eccles believed that modern war includes all types of human conflict.<sup>66</sup> While this was true in his analysis during the Cold War, it is even more important today. The NSP and DSP articulate that threats to national security are more diverse than ever. Consequently transformed logistics structures must be able to support all types of conflicts. Secondly, he stresses that strategy should be considered as the ultimate guidance for determining action to achieve objectives.<sup>67</sup> This closely relates to command and control aims of transformation that must become command centric, and includes a strengthened role for the strategic headquarters. Senior leadership must have a strategic understanding of logistics issues. Additionally the professional logistics community must ensure that top performers are posted into key strategic headquarters positions. The role of logistics as the bridge between the economy

---

<sup>65</sup>Canada, National Defence, *Canadian Forces Operations*, (Ottawa, Chief of Defence Staff) 2000, 27-1.

<sup>66</sup>Eccles, *Logistics in the National Defense...*,10.

<sup>67</sup>Ibid.

and combat Forces is his third point.<sup>68</sup> While CF transformation to date includes the stand up of the operational support command, it has yet to fully address the need to evolve the relationship with the economy. His fourth point identifies the tendency for logistics organizations to grow out of proportion with actual requirements.<sup>69</sup> This has yet to be addressed by transformation; it would be best dealt with through a single joint organization. Presently, there is a diffuse focus of logistics with inputs from ECs, Operational Commands, and corporate-level organizations. This has led to substantial duplication. The role of force employer needs to be distinguished from that of force generator. The fifth point deals with the need for military command to have adequate control of its logistics which is the foundation for strategic flexibility and mobility.<sup>70</sup> This consideration may be cause for reflection on the relationship between CANOSCOM and the commands it supports. Finally, in a related point, combat effectiveness is determined by the commander's understanding of the degree of control he or she should exercise over logistics.<sup>71</sup> This has not yet been a noteworthy theme of transformation, but it may be developed in later phases.

The stand up of CANOSCOM is intended to address many logistics concerns. However, while this organization concerns itself with the full range of support services when deployed outside Canada, it is vague with respect to many significant domestic organizations. For example, third-line maintenance facilities in Canada are still reporting

---

<sup>68</sup>Ibid.

<sup>69</sup>Ibid.

<sup>70</sup>Ibid.

<sup>71</sup>Ibid.

to environmental headquarters that are intended to be purely strategic. Currently these organizations represent tremendous force enablers yet their day-to-day operations are neither strategic nor are they operational in the sense that they do not deploy into theatre. The appropriate placement of such enabling functions is not adequately answered in transformation as it has developed thus far.

## CHAPTER 2 – STRATEGIC ORGANIZATION

### ROLE OF GOVERNMENT

In any democracy, civilian control of the military is an imperative. This contention is not now, nor will it ever be, intended for debate. What is open for discussion is the interface of civilian and military control over materiel support. Defence is expensive, and within Canada there is a tendency to downplay the amount of money spent on military acquisitions. Yet despite what Mitchell describes as an, “indifferent and sometimes hostile social environment inimical to budget increases,” defence spending remains one of the largest discretionary spending areas within the federal government, second only to health.<sup>72</sup> The short lived Paul Martin government had demonstrated an intention to increase that amount in order to develop more robust and capable forces and indications from the new government point to equal or even greater commitment to invest in the military. However, within the Canadian context, politicians face numerous other issues that are more popular with voters such as health care, child care, education and lower taxes. This preoccupation causes uneasiness with major capital expenditure proposals for the military. Douglas Bland makes this observation in his overview of Canadian defence policy.<sup>73</sup> As uncomfortable as politicians may be with such proposals they still must meet international obligations involving the commitment of military capability overseas in keeping with their own policy. At the same time, military

---

<sup>72</sup>Mitchell., *A Transformation Agenda...*,56.

<sup>73</sup>Bland, *Everything Military Officers Need to Know...*,22.

commanders concern themselves with preparation for their mission; less concerned with public opinion they are driven to ensure that they will have an appropriate number of properly trained and equipped service men and women in the right place at the right time.

The goals of politicians are not necessarily opposed or exclusive to those of the commander; in fact they could be complementary. However, more often than not there is distrust between the two groups. Eccles describes this relationship: on one hand, government officials do not believe that the military commander is capable of understanding the complexities and nuances of national economics and the diversity of national issues; on the other hand, the commander often does not believe civilian authorities are sufficiently competent to understand the exigencies of combat situations. If one group lacks “national perspective” and the other has no “combat perspective” the resulting mutual distrust will endure to neither side’s benefit.<sup>74</sup> To a high degree, this situation was the Canadian experience during the Jean Chrétien era. This period was characterized by his first political decision, which was to stop the acquisition of new maritime helicopters. A period followed where very little investment was made in capability, yet operational tempo increased significantly. The Liberals immediate discontinuation of the shipboard helicopter program and dramatic cut to defence did not serve to create a positive working relationship<sup>75</sup> Increased pressure on a relationship would become even more strained by the Somalia Inquiry and disbandment of the Airborne Regiment.

---

<sup>74</sup> Eccles, *Logistics in the National Defense...*, 207.

<sup>75</sup> Sharon Hobson, “Canada Makes Further Budget Cuts” in *Janes Defence Weekly* Vol. 21 no. 9 (5 Mar 1994), available from <http://www8.janes.com> Internet; accessed 16 March 2006.

Functionally, the biggest difference between commanders and their political masters is that commanders will be called upon to go into harm's way leading troops into battle, whereas politicians are not required to do so. Consequently at the operational and tactical levels, the commander's control over logistics remains critically important. Eccles points out that because he has the task of fighting, the commander has the right to determine resources he needs to conduct the fight and he has the right to allocate those resources as he sees fit.<sup>76</sup> This concept has been accepted into logistics doctrine in most countries. The American Joint Chiefs of Staff recognize that "logistics is the foundation of combat power" The doctrine makes it clear that combatant commanders have directive authority over logistics in order to effect operational plans and ensure effectiveness and economy of operations.<sup>77</sup> While this requirement speaks to the operational level, the complicated and delicate balance between military requirement and political leadership must be established long before the materiel reaches operational units. Logistics at the strategic level is concerned with defining capabilities needed to deliver national strategic policy. In the Canadian context, this is found in the National Security Policy and more particularly DPS. In order to build a bridge between civilian economic capacity and military operational capability, a functional relationship must be established. Governments have the protection of their citizenry as their top priority and consequently must determine security policy to be implemented by the military. They must also ensure that the missions given to the armed forces are supported by adequate resources and public opinion. Governments dictate the mission but must allow the commander the

---

<sup>76</sup> Eccles, *Logistics in the National Defense*, 208.

<sup>77</sup> Chairman Joint Chiefs of Staff *Doctrine for Logistics Support of Joint Operations*, 6 April 2000 I-6.

flexibility needed to carry it out effectively in accordance with his/her interpretation of operational art, within the guidelines of rules of engagement, sound ethical judgement and the responsible use of resources.

In recent years the relationship between government and the strategic level has not been as effective as it could have been for two reasons. Lack of a clear strategic policy on the part of the government and lack of effective strategic military headquarters are evident. The Canadian government has held itself at a distance from the CF and Department of National Defence, providing very little guidance for the military. To wit, the last full White Paper on defence was published in 1994, with a defence policy statement released some eleven years later. Although the DPS is a good first step it does not represent the specific direction with respect to capabilities or long-term funding commitments. This is particularly evident when the relationship between government and the military is examined in other countries.

The United States government must generate a quadrennial defence review, similar to a defence White Paper, that overhauls defence policy every four years. This comprehensive document sets the groundwork for American defence policy moving into the future. It clearly defines the threats to the nation and enunciates the capabilities required to meet them.<sup>78</sup> An amendment to the document is an assessment by the Chairman of the Joint Chiefs of Staff and agreed to by congress.. Thus, the complete document represents an agreed-upon set of priorities for defence.

---

<sup>78</sup>United States Department of Defense. *Quadrennial Defense Review 2006*



Likewise within the United Kingdom there has been a clear and well-documented exchange of ideas between government and defence. With the 2003 White Paper, *Delivering Security in a Changing World*, national defence policy was established. This document was followed by the Ministry of Defence's response *Future Capabilities*, which identifies what new requirements would be necessary to meet the demands of the White Paper. The Government then responded with, *Future Capabilities: Government Response to the House of Commons Defence Committee's Fourth Report of Session 2004-05*.<sup>79</sup> The result is the Departmental Plan which provides the department's key priorities over the next four fiscal years.<sup>80</sup> This is a reasonable model that outlines expectations from government and meets them with appropriate funding.

After a major renewal of defence policy in 2000 and a Defence update in 2003 the Australian government published their requirements in the, *Defence Capability Plan 2004-2014*.<sup>81</sup> This document not only provides a timeline for major capital products, it serves as an invitation to industry to partner with the department of defence in building capability. The Australian model is particularly relevant to the transformation of logistics, as it underscores the role of the economy in delivering defence capabilities.

---

<sup>79</sup>This process is outlined in, United Kingdom, Secretary of State for Defence, *Future Capabilities: Government Response to the House of Commons Defence Committee's Fourth Report of Session 2004-05*. (London: MOD) available from [www.desg.mod.uk](http://www.desg.mod.uk) Internet; accessed 6 April 2006, 1.

<sup>80</sup>United Kingdom, Ministry of Defence, *Departmental Plan 2005-2009*, (London: MOD 2005), available from, [www.desg.mod.uk](http://www.desg.mod.uk) Internet; accessed 6 April 2006.

<sup>81</sup>Australia, Department of Defence, *Defence Capability Plan 2004-2014* (Canberra ADF 2004) available from [www.defence.au/publications](http://www.defence.au/publications); Internet; accessed 8 April 2006.

These documents take the theoretical and translate it into materiel. Turning ideas into capacity within Canada is the functional aim of the Strategic Capability Investment Plan (SCIP). This plan involves spreading resources out over the planning horizons as well as allocating resources to senior managers based on established priorities.<sup>82</sup> While Web sites for strategic-level headquarters planning organizations espouse a streamlined mechanism linking policy to capability, this evolutionary process is far from complete. Elinor Sloan expresses doubts about the effectiveness of the SCIP to deliver meaningful change as a mechanism that brings together priorities for acquisition through an examination of current equipment, human resources, technology, research and development, and analyses them against the requirements of the CF core capabilities in order to create a new capability.<sup>83</sup> Sloan points out that the SCIP is an evolving process but one that will need to be backed by a defence capability plan that has been accepted and endorsed by the minister, treasury board and cabinet.<sup>84</sup> The initial SCIP was endorsed by the Minister of National Defence in December 2003 but a change in government in that same month meant that it did not progress to Treasury Board. As governments change, so do capability requirements. For this reason the original SCIP has been expanded to include new investments reflecting a new vision for the CF that expanded when Paul Martin set up residence at 24 Sussex. Sloan observes that although the original version of the plan was affordable, the new plan neither prioritizes nor

---

<sup>82</sup>Department of National Defence, "Director General Strategic Planning: [www.vcds.Forces.gc.ca/dgsp/pubs/dp\\_m/cbp\\_e.asp](http://www.vcds.Forces.gc.ca/dgsp/pubs/dp_m/cbp_e.asp) Internet; accessed 16 Mar 2006

<sup>83</sup> Sloan *The Strategic Capability Investment Plan...*, 11.

<sup>84</sup> *Ibid.*, 26.

contains any reference to funding.<sup>85</sup> In fact the plan as it exists is not very different from outmoded capital plans that were not capability based nor were they funded. This shortcoming causes some concern because there exists a potential to fall into the trap of making SCIP a wish list that may never come to fruition. There is an important resource consideration stemming from such projects. Once established, projects require staff, often experts, and considerable support to keep running. When a project with little hope of ever being approved is allowed to continue, limited resources are expended where there will be no return on investment, while high-priority, funded projects suffer from a lack of personnel needed to accomplish critical tasks. Continuing unfunded projects was a wasteful practice identified by the Minister's Advisory Committee on Administrative efficiency.<sup>86</sup> This report had highlighted the need for comprehensive strategic direction in the generation of capability and logistics.

## **STRATEGIC COMMAND AND CONTROL**

The strategic level is where long-range capabilities are conceived and developed. Strategists must look to the future and answer questions dealing with institutional direction: where are we going, why must we go there, and how are we going to get there? At this level "logistics is an inseparable component of military strategy."<sup>87</sup> Clayton Newell believes that "nations with a global strategic perspective of war, strategic

---

<sup>85</sup>Ibid., 24.

<sup>86</sup>Minister's Advisory Committee, *Achieving Administrative Efficiency ...*, 28.

<sup>87</sup>Newell, *The Framework of Operational Warfare...*, 101.

planning and logistics planning are essentially synonymous.”<sup>88</sup> In so doing he reasserts that logistics is about capabilities and that changing strategic direction will demand substantial logistics involvement.

Arguments supporting transformation at the strategic level are well articulated in, “Achieving Administrative Efficiency.” The report makes articulates four key themes: management focus is more transactional than strategic, accountabilities are too diffuse, risk tolerance is too low, and core competencies are not clearly define.<sup>89</sup> Although portraying a discouraging picture of NDHQ effectiveness, the report does not dispute the heavy workload of headquarters personnel. Noting that restructuring that resulted in reduced staff in the 1990s never produced the reduced workload intended by the Management Command and Control Re-Engineering Team (MCCRT).<sup>90</sup> The major re-organization of the mid 1990s was intended to shrink responsibilities commensurately with staff reductions. When workloads in NDHQ did not abate, the headquarters began to grow but without the advantage of a strategic focus.

The Minister’s Advisory Committee specifically calls for “Re-thinking NDHQ”, with attention paid to the need to have a smaller headquarters that is based on strategic functions.<sup>91</sup> These functions include policy, strategic planning and resource allocation. Routine functions like procurement, project management and support functions should be

---

<sup>88</sup>Ibid.

<sup>89</sup>Minister’s Advisory Committee, *Achieving Administrative Efficiency*..., 9.

<sup>90</sup>Ibid., 5.

<sup>91</sup>Ibid., 12.

done outside of this headquarters. Additionally there needs to be a level one review to ensure that they are accountable for the effective delivery of specific functions, and that these functions are not duplicated elsewhere. Logistics is in need of such review, as there exists a spread of responsibilities between the ECs, joint organizations, and corporate-level- enabling organizations without strong central direction.

Another key recommendation of the committee was to adopt a “management philosophy that is based on centralized strategic direction and decentralized execution.”<sup>92</sup> This guidance is in response to observations of an organization where senior management was done by committees that dragged the strategic leadership into routine management, and diffusing accountability to a point that nobody took charge of any issues. Consequently, a strategically focussed headquarters is needed. This headquarters “needs to manage risk rather than avoid it” and must take charge of strategic planning, making it a “top-down”<sup>93</sup> process. The need to adapt such an approach is particularly important for materiel support. The Australian government’s report on defence procurement draws attention to the need for top-down direction as a critical consideration for their logistics reform.<sup>94</sup> The potential for wasted resources and less effective capabilities without clear strategic direction is immense.

---

<sup>92</sup>Ibid.,14.

<sup>93</sup>Ibid.,18.

<sup>94</sup> Australia, Department of The Prime Minister and Cabinet, *Report of Defence Procurement Review*, Canberra 2003 available from [www.defence.au/publications](http://www.defence.au/publications) Internet; accessed 16 March 2006, 6.

Management at the strategic level has become a central theme of CF transformation. The CDS Action Team 1, responsible for command and control, built upon the recommendations of “Administrative Efficiency”, concluding that there is a need for a clear separation of the strategic headquarters from the operational.<sup>95</sup> Transformation has taken this key distinction into account in its creation of an operational support command that is separate from strategic headquarters. The real benefits of this transformation will not be achieved until the corporate side of DND is transformed. This phase of transformation will place a great deal of importance on logisticians within the Strategic Joint Staff, who will be tremendously involved at the long-range planning process. A SJS that maintains a truly strategic view will be able to give clear direction to corporate-level enablers, who with appropriate funding will be able to transform capability.

In principle the architecture of the current system should allow for strategic direction. Within NDHQ, the Director General Strategic Planning reports to the Vice Chief of Defence Staff, and is responsible for the Director of Defence Analysis Director Defence Management and the Director Force Planning and Program Coordination.<sup>96</sup> The organization has been given a mission to provide “objective analysis and sound advice on strategic planning and resource allocations, coordinating the management of the Defence Services Program” as well as performance measurement in the execution of the overall

---

<sup>95</sup>CAT Team 1, *Executive Summary*..., 5.

<sup>96</sup>Department of National Defence, “Director General Strategic Planning” [www.Vcde.Foces.gc/dgsp/pubs/org/dgsp\\_e.asp](http://www.Vcde.Foces.gc/dgsp/pubs/org/dgsp_e.asp) internet accessed 29 Mar 2006.

defence mission.<sup>97</sup> The organization uses a systems approach to strategic planning, which is “the process of connecting strategic ends, ways and means.”<sup>98</sup> Additionally, they consider how organizations create value, “connecting the organization’s outside to the inside” and “creating effective and affordable capabilities.” This directorate occupies itself with Defence Planning and Management, a role which serves as a conduit between defence and government. This is the agency that takes government policies and directives, applies management principles and reports back to government on departmental plans and priorities as departmental performance.<sup>99</sup> The organization has six core processes, which are strategic visioning, capability-based planning, resource prioritization, business planning in year management, and performance management. All of these functions to some degree relate to strategic-level logistics and serve transformational aims for the roles to be included at the national headquarters.

Defence Planning and Management from a truly strategic perspective should place a great deal of importance on the first three functions. Strategic visioning involves an unbiased analysis of future trends to determine what capabilities may be required in the years to come. The Director of Defence Analysis (DDA) has the mandate to examine these trends and their relationship with the Defence Policy Statement. These examinations are conducted over 3 horizons: 1 to 5 years, 5 to 10 years, and 10 to 30 years. The aim of this examination is the generation of a Defence Capability Plan that

---

<sup>97</sup>Department of National Defence, “Defence planning and Management” [www.Vcds.Forces.gc/dgsp/pubs/org/dgsp\\_e.asp](http://www.Vcds.Forces.gc/dgsp/pubs/org/dgsp_e.asp) internet accessed 29 Mar 2006.

<sup>98</sup> Ibid.

<sup>99</sup>Department of National Defence, “Director General Strategic Planning,” [www.vcds.Forces.gc.ca/dgsp/intro\\_e.asp](http://www.vcds.Forces.gc.ca/dgsp/intro_e.asp) internet accessed 16 Mar 2006

will provide a relevant 20-year investment scheme.<sup>100</sup> A potential difficulty for this staff is the range of involvement. It is stretched between defining future capability and managing in year administrative functions. In order to be strategically focussed, details of current year administration should not be allowed to distract from the long range plan.

There will always be a significant temptation to engage in lower level issues because they tend to be more practical and have obvious achievable solutions. The Strategic Joint Staff at the strategic headquarters involvement with logistics must not get mired in day-to-day operations but must tend to the logistics process in broad terms. Kress compares the activities at this level to those made by the board of directors of a corporation. The decisions made at this level relating to investment in research and development, capital projects and physical infrastructure will have a long-range impact on future capabilities.<sup>101</sup> The logistics process at the strategic level must start with the inputs with which it has been provided in terms of national aims and priorities in the policy from government, providing direction for the Forces. Currently the environmental commanders as force generators are called on to provide guidance on future requirements. The proposed staff role of ECs remains contentious as it involves ceding considerable authority to a joint organization. The model proposed by the action team looking at command and control limits the involvement of ECs to strategic roles, such as “requirements, tactics, techniques and procedures, environmental or functional

---

<sup>100</sup>Department of national Defence, “Strategic Visioning”  
[www.vcds.Forces.gc.ca/dgsp/pubs/sv\\_m/cbp\\_e.asp](http://www.vcds.Forces.gc.ca/dgsp/pubs/sv_m/cbp_e.asp) internet accessed 16 Mar 2006

<sup>101</sup> Kress, *Operational Logistics...*, 19.



safety issues and succession planning.”<sup>102</sup> From a logistics perspective, there would be considerable involvement of a senior logistician from each environment to guarantee that training levels and techniques met the requirements demanded by land air or sea operations. This construct is similar to the current one where the Log Branch advisor has a co-advisor from each element at a strategic level. The challenge will be in convincing the ECs to accept a reduced role in force development. For this reason, CDS Action Team 1 recommended that a Chief of Force Development be established at the LGen/VAdm level to guarantee “a top-down force development process within an integrated national command structure.”<sup>103</sup> This recommendation was in keeping with others already made, calling for a transformation of NDHQ, which has up until recently allowed a bottom-up type of management.<sup>104</sup> This point may be a difficult one on which to achieve agreement, yet it is fundamental to the success of transformation.

The national level procurement process is in the unique position of not fully meeting the parameters of a strategic process in that it does not define capability. At the same time, this function as represented by a Level 1, Assistant Deputy Minister (ADM MAT) is integral to the commander’s success. Recommendations made by CAT 1 call for the realignment of CF and DND functions. The creation of the Strategic Joint Staff seeks to create a staff with the unity of purpose necessary to have effectiveness dominate

---

<sup>102</sup>CAT 1, *Executive Summary*..., 8.

<sup>103</sup>Ibid.

<sup>104</sup>Minister’s Advisory Committee, *Achieving Administrative Efficiency*

over efficiency.<sup>105</sup> This general staff will represent the joint sections covering the spectrum of CF activity. The logistics role would be represented by J4, who will be responsible for logistics support policies and concepts as well as materiel management and distribution. This potentially could create an unusual relationship with the materiel organization, which as a corporate activity does not fit into any of the new headquarters as they are currently defined. The third phase of transformation must deal with this process as it is the logistics bridge between the strategy and operations.

### **DEFINING CAPABILITY NEEDS**

Strategic level governance identifies the capabilities needed to meet policy requirements. This function demands a coherent planning process. The capability-based planning process is intended to identify the gaps between current CF capabilities and the missions that the military will likely be called upon to perform. This analysis is achieved through the use of real world scenarios that are subjected to mission analysis, which has been adapted from the operational planning process and then subjected to a war gaming process in the selection of the best course of action to deal with the situation. The results of this are subject to an analysis of task and capability, as to what would be required in this situation. This will result in capability goals that are rolled up to CF-wide capabilities. With a well-thought-out study of what the Canadian Forces must be able to do, an analysis of current capabilities is undertaken with an aim of identifying “gaps and

---

<sup>105</sup>Department of National Defence. CDS Action Team 1 Executive Summary..., 3.

affluences.”<sup>106</sup> Such a function will delineate legitimate tasks for logisticians, and what capabilities will they need to generate.

Using real world situations, Capability Based Planning (CBP) translates strategic vision into actual requirements. The CDS Action Team 3 was given the responsibility of identifying existing and emerging operational capabilities for the Canadian Forces. In doing so they focussed their efforts on the CF Vision of the three-block war as well as using a CBP method for future force development.<sup>107</sup> The team visited American, British and Australian defence communities and discovered that the use of Capability-Based Planning is a consistently used technique to “link government policies to force development priorities through the use of real world scenarios.”<sup>108</sup> This is a logical process yet there are significant obstacles to its success. The expanded use of this process was also a major recommendation of the Australian Defence Force *Procurement Review*.<sup>109</sup> There is optimism with transformation that a capability-based plan will be generated and the government will endorse, accept and fund the requirements contained in it; however this goal has not yet been achieved.

---

<sup>106</sup>Department of National Defence, “Capability Based Planning,” [www.vcds.Forces.gc.ca/dgsp/pubs/dp\\_m/cbp\\_e.asp](http://www.vcds.Forces.gc.ca/dgsp/pubs/dp_m/cbp_e.asp) internet accessed 16 Mar 2006.

<sup>107</sup>Department of National Defence. CDS Action Team 3 *Executive Summary* available from [http://www.cds.Forces.gc.ca/cft-tfc/pubs/cat\\_e.asp](http://www.cds.Forces.gc.ca/cft-tfc/pubs/cat_e.asp) Internet; accessed 30 March 2006.

<sup>108</sup>Ibid.

<sup>109</sup>ADF, *Procurement Review 2003*...,8.

This potential for funds will always spur many contractors towards increasing their bottom line, as is the nature of business. Equally aggressive in their approach are the military environments within the Canadian Forces as they make their best case for new capital funds. The Navy is seeking a replacement for aging destroyers, possibly a platform that will continue in production over several years and serve as a follow-on ship after the patrol frigates have exceeded their useful life. Likewise, the Air Force has long-term aspirations that may involve a fighter replacement once more short-term needs are met. The Army similarly has capital projects that it is seeking to pursue. Much of what is proposed seeks to replace existing equipment that has outlived its usefulness. Although these proposals involve modernized and more capable versions of the systems they are to replace, analyses with respect to their requirements are from the bottom up and tend to be a defence of existing roles. What is important to note is the impact that transformation will have on these organizations.

Human nature in large part is responsible for the “rice-bowl” mentality that exists between three separate services that see each other as competition for capital funds. The recently retired Chief of Maritime Staff, Vice Admiral MacLean, often commented in public venues that his greatest challenge in that capacity was to ensure that he left the job with as many operational ships as he had when he started. Although this speaks to his immense loyalty to the service that he capably led, it does not represent the type of thinking necessary to create real capabilities. These capabilities include “technology and research, concept development, experimentation, and human resources.”<sup>110</sup> Resources

---

<sup>110</sup>Sloan, *The Strategic Investment Capability...*, 20.

have come to be seen as a zero sum game, which means that if someone receives an increase in allocation, someone else had a corresponding reduction in their resources rather than a capability that can be formed out of cooperation. Consequently, long-term capital plans do not have their roots in capability development and not responsive to trends in global security. If transformation is to succeed in developing the capabilities foreseen in the DPS, corporate and environmental bias will need to be set aside with a view to developing integrated armed forces in accordance with actual needs.

## **DEVELOPING CAPABILITY**

In view of aging equipment and emerging new roles Canada needs to articulate clearly what capabilities are required. Dr. Paul Mitchell has argued that Canada must modernize its forces if it they wish to remain relevant to our coalition partner and a valued part of their operations. He also argues that despite budget increases over the past few years new capital acquisitions are not keeping pace with the race against time that renders systems obsolete.<sup>111</sup> This situation becomes a vicious circle; as equipment ages it becomes more expensive to maintain; in turn, more dollars spent on maintenance mean fewer dollars are available for new capital procurement programs. The undesired effect of many short-term measures to economize has resulted in greater long-term costs. This loss of efficiency has caused a strategic capital gap that threatens the future of the CF.<sup>112</sup> This failure not only threatens the ability to deploy today but draws financial resources

---

<sup>111</sup>Mitchell, A Transformation Agenda... 55.

<sup>112</sup> Brian MacDonald, "The Capital and the Future Force Requirement" published in *Canada Without Armed Forces*, edited by Douglas Bland, (Kingston McGill Queens University Press, 2004) 27-28.

away from the necessary investments for transformation. Although the current materiel situation does not give much reason for optimism, a rational approach to improving procurement will serve transformational objectives well. The current system could be a case study in the functional problems of NDHQ. Not only are the lines between strategic and operational functions blurred, it is hard to distinguish strategic and operational responsibilities from logistics.

According to their own Web site, ADM MAT has six major functional areas. These areas include developing and managing the materiel and support for the CF and DND. The organization also develops and implements logistics support plans for operational deployments, sustainment and redeployment of Forces. They contribute to plans and budget management for capital acquisition and national procurement. The control and administration of equipment projects is also a function of ADM MAT. As an organization they represent the design authority for Canadian Forces equipment and systems, providing engineering, maintenance, repair and overhaul. They take charge of disposing of equipment. Finally, ADM MAT is responsible for the oversight of defence materiel relations with outside agencies, both within the Canadian government, other governments, and non-governmental organizations.<sup>113</sup> These tasks span strategic- to tactical-level activities, clearly mesh civilian and military staff, and both line and staff functions, all of which run counter to the transformational aims of command and control reforms.

---

<sup>113</sup>Department of National Defence, "Assistant Deputy Minister Materiel" [www.Forces.gc.ca/admmat/site/index\\_e.asp](http://www.Forces.gc.ca/admmat/site/index_e.asp) Internet; accessed 1 April 2006.

As transformation continues to evolve these roles will need to be realigned; notably the strategic-level effort of determining capability requirements cannot be distracted by operational deployment preparations, or administrative procurement activity. A quick analysis of the organization would lead to a suggestion that strategic and operational functions will be re-allocated to the appropriate headquarters; however significant portions of ADM MAT's roles and responsibilities do not fit in either group. These mismatches are the logistics functions that Eccles places between strategy and operations which provide a bridge to the Canadian economy.<sup>114</sup> The most significant functions in this regard are procurement, disposal, design authority, and support plans. It is in these areas that policy and resources become capabilities, and where theory becomes materiel. The procurement process has been subject to considerable review and scrutiny over the past few years, causing doubts about the ability of NDHQ to deliver procurement.<sup>115</sup> Although not yet singled out for transformation, these functions need to be developed and specialized in roles that deliver capability.

Among the processes studied by the Minister's Advisory Committee on Achieving Administrative Efficiency materiel and support, "from definition of new requirements to the disposal of surplus systems," figured prominently.<sup>116</sup> Their report found that the process is "slow and arduous" and "overburdened with reviews and

---

<sup>114</sup>Eccles, *Logistics in the National...*,10.

<sup>115</sup>Canadian American Strategic Review, *Streamlining Defence Procurement: Can NDHQ Deliver?* <http://www/sfu.ca> Internet; accessed 16 March 2006.

<sup>116</sup>Minister's Advisory Committee, *Achieving Administrative Efficiency...*,28.

duplication of effort.”<sup>117</sup> The committee identified a considerable overlap between the functions of Public Works and Government Services Canada (PWGSC), within 49 procurement-related sub-activities both departments were involved in 80% of the time.<sup>118</sup> This duplication stems from governance that holds the ministers responsible for both departments accountable for procurement. The results is a bureaucratic effort demanding that both departments make a submission to Treasury Board for procurement. Effectively two agencies are trying to perform the same function while getting in each other’s way while doing it. Although efforts are being made to reduce duplication, the committee has primarily recommended that additional contracting authority be given to DND in recognition of the many military-specific requirements and a specialized procurement group be created in DND. Many of the functions currently performed by ADM MAT have been given to the operational level at CANOSCOM. Preparing forces for deployment and establishing support in theatre are operational concerns and are well suited for the operational headquarters. However, administering supply and ammunition depots are purely logistics functions that are well suited for an organization that bridges strategic and operational functions.

There may well be lessons for Canada in the materiel support structures of some of our allies. For example, Australia and the United Kingdom have created top-down integrated logistics organizations. In Australia for example the Defence Materiel Organization (DMO) uses the 10-year Defence Capability Plan to equip and sustain the

---

<sup>117</sup>Ibid.

<sup>118</sup>Ibid., 31.



ADF.<sup>119</sup> This organization handles all materiel support for the ADF, in both procurement and maintenance. It is interesting to note that this agency deals directly with industry and does not have the extra step of the PWGSC interface as required in Canada.

The creation of the Defence Logistics Organization (DLO) in the United Kingdom in 2000 provides another interesting model.<sup>120</sup> What is of interest is that the structure closely matches Eccles's model of a logistics bridge from strategy to operations. The most senior level of the organization is the DLO Board, which provides strategic direction. The "Delivery Layer" is on the front line, providing the combat commander with a single point of responsibility for support. In between is the "Enabling Layer", which includes the Defence Procurement Agency (DPA). Through the use of Integrated Project Teams (IPTs), the agency ensures that acquisition and upgrade projects are carried out efficiently, meeting the needs of the DLO.<sup>121</sup> While these organizations are far from perfect they are a significant improvement over the Canadian system. As in Australia there is no PWGSC equivalent at work in the UK. The role of industry figures prominently in the United States as well, where the use of commercial support is

---

<sup>119</sup>Australia, Australia Defence Forces, "About DMO" [www.defence.gov.au/dmo/about](http://www.defence.gov.au/dmo/about) Internet; accessed 6 April 2006.

<sup>120</sup>UK Ministry of Defence, "Defence Logistics Organization" <http://www.mod.uk/DefenceInternet/MicroSite/DLO/WhatWeDo>; Internet; accessed 9 April 2006.

<sup>121</sup>United Kingdom, Defence Procurement Agency, *DPA Corporate Business Plan 2005*. (London: MOD 2005) available from [http://192.5.30.131/dpa/corporate/about\\_organisation.htm](http://192.5.30.131/dpa/corporate/about_organisation.htm) Internet; accessed 16 March 2006.

considered to be an essential force multiplier.<sup>122</sup> Additionally the judicious use of contractors can also be a means of reducing the logistics footprint.

Private sector involvement in capability-based acquisition has always been a core process in force generation. As the level of sophistication of defence systems grows in order to meet the network-enabled technological demands of transformation so must the relationship with industry. Challenges associated with the acquisition of new capabilities have been at the centre of the Equipment Capability Group, which works with British Industry and the DLO to achieve better outcomes for both.<sup>123</sup> One of the main areas of concern for this group is the need for a “whole life view” of capability procurement that involves “in-service support, incremental capability improvement and disposal.”<sup>124</sup> Bob Barton advocates a Through Life Management Capability that involves industry from the very beginning of the acquisition process. This involves an alignment of the values of business with that of defence.<sup>125</sup> Similar thinking was contained in the ADF *Procurement Review*.<sup>126</sup> Fostering such relationships with industry is a necessary military enabler but not a function that needs to be undertaken by either the operational or strategic level. Future transformation efforts must address the confused link to Canadian industry as well as recognize the creation of capability as a function necessarily distinct

---

<sup>122</sup>United States, *Quadrennial Defense Review*...71.

<sup>123</sup>MGen Dick Applegate and Bob Barton, “The Acquisition of New Military Capability: Moving Forward” published in *RUSI Defence Systems* (London: Royal United Services Institute) Summer 2005 34.

<sup>124</sup>*Ibid.*,34.

<sup>125</sup>Bob Barton “Capability Based Acquisition: Creating the Environment for Change” published in *RUSI Defence Systems* (London: Royal United Services Institute) Summer 2005 51

<sup>126</sup>ADF, *Procurement Review*...,26.

from strategic or operational roles. The most senior levels of the CF must accept that capability development as the link to the economy is necessary for force generation of any type.

## CHAPTER 3 - OUTPUTS

### SUPPORTING THE COMMANDER

Just as in war, there are three interrelated levels of logistics support; tactical, operational and strategic. Kress postulates that the three levels are not disjointed and that there is substantial overlap between the three levels. It would not be useful to anticipate how improved technology and logistics systems will merge them into a seamless entity.<sup>127</sup> More accurately, the process sometimes appears seamless because logistics provides an effective link between the strategy and operations. This merge is recognized in US joint logistics doctrine.<sup>128</sup> All three levels of war depend on logistic capability and must be continually updated with a “single intellectual process—the mind of command.”<sup>129</sup> Eccles stated: “The coordination and control of the logistic effort is a vital factor in the attainment of combat effectiveness.”<sup>130</sup> This is true in any type of operation but an even greater challenge in multinational operations. Milan Vego cautions that

---

<sup>127</sup>Kress, *Operational Logistics...*, 16.

<sup>128</sup>US Joint Chiefs, *Joint Logistics Doctrine...*, I-2.

<sup>129</sup>Eccles, *Logistics in the National Defense...*, 209.

<sup>130</sup>*Ibid.*, 263.

many commanders and their staff often dismiss logistics as being the role of the supply officer, forgetting that it is a major function of command. Eccles argues that at the strategic planning level the military command must have an important role. In current terms, Eccles is referring to the theatre strategic level, which has four major concerns.<sup>131</sup> First, are logistics resources sufficient to generate combat forces and their operations? Second, is the procurement process able to ensure support in a timely manner? Third, is there a process of allocating resources between subordinate commands? Finally, is the distribution system able to achieve optimum mission effectiveness? This responsibility is immense and one that comes under a great deal of scrutiny. While it is understood that the commander must play a major role in determining requirements, his or her ability to manage effectively the nation's treasure will be subject to significant review.

The responsibility for the organization lies with the commander's ability to create an organization that can function both in peacetime and at war. This role involves a careful balancing act of weighing economy in peace against effectiveness in conflict. This realization is essential as times of crisis are not conducive to restructuring and correcting oversights made during peace. If the organization is not ready to deploy immediately in such a crisis there can be no doubt as to where the finger of blame will point, as the commander is always accountable. Of these four considerations, three are functions where the commander must have visibility and be able to influence decisions. Once in theatre, he or she should be given a free hand to use resources in accordance with his interpretation of Operational Art. This decision making process involves allocating

---

<sup>131</sup>Considerations taken from , Chairman Joint Chiefs of Staff *Doctrine for Logistics Support of Joint Operations*, 6 April 2000, I-6.

resources as he or she sees fit. The commander must have confidence in the procurement process. However it is not the role of the war-fighter to become engaged in the interface with the economy. Confidence in this regard is not easily earned and commanders can become uncomfortable if they do not trust the support system. They must have the sense that there is sufficient reach back to the economy to support their mission. Given all the extensive discussion about the role of command within transformation and the importance of capabilities, it is regrettable that little attention has been given to the role of the commander in logistics.

A fundamental part of transformation, in addition to being joint in nature, is the prospect of combined operations, in particular working with other militaries. This development creates a series of new paradigms for the commander. Reluctance on the part of combat commanders to depend on support from another nation is not a new phenomenon nor is it unusual for the commander to have reservations about providing support to another force.<sup>132</sup> There are a number of reasons for this reluctance, ranging from a lack of confidence in the ability of another country, to the sense that one nation is exploiting the largesse of another. In support of combined warfare, Eccles identifies two great challenges. The first involves creating and maintaining support and the second is the achievement of unity of effort and the economy of forces and resources.<sup>133</sup> Achieving “unity of effort is essential to coalition logistics operations,” but it is not a

---

<sup>132</sup>Eccles, *Logistics in the National Defense...*, 255.

<sup>133</sup>*Ibid.*, 253.

simple task, demanding much of the leader who seeks to achieve effect.<sup>134</sup> Arguably these relate to intangible qualities of the leader, such as professional knowledge, judgement and cooperation.<sup>135</sup> This leadership ability is essential to mission success. The nature of joint and combined operations requires an exceptional amount of flexibility, meaning that the design and control of deployed logistics capability must be in the hands of the commander. Milan Vego states that “the commander has sole responsibility for the logistical support of all subordinate Forces”.<sup>136</sup> This applies to the combined and joint force commander, who must take charge of support to his force no matter where they are from. This needs to be clearly established in a simple well-defined structure. Vego asserts that centralized logistics ensures setting proper priorities and ensures the most efficient use of transportation resources. This assertion is followed by a caution that centralized organizations run the risk of becoming too rigid.<sup>137</sup> He makes his point through demonstrating considerable overlap that occurred during the first Gulf War, that resulted in too much materiel being moved into theatre as each environment conducted their own logistics planning.<sup>138</sup>

---

<sup>134</sup>ABCA Armies, *Coalition Operations Handbook*, (Washington, ABCA 2001) 5-1.

<sup>135</sup>Eccles, *Logistics in The National Defense...*, 259.

<sup>136</sup>Milan Vego, *Operational Warfare*, (Naval War College, 2001) 262

<sup>137</sup>*Ibid.*, 263.

<sup>138</sup>*Ibid.*, 264.

Eccles provides a flow of logistics planning that emphasizes the importance of the commander but also identifies the linkages into the process from beyond his command.<sup>139</sup> These steps are quickly and easily related to the Canadian Forecast Operational Planning Process.<sup>140</sup> The first step is that of the commander, who must provide the foundation of the basic concept of the plan: What it is that the commander wants to achieve and how he or she intends to deliver the desired effects. The comparative process in Canadian doctrine is mission analysis. The second stage involves sending the basic plan to the support staff for a determination of logistic requirements. If this were in support of a Canadian mission this stage leads up to the information brief, involving the development of a variety of courses of action and their associated support. Using proper planning techniques and factors, operational modifications are made based on the effects of time space and weather considerations as well as the capabilities of the enemy. In the development of the operational plan, the commander's staff would war game several potential plans against a variety of potential actions by the opposing forces. From this, a summary of critical items is made. This process involves work with organizations outside the traditionally accepted logistics roles and includes inputs from intelligence and meteorology. The third step is also conducted by the logistics planners and is the determination of the availability of the critical items, their procurement and distribution. In Eccles's view these are linked to the evaluation, which is the fourth step and puts the limitations on strategic and tactical plans and makes recommendations. In the Canadian context these would be put to the commander at his decision brief. Finally, the

---

<sup>139</sup>Integrating Strategy Logistics and Tactics, Eccles *Logistics in the National Defence* 81

<sup>140</sup> Canada. National Defence, *Canadian Forces Operations*, (Ottawa, DND 2000) 4-1

commander must make a decision to proceed with his plan, modify it or abandon it and start over. The key consideration is that the commander will make the decision to proceed or not based on his satisfaction with the resources available. The CF Operational Planning Process figures prominently within transformation. Its emphasis on command fits well with a command-centric organization. While the commander must be satisfied with his or her plan, the methods used for delivering combat service support will evolve considerably in the near future and those plans must include logistics. The new roles for the CF will require commanders have a sophisticated understanding of logistics. Transformation will not reach its full potential until complex logistics planning becomes a routine part of all military planning.

Any new logistics structure at the operational level must have requirement forecasting as one of its main roles.<sup>141</sup> Within a theatre, different activities will create pulls on the economy that may have similar effects. For example food and fuel for a joint operation may be delivered via different means but are likely to be coming from the same large suppliers. When dealing with fuel, while a helicopter may use JP5, a ship naval distillate and trucks use diesel, all of these, along with dozens of different lubricants, will likely come from the same refinery. A coordinated estimate of requirement and procurement mechanisms will avoid duplication or triplication of effort, requiring fewer logisticians on the ground. Integrated Logistics at the operational level is essential in this regard. While responsive to needs in theatre, which is essential once deployed, there needs to be a single joint agency capable of national-level procurement to meet this

---

<sup>141</sup> Kress, *Operational Logistics ...*, 130.



requirement. To meet the intent of transformation this function should be joint and should not burden ECs with administration.

## **OPERATIONAL SERVICE DELIVERY**

Operational-level logistics stretch from “the theatre’s sustaining base or bases to the forward combat service support units and facilities organic to major tactical forces.”<sup>142</sup> Logistics determines the operational reach that is critical to the operational commander. The range over which forces can be concentrated and employ effectively is limited by the range and endurance of the force which relies upon lines of supply. Food and fuel are needed to fight. A commander may find that he has reached his culminating point sooner than anticipated if he has moved ahead of supply forces.<sup>143</sup> It would not be reasonable for operational commanders to expect subordinate tactical commanders to fight without adequate resources, but deciding what is adequate becomes part of the Operational Art of the commander.<sup>144</sup> Vego argues that operational logistics must have “a high degree of adequacy, responsiveness, anticipation, integration, flexibility, continuity, simplicity, and protection.”<sup>145</sup> A recent study by the RAND Corporation discusses the impact of US Army transformation on these requirements. There will be a need for greater self-sufficiency and manoeuvrability as support will need to be smaller

---

<sup>142</sup>Vego, *Operational Warfare*..., 260.

<sup>143</sup>Vego, *Operational Warfare*..., 262.

<sup>144</sup>Newell, *The Framework of Operational Warfare*..., 103.

<sup>145</sup>Vego, *Operational Warfare*..., 263.

and move faster.<sup>146</sup> These points address the need to have sufficient quantities of materiel and the agility to respond quickly. Anticipation refers to the need to have given forethought to the resources required over an entire campaign. Logistics must form an integral part of every phase of the operation. There must be sufficient flexibility in operational logistics to allow for changes in plan and lines of supply must be able to adapt to emerging priorities in order to meet the commander's needs. Support must be able to continue to meet requirements throughout and enhance efficiency by remaining simple in its organization. Finally as a critical enabler it must be protected; an enemy may realize that support is a centre of gravity and focus efforts on the support.

Within Canadian doctrine, tactical-level logistics are within the span of control of the tactical commander. For the most part this arrangement represents in-theatre support integral to that force component. While tactical-level support is the responsibility of operational and tactical-level commanders, more senior commanders may change combat service support tasks and priorities to influence the outcome of an operation.<sup>147</sup> Tactical-level logistics will undoubtedly be subjected to a great deal of upheaval and change stemming from many transformational initiatives. As reporting structures and operational command and control evolve over the next few years support at this level will be fine tuned. While this level of support represents the core competency for uniformed logisticians, making technical recommendations for the improvement of tactical logistics

---

<sup>146</sup>Eric Peltz, *Combat Service Support Transformation, summary* (Santa Monica, RAND 2005) <http://www.rand.org/pubs>; Internet; accessed 16 March 2006.

<sup>147</sup>Department of National Defence, *Logistic Support to Canadian Forces Operations*, (Ottawa, ADM MAT, 1998) 1-2.

operations is not the intent of this paper. For that matter few changes are envisaged at this level. Within a ship, the Supply Officer will still be accountable to the Commanding Officer, Quarter Masters to Battalion Commanders and Squadron Logistics Officers to their COs as well. What is more likely to change is the relationship between unit COs and higher headquarters. Consequently, the relationship between fighting unit and shore support facility may evolve, but the command relationship within the unit will remain the same.

Operational-level support, while a military undertaking, may be augmented with civilian resources. This augmentation involves activities to support forces in campaigns within a theatre of operations. This “in-theatre” support extends beyond the organic capabilities brought by each unit and it may involve support from allies and the host nation. Operational-level support is the responsibility of the strategic and operational-level commanders.<sup>148</sup> Operational support for the Canadian Forces will be significantly restructured as a result of CF transformation. As operational command will become integrated within the construct of CEFCOM, CANCOM and SOFCOM operational support must adapt to reflect this reality and effectively support it. This role is currently envisaged for CANOSCOM.<sup>149</sup> It will include roles such as opening and closing theatres and establishing contractor support as well as coordinating sustainment from home.

---

<sup>148</sup>Ibid.

<sup>149</sup>BGen D.J. Benjamin, *CANOSCOM Commander's Guidance*, (CANOSCOMHQ file 3000-1 (Comd) 3 February 2006.).

Finally, strategic-level support is the support provided by the national military and the economy at large; in other words it is the responsibility of the Chief of Defence Staff.<sup>150</sup> In broader terms, the CDS is “responsible for the command and control of the CF and military strategy, plans and requirements”. As the senior military advisor to the government as a whole, he provides advice on military requirements and capabilities as well as options and consequences associated with various courses of action. He is responsible for ensuring that the Canadian Forces can fulfill the obligations undertaken by the government.<sup>151</sup> At this level, the CDS will rely heavily on the Strategic Joint Staff in developing capabilities with input from the environmental commanders pertaining to the tools they need to accomplish the mission. This role will not change as a result of transformation. However, the functions of the strategic headquarters will evolve significantly.

A key component of transformation in all militaries is the increasingly combined nature of operations. Canadian doctrine recognizes the commander of the Combined Joint Task Force as being “responsible for the logistics requirements for all phases of an operation”. In carrying out these duties he has been an appropriate authority to discharge these responsibilities and as such assumes command over common funded logistics resources and operational control of the Multinational Integrated Logistics Units.<sup>152</sup> Existing doctrine is congruous with the aims transformation and fits well with the

---

<sup>150</sup>DND, Logistics Support to the Canadian Forces...1-2.

<sup>151</sup>Canada, National Defence Chief of Defence Staff, *About the CDS – Responsibilities*, (Ottawa 2003) Internet [www.cds.Forces.gc.ca](http://www.cds.Forces.gc.ca) internet accessed 16 Mar 2006.

<sup>152</sup>Canadian Forces College, Combined Joint Staff Officer’s Hand Book.(Toronto: DND) PART III III-6-2/10.

doctrine of allies and coalition partners with whom the CF has successfully operated over the past several years. These relationships are expected to evolve beyond those at which the CF has developed expertise. There will be a need to build a capacity to work with nations who were not traditionally allies as new coalitions are established in response to dynamic socio-political developments.

In addition to the imperative of meeting the demands of combined operations, support must be increasingly joint at the operational level. The new headquarters are inherently joint as they have not been formed along environmental lines.<sup>153</sup> Although this integration may seem to be a radical departure from the methods traditionally used, in many respects Canada's experience with unification and integration since the mid 1960s provided a head start in the field of joint logistics. Not all experiences were good. The training system attempted to generate logistics officers who were what came to be termed as "all-singing, all-dancing." In doing so they tried to create young professionals who could be employed irrespective of environment and without particular specialization within the field. As might be imagined, this aspiration resulted in a "jack of all trades, master of none" who was not particularly effective in operations during their early employment. As time progressed it was realized that an effective Logistics Officer needed to be operationally effective in their environment first and a specialist second. The negative experiences of the past may lead some to misunderstand the difference between jointness as it relates to transformation as we understand it today and their

---

<sup>153</sup>General R.J. Hillier, , *Initial Planning Guidance – Canadian Operational Support Command*, CDS 26 January 2006. <http://barker.cfc.dnd.ca/Admin/CFT/DMCS-32487.pdf>; Internet; accessed 6 April 2006.

previous experience with unification. Gosselin and Stone point out in a recent article some of the fundamental differences between the two periods of substantial change. Unification was a measure aimed at achieving economy and implemented from the strategic level down, while transformation is set in an era of increasing budgets, intended to improve operational focus and initially implemented at the middle level.<sup>154</sup> The success of jointness does not lie in the adoption of uniform procedures and training across the environments, rather it depends on the diversity of experience its membership bring from their employment as soldiers, sailors, airmen and airwomen.

Despite the shortcoming of the early stages of unification, logisticians are often better suited to working in a joint environment than the rest of the Canadian Forces. The logistics branch has had considerable success working jointly at the operational level for many years. These achievements are visible and include the Joint Support Group, Canadian Support Group, the Canadian Forces Movement Control Unit as well as the Canadian Forces School of Administration and Logistics. After initial employment within their environments, logistics officers and tradesmen easily move with ease into units not associated with any one environment. The initiatives included in CF transformation, particularly in command and control, will permit other professional fields to benefit from advantages enjoyed by logisticians.

The relatively late announcement of a transformation-based command for operational support may be explained given that many combat service and support

---

<sup>154</sup> Gosselin and Stone, *Canadian Forces Transformation...*, 12.

functions were already working in a joint manner. Current success notwithstanding, approval of a General Support Formation was given at the Armed Forces Council Meeting of 8 November 2005 with intent to build an organization capable of managing all national-level support.<sup>155</sup> This arrangement does not include support that is unique to one environment but includes general support from the national level to the theatre level as required by the supported operational commander's concept of operations. This organization is intended to occupy itself with more than the narrow scope of materiel, food and movements logistics that readily comes to mind but will also include military engineering, health services, military police, equipment maintenance, personnel support, resource management, CIS support and command and control of the support organization.

CANOSCOM stood up on 1 February 2006 and following direction received from the CDS, the new commander provided his intent that specifies the command's ability to deliver "effective and efficient support to the CF operations be they domestic, continental, or expeditionary."<sup>156</sup> His intent further identifies three main roles for the command. First amongst these is to coordinate the development of an Operational Support organization that meets mission requirements of supported commanders, including theatre activation and opening, operational sustainment throughout the mission, and mission closure at the end of the operation. Secondly the new headquarters will

---

<sup>155</sup> General Hillier, *Chief of the Defence Staff (CDS) Initial Planning Guidance – Canadian Operational (CANOSCOM)* 26 January 2006.

<sup>156</sup> BGen D.J. Benjamin, *CANOSCOM Commander's Guidance*, CANOSCOM file 3000-1 dated 3 February 2006. <http://barker.cfc.dnd.ca/Admin/CFT/DMCS-63497.pdf>; Internet; accessed 16 March 2006.

support operational commanders in planning and preparation for operations; this will include operational support at the national level. Finally it will reach back and coordinate national strategic support.<sup>157</sup> Despite its name, the new support headquarters will be involved in more than just the operational level.

The proposed organizational point of view envisions that CANOSCOM will have a broad span of control. Key to its operational role will be the Operational Support centre, which will address all the support functions of Canadian Forces operations at home or abroad. In addition to the planning role, this headquarters will take charge of the Joint Support Group, including deployable support units. The Joint Signals Regiment and Engineering Support Group, along with their deployable units, will also report to CANOSCOM, as will the Military Police Group. The headquarters will assume OPCON of the Health Support Service Group when deployed as well as a yet-to-be-defined Personnel Support Group. This involves operational-level support. A Materiel Support Group will be established that includes command of supply and ammunition depots as well as OPCON over major workshops, although not operational units the will report to CANOSCOM.

The Commander's Intent for CANOSCOM is to separate op-level support from strategic-level policy planning, which is in keeping with the aims of transformation.<sup>158</sup> This aim has been achieved, yet much of the organization seems to be involved in the

---

<sup>157</sup>Ibid.

<sup>158</sup>Ibid.



non-operational logistics bridge. As in the case of the other operational commands, CANOSCOM will be joint in nature and not specifically responsible to any one environment. This intent corresponds with the transformation vision, which places a heavy emphasis on joint operations as well as focussing on the command team. The efficiencies achieved by operating a single organization for operational support are immense, removing much of the duplication and competition between environments.<sup>159</sup> What remains unclear is the role which the environments will have in stipulating support needs other than at the strategic level.

CANOSCOM seeks to put the operational commander in control of his logistics as demonstrated in their first role, which is to “task tailor” operational support organizations, in order to resolve satisfactorily questions relating to command and reporting issues between the operational and tactical level. Within theatre the construct provided by transformation puts the combatant commander firmly in control as part of a National Command Element and as part of this logistics would be the responsibility of the National Support Element. However, some of the command relationships remain murky. The combatant commander should have command over his or her in-theatre logistics and given the flexibility to use resources as he/she sees best. Within the transformation command and control constructs it may seem more appropriate to have the operational support centre functions of CANOSCOM integrated with CEFCOM, CANCOM and CANSOFCOM. This arrangement would better integrate logistics

---

<sup>159</sup>Ibid., Annex C

planning with the entire Operational Planning Process. Separate operations centres would add to the planning effort required.

Current intent for transformation does not provide adequate clarity with respect to ownership of materiel. Prior to the force arriving in theatre some practical administrative issues are raised. For example when does materiel transfer from being the responsibility of an environmental commander to being the responsibility of CONOSCOM? This is not a problem across the board. For example when the Army deploys, much of their materiel is taken from national inventory and is shipped from Montreal to where they will be operating. Units perform the role of force generator, training their soldiers who will be handed over to the operation commander and will be moved and equipped by a national-level operational support mechanism.

There should be no reason for CLS involvement in the operational level of this process. Conceivably a central logistics agency should be able to provide a consistent level of support for all Army deployments. The deployment of ships is more complex. To begin with, the force generator uses the same equipment (the ship and associated spares) as will be used when the unit deploys to theatre. While support to ships seems simple enough, as they carry most of their spares, proprietorship of those spares during an operation can become a source of friction between the tactical and operational levels. CMS has substantial resources invested in the maintenance and sustainment of ships. While much support flows from national procurement, which is clearly a centralized function, most support is provided by the Fleet Maintenance Facilities and Formation

Logistics Organizations on each coast. These organizations are linked into environmental commands and bureaucracy, which provide support at the same level as the operational headquarters. Similar organizations exist within the Air Force where maintenance squadrons and Base Supply organizations report through an environmental command structure. Each environment has a broad array of support components within it. All conduct logistics planning, all have command comptrollers with their own finance regulations, each has a command surgeon, command chaplain and so on. Many of these functions overlap and many involve blending tactical and operational roles within the strategic headquarters. This creates the possibility for a duplication of effort between the operational headquarters, CANOSCOM, and the environment both at home and even more so while deployed. If a single logistics organization were to be established, Environmental Commanders could be relieved of many management functions involved in third-line maintenance. This would allow for a greater emphasis to be placed on operations in accordance with transformation intent.

### **MEETING FUTURE OPERATIONAL NEEDS**

As tasks and roles of the CF continue to evolve, different support techniques and infrastructure will be required. Combat Commanders will be called on for a variety of new roles that will require increasingly complex support. A return to Eccles's six themes is required for analysis of logistics when considering the impact of transformation. His first point, "that modern war covers the entire spectrum of human conflict", is particularly timely and seems to fit well with the much touted "three block

war”.<sup>160</sup> This forms a significant portion of the vision for Canadian Forces operations as the Canadian government seeks to become more relevant internationally. Activities in failed and failing states lend themselves to all levels of activities. Deployments into such scenes require a robust and joint deployment of the Canadian Forces drawing on the strengths of air, land and sea elements. These operations will be inherently joint in nature and will draw on the best practices and experience of each group. Domestically the establishment of Canada Command to deal with problems at home recognizes the necessity of a flexible joint response to a continental crisis. Likewise the special forces community is designed to meet any type of special requirement. Perhaps the greatest impetus behind transformation was the recognition that the Canadian Forces could no longer maintain an antiquated view of the world, as was the case during the Cold War. The vision for how operations are to work post transformation certainly satisfies Eccles’s first criteria. A logical extension of that would be to carry that vision over into support for those operations. This would provide a synergy between environments for support, achieving greater effect. The intent for CANOSCOM is to meet these requirements yet much remains undefined. As the materiel support develops it must embrace all areas of operational support, including those currently being done by the environments. A national defence materiel support organization must be given a free hand with all materiel in order to be fully responsive to all types of demands. Used appropriately, the capability-based planning process will develop a force that has built capabilities around potential threats. Transformational efforts at the strategic level represent a significant improvement in ensuring that the Canadian Forces are capable of meeting a full spectrum

---

<sup>160</sup> The following six points are taken from Eccles, *Logistics in the National Defence ...*, 10.

of threats. These efforts will be in vain if not supported by a defence capability plan and sufficient resource allocation.

The second point of examination is that strategy to involves a complete plan involving all options to control a field of action to achieve objectives. If transformation is to succeed, force generators must be responsive to force employers, likewise materiel support must be responsive as well. Although procurement is considered a corporate activity its functioning must engender confidence within the combat commander that the organization is able to deliver support in accordance with operational capability requirements. The third phase of transformation must include a joint procurement agency that is responsive to operational demands.

The bridge between the national economy and combat forces is also the link between operations and strategy. The third point for analysis leads to an identification that transformation has yet to provide a re-engineering of the corporate headquarters. While this will likely take place during the third phase of transformation the present roles of ADM MAT do not fit the transformation agenda. Representing the end user of materiel, the operational headquarters can set priorities and allocate resources where most needed with theatre; these operational roles relate to the DEPLOY function of logistics. At the other end of the logistics spectrum the strategic headquarters will DEFINE capabilities, ensuring that appropriate equipment requirements are identified in the Strategic Capability Investment Plan and supported by funding in accordance with the Defence Capability Plan. What is unclear is the DEVELOPMENT stage that procures in a

timely fashion, and guarantees spares are obtained in quantities that will constantly evolve as deployments continually change and update.

Eccles's fourth point deals with the need for supply discipline in order to prevent the "snowball effect", which is the unbridled growth of logistics installations and operations beyond the true need of combat support. Minimizing the logistics footprint is a major concern of US joint doctrine, which seems like an intuitive statement yet it is a point that is often lost.<sup>161</sup> Eccles speaks of the need to control demands. There is a tendency on the part of many commanders to create as much redundancy as possible in order to ensure that their mission is a success. The problem with this overcompensation is that it is sometimes be done at the expense of other operations around the world or even within the same theatre. Recognizing that resources will always have some degree of limitations placed upon them, the commander must have confidence that his/her needs will be met but at the same time he/she must understands that theatre-wide prioritization and allocation may not give him/her all that he wants. Done correctly, a single operational support headquarters has the potential to deliver an appropriately sized support organization with minimal duplication. Joint support at the operational level could be improved to deliver much more integrated and streamlined support. The snowball could be reduced through the creation of one truly joint logistics organization that has close ties to the operational command.

---

<sup>161</sup> United States, Department of Defense, *Doctrine for Logistics Support of Joint Operations*, (Washington, DOD, 2000) II-5.

The fifth point made by Eccles is that military command must have adequate control over its logistics; the sixth is a complimentary consideration that looks at the degree of logistical control and command and control necessary for combat effectiveness. It is evident that the future of the CF will be joint; it is a relatively small force that cannot afford a myriad of headquarters. Add to this consideration the intent for an integrated force, the push towards a single logistics organization is substantial. Critics of transformation often end up in the debate of area versus function, or centralized versus decentralized. Traditionalists will argue that the combatant commander can best be served by a logistics organization specific to their function, as opposed to a joint organization that is responsive to the needs of a theatre that includes the activities of more than one element. These are the same arguments made by those resisting joint command and control in operations, and their continued existence reflects an unwillingness to change in more conservative commanders. The organization must be representative of all land, sea and air logistics. Operational logistics must be able to ensure that military command has adequate control over logistics that is responsive to missions anytime, anywhere. That command will be to a large degree, joint and often combined. Support to this command must reflect these concepts.

## CONCLUSION

International trends in military operations have been consistently moving towards greater integration for more than a decade. This move towards increased joint operations is a sensible, if not an inevitable, development. These patterns along with new technology necessitate the modernization of the Canadian Forces has resulted in the imperative for the transformation. This direction flows from new national policy that recognizes the need to update the concepts of operations from what they have traditionally been known to be. Although the formulation of a formal defence policy is a relatively new development, its recommendations for transformation are based on recommendations that pre-date the current Chief of Defence Staff. Transformation thus far has resulted in a focus on command-centric operational headquarters that will engage on Canada's behalf to meet new international challenges. The other major development is in the creation of a Strategic Joint Staff with the understanding that these new headquarters will separate strategic from operational activities.

The Strategic Commander must be empowered to run the organization and in doing so strategic planning must be a top-down approach. This change is a significant departure from the ineffective bottom-up approach that had been in place. Along with the Strategic Joint Staff the CDS will provide a vision for the Canadian Forces and broad strategic direction. It is at this level that the J4 Logistics must be prepared to contribute to the definition of new requirements. He or she must either assume the responsibility of Log Branch Advisor, or have the incumbent of that position under his control. The



environmental commanders who will make up part of this organization must remain sensitive to logistics issues pertinent to their element. They must remove themselves and their organizations from the day-to-day running of support organizations. Capability-Based Planning will be used to determine accurately the requirements in accordance with stated policy that must be funded appropriately by the government. Provided with continued government support, these changes are sustainable. Senior leadership must effectively deal with potential resistance from ECs who may not wish to give up control of support organizations under their command. A focus on the greater good is necessary to achieve transformation. Politicians and the general public should not be expected to care about parochial loyalties to a particular service; their concern is service to Canada.

The Operational Commander's role in logistics should be made clear. Once deployed the commander must have complete confidence in the support provided and must retain the right to make decisions with respect to the allocation and prioritization of materiel demands. This requirement complies with the accepted notion that the operational commander must not only have command of logistics but a significant role in logistics planning. The subtleties between force generator and force employer need to be better resolved. Among the aims of transformation was the intent to move the ECs to the strategic and let the operational commanders run operations. Until Canada Command becomes the force generator as well as the employer, as was recommended by the advisory team, this aim is jeopardized. Likewise support must also come under the command of the operational commander. In order to better reflect transformation, the employment of operational logistics units need to be assumed by the operational

commander. This structure would migrate many of the operational support functions from CANOSCOM to CEFCOM, and CANCOM.

Neither the operational commander nor the strategic commander should be drawn into the corporate activity of procurement, disposal and third-line maintenance. Rather than trying to force a fit into the structures resulting from the second phase of transformation, the third phase must address enabling activities. Such an organization must recognize the breakdown in the relationship between PWGSC and ADM MAT and create a single procurement agency. This joint agency must be responsive to the needs of the operational commands while taking guidance from the strategic headquarters. This procurement organization should be grouped with the ADM MAT functions that will not migrate to either the strategic or operational-level headquarters. Such operating agencies are effective in the UK and Australia and are capable of managing materiel support.

In order to achieve the aims of transformation the scope of what had been envisaged as CANOSCOM must be broadened to include all national-level materiel support, with its operational roles being given to the operational commands. With clear direction to leverage the capabilities of the private sector, this organization must become the vital bridge between operations and strategy.

## BIBLIOGRAPHY

- Applegate, Dick and Bob Barton. "The Acquisition of New Military Capability: Moving Forward" *RUSI Defence Systems*. The Royal United Services Institute Vol 8 no. 1 (Summer 2005) 34-36
- Australia. Australia Defence Forces. "About DMO." <http://www.defence.gov.au/dmo/about>; Internet; accessed 6 April 2006.
- Australia. Department of the Prime Minister and Cabinet, *Report of the Defence Procurement Review*. Canberra 2003 available from Internet: accessed 16 March 2006
- Australia. Department of Defence, *Defence Capability Plan 2004-2014*, Canberra, Department of Defence 2004. available from [www.defence.gov.au/publications](http://www.defence.gov.au/publications) Internet; accessed 8 April 2006
- Baron, Bob. "Capability Based Acquisition: Creating the Environment for Change" *RUSI Defence Systems*. The Royal United Services Institute Vol 8 no. 1 (Summer 2005) 51-53.
- Benjamin BGen D.J. *CANOSCOM Commander's Guidance*. CANOSCOMHQ file 3000-1 dated 3 February 2006. <http://barker.cfc.dnd.ca/Admin/CFT/DMCS-63497.pdf>; Internet; accessed 16 March 2006.
- Bitzinger, Richard A. "Come the Revolution" published in *Naval War College Review*, Autumn 2005. Vol. 58 Iss 4 pg 39 available from <http://proquest.umi.com> Internet: accessed 8 April 2006
- Bland, Douglas, *Chiefs of Defence: Government and the Unified Command of the Armed Forces*, Toronto: Canadian Institute of Strategic Studies, 1995.
- Bland, Douglas. "Everything Military Officers Need to Know About Defence Policy Making in Canada" In *Advance or Retreat? Canadian Defence in The 21<sup>st</sup> Century*, edited by David Rudd, Jim Hanson and Jessica Blitt, 77-88. Toronto: Canadian Institute of Strategic Studies, 2000.
- Canada. Department of National Defence. "About the CDS" [www.cds.Forces.gc.ca](http://www.cds.Forces.gc.ca); Internet; accessed 16 March 2006.
- Canada. Department of National Defence. *Achieving Administrative Efficiency: Report to the Minister of National Defence by the Advisory Committee on Administrative Efficiency*. Ottawa: DND, 2003.

- Canada. Department of National Defence, *A Role of Pride and Influence in the World-DEFENCE*. Ottawa: ADM(PA) 2005.
- Canada. National Defence. *Canadian Forces Operations*, Ottawa: Chief of Defence Staff, 2000.
- Canada. Department of National Defence. *CDS Action Team 1 (Command and Control) Report 29 June*. Ottawa DND. 2005.
- Canada. Department of National Defence. CDS Action Team 2 Executive Summary available from [http://www.cds.Forces.gc.ca/cft-tfc/pubs/cat\\_e.asp](http://www.cds.Forces.gc.ca/cft-tfc/pubs/cat_e.asp); Internet; Accessed 30 March 2006.
- Canada. Department of National Defence. CDS Action Team 3 Executive Summary available from [http://www.cds.Forces.gc.ca/cft-tfc/pubs/cat\\_e.asp](http://www.cds.Forces.gc.ca/cft-tfc/pubs/cat_e.asp); Internet; Accessed 30 March 2006.
- Canada. Department of National Defence. "Assistant Deputy Minister Materiel." [www.vcds.Forces.gc.ca/dgsp/pubs/dp\\_m/cbp\\_e.asp](http://www.vcds.Forces.gc.ca/dgsp/pubs/dp_m/cbp_e.asp) Internet; accessed 1 April 2006
- Canada. Department of National Defence. "Capability Based Planning." [www.vcds.Forces.gc.ca/dgsp/pubs/dp\\_m/cbp\\_e.asp](http://www.vcds.Forces.gc.ca/dgsp/pubs/dp_m/cbp_e.asp) Internet; accessed 16 March 2006.
- Canada. Department of National Defence. "Defence Planning and Management." [www.vcds.Forces.gc.ca/dgsp/pubs/dp\\_m/cbp\\_e.asp](http://www.vcds.Forces.gc.ca/dgsp/pubs/dp_m/cbp_e.asp) Internet; accessed 16 March 2006.
- Canada. Department of National Defence. "Strategic Visioning." [www.vcds.Forces.gc.ca/dgsp/pubs/dp\\_m/cbp\\_e.asp](http://www.vcds.Forces.gc.ca/dgsp/pubs/dp_m/cbp_e.asp) Internet; accessed 16 March 2006.
- Canada. Department of National Defence. *Logistics Support to Canadian Forces Operations*, Ottawa: ADM MAT 1998.
- Canada. Privy Council Office. *Securing an Open Society: Canada's National Security Policy*. Ottawa; PCO, 2004.
- Canadian American Strategic Review. *Streamlining Defence Procurement: Can NDHQ Deliver*. Vancouver: Simon Fraser University, 2004 available from <http://www.sfu.ca> Internet; accessed 16 March 2006.
- Eccles, Henry E. *Logistics in the National Defence*. Harrisburg: The Stackpole Company, 1959.

- Garnett, VAdm G.L. "The Evolution of The Canadian Approach to Joint and Combined Operations at the Strategic and Operational Level" *Canadian Military Journal* 3 no. 4 (Winter 2003) Journal on-line; available from [http://www.journal.dnd.ca/engraph/vol3/no4/pdf/3-8\\_e.pdf](http://www.journal.dnd.ca/engraph/vol3/no4/pdf/3-8_e.pdf); Internet; accessed 20 March 2006.
- Gosselin, BGen Daniel and Craig Stone. "From minister Hellyer to General Hillier" Understanding The Fundamental Difference Between The Unification of the Armed Forces and Its Present Transformation." *Canadian Military Journal* Vol. 6 no. 4 (Winter 2005/06): 5-15.
- Hillier, Gen Rick. *CDS Planning Guidance – CF Transformation*. NDHQ File 1950-9 (CT) 18 October 20005.
- Hillier, Gen. Rick. *Initial Planning Guidance –Canadian Operational Support Command*, <http://barker.cfc.dnd.ca/Admin/CFT/DMCS-32487.pdf>; Internet; accessed 6 April 2006. [http://barker.cfc.dnd.ca/Admin/CFT/cdspgcf\\_e.pdf](http://barker.cfc.dnd.ca/Admin/CFT/cdspgcf_e.pdf); Internet; accessed 16 March 2006,
- Hobson, Sharon. "Canada Makes Further Defence Cuts" in *Janes Defence Weekly* vol 21 no. 9 (5 March 1994) Journal on-line; available from <http://www8.janes.com> Internet; accessed 16 March 2006.
- Jomini, Baron Antoine Henri, *The Art of War*, first published 1838 as *Precis de L'Art de Guerre*, the edition used in this paper was published, London: Greenhill, 1996.
- Kane, Thomas M. *Military Logistics and Strategic Performance*. Portland: Frank Cass Publishers, 2001.
- Kress, Moshe. *Operational Logistics: The Art and Science of Sustaining Military Operations*. Dordrecht:, Kluwer Academic Publishers, 2002.
- MacDonald, Brian. "The Capital and Future Force Crisis" In *Canada Without Armed Forces*, edited by Douglas Bland, 55-82. Montreal & Kingston: McGill-Queen's University Press, 2004,
- Mitchell, Paul. "A Transformation Agenda for The Canadian Forces: Full Spectrum Influence." *Canadian Military Journal* 4, no. 4 (Winter 2005) Journal on-line; available from [http://www.journal.forces.ca/vol4/no4/transformation\\_e.asp](http://www.journal.forces.ca/vol4/no4/transformation_e.asp); Internet; accessed 16 March 2006.
- Newell, Clayton R. *The Framework of Operational Warfare*, London: Routledge, 1991.
- North Atlantic Treaty Organization, *NATO Handbook*, Brussels, NATO Office Of Information, 2001.

- Peltz, Eric. *Combat Service Support Transformation* RAND Corporation, available online; [http://www.rand.org/pubs/documented\\_briefings/2005/DB425.sum.pdf](http://www.rand.org/pubs/documented_briefings/2005/DB425.sum.pdf); Internet; accessed 16 March 2006.
- Sloan, Elinor. *The Strategic Investment Capability Plan: Origins, Evolution and Future Prospects*, Report prepared for the Canadian Defence and Foreign Affairs Institute. Calgary: Defence and Foreign Affairs Institute.2006.
- Tuttle, William G.T. *Defence Logistics for the 21<sup>st</sup> Century*: Annapolis, Naval Institute Press, 2005.
- United Kingdom, Defence Procurement Agency, *DPA Corporate Business Plan 2005*, London: MOD available from <http://192.5.30.131/dpa/corporate> Internet; accessed 20 March 2006.
- United Kingdom “Defence Logistics Organization”  
<http://www.mod.uk/DefenceInternet/MicroSite/DLO/WhatWeDo>; Internet; accessed 9 April 2006.
- United Kingdom. Defence Procurement Agency. *DPA Corporate Business Plan 2005*. available from [http://192.5.30.131/dpa/corporate/about\\_organisation.htm](http://192.5.30.131/dpa/corporate/about_organisation.htm); Internet; accessed 16 March 2006.
- United Kingdom, Ministry of Defence, *Departmental Plan 2005-2009*, London MOD, available from [www.desg.mod.uk](http://www.desg.mod.uk) Internet; accessed 6 April 2006.
- United Kingdom, Secretary of State for Defence, *Future Capabilities: Government’s Response to the House of Commons Defence Committee’s Fourth Report of the Session 2004-05*, London: MOD 2005 available from [www.desg.mod.uk](http://www.desg.mod.uk) Internet; accessed 6 April 2006.
- United States. Department of Defense. *Doctrine for Logistics Support of Joint Forces*. Washington, DC 2000. available from <http://www.stinet.dtic.mil>; Internet; accessed 20 March 2006.
- United States. Department of Defense, *Joint Doctrine for Logistics Support of Multinational Operations*. Washington 2002 available from <http://www.stinet.dtic.mil>; Internet; accessed 20 March 2006.
- United States, Department of Defense, *Quadrennial Defense Review Report February 6, 2006*. Washington: Secretary of Defense, 2006. available from <http://www.stinet.dtic.mil>; Internet; accessed 20 March 2006.
- Vego, Milan. *Operational Warfare*, Naval War College 2001

