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CANADA'S STRATEGIC DILEMMA: CHANGING WORLD CONDITIONS AND THE NEED FOR ORGANIZATIONAL REFORM OF DEFENCE

Lieutenant-Commander Paul Blumenstock

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CANADA'S STRATEGIC DILEMMA: CHANGING WORLD CONDITIONS AND THE NEED FOR ORGANIZATIONAL REFORM OF DEFENCE

by

LCdr Paul Blumenstock

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ABSTRACT:

CANADA'S STRATEGIC DILEMMA: CHANGING WORLD CONDITIONS AND THE NEED FOR ORGANIZATIONAL REFORM OF DEFENCE

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Canada has a unique defence structure that was initially adopted in hopes of achieving efficiencies in the face of rising costs. The organizational design, however, was conceptually flawed and the implementation was distorted by tensions between the civilian and military leaders. In practice it is inherently inefficient and increasingly inappropriate to the management of complex technologies.

With global changes now simultaneously raising the costs of defence while reducing the funding available, nations everywhere are struggling to retain capacity. The common solution has been to consolidate forces and entering into cooperative arrangements with allied countries to a degree never before considered. Conditions unique to Canada, however, both make the pressure more acute and limit the options available to address it. Canada can therefore no longer afford to sustain its current defence structure and must consider fundamental organizational reform if it is to retain a credible, independent military.

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INTRODUCTION

The most significant events in the history of Canadian military forces are arguably not any of the great battles or wars, but rather the unification of the three services in 1964 and the subsequent decision to integrate the Canadian Forces Headquarters with the Ministry of National Defence in 1972. Each of these initiatives was led by civilian political leaders driven by a desire to apply Business Principals to the management of defence, most particularly the principle of Economy of Scale. In so doing, however, these same leaders disregarded the much lesser known but equally critical principal of Economy of Scope. This failure has had long lasting impact on the efficiency and effectiveness of the Canadian Forces and is now critically impeding efforts to address shrinking defence budgets and the rising complexity of war.

The Department of Defence and the Canadian Forces, sometimes referred to as DND/CF, now find themselves caught in the relentless squeeze of three counter posing forces:

- The changing world structure, including rapidly evolving technology and the related phenomenon of globalization;
- The unique characteristics of the Canada, including relative geographic isolation, stresses related to internal divisions and Canada's relationship with the United States of America; and
- The inefficiencies stemming from an inappropriate military organizational structure.

The first of these forces, the changing world structure, lies beyond the ability of Canada to counter – it can only attempt to react appropriately in order to maintain its global position. The second force, Canada's geographic position and relationship to the United States, is equally beyond political resolution, but more importantly also acts to constrain the options available to the Canada in responding to the global changes. It is the third force, Canada's

defence structure, which offers the only significant opportunity to address the current steady decline in capability.

The first part of this paper will examine the evolving global situation and its impact on military forces, including a brief consideration of how other nations are reacting. The second part will review Canada's geopolitical situation and demonstrate how it constrains the options available to DND/CF. The third part will review the decisions and goals that led to the current defence structure, examine the business principals behind these decisions and introduce other principals that ought to have been considered. The fourth part will examine the alternatives available to DND/CF and the final part will conclude by suggesting that Canada now has little option but to once again attempt defence restructuring.

PART 1 – ECONOMIES OF SCALE AND SCOPE

In order to fully understand the inappropriateness of the Canadian Defence Structure, it is necessary to examine the experience of the private sector. The rise of complexity stemming from the technical revolution has had equally profound effects on private sector but, lacking the financial protection of government to shield them, business managers have reacted much faster than their military counterparts. In fact, it is the organizational improvements business has achieved that have made possible the sophisticated technology of today. By comparison, for the military sector, with regard to organizational change, time has stood still. Militaries globally are still organized on a rigid hierarchal system developed in the 17th century and little changed since then.

Private sector organization science evolved over time, responding first to the industrial revolution, changing further still with the technical and computer revolutions that followed. The underlying principles of these changes were the pursuit of economies of scale and scope. In order to understand why these principles are fundamental to an organization's ability to manage complex technologies, it is necessary to review how the modern economy evolved.

The technical revolution originates in the industrial revolution that coincided with the development of standing armies and professional officer training. The standardization of uniforms and weapons was enabled by the industrial revolution and the issuing conflicts provided the stimulus that drove it forward. Its technical progress, however, was enabled by the advances in management science and organizational theory brought on by the relentless force of competition.

Economy of Scale

The industrial revolution was initially driven by the principle of economies of scale. It became apparent that the cost of producing an individual item became lower based upon the

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total number produced. This was due to the allocation of input costs. There are two types of input costs – fixed and variable. Variable costs correspond to the raw materials and labour involving in manufacturing the product – the amount required increases proportionate to the number produced. Fixed costs are those related to the infrastructure needed to produce such as the factory building itself, tools and equipment. The cost of such fixed resources are spread across all the manufactured output, thus the more produced, the lower the individual costs. Raw material costs offer limited opportunity for economies of scale, although some savings can be obtained through buying raw materials in bulk sizes. Labour costs, however, are greatly affected by large-scale production in that it permits the introduction of assembly lines and in consequence the reduction of training costs due to the simplification of the skills required by each individual labourer.

Led by the example of Henry Ford, companies in the first half of the 20th century aggressively pursued increased sales in an effort to benefit from economies of scale. The result transformed world economies, eroding the small 'cottage' industries that had previously prevailed and leading to progressively bigger conglomerates. The continued search for bigger markets led to pressure for international trade. Many nations responded by imposing tariffs aimed at limiting the competitive pressure of foreign producers on domestic industry. This often had a perverse effect – in order to avoid the tariff barrier, foreign companies simply acquired local subsidiaries and resumed their relentless growth.

Economy of Scope

The benefits of economies of scale initially accrued to the corporate owners and up until the middle of the 18th century wages of labourers remained low. In the latter half of the 18th century, labourers began to form unions in order to both improve working conditions and extract a greater share in the profits of production.[1] While unionization was resisted, often brutally, unions succeeding in extracting higher wages and a consequent increase in

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[1] Reuther, Walter P. "The Rise of Craft Unions." in *Microsoft Encarta Deluxe Encyclopaedia,2001 ed.*

disposable income for a large segment of the population. This in turn fuelled consumer demand for a variety of choice in products, including styles, colours and functionality. Attempts by producers to meet these demands worked precisely contrary to economies of scale. Goods had to be produced in wider variety, leading to smaller batch sizes. Efforts to appeal to different market segments led to ever more complex distribution systems.

In consequence, business leaders began to recognize that a second principal, economy of scope, was every bit as important as economies of scale. It is difficult to maintain competitive advantage in more than a few skill areas. The more extensive the variety and skills involved, the more administrative effort is needed to coordinate them. Economies of scope exist only where the same infrastructure can produce multiple outputs cheaper in combination than they can be produced separately.[2] Economies of scope exist in manufacturing where the processes used are common and/or some of the outputs are unavoidable by-products. A classic example is gasoline and fuel oil, which are produced by the distillation and separation of petroleum. It is impossible to produce one without the other. Economies of scope are also commonly found in marketing and distribution. The skills and infrastructure necessary to market personal products such as hair care and dental products are for the most part identical. Companies such Colgate-Palmolive and Procter & Gamble capitalize upon this by focusing their efforts on these product groups.

Economies of scope are much more limited in the service sector, where individualized requirements dramatically impact how a service is provided. It is difficult for a single organization to be effective in the form of economies of scale while at the same time trying to offer diverse service forms. A classic example of this is provided by the experience of the Loewen Group, an American Corporation that rose to prominence by acquiring a very large number of funeral homes throughout North America, a classic exploitation of economy of scale. In search of further growth, Loewen Group attempted to extend its product line by

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[2] Goldhar, Joel D. and Jelinek, Mariann. "Plan for Economies of Scope." *Harvard Business Review,* November-December 1983: 146.

purchasing cemeteries, only to discover that the skills and economics of cemetery operation were significantly different than those of the funeral home business. The failure to consider economy of scope led to the collapse of the company as it became embroiled in litigation in the late 1990s.[3]

Economy of scope had the most profound impact on producers of complex goods such as ships, airplanes and automobiles. Such items require a wide diversity of components and manufacturers initially attempted to retain all capabilities 'in house'. If a company lacked a capability, it either invested in the research to develop it or acquired another company that already possessed it.[4] Adding capabilities in this manner not only took time, it also added to the range of capabilities that had to be managed by the company. Western companies recognized the impact was one of economy of scope addressed it by forming specialized subsidiaries to focus on individual components.

In the 1960s the competitive pressure was once again increased by the entry of Japanese producers into the Western market. The Japanese were able to manufacture products of very high quality at costs much lower than Western firms. Moreover, they were able to bring new products to market with alarming speed. The difference was not simply lower labour compensation costs, but rather an advanced application of the principle of economy of scope. Japanese producers were simply assembly specialists, relying on networks of specialized firms supplying components called 'Keiritsu'. The assignment of component production to completely separate companies allowed the top management of each to focus on doing one thing extremely well. In order to make it work, the Japanese had optimized the links and exchanges between the Keiritsu members, without troubling themselves about an individual

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[3] Gilson, Stuart C. *Creating Value Through Corporate Restructuring: Case Studies in Bankruptcies, Buyouts, and Breakups.* New York: John Wiley & Sons, 2001: 25.

[4] Harbinson, John R. & Pekar, Peter Jr. *Smart Alliances: A Practical Guide to Acceptable Success.* San Francisco: Jossey-Bass Publishers, 1998, xxi.

firms internal organization and administration.[5] Other Asian companies copied the Japanese

model, such that more than 60% of companies in China, Japan and Korea are in fact joint

ventures.[6]

Western firms were initially slow to respond to the threat, but soon adopted similar measures

resulting in the wave of 'out-sourcing' that characterised the corporate world of the late 20th

century.   Alliances have now become the norm for successful companies aimed at

delivering complex products or services.   More than 20,000 alliances were formed

worldwide in last two years; 33% are US, 33% are Asian, 18% are European.[7] The result

has enabled the technical revolution that is now upon us. Major product manufacturers focus

on overall system performance, relying on component providers to continually improve in

their respective area of specialization. Product improvements are now brought forward with

regularity.

Organizational Development

The ability of modern businesses to survive in such a complex and rapidly involving climate

involves not only the application of simple principles but also the evolution of responsive

organizational structures. In the initial stages of the technical revolution, business and

government organization and had been patterned after the hierarchical model established by

successful militaries, which after all pioneered the organization and coordination of large

groups. Ironically, organizational experts now regard the military model as the least

effective organization:

> "Why pay so much attention to the problems of Pentagon organization? The
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> military, sometimes more tragically than other parts of government, illustrates the

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[5] Moerke, Andreas. *Does Governance Matter?   Performance and Corporate Governance Structures of Japanese Keiretsu Groups.* Discussion Paper, Social Science Research Centre Berlin, 1977.

[6] Harbinson, … 99.

[7] *Ibid,* 25.

logical outcome of overgrown bureaucracy. It provides corporate executives with lessons, at times outline in bold relief, of how *not* to organize."[8]

Nevertheless, the military model served the private sector well until the shock of Japanese competition forced Western business leaders to look inward for an explanation of their inability to compete. It soon became apparent that there is no magic organizational solution, that the wide variety of business environments requires an equally wide variety of organizational patterns, all of which must be adjusted to accommodate the culture and manners of the managers and employees. As discussed, the most basic lesson was the need to manage complexity by specialization. This is not always possible, however, and the experiences of companies that have been forced to organize around a diversified product offering are the ones that are instructive for military organization.

It is not the intent of this paper to expand upon all the organizational lessons that might be applied to militaries, but rather to highlight those that are in conflict with the present organizational structure of Canadian Defence in particular and with military hierarchical structures in general. The following principals for organizations managing complexity at worth considering in the discussion which follows of how global changes are impacting militaries in general and why the Canadian defence structure is particularly vulnerable:

- In order to maintain economy of scope in a diversified organization, "it should be organized around a small strategic apex at "headquarters" supported by small staff units that oversee largely autonomous divisions linked primarily by standardization of outputs".9 In simple terms, it is the centralized management cannot effectively manage a complex variety of skills and should not try. Detailed management should be left to delegated units and top management should focus on the links to other parts of the organization.

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[8] Tomasko, … 12.

[9] Mintzberg, … 112.

- Organizations with highly regulated internal processes provide the benefit of ensuring reliable and consistent products, but when subject to external control tend to obsession with control leading "to human problems in operational core, coordination problems in administrative center, adaptation problems at strategic apex".[10] Militaries, being subject to government control, epitomize this problem. Since external control is unavoidable, deliberate effort is needed to minimize the tendency to regulation.

- Organization along functional lines prevents effective cooperation. Each branch tends to harden into rigid silos and it becomes difficult to eliminate the problem. When Lee Iacocca took over the bankrupt Chrysler Corporation he found precisely this problem. Iacocca "had to fire 33 of 35 VPs to eliminate 35 little duchies [and] bring some cohesion and unity to the company".11 Military forces, by contrast, have clung to the functional structure and it is incorporated into the numbered staff doctrine.

- The consequence of too many layers:
  When managers pass orders on to their subordinates they usually accompany them with *their* explanation of why the changes are necessary, along with some qualifiers or amendments. What happens several layers down is that the original directive has been distorted and the accumulated qualifiers and explanations have taken on a life of their own. When a subordinate hears two messages – the official policy from "on high" and his immediate boss's interpretation of it – which message is most likely to be acted on?" since 1980, 89 of the 100 largest US businesses have reduced their number of layers.[12]

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[10] *Ibid*, 132.

[11] Miller, … 37.

[12] Tomasko, 147.

Modern practice has been to adopt the 'Rule of Six': "… any company with more than six layers between chief executive and first-line supervisor and/or fewer than six direct reports per manager may have too much management.[13]

- De-layering necessitate the provision of opportunity for horizontal advancement, both in responsibility and remuneration. Hierarchical systems that link advancement only "to upward movement on the organizational chart create pressure for job-hopping."[14] Successful companies "design career paths that cover more horizontal territory than vertical [and] develop two track pay scales."[15]
- The need to control corporate bloat: "In business, unfortunately, time bears a direct relationship to excess staffing. Ironically, the more successful a company has been in the past, the more it is prone to adding unneeded management jobs."[16] Businesses that fail to heed this maxim normally end in bankruptcy. Indeed, the focus of the insolvency process is normally to restore a business to viability by eliminating inefficient bureaucracy that is causing financial stress. For militaries, however, government backing ensures continuity, making them particularly prone to accumulation of excessive management positions.

In attempting to apply business learning to the military, it is also worth considering the one fundamental advantage they enjoy. When a business faces a capital shortfall, it can turn to the market to raise cash. If the opportunity is viable, it will be funded. Militaries, however, provide a public good and must rely on government for funds. Except in times of threat, capital budgets are rarely adequate. This causes them to operate in a perennial state of capital rationing which inevitably produces a steady decline in capability.

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[13] *Ibid*, 173.

[14] Tomasko, … 20.

[15] *Ibid*, 253.

[16] *Ibid*, 13.

PART 2 – EVOLVING GLOBAL CONDITIONS

The world is changing rapidly and many of the changes have a profound impact on militaries everywhere. The five most significant forces of change are:

- the technical revolution and the attendant rise in weaponry costs;
- the rise of military personnel costs;
- the rise in complexity of military operations;
- the reduction in military spending in consequence of the end of the Cold War; and
- the rise of asymmetric threats.

This section will examine each of these forces and demonstrate their impact on both the civilian and military sectors, including the Defence Industrial Base. It will also briefly examine how other nations are responding to the pressure.

THE TECHNICAL REVOLUTION AND THE RISING COST OF WEAPONRY

 The 20th century was a period marked both by global confrontation and by rapidly evolving technology. The two were inter-related – the race for arms supremacy drove the pace of technological change. Most of the main technologies now transforming the world stem from military arms races – first in warships, later aircraft and subsequently in radar, sonar and communications technologies. The missile age gave rise to satellite technology that instantaneously links the globe in a manner never before imaginable. Likewise, command and control technology necessary to counter the missile threat provided the basis for computer networking that enabled businesses to function on a global basis. Even the Internet, the ultimate enabler of global connectivity, originated as a tool for communication between defence researchers.

The pressure for increasingly capable and reliable technology, both military and civilian, has necessarily led to a rapid increase in complexity and expense.   This has significantly increased the number of spare part assemblies that must be managed even as maintenance procedures have been simplified. A US Air Force study found that "the 1993 inventory of aircraft reparable parts (March 1993 D041) contains over 10 times as many line items with a value exceeding $5,000 as were found in the 1953 inventory of all aircraft spare parts."[17] The phenomenon is not new – as early as 1776 the economist Adam Smith noted the problem of the increasing cost of providing weapons. Smith concluded that the defining start point was the shift from arrows to muskets – powder, after all, could not be re-used.[18]

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[17] Ramey, Timothy L. *Lean Logistics: High Velocity Logistics and the C-5 Galaxy.* Santa Monica: The Rand Corporation, 1999, 2: 1953 inventory adjusted to 1993 dollars.

[18] Kennedy, Gavin. *The Economics of Defence.* London: Faber & Faber, 1975, 25.

Navies led the technology wave, with the introduction of mechanical propulsion and armour plating changing the nature of maritime warfare. Construction of warships had formerly required little more than a bank of sand, a ready supply of lumber and a few skilled carpenters. In the War of 1812, the British were able to construct a first rate line of battle ship from a shipyard literally hacked out of the woods.[19] Only 100 years later, hulls were iron, turbines had replaced sails and gunnery was accurately directed by complex optical systems. Within another 50 years advances in radar, sonar and missiles drove the cost of producing all aspects of warships beyond the national means of all but the great powers.[20]

Post-War Defence Industry

The global nature of the Second World War had caused a mobilization on a scale never before experienced. Many former colonies that had rapidly build defence industries to supply the war effort from out of the range of axis bombs. Faced with a collapse of military orders, some factories successfully shifted to production of consumer goods while others closed outright. Nevertheless, most nations recognized that "… sophisticated arms production technology may help an economy stay abreast of modern technology and production techniques."[21] Nations therefore attempted to maintain the core of their defence industrial base, but the pressure for military cuts, combined with the unmatched economies of scale of the United States, made it extremely difficult to compete. As a British defence minister remarked:

"There is practically nothing that you cannot buy cheaper from the United States … but it would be totally unacceptable … because the consequences in the acceleration of the

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[19] Hitsman, J. MacKay. *The Incredible War of 1812: A Military History.* Toronto: Robin Brass Studio, 2002: 251.

[20] Kirton, Jonathon J. *The Consequence of Integration: The Case of Defence Production Sharing Agreements.* Ottawa: School of International Affairs, Carlton University, 1972, 4.

[21] Richter, … 100.

brain drain, the loss of jobs, the destruction of the high technology base and the civil implications would be wholly unacceptable."[22]

The outbreak of tensions with the Soviet Union in 1947 and its subsequent demonstration of nuclear capability in 1953 led to a renewal of the race for technological advantage. Canada attempted to maintain a broad based defence industrial base, but …

> because the Canadian aviation industry … was relatively well developed, much more so than was necessary to support Canada's relatively small air force needs, export sales to the US were essential. That gave the air force a community of interest with the industry and gave both an effective joint lobby with the government. The result from the early 1950s onwards was that the RCAF received the lion's share of the defence budget and the greatest influence on defence policy making.[23]

Canada's option to focus on aviation was not unwarranted, but the decision to embark on indigenous fighter aircraft design and production reflected a failure to appreciate just how far combat aircraft complexity had already outstripped the scope of its industrial base. The first product of this initiative, the CF-100 Canuck, was reasonably capable but rapidly rendered obsolete by technological advances. Canada then attempted to leap ahead of international competition with the Arrow interceptor project and badly overreached itself. The subsequent cancellation, and particularly the abrupt manner in which it was executed, dealt a devastating blow to the nation's defence industrial base.

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[22] Draper, … 18.

[23] Hunt, … 135, quoting Jack Granatstein.

Canada was not unique in this regard and other nations had their equivalents to the Arrow. For India it was the HF-24 Murat fighter[24] and for Israel it was the Lavi fighter.[25] The lesson learned was that:

> … the highly sophisticated nature of modern military equipment, equipment which requires a highly advanced civilian infrastructure. Even in those developing countries where this infrastructure exists, economies of scale and financial considerations come into play, often making it too expensive for them to produce sophisticated military products.[26]

The initial reaction of nations determined to maintain a substantial defence industry was to look externally for additional orders, thus achieving the economy of scale necessary to be effective. Few were able to match the cost structures afforded by the major powers and nations, the United States, the Soviet Union, USSR, China, France and Britain, UK emerged as the dominant suppliers.[27] Five smaller nations, India, Israel, South Africa, Brazil and Egypt, all achieved some initial success but virtually all have now abandoned their efforts or retreated to niche markets.[28]

International arms sales as a means of providing economy of scale had some undesirable qualities in any case. For the buyers, it was always apparent that the "object of weapons sales [is] at least partially to build dependency and develop political control over recipient".[29] India signed an arms production agreement with the Soviets in 1971 in part to end Soviet arms supply to Pakistan, but the price paid was the

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[24] Richter, 74.

[25] *Ibid*, 28.

[26] *Ibid*, 98.

[27] *Ibid*, 107.

[28] *Ibid*, 100.

[29] *Ibid*, ii.

commitment of India to Soviets in the event of a superpower conflict.[30] Moreover, it was common practice to limit the functionality of export versions, both to protect important technology and to limit the danger of later being confronted by an attacker armed with one's own latest technology.[31]

For arms vendors, success often had the unfortunate impact of limiting their options in foreign policy. In the Persian Gulf War, France found its Mirage fighters frozen out of missions in theatre in fear they would be confused with Iraqi Mirages. In the more recent Iraqi conflict, France's reticence was undoubtedly bolstered by the fact that a large part of the Iraqi foreign debt was owed to France for prior arms purchases. There would be little chance of this debt being honoured by any successor government to Saddam Hussein.

Given the failure of exports to assure a market for arms sales, many nations turned to collaboration in arms production as means to achieve the necessary economy of scale. Initial results, however, were very unfavourable for a number of reasons. Economic nationalism led to insistence on local production in every participating nation, almost invariably eliminating the potential savings. Projects became unmanageable as planners tried to incorporate the widest range of national requirements, leading participants to cut their losses and withdrawal.[32] Nations with no reasonable alternative were then forced to persevere even in the face a collapse of economies of scale and were often led to pursue export sales to nations they would not otherwise have supported.[33]

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[30] Richter, …70.

[31] *Ibid*, 76.

[32] United States: *Lessons in Restructuring Defence Industry: The French Experience*. Washington: Department of Commerce, National Technical Information Service, Office of Technology Assessment, 1992, 21.

[33] Hayward, … 159.

For Canada's NATO partners, efforts for cooperation with the United States proved to be particularly problematic. The sheer size of American procurement requirements made it very hard to establish balanced cooperative programs. Long term planning, common under European multiyear appropriations, was also difficult to maintain given the uncertainty of the American annual budget cycle.[34] NATO established the Conference of National Armaments Directors (CNAD) in an effort to facilitate collaboration.[35] A 1979 Armaments Planning Review agreement gave CNAD even greater power, requiring each member state to submit for replacement of equipment replacement for examination by NATO's international staff to identify possibilities for standardization or interoperability.[36] CNAD examined 31 possible projects, but the effort resulted in only one significant project – the AMRAAM missile.[37]

By the late 1980s, "30 years of effort has seen minimal success and many are too frustrated to try again".[38] "Internationally divided labour allocation as seen as a pipe dream, at least in this century [in that it] demands a high degree of international interdependence and sacrifice of national defence industries.[39] And so the issue may have rested, but for two emerging forces – the computer revolution and globalization.

The Computer Revolution and Globalization

The problems of the defence industrial base carried over into the commercial sector as industrial and consumer products rode the technological wave. The difference was that the commercial sector, freed of any restraints related to national security or local

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[34] *Lessons in Restructuring*, … 23.

[35] Draper, … 23.

[36] *Ibid*, 39.

[37] *Ibid*, 41.

[38] *Lessons in Restructuring*, … 17.

[39] Draper, … 8.

economic development, had a free hand to form cooperative ventures. As complexity rose, companies focused on increasingly narrow fields, the necessity for economies of scale came to the fore. The level of infrastructure investment and knowledge management required to remain competitive in high technology industries made modern products unaffordable without enormous production runs. Few nations had sufficient internal consumer demand to meet such a requirement and therefore companies were forced to 'go global'.

The globalization phenomenon would not be possible without the benefit of computer technology. Advances in telecommunications and computer networking make it possible to instantaneously communicate around the world and therefore tightly coordinate widespread operations. The consequence of the formation of international companies was that it produced a "concomitant increase of cultural mobility involving persons, goods, information, ideas and attitudes."[40]

The interlinking of the global communications was an important force in the pace of democratization contributed to and followed the end of the Cold War. The related linkage of the international economy also helped erode many of the former nationalist barriers to military industrial cooperation. It was the computer revolution, however, that supplied the driving force to rekindle interest in military production cooperation:

> "Defence platforms that may take 10-15 years to get from the drawing board and into production now must incorporate technologies that have a 3-4 year development cycle."[41]

No nation could cope with such rapid change. Even the United States has had to accept that self-reliance in defence production is no longer possible, concluding in an official

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[40] Dickey, … 21.

[41] *Lessons in Restructuring*, … 9.

study that "Cooperative programs may be the only way that the United States can afford to undertake the development of the full range of defence programs necessary to meet future threats."[42] The result has been a renewed surge of international projects that will shape the defence industry for the near future. The shift came, however, at a time when the Canadian Forces were locked in a capital spending freeze due to budget cuts and in consequence the Canadian defence industry has largely missed the opportunity.

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[42] *Lessons in Restructuring*, … 3.

PERSONNEL COSTS

Military personnel costs have risen dramatically since the Second World War and have threatened to overwhelm military budgets, reducing the proportion available for operations, maintenance and capital replacement. For industrialized countries with high wage structures, the effect was particularly pronounced. In the UK personnel costs exceeded 53% of the defence budget by 1971, leading to demands for a reduction in commitments."[43] For smaller nations such as Canada, the problem reached crisis proportions - in 1961 the defence department concluded that rising personnel and administrative costs, if unabated, would completely consume the budget for capital acquisition by 1969[44]

The principal contributing causes were:

- the decline of conscription;
- the increasing skill levels and support demanded by modern weaponry; and
- the rise in compensation costs in industrialized nations.

The rise of mass armies in the 19th century gave rise to the practice of conscription, whereby citizens were compelled to serve a period of military service. The risks of service and low wages made military service unattractive to all but officers, who at least derived a significant increase in social status. Prior to World War Two conscription had been chiefly limited to times of war, but the ongoing tensions of the cold war led many countries to implement it on a permanent basis. Conscription had the benefit of providing large quantities of able-bodied recruits, but they were often of limited education and questionable reliability. In the 1960s changing social attitudes and the

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[43] Kennedy, … 95.

[44] Critchley, … 229.

increase in political influence of the working class progressively challenged the right of the state to compel military service.

The introduction of increasingly complex weaponry and advanced doctrine progressively negated the value of conscription in any case. Conscription programs often offered exceptions for those progressing in higher education, eliminating precisely the recruits needed to capably operate modern equipment. Militaries compensated by introducing internal education systems to attract recruits, but the impact was to greatly extend the initial training period before a recruit was effectively employable and to greatly add to infrastructure costs. Militaries mitigated these costs by raising the standards of entry, which in turn rendered conscription even less effective. The shift to volunteer forces began with smaller militaries facing lesser threats and at the same time less able to sustain the enormous expense of training and equipping short-term conscripts. The superior performance soon became evident and led most advanced militaries to abandon conscription altogether.

The shift from low skill conscripts to highly trained volunteers gave rise to a new problem – retention. Where previously military skills had limited market potential, the increase in technical skills made trained personnel highly attractive to the private sector. Militaries countered this by introducing very attractive pension plans that promised security in exchange for long service. The value of this incentive, however, decreased as wages in general rose. The impact was particularly pronounced in industrialized nations and has resulted in a substantial increase in compensation costs.[45]

The decline of cheaply available labour has in turn increased the demand for technological improvement. Where militaries had for years been content to rely on manual processes requiring large crew sizes, they are now demanding equipment that

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[45] Kennedy, … 96.

provides high levels of automation and reduced support requirements. The global trend is "toward a highly paid professional military force, operating at a smaller establishment level with a much greater fire-power at its disposal".[46] Achieving these aims requires ever more increasing complexity, further raising capital replacement costs.

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[46] Kennedy, … 103.

THE RISING COMPLEXITY OF MILITARY OPERATIONS

Advances in global communication brought issues before the public in a manner never before possible and gave rise to regulation of a host of areas of previously little concern to military forces. Areas such as international traffic in arms, environmental stewardship, equitable employment, access to information, environmental protection, work place safety and quality of life all attract public attention.[47] Administering these programs requires personnel and result in an ever-increasing tail-to-tooth ratio.

Political sensitivity has also driven up the cost of military training. Public objections have limited live training and forced closure of a number of live firing ranges. Operational training can no longer be conducted using real world scenarios for fear of it being misidentified as genuine war plans, forcing the costly development of fictional regions. Military training courses have also been lengthened to add sensitivity training in areas of public concern.

The effect extends even into the execution of active military operations. Targeting decisions are subjected to legal and political scrutiny and the constant presence of the international press in live contact with the population at large has tempered the range of force available to Commanders. Moreover, military forces are now expected to take responsibility for civilian administration in the area of operations to a degree never before considered.

Advances in communication technology have also challenged the prevailing military doctrine of dividing command responsibilities into strategic, operational and tactical levels. The availability of instantaneous feedback to the public has both enabled and

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[47] Tomasko, … 16.

necessitated closer oversight of events on the ground by political leaders. The expectation of immediate intervention has inexorably drawn strategic and operation commanders down into the tactical battle.

THE END OF THE COLD WAR

The Cold War had effectively divided the globe into two opposing, highly armed camps. Never before had nations maintained such large military forces in times of peace, but the threat of nuclear destruction had the perverse effect of both sustaining international tensions and preventing the global war that would normally have released them. As the Cold War stabilized, some nations did opt to reduce standing forces, but the major powers could not. Early cutbacks were typically undertaken by "…those societies which have not experienced belligerency in the recent past and which also have highly developed welfare aspirations."[48]

The collapse of the Soviet Union in the early 1990s therefore gave cause to enormous social pressure in Western Nations for a peace dividend. Nations that had cut earlier were not exempted from the pressure. Most nations responded by slashing both the budget and authorized personnel levels for their military forces. Capital replacement programs have been delayed or cancelled outright.

Impact of Large-Scale Personnel Cuts

The impact of personnel downsizing on military forces has been profound and manifests itself in three ways:

- interruptions in personnel development cycles;
- loss of economies of scale;
- over-extended spans of control; and
- excessive tail-to-tooth ratios related to excess bases.

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[48] Kennedy, … 20.

Personnel Development Issues. Military personnel structures are almost universally based upon a hierarchical structure in which entry is possible only from the bottom. Such systems are highly sensitive to sudden changes in manning level. Senior officers cannot be hired off the street but must rather be developed internally over years. A sudden loss of personnel can therefore not be easily recovered. More importantly, any interruption to the flow of promotion up the hierarchy results in a logjam of personnel blocked from promotion. A 1982 CRS study concluded that the impact of the bottom only military entry structure was that sudden changes in recruiting levels has a repeating impact as the impacted group hit each promotion and release window. They concluded that changes to manning levels, up or down, should be introduced gradually to soften the impact.[49] The outcome is that it becomes difficult "to maintain the seniority balance that an hierarchical organization requires. … Thus even drastic cuts in establishment can lead to less than proportionate 'savings' in pay levels."[50] Since most militaries tie pay to rank, this results in an effective wage freeze. Barring a coincidental downturn in the private sector economy, retention becomes a significant issue.

Economy of Scale Issues. Downsizing has not been accompanied by a narrowing of skills that must be maintained by military forces. In fact, the pace of technological advancement is such that new skill requirements are being steadily added. The problem has a particular impact on personnel training, where retention of instructional capacity depends upon a steady throughput. Military trade structures traditionally relied upon common training for all personnel within a designated occupation to simplify personnel management and provide economy of scale. As the variety of skills required increased, courses became excessively long and graduates often found much of the training was never applied. Militaries reacted by creating specialty and sub-specialty occupations, increasing the variety of courses required. The sharp reduction of numbers have

[49] CRS 1982 study

[50] Kennedy, … 104.

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resulted in very low throughput on the training and forced nations to seek shared training opportunities with allies to maintain the necessary throughput.

Economy of Scope Issues. Personnel cuts without any attendant reduction in the range of tasks to be addressed are also creating span of control issues. Scope economies apply to individuals as well as organizations and the parable 'jack of all trades, master of none' has long reminded us. Double and triple 'hatting' of positions results in officers and civilian managers being overloaded by competing demands on their time. Unable to respond to all tasks effectively, they fall back on management by crisis.

Infrastructure Issues. Notwithstanding the reductions in budget and personnel, few governments are willing to accept the political cost of base closures. Militaries are therefore compelled to retain personnel in support roles for an excessive number of bases that might otherwise be returned to deployable status. Moreover, the forced distribution of units across redundant bases imposes transportation costs and precludes the economies of scale that might be obtained through consolidation on viable bases.

Impact on Capital Equipment Programs

Military cutbacks in capital programs were equally abrupt, with the consequence that replacement projects were significantly delayed. When spending did resume, other systems had reached normal replacement age, adding to the pressure on limited budgets. For nations that claimed early 'peace dividends', failing to reinvest in the 1980s, capital requirements are now overwhelming. The impact has been further compounded by the tendency of militaries to try to retain more equipment that their new funding level afforded and the relentless increase in replacement costs due to ever increasing complexity. Even super powers were not exempt – by the mid-1990s it was observed

that "US military hardware is depreciating at around $101 billion per year; new investment, however, is running at only $79 billion."[51]

Nor is the problem going likely to go away. Governments are "increasingly unwilling to support generations of systems that will not see combat [and will seek to] stretch out existing systems[52]

Impact on the Defence Industrial Base

The effect of downsizing on the Defence Industrial Base was compounded by the coincidental impact of another economic force. The quality improvements achieved by Western industry in response to Japanese competition begin to be reflected in capital equipment delivered in the 1980s. This allowed air forces to rely on "smaller numbers of more reliable aircraft with more durable engines that stay in service longer".[53] Armies and navies equally benefited from new equipment that was more repairable at field level, reducing the requirement for third line support and "starving industry of valuable follow on work … combined with extended procurement cycles this … magnified the boom and bust impact."[54]

The infrastructure cost of defence production is extremely high and manufacturers cannot afford to maintain capabilities in the event of extended gaps between orders.[55] Of the 1-1.2 million employed in defence related industries in the United States in 1991, 650,000 were gone by 1998.[56] "Technology edge is not an asset that governments can keep on the shelf until they need to dust it off. Technology is people working on a live

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[51] *Lessons in Restructuring*, … , 9.

[52] Hayward, … 186.

[53] Cain, … 74.

[54] *Ibid*, 70.

[55] *Lessons in Restructuring*, … 14.

[56] *Lessons in Restructuring*, … 31.

program, and modern development programs demand large, experienced development teams."[57] The loss of expertise in such highly skilled fields is difficult to overcome and American observers have warned "…domestic capability to support rapid reconstruction may no longer exist."[58]

American firms have attempted to survive by consolidation, acquiring remaining competitors in an effort to build an 'arsenal' system of a single large company in each field.[59] European firms, shielded somewhat by a high degree of government ownership, have tended to favour collaboration, but mergers are becoming increasingly common.[60] European nations have also opted to contract the span of their industrial base, focusing national efforts on prominent technology areas, like combat aircraft and armoured vehicles."[61] Smaller nations have simply had to abandon domestic capability altogether. In the late 1980s, Australian opted to forgo aircraft production and instead focus developing the skills for an efficient long-term support capability.[62]

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[57] *Ibid*, 14

[58] Hayward, 187

[59] *Lessons in Restructuring*, … 13.

[60] Cain, 74.

[61] *Lessons in Restructuring*, … 28.

[62] Cain, 71.

THE RISE OF ASYMMETRIC THREATS

The collapse of the Cold War initially appeared to set the stage for an era of peace similar to that which followed the end of the Napoleonic wars. In this context, the option of simply abandoning sophisticated military capability seemed legitimate. The outbreak of the Persian Gulf War, followed in succession by Bosnia and Kosovo, highlighted new instabilities in the world and provided arguments for the need to retain substantial forces. More importantly, the effectiveness of precision weapons, and the accompanying rise in public expectation of limited collateral damage, re-ignited the pressure for technology improvements.

At the same time, the ineffectiveness of peacekeepers against disorganized opposition in Somalia and Rwanda, along with a resurgence of international terrorism, signalled a growing asymmetric threat. It was the devastating impact of the September 11th 2001 attack on the New York World Trade Centre that effectively ended hopes for a *Pax Americana-* based period of stability.

Nations must now not only face the likelihood of being engaged in regional conflicts, but must also accept the fact that the spread of technology makes such operations increasingly dangerous:

> Regional states are acquiring state-of-the-art missile systems, submarines, strike aircraft, and modern surface combatants, plus force multipliers like airborne early warning (AEW), in-flight fuelling and sophisticated surveillance systems. … They are, however, growing in the sense that more

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and more states are able to launch lethal strikes over greater ranges with greater accuracy.[63]

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[63] Bateman, … 9.

INTERNATIONAL MILITARY REACTION

The combination of pressures brought on by global changes has forced international militaries to react in ways they would never before have considered. Nations are now experimenting with extensive cooperation, sharing of sovereignty responsibilities and even outright elimination of capabilities.

The main focus has been on cooperation, which had previous been largely limited to equipment procurement and specialized training activities. Nations are now extending cooperation into active operations, including pooled support chains and the formation of permanent joint combat units. Denmark and Norway are pooling their resources under an agreement called the Defence Capability Initiative. Scandinavian ground forces have operated jointly for some time and participate in NATO missions on that basis. Focus is now on fighter aircraft, the most expensive capability to maintain. They have not only committed to jointly procuring, upgrading and equipping their F-16s, but also to operating them together from joint bases and units. Belgium, the Netherlands and Portugal have made similar arrangements under the American sponsored F-16 Multinational Program.[64] While European nations have led in this regard, cooperation efforts are also actively underway amongst Asia-Pacific and South American nations. The success of this activities is partially attributed to the their integrative value, providing regional security enhancement beyond the value of the simple cost savings initially sought.[65]

Other nations have found it more difficult to sustain capability even with the benefits of cooperation. New Zealand opted to abandon fighter operations altogether, relying upon

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[64] Fiorenza, … 39.

[65] Methven, … 8.

Australia to react to any regional air threat. New Zealand benefited by the absence of any immediate threats and offered some recompense to Australia by way of sustaining its commitment to the purchase of Australian built ANZAC frigates. The degree of cooperation even extended to Australian assuming sovereignty patrol duties in New Zealand waters in order to free a New Zealand ship for participation in Persian Gulf operations. The Royal Australian Navy has also become the provider of a significant amount of training for regional navies.[66]

Militaries have also opted to withdraw weapon systems that, while still serviceable and effective, have particularly high support costs and offer limited opportunity for cost sharing. A Royal Air Force review observed, "16 nations operate virtually identical versions of the F16 Fighting Falcon, whereas only three operate the Panavia Tornado and each of the three national versions have different weapons and hard points. This is no longer affordable".[67]

It is the United States, however, that has recognized that sustaining an effective military in today's complex world demands more than simply efficiency improvements and cost sharing. It requires organization flexibility that runs counter to the military preference for standardization. A United States Air Force study of C-5 Galaxy support costs found the C-5 operating and maintenance environment to be substantially different than those of other air fleets, in particular fighters and bombers. This led them to conclude that the C-5 infrastructure had to be organized on unique lines.[68] More recently, the Secretary of Defence Donald Rumsfeld has demanded that the American military abandon its

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[66] Bateman, Dovers, … 74.

[67] Remarks to Canadian Forces Staff College ….

[68] Ramey … , 11.

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doctrine of methodical planning and develop a Joint Staff model capable of responding flexibly to immediate developments on the ground.[69]

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[69] Remarks of …

PART 3 – CANADIAN GEOPOLITICAL SITUATION

While all of the global forces affecting militaries apply to Canada, the manner in which the Canadian defence establish can respond is heavily impacted by its relatively unique geographic and strategic situation. The characteristics that make it unique include:

- its geographic isolation from all but a single enormous neighbour, the United States;
- its internal geographic, demographic and political structure;
- its economic and military relationship with the United States; and
- the demands of its national strategy.

CONTINENTAL ISOLATION

Canada is geographically unique in that it shares a continent with a single, extremely large neighbour – the United States of America. The only other significant North American state, Mexico, is physically isolated from Canada by virtue of the intervening bulk of the United States. Canada's remaining continental neighbours, Greenland and Saint-Pierre et Miquelon, are insignificant by virtue of both population and economy. The Atlantic and Pacific Oceans separate Canada from all other nations and, once Britain had cut her colonial ties, Canada found itself compelled to coexist with the US in "an intimacy which geography and history permit no escape".[70]

This situation is unparalleled and the impact profound. As then Governor General Lord Durham described it in 1839,

> … the influence of the United States surrounds him [the Canadian] on every
> side, and is forever present. It extends itself as population augments and
> intercourse increases; it penetrates every portion of the continent into which
> the restless spirit of American speculation impels the settler or the trader; it is
> felt in all the transactions of commerce, from the important operations of the
> monetary system down to the minor details of ordinary traffic; it stamps, on all
> the habits and opinions of the surrounding countries, the common
> characteristics of the thoughts, feelings and customs of the American people.
> Such is necessarily the influence which a great nation exercises on the small

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[70] Dickey, … XI.

communities which surround it. Its thoughts and manners subjugate them, even when nominally independent of its own authority.[71]

The nature of this geographic position has a number of significant impacts upon Canadian Defence, including:

- the relative security afforded by the Monroe Doctrine;
- the external distances to probable areas of operations; and
- the impediments to international military collaboration imposed by travel costs.

Impact of the Monroe Doctrine

Under the Monroe Doctrine, the United States opposed any European efforts at further colonization of the western hemisphere.[72] The Monroe Doctrine incorporates an explicit pledge by the United States to counter any attack by any non-American nation on any nation of the Western Hemisphere. Given that attacks by South America nations on Canada are logistically inconceivable, this pledge fundamentally shields Canada from any external threat short of a direct challenge by the United States itself. Absent any such threat, Canada enjoys a virtual immunity from external attack.

While "A country that cannot be defended and can hardly be attacked may be a delight to its population, … it offers its admirals and generals some peculiar problems".[73] Gilles Lamontagne, Minister of Defence in 1983, lamented that

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[71] *Ibid,* 20.

[72] Monroe, James. "President Monroe's seventh annual message to Congress, December 2, 1823." *Chronology of US Historical Documents.* Norman, Oklahoma: The University of Oklahoma Law Centre. Available online from http://www.law.ou.edu/hist/monrodoc.html; Internet, accessed 12 January 2003.

[73] Desmond Morton, quoted in Hunt, B.D. & Haycock, R.G., Editors. *Canada's Defence: Perspectives on Policy in the Twentieth Century.* Toronto: Copp Clark Pitman Ltd, 1993, 3

It is virtually impossible convincingly to demonstrate that Canada's national security against threats of military attack is diminished by reducing the size and capability of the Canadian Forces or is increased by increasing them.[74]

It was the global nature of Soviet threat that provided the basis for continued post war defence spending. NATO membership was predicated upon the desire to deter another European war that would almost certainly embroil Canada. The geographic nature of the Soviet missile threat to the United States in turn imposed the need for NORAD integration.[75] Absent either of these threats, defence planners find it more difficult to convincingly argue for a robust military.

Impact of Distances to Operational Theatres

Given the security of North America from all but nuclear attack, trans-oceanic distances separate Canada from any possible area of conflict. This imposes a disproportionately heavy logistic burden upon Canada whenever it engages in active military activity. The long standing commitment to troops and fighters in Europe had to be sustained at distances that made travel home impossible and imposed heavy foreign basing costs, whereas Canada's NATO allies could claim contributions for virtually their entire military forces while remaining in their own national territory. Distance also compels Canada to maintain a preponderantly blue water naval fleet, given that coastal vessels can make little effective contribution to overseas operations. The nature of "overseas commitment meant Canada in real terms contributed more to NATO than any other nation in 1950s and 1960s".[76]

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[74] Hunt, Byers, … 259.

[75] Dickey, … 5.

[76] Bland, … 217.

Impediments to International Collaboration

The distance separating Canada and its non-American allies also presents a significant impediment to cost sharing through international military cooperation. The high associated travel costs normally negate the economies of scale that could be gained through shared training, support or joint units. The only potential ally with which Canada can economically undertake extensive military cooperation is the United States and it has actively done so since the 1940s. The disparity in size of the two countries presents special difficulties, however, and Canadian political leaders are wary of increasing such integration, as will be discussed in detail in subsequent sections.

INTERNAL CONSIDERATIONS

Internal Geography and Demographics

Canada is geographically a vast country, but it is relatively sparsely populated. Moreover, climate and geology limit the arable land to a narrow belt above the American border. In consequence, while the population is spread over 3,400 miles from East to West, greater than 90% of all Canadians live within 200 miles of the US border.[77] No other major nation shares this characteristic and the "nature of population imbalance is that the American presence is pervasive in Canada, whereas the Canadian presence is rarely perceptible in the United States."[78]

The rise of television and radio greatly accelerated the American cultural influence on Canadians. Over 54% are in direct range of US broadcasting and up to 80% receive American stations via cable and satellite services, not to mention the additional penetration provided by American programming on Canadian stations.[79] The Canadian Radio and Television Commission (CRTC) was established in an effort to counter this influence in the belief that "… Canada is a country which exists by reason of communications … deliberately set up to maintain an east-west flow through our land mass and to resist the normal north-south erosion …".[80]

The print medium is equally affected, with the dominance of American magazine a perennial political issue in Canada. Nevertheless, it must be acknowledged that "… American periodicals are massively present in Canada because there is a widespread

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[77] Reid, Maureen G. and Hiebert, Daniel J. Microsoft Encarta Encyclopaedia Deluxe, 2001 ed.

[78] Dickey, … 4.

[79] *Ibid*, 55.

[80] *Ibid*, 85-86, quoting Vice Chair of CRTC Harry J. Boyle:

demand for them."[81] The tight cultural links between Canadians and Americans have given rise to heated debates among Canadian nationalists on just what makes Canadians a distinct nation, yet most characteristics represent no more than political differences. As journalist Blair Fraser put it in 1967, "Of all the general definitions of the Canadians, this is the most nearly valid: twenty million people who, for anything up to twenty million reasons, prefer not to be Americans".[82]

The impact of American influence is that Canada is being inexorably drawn toward union with the United States. Decisions by the American government almost invariably impact Canadians and issues of the day in the United States are immediately carried across the border. Canadian influence on the American political process is by contrast negligible. The disparity in the size of the two nations and the economic dependency of Canada preclude the negotiations at a peer-to-peer level. The only means by which Canadians can ever truly aim to have a representative voice in Congress is by joining the union. Provinces seeking concessions from Ottawa have periodically raised such threats and Canadian political leaders remain wary of military agreements that increase the rate of Americanization.

The second defining demographic characteristic of Canada is the presence of two official language groups, roughly 76% Anglophone and 24% Francophone, with the Francophone population largely confined to Quebec and adjoining regions in Ontario and New Brunswick. Language tensions have dominated Canada's history and linguistic peace was only achieved by adopting an official policy of bilingualism. It is largely an illusion, however, as only some 16% of the population is bilingual and that group is largely confined to the periphery of the French core. The establishment of

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[81] Dickey, … 53.

[82] *Ibid*, 13.

bilingualism as an essential requirement for federal political participation has increased regional alienation in the Atlantic and Western provinces.

The language issue also impacts Canada's ability to achieve defence economies. Training must be maintained in both languages, further reducing individual course throughput and making it difficult to purchase training from foreign militaries as few are prepared to offer it in two languages. Policies requiring language of work opportunities in each field for each language group also impose basing considerations based on the concentrated nature of the French population. Satisfying language obligations is essential to Canadian unity and therefore the costs cannot be avoided by walking back on the commitments.

Political Structure

The margin of Canadian national cohesion is narrower than most Canadians and Americans realize. While Quebec separatism has been the obsession of recent years, it is regionalism in general that is the main threat.[83] The British North American Act, the original Canadian constitution, was framed to create a strong federal government based upon the lessons of the American civil war. Ironically, both federations have subsequently evolved in opposite directions – the United States federal government is becoming increasingly strong while the Canada government becomes progressively weaker.[84]

The problem lies in the uneven economic growth of the various provinces, which have evolved into a number of distinct regional economies:

- a highly industrialized economy in Ontario and Western Quebec;

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[83] Dickey, … 139.

[84] *Ibid*, 6.

- an overlapping financial economy centered in Toronto;

- an agrarian prairie economy;

- an oil and gas based economy in Alberta;

- a resource and trade based economy in British Columbia; and

- an economically enfeebled maritime and resource based economy in the Atlantic provinces.

A key component of the tension relates to the domination of the country by the South-Western Ontario economy, where "… 45% of US controlled manufacturing employment in all of Canada is found within one hundred miles of Toronto".[85] While the United States features similar regional blocks, the divisive pressure is muted by the much more granular division of the American landmass into 50 individual states.

Impact on Defence

Canada's fractured federal system is a serious impediment to a long-term defence strategy.[86] Satisfying regional demands for a share of the federal budget requires the Canadian military to maintain bases in every region, preventing any significant savings through base consolidation. The combination of regional obligations with geography has particular impact on the navy. Having withdrawn regular army formations from British Columbia, any move to reduce the naval presence would be politically unacceptable. The fragile economic state of the East Coast makes any prospect of consolidation in the West equally beyond question. Compelled to maintain a fleet on both coasts, the intervening geography, necessitating a transit around the North American continent, makes it impractical to close either of the supporting dockyards,

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[85] Dickey, … 30.

[86] Hunt, Middlemiss, … 252.

nor would either region tolerate the reliance on US Navy shipyards for support.

RELATIONSHIP WITH THE UNITED STATES

An unknown scholar once remarked:

> "To a large degree the American presence has shaped Canada … One is tempted to conclude, in fact, that there could not be a Canada without the United States – and may not be a Canada with one."[87]

Few Canadians now recall that the federation of British North American colonies was an effort to create a trade block in response to the growing dominance of the American economy. Without confederation, Canada would almost certainly have been absorbed by the United States. In economic terms, it effectively has been.

Early Tension

The early relationship between British North America and the United States was one of outright hostility in the wake of the American Revolution. In the wake of the War of Independence loyalists fled to Canada, where their influence "on Canadian attitudes certainly contributed an anti-American element to Canadian nationalism".[88] Nevertheless, the latter years of the 18th century saw a growing rapprochement between the two nations. This was shattered by the War of 1812, in which the professionalism of British regulars overcame the numerically superior Americans. The active involvement of local militias, however, sowed the seeds of Canadian nationalism and brought a halt to improving relations.[89]

The following fifty years was a period of ongoing tension between Americans convinced of their 'Manifest Destiny' to incorporate all of North America and the

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[87] Dickey, … 67.

[88] *Ibid*, 9.

[89] *Ibid*, 10.

Canadian colonies. Active American aggression was limited to border filibustering (private military freebooting) by such groups as the Hunters' Lodges and the Fenian Brotherhood.[90] The evident economic success of the United States was also a source for internal unrest and pursuit of American "ideals were behind rebellions of 1837-39".[91]

The American Civil War brought matters between the United States and Great Britain to a head. Americans were infuriated by the tacit support Great Britain provided to the Confederacy and several times during the conflict came to the brink of war. With Union victory

Canadian leaders now had to reckon with a heavily armed United States, victorious in a Civil War which had dangerously embittered American-British relations once again … and the ill-founded notion of some Americans that Canada's ripeness for annexation would be hastened if she suffered economically … [92]

In 1866 Congress voted to terminate the Reciprocity Treaty of 1854, directly imperilling the British North America economy, which had already become heavily dependent on trade with the United States and thereby provided the final impetus for Confederation. Canada was not born of some great fundamental philosophy nor of a strong and shared national identity, but rather as simply trade union.

Britain finally settled her differences with the United States via the 1871 Washington Treaty, which came largely at Canada's expense.[93] The subsequent 1903 Alaska boundary settlement was the last stage in Britain's withdrawal from defence of

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[90] Dickey, … 13.

[91] *Ibid*, 14.

[92] *Ibid*, 15.

[93] *Ibid*, 16.

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Canadian territorial integrity. While the Imperial ties remained, "… Canada simply passed from being a British colony through a brief interlude of independent nationhood en route to becoming a neo-colonial satellite of the United States."[94]

Economic Relationship

The withdrawal of British influence led to increasing ties with the United States. Good relations led to treaties such as the 1909 Boundary Waters Treaty and subsequent formation of an International Joint Commission that is still extant. Early efforts at free trade inadvertently sparked an internal crisis in 1911 when "prominent American politicians hailed reciprocity as a step to the annexation of Canada"[95]. Fear of American influence resulted in the defeat of the Laurier government and 25 years of protectionism.[96] The effect was self-defeating – Americans simply used their vast capital resources to establish branch plants in Canada, while Canada's own limited manufacturing base was frozen out of the American market.

The next stage in the subordination of the Canadian economy came in 1934, when Britain introduced tariffs intended to favour Commonwealth trade. Americans accelerated their investment in Canada as a means to get around the barrier to trade with Britain. The onset of the Second World War was the final blow to British influence in the Canadian economy. British investment fell from 72% of all direct foreign investment in Canada in 1941 to only 17% in 1954 (10% today), while American investment in Canada grew from 23 to 77% during the same period.[97]

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[94] Dickey, … 11.

[95] Reid, Maureen G. and Hiebert, Daniel J. Microsoft Encarta Encyclopaedia Deluxe, 2001 ed.

[96] Dickey, … 16.

[97] *Ibid*, 24.

The result has been that the Canadian economy has become completely dependent on trade with the United States, such that the two countries now share largest bilateral trade in the world.[98] In fact, a large portion of Canadian foreign trade "is conducted by American subsidiaries trading with their parents – this will lead to progressively greater economic integration."[99]

Efforts by the Trudeau government in the 1970s to lower the level of American foreign investment misfired badly. Economies of scope had led American parent companies to grant Canadian subsidiaries more autonomy and they had long since begun to generate their own capital. Even if additional American foreign investment were banned outright, the ongoing success of existing American subsidiaries would result in the percent of foreign investment continuing to grow.[100]

American economic influence is not simply limited to capital investment – 62% of unions in Canada are affiliated with larger US unions, where they represent only 6.5% of overall membership.   No other country has as high a level of domination by foreign unions.[101] For American unions, it is largely an issue of self-interest – driving up Canadian wages prevents Canada becoming another Mexico.[102] Their success is reflected in a 2002 US study of that concluded Canada had the second highest compensation costs in a study of 30 industrialized countries.[103] This has an obvious

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[98] Dickey, 22

[99] *Ibid*, 106.

[100] *Ibid*, 28.

[101] *Ibid*, 31.

[102] *Ibid*, 33.

[103] United States Department of Labour. I*nternational Comparisons of Hourly Compensation Costs for Production Workers in Manufacturing, 1975-2001. SUPPLEMENTARY TABLES for BLS News Release USDL 02-549, September 27, 2002.* Washington: Bureau of Labour Statistics, 2002; available from ftp://ftp.bls.gov/pub/special.requests/ForeignLabor/supptab.txt, accessed 22 Nov 02.

impact on the portion of the Canadian defence budget that must be allocated to personnel costs.

Free Trade

The announcement by the United States of import surcharge in August 1971 was a shock to Canada and a political disaster for Trudeau, who was forced to personally appeal to the President for an exemption. Trudeau succeeded and emerged to assure Canadians that "no threat to our independence was intended".[104] The lingering fear of an American reversal became the impetus for the negotiation of a Free Trade Agreement with the United States. Implementation of the agreement provided valued access to the American, but it also further accelerated economic and cultural integration. It is now evident that:

> "… it would be unwise for Canada to take action in any overt way which was aimed at diverting a proportion of our trade elsewhere. The fact that we have access … to the great American market is a major reason for our affluence and prosperity …"[105]

Impact on Defence

The tight links with the American economy, particularly the branch plant status of our principal industries, provide an impediment to defence industrial cooperation with Europe. The intent of the European Union is to create a cohesive market to rival the United States and Canadian participation would only provide a back door access for their American parents. At the same time, Canadian public aversion to arms exports

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[104] Dickey, … 133.

[105] *Ibid*, 104.

makes it difficult for Canadian firms to participate in the foreign arms sales of their American parent companies.

Direct defence cooperation with the United States itself has been problematic. Partly it relates to size – while Canada's population and economy are roughly 1/10th the size that of the United States, defences expenditures are only 1/35th.[106] Given such imbalance, the American interest is in manpower rather than technology.[107] Production sharing has its origins in World War II, when Canada and the United States signed the Hyde Park Declaration, recognizing "that in mobilizing the resources of this continent, each country should provide the other with the defence articles which it is best able to produce … and that production programs should be coordinated to that end."[108] Actual integration was quite limited, extending for the most part to the United States granting tariff exemptions for specified products.[109] Canadian designed products never did achieve any particular success with the American military, but Canadian industry has nevertheless profited as component suppliers for equipment delivered by American parent companies.

Military Relationship

Canada's military relationship with the United States is strong and surprisingly stable, easily withstanding recent foreign policy divisions between the two governments. Unfortunately, it also presents an ongoing threat to national unity by reinforcing the forces of integration and restricting its foreign policy. The root of the problem lies in the development of the Canadian military.

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[106] Dickey, … X.

[107] Cain, … 3.

[108] Kirton, Jonathon J.. *The Consequences of Integration: The Case of Defence.* Toronto: Canadian Forces College, 1972, 4.

[109] *Ibid,* 7.

Canadian Defence policy has been described as one of 'willing subordination', such that the nation has been content to rest under the protection of first the British and more recently the Americans.[110]

Most Canadian politicians thought like Prime Minister Wilfrid Laurier that the militia should not be taken seriously and that Canada was well protected by the Monroe Doctrine of the United States.[111]

The military was relegated to the sidelines in the interwar years, fighting for its budget survival, and relied wholly on the British services for strategic direction.[112] During the Second World War, Canada was relatively unique in its willingness to cede command of military formations to foreign services. It was a matter of deliberate policy by Canadian political leaders, who were focused on containing a threat to national unity related to a French/English split on support for the war. Canadian officers, thoroughly anglicized by their own basic training with British forces pre-war, saw no need to challenge this.[113] After the American entry into the war, "the influence of the American military became more pervasive [and] Canada's leaders accepted relegation to the sidelines in coalition policy making".[114]

Canada's postwar foreign policy has reflected this approach, focusing on multinational alliances. Canada never established an effective national headquarters for units deployed to Europe, even though the NATO command system was based upon such

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[110] Bland, Douglas L. *Chiefs of Defence: Government of the Unified Command of The Canadian Armed Forces.* Toronto: The Canadian Institute of Strategic Studies, 1995, vii.

[111] *Ibid*, 9.

[112] *Ibid,* 10.

[113] *Ibid,* 179

[114] Hunt, 7

arrangements.[115] The introduction of NORAD and the assignment of the navy to the control of the Norfolk, Virginia based SACLANT headquarters accelerated Americanization. "By 1963 … the two militaries were so closely interconnected that senior Canadian officers sometimes placed their allies' concerns ahead of those of their own political leaders."[116]

Examples of Canadian military leaders acting in opposition to the foreign policy established by political leaders abound. In the 1962 Cuban crisis Canadian military leaders directly engaged in the conflict before Ottawa was truly aware there was a crisis, depriving it of any flexibility in its response and revealing "The speed and efficiency with which commanders, in the RCN and RCAF especially, could reach decisions with their allied commanders compared to the uncertain and ponderous procedures for exercising national command …"[117] In this case, military leaders were simply following what were considered planned responses, but a later example relating to the land forces stationed in European indicates deliberate defiance of political intentions. In the 1970s the Trudeau government, seeking to deemphasize Canada's combat role in Europe, negotiated transfer of the 4th CBMG from NATO's Northern Army Group into a reserve role with the Central Army Group. Canadian officers worked within NATO to "gradually move it back into a front line role [and] by the mid-1980s it was dug-in on the ground in a forward exposed location on the approach from Czechoslovakia, without ever acknowledging a change from a reserve role."[118]

The problem of divided loyalties became a source of tension between Canadian military and civilian leaders. Canadian political leaders soon concluded that tight ties with the

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[115] Bland, … 12.

[116] Hunt, … 7.

[117] Bland, … 186.

[118] Bland, … 181.

American military posed a threat to national unity and have therefore opposed increasing links. Often support for initiatives has been granted as a means of limiting contact rather than increasing it. The NORAD agreement provides a good example:

The Standing Committee of the House of Commons on External Affairs and National Defence, in an April 1973 report, while accepting the basic military rationale for NORAD, added:

> The Committee has concluded that one of the basic justifications for continued membership in NORAD is that it helps Canada avoid being faced with a request from the United States for facilities in Canada, the granting of which might impinge … on Canadian sovereignty …. While there may be a need for some foreign military to be stationed on Canadian territory, they should be kept as few in number as possible.[119]

Integration was partly intended to address this issue and in 1972 the Secretary of State for Foreign Affairs Mitchell Start declared:

> … Defence cooperation between the two countries remains firmly anchored and close, but the momentum of the Fifties and Sixties toward closely-integrated and structured defence arrangements has abated.[120]

It was wishful thinking and the military has continued to aggressively pursue integration with the American Forces. In the late 1990s the Commander of Canada's Pacific Fleet negotiated participation of Canadian warships America Carrier Battle Groups on his own initiative and the arrangement has since become virtually permanent. Canadian officers have also led the pressure for integration into the US

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[119] Dickey, … 60.

[120] *Ibid*, 66.

Nuclear Missile Defence initiative and have established a Bilateral Cooperation Group to examine means of integrating into the American Homeland Defence initiative. While both initiatives have received tacit political endorsement in arrears, they point to a continued phenomenon of the military leading direction of foreign affairs vice following.

Relationship With Other States and Regions

Canada has actively sought a counter-balance to American influence for much of the last fifty years, without success. The reasons are many, but for the most part relate to distance and the impact of Canadian ties to the United States. These same impediments limit the ability of Canada to employ international collaboration as a means of retaining capability. Only three regions merit any serious consideration – Europe, South America and Asia-Pacific, Africa being an economic basket case and the Indian sub-continent being locked into a nuclear standoff.

Europe

The erosion of ties to Britain was complete almost before Canadians realized the process had started. The end of the Second World saw Canada firmly in the American orbit and it was not until the rise of Pierre Trudeau to power in the 1960s that Canada began to seek European ties as a counterweight. Trudeau's early efforts fell on deaf ears – "Europeans, focused on continental unity, were not sensitive to Canadian concerns about the drift toward integration with the US".[121] Canada's remaining links with Britain did not help the situation, given France's determination to keep Britain out of the European Economic Community (a predecessor to the European Union).

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[121] Hunt, Sokolosky, … 153.

Trudeau himself further damaged his cause when, in April 1969, he embarked on a program to repatriate Canadian defence policy and withdraw from Europe. Donald Macdonald, an anti-NATO nationalist, was appointed Minister of National Defence with a mandate to end the commitments. Faced with American and European resistance, Macdonald achieved little other than further alienating the military.[122]

Trudeau nevertheless persisted in efforts to negotiate trade access to Europe, only to face very substantial pressure to increase the Canadian defence commitment. The West German chancellor ultimately presented Trudeau with a "no tanks, no trade" ultimatum in 1972. The resulting round of capital projects included not only the Leopard tank, but also the CF18, the Aurora and the Canadian Patrol Frigate, effectively almost all of the principal weapon systems in use today.[123]

Efforts at European penetration ultimately failed as Europe moved from a simple trade block under the European Economic Community into a full customs union under the European Union. The aim of European integration is to create a common economic market to rival that of the United States and opening trade to Canada, with its tight integration to the American corporate sector, would be self-defeating.

Military cooperation with Europe is thus problematic. While European nations will welcome the presence of Canadians stationed or training on courses for their economic benefit, they have little interest in formal ties beyond the existing NATO structure. European interest in access to Canadian training and support is limited to that which cannot easily be obtained in Europe, namely wide open air space for flight training such as is provided by Gander and the NATO Flying Training Centre.

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[122] Bland, … 19.

[123] Hunt, Sokolosky, … 155.

Defence industrial cooperation faces similar barriers. In addition, European nations, with their state owned defence industries, prefer to act through government-to-government cooperation. This makes collaboration with Canadian industry, which follows the American pattern of leaving such arrangements to industry to negotiate, difficult.[124]

South America

Canadian ties with South America have never been strong, but distance has not been the only barrier. Until the 1940s, the United States actively resisted any effort to include Canada in the Pan American Union (predecessor to the OAS) on the basis of its status a component of the British Empire.[125] While American reticence faded once the war began, Canada did not change policies for fear of harming its own status for the British. In the 1960s, the issue became American dominance of the organization and the risk of being drawn into supporting imperialistic actions.[126] By the time the Trudeau government began looking for counterbalances to US economic influence, the dominance of military dictatorships in South America precluded its consideration.

Political reform in South America has advanced rapidly in the last decade and some South America nations have actively sought Canadian military cooperation. Memories of human rights abuses linger in the Canadian Foreign Affairs department, however, and to date their overtures have largely been rebuffed.[127] Even without this impediment to cooperation, the distances separating Canada from South America will continue

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[124] *Learning From Defence Restructuring, ...* 22

[125] Dickey, ... 169.

[126] *Ibid*, 170.

[127] Representatives of the navies of Peru and Chilli presented direct requests for access to naval training to Director of Naval Personnel and Planning, Maritime Staff during the author's tenure as DNPP 3-5. Staff were directed to refer the requests to Foreign Affairs, where they were largely ignored and subsequently declined.

make travel costs an economic impediment to large scale cooperation. Nevertheless, South America militaries offer one of the few opportunities for cooperation with allies on a more or less equal scale.

Asia-Pacific

In the 1980s several Asian nations opened their markets to American style capitalism, triggering an explosion of dramatic economic growth that became known as the 'Asian Tiger'.[128] Asia-Pacific soon became the financial hot spot and Canadian politicians actively promoted it as a counterbalance to American economic domination. Asian nations, flush with cash, began a military buildup in the 1990s. The market bubble burst, however, in 1997-98 based on overly aggressively lending and over evaluation of stocks. The region has still not fully recovered and many of the military programs remain on hold or have been cancelled outright.

While the possibility remains for Canadian military cooperation in the region, it is not without difficulties. There is of course the perennial problem of high travel costs and language barriers, but two more fundamental problems provide the true barrier. The first is that "there is no 'Asia-Pacific'. Asia is a portfolio of countries diverse in culture, size, stage of economic development – and local 'business system' and 'style'."[129] Efforts at cooperation will require considerable diplomacy and consideration, likely offsetting much of the potential savings. It is the second fundamental problem, regional instabilities, that provides the most significant barrier to cooperation. Several of the world's hot spots are located in the region, including the North & South Korean standoff, the China-Taiwan tensions and overlapping claims of a host of nations to resource rich regions of the seabed in the South China Sea. Tight military ties to the

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[128] Longworth, Richard C. "The New Global Economic Order." *Microsoft Encarta Encyclopedia Deluxe,* 2001 ed.

[129] Harbinson, … 107.

region will at the very least limit Canada's diplomatic manoeuvrability and might even risk embroilment should one of the disputes break out into open conflict.

Within the region, only Australia offers attractive opportunities for active cooperation. Distance of course remains an issue, but the recent push by Australia to align itself tightly with the United States as a shield against regional tensions creates a window of opportunity. Canada's reluctance to support the recent war on Iraq and related unfortunate outbursts of anti-Americanism will likely be a cause for caution on the part of Australia, but are unlikely to have done any permanent harm.

NATIONAL STRATEGIES

The options for Canadian defence planners are also constrained by the national strategies imposed by political leaders. While strategies are in fact changeable, the following three principal policy lines have been of perennial concern to Canadian political leaders and the public in general.

Middle Power Status

Canada's disproportionate contribution to the Second World War yielded tremendous dividends in the aftermath. Canada's industrial development had been advanced tremendously and the devastation of Europe temporarily eliminated a traditionally dominant competitor while the rebuilding effort provided a market for Canadian goods. Military Canada also stood as a significant member of the winning coalition and a middle power in her own right. The situation was partly an illusion. Canadian factories had largely been confined to branch plant manufacture of British and American designs and lacked the technical ability and capital resources to compete in a recovering global market. Moreover, the large scale fighting forces were rapidly demobilized and much of the equipment had little peacetime value.

Nevertheless, Canada persisted in middle power pretensions in an effort to preserve its influence in world affairs. This shaped the nature of equipment purchases and provided the argument against abandoning a diverse capability structure. The defence cutbacks by Trudeau in the early 1970s were the first indication that status as a middle power was waning.[130]

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[130] Dickey, … 145.

A Canada becoming more of a dependent and less of a partner in North America
defence, while at the same time drifting further away from European security affairs, is
bound to find its seat at the table increasingly uncomfortable. The only thing more
unsettling to Canadian Foreign and defence policy would be not to have any seat at
all.[131]

Canadians are evidently not yet prepared to relinquish the notion of being an influence
in world affairs and therefore the military can continue to expect to be tasked to accept
roles in global disputes beyond their limited means. Strategic lift will therefore remain
a requirement that might otherwise be avoided.

Multilateralism

Canadian politicians take great pains to paint Canada as committed to multilateralism,
but it is not evident they fully understand the implications behind such arrangements.
The first and most enduring commitment for Canada has been NATO, Canada having
been a driving force in its formation. The value for Canada in stationing troops in
Europe was that it offered a means of obtaining 'a seat at the table' commensurate with
its middle power status. For Europeans, however, it was a means of ensuring the
Canadian government would not have "time to consider its response to any attack on
Europe."[132]

The political motivation behind the NORAD alliance had much more practical goals. It
two reasons behind NORAD renewals – goodwill with US and the cost savings vice
what we would require to buy ourselves without it.[133] As Paul Hellyer put it:

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[131] Hunt, Sokolosky, … 161.

[132] Bland, … 249.

[133] Dickey, … 63.

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> "The primary purpose of Canada's defence programs is to enable her to
> participate in a system of alliances … Canada is in a position neither to pursue
> an independent policy nor to avoid responsibilities."[134]

While alliances seemed to offer a means to avoid rising defence costs, the ensuing
commitments left little budget freedom to address national requirements.[135] The issue
became acute when the cutbacks of the 1970s and meant that it was never possible to
seriously address Arctic defence.[136] External commitments will continue to drive
defence planning and prevent the Canadian military from economizing through the
adaptation of low capability equipment suited for constabulary roles at home.

Soft Power

Canada has long struggled to project a moderate image associated with its early support
of peacekeeping and this has translated into a reluctance to commit the military in a
crisis. Efforts by Brian Mulroney and Joe Clark to preserve a non-aligned status while
simultaneously joining the coalition against Iraq negated the already negligible combat
value of Canada's military contribution. The decision to permit CF-18s to engage in
active bombing only after the Iraqi ability to resistance had effectively ended only made
Canada appear opportunistic.[137]

Lloyd Axworthy's subsequent appointment as Minister of Foreign Affairs led to an
even more radical position. Axworthy noted the impact globalization had had on
accelerating democratization and human rights and promoted the idea that it was now
possible to assure global security by means other than military. Described it as 'soft

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[134] Bland, … 226.

[135] *Ibid*, 68.

[136] *Ibid*, 151.

[137] *Ibid*, 201.

power', Axworthy advocated increases to foreign aid and active involvement of social groups, at the same time providing a convenient justification for the continued under funding of the Canadian military. Perversely, Axworthy argued at the same time that protection of human rights should triumph over national sovereignty. That such intervention was likely to be resisted by the target nation was dismissed until events in Rwanda, Somalia and Bosnia revealed the utter ineffectiveness of UN peacekeepers without American firepower firmly behind it.

The experience reinforced the military doctrine that a force capable of high intensity operations is necessary in order to undertake peacekeeping operations "without adversely affecting the capability to carry out other commitments and, at the same time, retain a reserve capability."[138] At the same time, the popularity of the 'soft power' notion with politicians and the public ensure that major weapon system acquisitions will face challenges.

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[138] Hunt, Byers, … 192.

PART 4 – UNIFICATION AND INTEGRATION

Having established the forces at play on militaries globally and the unique pressures present in Canada, the impact of Canada's military structure can now be discussed. Canada's boosts a unique defence structure in which the three military branches have been merged into a single service, referred to generally as unification. More radically, the traditional civilian Defence Department has been merged with the former military headquarters, referred to as integration.

Every other country in the world has organized its defence around the concept and tradition of at least three separate armed services – army, navy and air force and a separate and independent civilian oversight agency.[139] In an age in which jointness dominates military discussion, it might seem strange that no other nation has followed suit. The simple answer lies in the marked poor performance of the Canadian Defence system under this structure. While much is made of Canada's low defence spending relative to its Gross Domestic Product, the fact remains that in real dollars Canada ranks among the eight largest defence spenders, a group that collectively account for 85% of world defence expenditures.[140] Yet Canadian combat capability is remarkably low and its Defence Industrial Base has almost completely eroded.

Ironically, the Canadian Defence restructuring was undertaken in a deliberate effort to improve efficiency, in particular to obtain economies of scale by the consolidation of functions performed redundantly by the three services. Its manifest failure is the outcome of two faults. The first is the outright failure to recognize that economies of

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[139] Chrichley, Canada's Defence, … 226.

[140] Kennedy, … 17: The other seven leading spenders are America, Russia, Federal Germany, France, Britain, Italy, Canada and China.

scope were also at issue. The second was the hostile military-civilian climate under which it was carried out.

This section will first examine the sources of the military-civilian hostility and then detail how this hostility adversely affected the reorganization of the CF. It will conclude by examining the effects of the current structure in today's climate.

MILITARY – CIVILIAN TENSIONS

Canada boosts a long history of conflict between Canadian military forces and their political masters.[141] Under the British North America Act defence and foreign policy remained an Imperial responsibility and the early Canadian political leaders on the much more pressing issues of internal unity and the economy. Sir John A. MacDonald

preferred to keep the militia simply equipped. In that state they would not become efficient and demand more; nor would they be attractive to British planners who wanted Canadians to participate officially in the defence of the Empire abroad.[142]

The rising danger of a conflict with Germany at the beginning of the 1900s forced Britain to withdraw her last army and navy garrisons in Canada for defence of the homeland, but by that time any threat by the United States had receded. Canadian politicians had "faith in the Monroe Doctrine and they intuitively [understood] that "free-riding" on American defence capability is a rational defence policy …".[143] As a result, defence policy was not a public priority and rarely a political one. More critically, Canadian politicians tended to rely on the United States more for military advice than their own officers.[144] Canadian military officers, faced with limited interest and funding by their own government, not unnaturally focused their allegiance on their British superiors.

In the early 1900s, as war with Germany became ever more certain, Canada was faced with increasing pressure to contribute to the Imperial defence burden. Wary of the

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[141] Bland, … 157.

[142] Hunt, Haycock, … 46.

[143] Bland, … 20.

[144] *Ibid*, 18.

tendency for British military to make defence policy without reference to the self-governing Dominions, Canada refused to directly contribute funds for the Royal Navy, instead opting for the creation of the Royal Canadian Navy (RCN). As Sir Wilfrid Laurier stated bluntly "If you want our aid, call us to your councils".[145] This streak of independence did not extend far – at the 1911 Naval Conference Canada conceded "Dominion Navies will be under Dominion control in peace [but] Admiralty control outside home waters [and will] revert to full Admiralty control in time of war, if and when so placed by the Dominions".[146]

Tensions re-emerged after World War I as the Canadian military was cut to the verge of extinction. National mobilization submerged them again as senior military leaders were added to the War Cabinet and enjoyed a period of influence unheralded in Canadian experience. The end of the was saw them abruptly returned to the shadows and hasty de-mobilization left the military scrambling to meet the Soviet threat.

Canadian defence in the 1950s began to show the strain of the combined pressures from the technical revolution, the developing arms race and the unrecognized weakness of its defence industrial base. Efforts to develop fighter aircraft and destroyers to substantially Canadian designs ran into costly overruns and the pace of technical change rendered them obsolete even before the final units came off the production line.

Canadian politicians became increasingly concerned by the spiralling costs of weapons and, failing to recognize the global changes behind them, ascribed the problem to mismanagement by the military. It was in this already poisoned atmosphere that Canadian defence faced three crisis in succession: the NORAD Treaty, the Avro Arrow cancellation, the Cuban Missile Crisis, and the BOMARC Missile Issue, all of which

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[145] Hunt, Gough, … 20.

[146] *Ibid,* 27.

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coincided with the term of the Diefenbaker government. It was a recipe for trouble even without Diefenbaker's personal aversion to defence issues.[147]

The NORAD issue exploded in the very first days of the new government. The treaty negotiations had been well advanced and an agreement eminent in 1957, but were sidelined by an unexpected election call.[148] The government was defeated and the new defence minister was presented with the complex treaty. The minister immediately took it to Diefenbaker, who signed it without even cabinet review.   The opposition, who as the previous government had negotiated the treaty, nevertheless attacked Diefenbaker for having acted too hastily. The government opted to contain the damage by chastising senior military officers "… for hoodwinking the government into accepting a major defence agreement simply to serve military interests without considerations of all its other national implications".[149]

This incident drove a permanent breach into military relations with the new government, but also had a lasting impact on politicians of all parties:

> Rightly or wrongly, fairly or unfairly the impression exists in Canada that the
> real decision to establish NORAD was made by Canadian military officers in
> discussion with USAF officers and that this took place without the prior, full
> and continuing comprehension of either the Liberal Cabinet, under which the
> discussions began, or the newly installed Conservative government, which
> took responsibility for implementing the military agreement.[150]

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[147] Bland, … 133.

[148] *Ibid*, 52.

[149] *Ibid*, 66.

[150] Hunt, Jockel, … 163: quoting Melvin Conant

Relations between the RCAF and the government were therefore poor, but soon worsened as costs of the Avro Arrow project, initiated in 1953 under the liberal government, spun out of control. The Minister of Defence, George R. Pearkes, distrustful of RCAF officers, turned to the Americans for advice:

> I had the assurance that the Americans at this time had lots of fighters...and I was talking to the Under Secretary of Defence...he said to me, 'If I was you, I wouldn't put all that money into that aircraft - if you don't want to buy aircraft from us, you may rest assured that we've got lots of them which we can use in the help of the defence of the North American Continent if a crisis comes. And that's what convinced me more than anything else ...[151]

Diefenbaker's cancellation of the project set off a firestorm of controversy that continues to this day, but of more immediate impact it transformed the relationship between the government and the leaders of the RCAF from one of mutual distrust to open hostility.

The Cuban Missile Crisis of October 1962 not only worsened the situation, it revealed the degree of subordination of Canadian military leaders to American commanders. Lacking any positive direction from the government, the three branches of the military responded in accordance with long established plans. The army began mobilization of units for dispatch to Europe, air force went to high alert and the navy loaded war stores and ordered ships to sea. When these preparations were noted in Ottawa, Diefenbaker's government tried to take action to regain control, but recall notices only generated

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[151] Interview by Dr. Reginald Roy - April 5, 1967; available from http://uviclib.uvic.ca/schoolnet/digicol/pearkes/plv5/parrow.html; Internet; accessed 5 March 2003.

confusion. The defence minister subsequently sided with the service chiefs, shattering cabinet unity.[152]

The nadir of Canadian military-civilian relations soon followed in the lead up to the 1963 election. Senior officers of the RCAF orchestrated a public relations campaign against the Diefenbaker government over its refusal to arm BOMARC missiles with nuclear warheads. The issue was directly responsible for downfall of Diefenbaker government and confirmed to politicians that the military placed relationship with US allies above their own government.[153]

Diefenbaker's defeat was a pyrrhic victory for the RCAF. Lester Pearson, the newly elected prime minister, believed defence was a political liability that had finished Diefenbaker and might ambush his own government with spending demands. He therefore appointed a strong minister of national defence in the form of Paul Hellyer to prevent it.[154] Hellyer's first love was macro-economics and he had wanted finance ministry. Stuck with defence, he was determined radically improve the department in order to bolster his own political ambitions. Moreover, he sought to protect himself by insisting that critical budget decisions be made at the military level, not passed up to the minister.[155] Thus the seeds were sown for unification and integration.

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[152] Bland, … 67.

[153] Hunt, Granatstein, … 136.

[154] Bland, … 67.

[155] *Ibid*, 68.

UNIFICATION

Prelude

Hellyer's appointment as Minister of National Defence, full of determination to exert his will, coincided with a desire amongst Canadian military leaders for some form of organizational improvement at the top of the defence structure. The pressure for reform had begun in the 1920s, when the increasing cost of replacing wartime equipment began to bring the three services into budgetary competition for the attention of a war weary government. Lieutenant-General Sir Arthur Currie, then Chief Of the army General Staff (COGS), argued for a single defence ministry as early as 1920[156]. It was legislated into effect in 1923, but disbanded again by 1927 when personality clashes and intransigence between the various service leaders and the deputy minister, G.J. Desbarats, who feared a strong Chief of Staff (COS) would undercut his power. It was replaced by a series of boards, committees and sub-committees, the highest being the Joint Staff Committee (JCS), but even it was relatively powerless.[157]

The issue promptly resurfaced in 1928, championed by the new COGS, Major-General Andrew McNaughton, but he sabotaged his own initiative by insisting the Army provide the it be the COS be the army commander, with the air and sea commanders and Deputy Minister subordinate. The initiative ended with his retirement in 1935.[158]

The three services acted independently during the war, under foreign operational command and the need for a unified staff was pushed to the background.[159] When the

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[156] Bland, … 31.

[157] *Ibid*, 32.

[158] *Ibid*, 37.

[159] Bland, … 42.

war effort emerged as a national mobilization, a Cabinet War Committee was formed which all three service Chiefs. This resulted in sidelining of their respective deputy ministers and created another area of tension.[160] The end of the war, however, promptly terminated the political influence of the service chiefs and returned the issue of defence reform to the front burner. Bruce Claxton was appointed as 'Minister of National Defence' and instructed "to bring about the utmost possible degree of unification and coordination" amongst the three service departments.[161]

Claxton oversaw the replacement of the three acts governing the services with the single National Defence Act and by 1951 had reorganized the civilian department into a single, unified entity renamed the National Defence Headquarters (NDHQ).[162] The three services were placed nominally subordinate to a single Chief of Staff Committee (COSC), but the individual service chiefs retained the right to bypass the COSC to address the minister directly, and did so routinely.[163] Claxton also tried to advance unification in a simple manner, by having one service perform common functions, such as transport, medical, on behalf of others.[164] In so doing, where it succeeded, he effectively gained many of the possible economies of scale available to the CF well before formal unification under Hellyer.

The weakness of the COSC remained a trouble spot and the pressure on military budgets by rising equipment and personnel costs continued to bring the services into conflict. The military itself recognized the problem and in 1956 the COSC, General Charles Foulkes, proposed a complete reorganization under a single Chief of Defence Staff (CDS). Foulkes' plan included functional groups and even foresaw a need for

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[160] *Ibid*, 41.

[161] *Ibid*, 43.

[162] *Ibid*, 64.

[163] *Ibid*, 63.

[164] *Ibid*, 49.

joint formations, but did not incorporate unification into a single service. Moreover, he emphasized that Canada should focus was on collective defence, making it "no longer necessary … to maintain complete capability in all fields".[165] The issuing turmoil of the Diefenbaker years, however, put the issue on the back burner.

Diefenbaker's election focus was on public welfare and, as a result, the early 1960s saw social spending begin its intractable rise as a percentage of government expenditure. It was readily evident to DND that any future increase in capital funds must necessarily originate within the department. At the same time, growing professionalism in the civil service saw the first efforts to apply business concepts to defence management.[166]

The financial stress on the government was spread across all departments and in 1961 a Royal Commission on Government Organization (known popularly as the Glassco Commission) was formed with the mandate of finding efficiency. The Commission approached defence as simply another department, with no particular expertise or intent. Military leaders testified to universal frustration with committee system and expressed support for a single CDS.[167] Testimony by Major-General Anderson, Adjutant General of the General Staff, the "led committee to believe that a single CDS could overcome all past problems by virtue of the authority implicit in a military chain of command".[168]

The Glassco Commission, with its narrow mandate, did not delve further into the pressure on the defence budget. It had been handed a ready villain for perceived mismanagement of defence capital program in the form of inter-service rivalries. The issue of increasing technical complexity and rising personnel costs received scant attention.   That the United States, Britain and others facing the same issues had

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[165] Bland, … 51.

[166] *Ibid*, 58.

[167] *Ibid*, 53.

[168] Bland, … 55.

responded by establishing a single joint Chief of Staff over their services seemed to confirm the Commission's findings.[169] The result was an obsession with having one defence budget developed and the widespread perception that defence budget issues were solely the result of the three services arguing over concessions from each other.[170] In hindsight, it is possible to see that the real problem was one of capital rationing. The cost of advanced defence technology had risen beyond the level at the point at which Canada could sustain its middle power pretensions.

Hellyer's Drive to Unification

Paul Hellyer had two competing objectives as he assumed his duties as Minister of Defence. He was determined to make his mark as a future candidate for Prime Minister and at the same time determined not to allow the military to sabotage himself or his party in the manner they had done for Diefenbaker. His first priority was control and he believed a single CDS would facilitate this – he would have "only one officer to control instead of three".[171] The Glassco Commission provided all the rationale necessary and Bill C90 was implemented in 1964 to create a single CDS, responsible for the provision of joint advice to the government.[172]

Bill C90 included not only a single CDS, but also a new Canadian Forces Head Quarters (CFHQ).   This was a purely military structure and was intended as a strategic headquarters and had no role in the command of troops in the field.[173] The new CDS, General Miller, insisted on separating himself and staff from any operational role: "… [the] integration I speak of has to do with the management or command [levels] rather

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[169] *Ibid*, 59.

[170] *Ibid*, 65.

[171] *Ibid*, 73.

[172] Bland, … 26.

[173] *Ibid*, 17.

than the fighting elements themselves …".[174] Hellyer's hastily drafter Bill C90 had, however, inadvertently included a poison pill. The bill had transferred all legal responsibilities of the former services chiefs to the single CDS, in contrast to the example of other nations where the individual chiefs retained responsibilities in areas of expertise. Hellyer's move "… combined with traditional ideas about command relationships embedded in the military hierarchy, laced the new CDS in a de facto command position. … [and] made the unification inevitable"[175]

The formation of a joint CFHQ and single CDS had little impact on defence costs, which continued to spiral. The problem had never been fundamentally organizational, but rather the global pressures on defence resulting from the arms race and rising personnel costs. Nevertheless, Hellyer remained convinced the problem was structural:

> In Hellyer's estimation the increasing costs of Canadian defence and the
> obviously declining return for defence expenditures were ascribed to a
> debilitating organization whose faults were evidenced in so-called inter-
> Service rivalries, duplications in support services, old habits of command and
> decision-making, and a "committee system" of policymaking that was
> controlled by three Service Chiefs each of equal authority. Hellyer declared
> that he was forced "either to greatly increase defence spending or to
> reorganize. The decision was to reorganize."[176]

Hellyer therefore ordered the department to begin planning for the unification of the three services into a single military organization. Focused on economies of scale, "Hellyer expected significant returns for his efforts, predicting, for example, that the reorganizations would lead to savings that would permit 25% of the budget to be

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[174] *Ibid*, 75.

[175] *Ibid*, 76.

[176] Hunt, Bland, … 212.

devoted to capital equipment."[177] The 1964-65 unification planning effort was, however, beset by the problem of "recognizing for expert environmental advice, necessitating 'element' representatives in each policy area".[178] The problem was in fact one of economy of scope – the diverse training and operating patterns of the three services were difficult to accommodate in a single policy.

Hellyer, overbearing by and predisposed to distrust military officers, was not about to accept any resistance. Hellyer had the ability to silence any Public Service opposition under traditional ministerial authority to dismiss any public servant publicly contradicting policy. Military officers, being subject only to the CDS under the National Defence Act, were a different matter. Hellyer "was forced to isolate opponents by characterizing any who resisted as 'revolting against civil authority'".[179] Hellyer began to secretly assess 'loyalty' of officers selected for senior positions and opted to replace Gen Miller as CDS by General Jean Allard, whom he believed to be politically docile. This necessitated accelerating him through the ranks and many senior officers reacted to this affront, combined with frustration with freight train of unification, by resigning.[180] Thus Hellyer took personal charge of unification, dismissing "… operational arguments [as] but thinly disguised attempts to retain the three services under other names".[181]

The outcome was that senior military positions controlling unification planning were filled by less experienced officers with sycophantic loyalty to the minister. Unification was enshrined as an article of faith and therefore essential environmental differences could not be recognized or respected. The attitude prevailed that any function that

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[177] *Ibid*, 213.

[178] Bland, … 78.

[179] *Ibid*, 156.

[180] Bland, … 85.

[181] *Ibid*, 77.

could be unified should be, whether or not it was warranted.[182] The irony is that this resulted in increased costs rather than increased efficiency.

An example is provided by service vehicle support in Canada's two shipyards. The navy's requirement was for simple commercial pattern vehicles, i.e. pickup trucks, to be used in standard industrial service and with no possibility of operational employment. Under unification, however, maintenance was assigned to uniformed army vehicle technicians and the vehicles were subjected to the same vigorous maintenance routine developed for armored fighting vehicles. - C90 provided for the CDS, C243 for unification. Not only did this impose significantly higher costs without benefit of economies of scale, the assigned uniformed personnel represented a reduction in the number of deployable personnel available for the army – after all, the navy's industrial support requirement would not disappear in the event of conflict.

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[182] *Ibid*, 11.2

INTEGRATION

It soon became evident that Hellyer's new defence structure was not providing the promised benefits. Costs continued to grow, capabilities continued to decline and the military-civilian tensions prevailed. The CFHQ's strategic role overlapped that of the civilian defence department, NDHQ, and military officers began to suggest that the Deputy Minister's role had become redundant in that they were now coordinating military policy.[183]

The rise to power of Pierre Trudeau in 1968 brought a new dynamic to the mix. Trudeau was not genuinely hostile to defence, he was simply indifferent to it and had little confidence in Canadian officers.[184] Moreover, as an ardent nationalist, his focus was on internal domestic issues and societal development. Trudeau understood that Canada faced little threat under the American defence umbrella and therefore had little interest in NATO and NORAD commitments. Trudeau soon became frustrated by military staffs continuing to demand resources for allied tasks that he considered and in 1970 appointed Donald Macdonald, a firmly anti-NATO nationalist, as defence minister.[185]

In 1971 Macdonald created the Management Review Group (MRG):

> ostensibly to bring modern management techniques and organizational ideas
> into the CF and DND. The real aim of the review, however, was to reorder the

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[183] Bland, … 84.

[184] *Ibid*, 133.

[185] *Ibid*, 95.

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structure of the defence establishment and to take the decision making process out of the hands of the CDS[186]

The MRG blamed weak deputy ministers for allowing the CDS to establish control and recommended that CFHQ be integrated with NDHQ, with the CDS made subordinate to the deputy minister. Civilian Assistant Deputy Ministers (ADMs) were to be created for logistics and other functions. Planning was to be civilian controlled and the MRG saw no need for the formation of an operational headquarters given the effective control of Canadian Forces by both NATO and NORAD.[187]

Macdonald moved swiftly to implement the merger of the CFHQ and MND to form National Defence Head Quarters (NDHQ). [188] The plan was poorly executed and incomplete in that cabinet determined the necessary changes to the National Defence Act to subordinate the CDS to the deputy minister too controversial to risk introduction in parliament.[189] The deputy minister, C.R. Nixon, was a forceful personality and determined to protect his own power base. The CDS, General Dextraze, attempted to smooth relations by inviting Nixon to attend the daily military briefing. The overture backfired – Nixon "exerted himself into discussions and soon turned them from operational briefings to Daily Executive Meetings – this in turn led to further entangling of administration and operational issues".[190]

Senior places in the new NDHQ had been intended to rotate between military and civilians, but by 1977 they hardened into designated military and civilian positions.[191]

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[186] Bland, … 97.

[187] *Ibid*, 97.

[188] *Ibid*, 25.

[189] *Ibid*, 17.

[190] *Ibid*, 161.

[191] Bland, … 99.

Subordinate staffs expected to conform to the orientation of their superior, but civil servants remained psychologically committed to the deputy minister regardless of position, and military personnel likewise to the CDS and/or their element commander. The net result was a complex matrix type decision making with no overarching policy direction.[192] NDHQ:

> … became bogged down. It had the greatest difficulty transacting headquarters' business … in defining policy, exercising leadership, making clear statements of objectives and goals, and setting standards for the operations and support of operational formations and plans …

> General G.C.E. Theriault, CDS 1983-86[193]

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[192] *Ibid*, 82.

[193] *Ibid*, 162.

POST UNIFICATION EVENTS

1970-76 saw a parade of five defence ministers and the retirement of most of the key players in the unification and integration debates. In the interim, efforts by the military to restore effectiveness saw a gradual re-introduction of the three services at the command level. Proponents of unification such as Douglas Bland have attributed this to simple service parochialism taking advantage of the power vacuum left by the turnover of senior leaders.[194] While service rivalries and resentment of unification no doubt played a part, the underlying issue of economy of scope was at play.

In 1979 unification and the common uniform was used as election issue by Joe Clark conservatives, but the newly appointed defence minister Allan McKinnon was "surprised to find the CDS and deputy minister not keen to change." The CDS opposed any reversal out of a combination of genuine concern with change fatigue and fear that a it might threaten his own power.[195] Deputy Minister Nixon was equally opposed for fear of a resurgence of military influence and wrote a paper defending status quo entitled 'Unification/Integration: A 1979 Perspective'. McKinnon was not unconvinced by either argument and in September 1979 ordered the formation of a 'Task Force on Review of Unification'.[196]

The Task Force was inundated by harsh criticism of unification by field level officers and below, but arguments were often based on leadership issues and failed to provide a convincing counter to the economies of scale provided by unification. That the issue of economy of scope was not raised should not be surprising, for at this time the impact of

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[194] Bland, … 98.

[195] *Ibid*, 148.

[196] *Ibid*, 102.

the Japanese import flood was only just beginning to be felt and the concept was only beginning to take shape in the corporate sector. The Task Force response therefore focused on the clearer issue of the lack of responsiveness by NDHQ to field level concerns. It recommended that "commanders of commands be made members of the Defence Council and DMC and, if that didn't work, that three environmental heads of services be established at NDHQ".[197]

The unexpected defeat of the Clark government in early 1980 "left the environmental commanders out to dry for arguing against liberal policies". The new minister, Gilles Lamontagne, was focused on avoiding public controversy and therefore could not ignore the Task Force findings. He opted to appoint Major-General Jack Vance to:

make an honest appraisal of the report with three overriding caveats. The review would protect unification and the amalgamation of headquarters, and it would keep the commanders out of Ottawa. The CDS and the deputy minister could find a way to manage every other recommendation within the existing structure so long as the controlling power of NDHQ was undisturbed.[198]

Vance's appraisal was submitted with the pre-directed findings, but he did manage to salve his conscious by allowing that unification had been taken to extremes in some areas where it was inappropriate.[199] The betrayal of the field commanders could be expected to their resentment and possible provide an avenue for public controversy. Lamontagne therefore defused hostility by adding commanders of commands to the

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[197] Bland, … 106.

[198] *Ibid*, 111.

[199] *Ibid*, 112.

Defence Council and Defence Management Council. They would to remain, however, based outside of Ottawa.[200]

The conservatives made unification an election issue again in 1988 and Mulroney's election victory might have paved the way for a serious review of defence structure. Regrettably, the new defence minister, Robert Coates, turned out to be a loose cannon and poisoned defence relations with the Mulroney cabinet.[201] The only serious outcome was a reversion to three uniforms, a development received positively by many service personnel but regarded as an unnecessary expense by senior officer struggling to contain rising costs on major capital replacement projects.

Downsizing

Coates' departure as MND provided a narrow window of good relations between the military and the government, but they were fractured again by severe budget cuts in 1989 that gutted the 1987 white paper. Canada's growing deficit crisis was well understood and cuts had been expected, but military leaders were alarmed to learn that the cuts came with no related commitment changes. NDHQ provided little direction, leaving it to lower level commanders to determine for themselves how to implement the cuts.[202] The lack of a high level appreciation of the situation resulted in the 1990 reviews focusing on finding economies rather than fundamental organizational reform.[203]

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[200] Bland, … 113.

[201] *Ibid*, 139.

[202] *Ibid*, 141.

[203] *Ibid*, 123.

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The Somalia Crisis

Financial cuts without accompanying organizational or commitment changes are rarely successful. Commanders tended to cut the less visible functions first, such as logistics, planning and administration. The impact of across the board cuts is often highly damaging. America experience highlighted the dangers:

[the] recent trend [is] toward orders to reduce expenses 5-10%, without regard for which sections are expanding, contracting or steady state … Congress engaged in this behaviour with the passage of the Gramm-Rudman bill, which programs automatic reductions in spending ... [evidently] Congress has concluded that it is unable to make wise decisions in consideration of facts, and in frustration it is willing to submit to mindless adherence to rules.[204]

In 1993 the political, bureaucratic and policy problems of the department converged to set the stage for tragedy. Weakness of operational control and logistics support provided the conditions for the breakdown of discipline in Somalia.[205] The instinctive reaction of the combined military-civilian staff was to avoid public controversy and attempts to keep the storey out of the press exploded into allegations of a cover up operation. An assessment by Douglas Bland regarding Hellyer's behavior applies equally to the NDHQ handling of the Somalia situation:

> A minister, in any department, who reins in his subordinates too tightly or who is intolerant of opinions that are contrary to "the party line" risks developing a sycophantic staff. In highly technical and complex fields, like defence, a

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[204] Miller, … 130.

[205] Bland, ... 123.

group of "yes-men" might easily mislead a minister by acquiescing to his wishes when they know that the facts or the situation demand otherwise.[206]

Effects of Unification and Integration

The most profound impact of unification, and in particular the zealousness with which it was pursued, was that the Canadian Forces moved to standardize even the most mundane procedure in all units just at the complexity of modern warfare was increasing the diversity required:

Unification resulted in certain procedures and modes of organization or administration as practiced in one or another of the former services chosen to be applied across-the-board without regard for potential impacts on operational effectiveness[207]

As the consequences of this became evident, the military tried to counter it by adding service expertise: "By 1972, it was common practice in the personnel section to include 'fair' representation of officers from each service in all staffs in the HQ".[208] This had the impact of undoing the hoped for economies of scale and slowing decision-making. Administrative functions that might easily be handled as a secondary duty in one of the old service headquarters were now executed by a combined staff of three or more, unavailable to their old commands and removed from the issues. Decisions by committee inevitably take longer, delaying the administrative process.

The communalization of personnel policies made it difficult for commands to tailor training, advancement and leave to the particular circumstances of their environment. A large bureaucracy has grown to struggle with the continuing debate of which training

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[206] *Ibid*, 46.

[207] Critchley, … 234.

[208] Bland, … 206.

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belongs in which Development Period and the various Commands have been moved to implement supplemental courses to accommodate the needs of their environment. A leave travel policy established for Army units deployed oversea has been extended to the Navy, notwithstanding its unique operating rhythm. Canadian ships now routinely rotate personnel home, making it impossible to maintain a fully worked up team.

Integration simply made the problem worse by introducing confused authority between military and civilian personnel. It is an awkward arrangement in which the military personnel legally are not subject to direction by the deputy minister and civilian public servants are likewise not subject to the military code of service discipline nor can they be accountable to military officers.[209] Yet both groups are deemed subject to Treasury Board Public Service regulations in the matter of pay & allowances and procurement.[210] Linking of military salaries to the unionized civil service has also severely constrained the flexibility of the pay system in responding to the rise of specialization.[211]

Integration also places officers "in areas of civilian authority with no background in the bureaucratic processes of Ottawa", contributing to continued scandals related to procurement regulations.[212] Ironically, although unification and integration had been intended to increase civilian control, it has perversely resulted in increased military influence by virtue of the increased military presence on senior committees.[213]

The most profound flaw, however, has been the adaptation of the complex matrix system. Matrix systems were the corporate flavour of the moment at the time of

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[209] Bland, … 154.

[210] *Ibid*, 145.

[211] Hunt, Byers, … 259.

[212] Bland, … 165.

[213] Critchley, … 239.

unification, when business first tried to get a grasp on managing complexity. The long term experience, however, was overwhelmingly bad:

> … many companies found that it created more trouble than it was worth. The layering of workers within many matrix structures added to corporate bloat. The multiple bosses this system implies created, in effect, a new layer of management that added to costs while slowing corporate decision making.[214]

Canada is not unique in this regard – a contemporary assessment of the America defence infrastructure, which also adopted matrix management, found:

> "Key defence problems that need to be considered as a whole by people relatively close to the action are fragmented among competing services and overlapping civilian and military jurisdictions. And the entire operation is put together in a global matrix organization with a combination of functions and divisions that rivals the complexity of even the most belabored corporate structure."[215]

While the problems above are directly traceable to the structure resulting from unification, one other organizational issue continues to plague military efficiency. Militaries the world over have clung to the layered hierarchy first developed to allow individual leaders to control large bodies of men in an age of communication by shouting. Contemporary business practice is to delayer, taking advantage of modern communications systems.

The excessive amount of layers in the military structure has been identified as a cause in failed missions. The United States Defence Department concluded that the chain of

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[214] Tomasko, … 186.

[215] *Ibid*, 11.

events that led to the loss of a Marine Battalion in Beirut to terrorist attack despite intelligence warnings was at least partially attributable to excessive layers: "five layers between head of US force in Europe and [the] commander of [the] Marine battalion [meant] responsibility became hopelessly diluted.[216] Canada's Somalia experience bears a striking similarity.

Maintaining a multi-layer rank structure has additional costs beyond simply impeding information flow. The military performance evaluation system is a complex and time consuming process and tight ties between rank and pay make it an emotional issue. The more individual ranks that are maintained, the greater the administrative effort that is required.

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[216] Tomasko, … 10.

CONCLUSION

The external forces currently impacting defence are common to all nations and are forcing many nations to look for innovative solutions. The focus for most, however, continues to be on achieving economies of scale via base consolidation and cooperative effort with allies. Where they have sought economies of scope, it has been limited to the macro process of abandoning capabilities. Few have considered that the antiquated hierarchical structure shared by almost all militaries are simply no longer appropriate for the modern high technology environment.

Canada's unique situation in the world makes it particularly difficult for her military to economize by the methods of her international counterparts. The United States is both our only economically viable ally in cooperation and our only conceivable threat. Any further military integration must necessarily draw Canada tighter into the US orbit and increase the pressure for economic and eventually political integration. Canada's fragile unity precludes any substantial economization through base consolidation and the middle power ambitions of her political leaders necessitate maintaining a broad array of capabilities. Finally, the near collapse of her defence industrial base leaves little opportunity for outsourcing.

In the absence of alternatives, Canada can ill afford to continue to ignore the particularly inefficient nature of her defence organization structure. The Canadian Forces are approaching a capital crisis by 2015, when a large number of principal weapon systems will reach of the end of effective service life. Without position action to align the organization and development with the modern high technology world, the Canadian Forces face inevitable decline.

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