THE CANADIAN FORCES AND THE DOCTRINE OF INTEROPERABILITY: THE ISSUES

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In June 1999 there issued from the Department of National Defence (DND) over the signatures of the Deputy Minister, Jim Judd, and the Chief of the Defence Staff, General J.M.G. Baril, an unusually ambitious disquisition. *Shaping the Future of Canadian Defence: A Strategy for 2020.*[1] Not a White Paper, officially, it had no formal government approval, certainly no Cabinet imprimatur. It was intended instead as a *dirigiste* inspiration from "the senior leadership team" for the department's working professionals. More precisely, it was described as "a strategic framework for defence planning and decision-making to help guide the institution well into the next century". It would be "updated periodically and used to guide [the DND's] planning, force structure and procurement decisions, as well as our investments in personnel, education and training".[2] Or so its readers were told. And so it was subsequently to be.

For a document with such impressive aspirations, its contents were surprisingly unremarkable. Indeed, they were typical of bureaucratic think-pieces written under the dark shadow (we can only assume) of the Treasury Board. Its language was safely anchored to the leaden vocabulary and conceptual abstractions common to the faddish constructs that pass in our time for 'theories' of organization management. In faithful obedience to what is now everywhere *de rigueur* in Canadian government, there was a discussion of the "defence mission" and of the "Canadian values" that it was intended to embody and preserve.

The values were identified as "democracy and the rule of law; individual rights and freedoms as articulated in the Charter; peace, order and good government as defined in the Constitution; and sustainable economic well-being".[3] There was also a "stakeholder analysis", and an assessment of the "emerging strategic environment" (as conceived in geo-political, military, socio-economic and organizational terms). "Strategic imperatives" were identified, imperatives requiring that the strategy itself be coherent, that it foster pride in the defence establishment among those who labour within it, that it make possible effective collaboration with other departments of government as well as with like-minded states abroad, that it maintain a relevant force structure, and that it ensure a balanced use of available resources.

After these came a list of the attributes—there were 11 of them—that the strategy was intended to exhibit, along with a statement of the vision by which it was to be guided.[4] The pursuit of the vision required in turn the strengthening of "distinctive competencies in five principal domains" (command and leadership; multi-skilled people; doctrine, technology and training; modern management practices; and special relationship with principal allies). These domains were said to build in turn upon the eight long-term strategic objectives of existing defence policy, and the various five-year targets associated with each of them respectively. In relentlessly earnest spirit, these were listed, too. And at the end there was the assertion that

success would be achieved only if the effort were sustained by unity, continuity, resolve and partnership.

The exposition was only 12-pages long, but it is easy to imagine the accomplished Canadian scholar-diplomat, John W. Holmes, complaining, ever so gently, of its lamentable display of "hardening of the categories"—a disease, however, that Holmes himself associated less with policy-makers than with academics whose judgement he thought had been corroded by scholasticism.

Nonetheless, there could be discerned in the plethora of largely empty abstractions at least one concept that had potentially significant practical implications, one quietly revealing display, as it were, of bureaucratic code. Its designation was *interoperability*, and it cropped up in several places in the document, often accompanied by reference to the need to take advantage of new military technologies, and to do so in the company of "our main defence partners in the UN, NATO and coalition operations".[5] This clearly meant, above all others, the United States of America.

Taken at face value, the interoperability concept might at first be regarded as no more remarkable than the document as a whole. In practice, Canada has always operated militarily overseas in coalition with others. This has been true in the conduct of war. It has been equally true in the making, and sometimes the enforcing, of peace—that is, in peacekeeping of both the first and second generation kinds. Indeed, ever since 1949,[6] and arguably since 1940,[7] most of Canada's standing (or contingency) defence arrangements and commitments have been institutionalized in lockstep with the Americans in particular. This has been effected prominently through NATO, but also by way of a host of highly integrated mechanisms for the direct defence of the North American continent. Obviously not all of these arrangements have entailed technical interoperability for the Canadian Forces (CF) at the practical (that is, operational, or combat) level, but they have certainly encouraged it (see below). That being so, the declared dedication to interoperability in *Strategy for 2020* could easily be regarded as no more than a re-statement of traditional practice and continuing necessity. Such re-statement might be regarded as particularly timely, given recent operational experiences in the Persian Gulf and elsewhere, as detailed below.

Having said that, however, it is also clear that the new language reflected an intensifying Canadian defence problem—a problem arising in considerable measure from the contraction of the defence budget, and hence of the country's store of real military assets, particularly when placed in the context of Canada's proximity to the world's only transcendent superpower. Some might not regard this as a problem at all, but rather as the happy consequence of the end of the Cold War. Peace was at hand, and its dividend could therefore be enjoyed. But for practising military professionals, the difficulty was how to sustain a significant capacity for contributing to the resolution of 'pointy-end' security challenges, at *whatever* level, at a time when their assets were so badly run down.

Part of the answer might lie with an advancing military technology—more bang, more accurately delivered, for fewer bucks. But the rest of it could well require operating, not just *in tandem* with others, but as a *wholly integrated* (or at least integration-capable) component of the defence establishments of coalition partners. In practice, once again, this might really mean the defence establishment of the United States. As the leadership document itself innocently observes, "At its core, the strategy is to position the force structure of the CF to provide Canada with modern, task-tailored, and globally deployable combat-capable forces that can respond to crises at home and abroad, *in joint or combined operations*. The force structure must be viable,

achievable *and affordable*." Hence, one of the strategy's "critical attributes" is elaborated to mean a strengthening of "our military relationship with the US military to ensure *Canadian and US* forces are interoperable and capable of combined operations in key selected areas".[8]

Such a stratagem might make perfect sense for a professional military community searching desperately for ways in which to preserve its operational salience and effectiveness. But in principle it could have larger consequences too, among them consequences for the degree of latitude actually available to Ottawa in the deployment of the CF. Clearly this would depend on what "interoperability" actually meant in practical terms. That is the central question that this paper is intended to explore. The need to consider it, as we have argued, has been brought home further by the circumstances—not to say the confusions— surrounding Canadian Forces deployments in the wake of the September 11 terrorist assaults on New York and Washington. Those circumstances provide a clear and present demonstration of realities that might otherwise have been consigned by policy planners and independent observers alike to that vaguely nagging (but not practically salient) category of conceivable, yet improbable, possibilities.

Our discussion begins with a brief exploration of interoperability as a concept. We then attempt to place it, briefly and broadly, in its longer-term historical context, so as to lend perspective to judgement. Our observations on earlier incarnations of the interoperability phenomenon as a feature of Canadian policy are followed by a consideration of the various additional catalysts in support of it that have emerged from more recent operational experiences in the field, as well as from other developments. We conclude with an assessment of the initiatives that are now underway, and an attempt to identify some of their potential implications, both good and bad, for Canadian foreign and security policies in the broader sense.

Interoperability: The Concept and the Rationale

Like many of the common concepts of military discourse, the word interoperability seems relatively straightforward in principle, but its practical implications, if not carefully delineated, can be disarmingly—and confusingly—ambiguous. In the real world, moreover, they can be immensely difficult to put into practical effect.

The standard definition—the one used by the military establishments of the NATO allies, including Canada and the United States—holds that interoperability is the "ability of systems, units or forces to provide services to and accept services from other systems, units or forces and to use the services so exchanged to enable them to operate effectively together".[9] This points to the fact that the concept has both technical and operational dimensions, both of which must be in place if interoperability among coalition militaries is to be fully achieved.[10]

Students of defence literature can easily identify a bewildering array of other military terms that can be used synonymously (and often confusingly) with the interoperability concept— among them "compatibility", "interchangeability", "commonality" and "standardization". In the simplest terms, interoperability is best conceived as lying near the middle of a continuum between basic compatibility at the low end (where systems and forces can operate, as it were, "side-by-side" without interfering with one another's functioning), to complete integration at the high end (where there is an ineluctable element of functional interdependence between systems and forces acting together).[11] Precisely where any particular relationship of military interoperability actually lies along this continuum, of course, can become a sensitive and

sometimes intensely debated political issue, as well as a source of vexation for the military themselves—a point to which we will return below.

It follows from the foregoing that, in the most general terms, the ultimate goal of interoperability is *not* to ensure that all the contributors to a given coalition will deploy identical types of military systems and units, but simply to achieve a more practicable level of cooperation among them. As the DND's current *Strategic Capability Planning* document puts it, "The capability to work seamlessly with our most important allies in an operational setting ensures that we can participate effectively in those crises most likely to affect our vital interests".[12] From the military point of view, the overarching objective is thus to make a militarily relevant and effective contribution to multinational security efforts at the maximum possible level of efficiency. Normally, of course, such a contribution will impart (or at least will be *intended* to impart) political benefits, too, among them: an entitlement to participate in decisions that affect the purposes, the scope and sometimes even the practical conduct of the hostilities; improved access to the intelligence resources of coalition partners (the result of establishing, through direct military involvement, a need to know); and a discernible, if intangible, enhancement of diplomatic influence (a potential by-product of bringing cosmetically useful, as well as practically significant, military assets to the table).

More concretely, interoperability seeks to overcome a number of obstacles to the more effective functioning of multinational forces that have been established on the assumption that their various national components will act in concert. These obstacles are commonly grounded in such factors as: disagreements or misunderstandings over mission goals, priorities and rules of engagement (ROEs); the reliance of different coalition contributors on different types of equipment, or on similar equipment with different specifications; the commitment of the various national forces involved to incompatible tactical, organizational, leadership, or other professional doctrines; the involvement in coalition campaigns of units that have been exposed to unrealistic and/or insufficient training and preparatory exercises; and a variety of other 'soft factors', ranging from different organizational cultures to outright policy disagreements at the highest levels of national decision-making. Left unattended, such sources of behavioural divergence can create havoc in the field, particularly when many of the national contingents involved are not large enough to be logistically and in other respects self-sufficient—precisely the circumstance in which Canadian units have found themselves in every operation since World War II, with the possible exception of ground force units in certain phases of the Korean War.[13]

It is instructive to note that the pursuit of interoperability usually emanates in the first instance from military establishments that are attempting to deal with problems that from the purely professional standpoint are no more than technical-cum-operational. That being so, the issue often seems not to be very central to the concerns of politicians who are engaged in planning the broader direction of their national policy. In practice, however, interoperability can seem to be very much a two-edged sword when considered from the political point of view. By enabling a country with only modest military capabilities (like Canada) to contribute in a meaningful way to multinational operations, it can lend a certain visibility to the willingness to make a substantive commitment to the resolution of the conflict at hand—a visibility that can earn political dividends from audiences at home as well as from coalition partners abroad.

This is one of the reasons, rarely advertised in public, for Canada's preference—demonstrated in a variety of multinational operations from the Gulf War to the present—for mounting contributions of more or less self-contained 'Task Groups', rather than individual troops, ships or aircraft.[14] Furthermore, for countries (again like Canada) that proclaim their

eagerness to promote an institutionalized and rule-governed international environment, gaining a solid reputation for possessing a modern, fully capable and interoperable military establishment can generate additional opportunities for constructive participation in order-enhancing multinational coalitions. Indeed, as recent events from the Gulf War onward have demonstrated, the number of states that can operate effectively in this way with the 'big battalions' is actually very small.

Having said all that, the very notion of working with larger and more powerful allies in military coalitions, as opposed to operating unilaterally, raises the prospect of some—or even a complete—loss to the smaller powers of autonomy in decision-making, a circumstance that carries with it the risk of generating perceptions both at home and abroad of a decline in national prestige, and a reduced capacity for acting independently in the national interest. A preoccupation with the danger that interoperability will go hand-in-hand with perceptions of political dependency has thus been a prominent theme in the calculations of successive Canadian governments from the earliest days of Confederation to the present.

Another concern, and a recurrent one for Canada in recent years, is that being numbered among the few countries that can actually operate "seamlessly" with the United States may make it more difficult for Ottawa to refuse requests to contribute to American-led operations, or alternatively to participate in operations in which the Americans are not involved. The inability of the government to negotiate satisfactory terms for Canada's participation in the United Kingdom-led International Security Assistance Force in Afghanistan, and its apparent pursuit of a 'second-best' arrangement in conjunction with US combat forces in Kandahar, provides a recent case in point. That being so, the political dimensions of military interoperability with the United States may now warrant more attention than they have tended in the past to receive.

But before considering these and other implications of current and recent developments, it may be helpful to place the issue as a whole somewhat more fully, although still very briefly and selectively, in its longer-term historical perspective.

Interoperability: The Historical Context

It should be clear that, in any military alliance, interoperability is primarily an issue for the lesser powers. This is because it is the lesser powers that must deal with the military equivalent of "keeping up with the Jones". Nowhere has this been more starkly revealed than in NATO, where all the members, save in some degree the United Kingdom and France, have found it a perennially daunting challenge to maintain military forces that can operate effectively with the vastly superior military establishment of the United States. Such was the case even in the earliest days of the alliance. The difficulty has come not so much from the superiority of American forces in *quantitative* terms as from the lead they hold in *qualitative* terms, and in recent years it has intensified in tandem with accelerating (and increasingly expensive) advances in modern military technology.

The underlying roots of the problem, however, precede the technology gap. This is partly because the militaries of the various NATO members, including Canada, have evolved in very different geopolitical, historical, cultural and economic circumstances. Hence, they frequently exhibit significantly different characteristics in relation to size, composition, equipment, training, roles and competencies. As a result, no single military establishment is an exact clone of any other. Indeed, in the early days of NATO's doctrine of "balanced collective forces", Canada, for

one, looked upon the hodgepodge of diversities among the various member forces with approval, since it seemed to hold out the possibility of "an international division of labor in the area of collective defence" to which each individual partner could contribute what it was best able to provide.[15] But in practice this idea of niche roles and forces for alliance members was never widely embraced, even by Ottawa. The result was that the most broadly prevalent pattern took the form of a seemingly endless struggle on the part of the smaller contributors to obtain at least some measure of standardization and interoperability with the forces of their dominant military partner—that is, the United States.

In the case of interoperability, therefore, as in the case of most other military concepts, it can be argued that there is little that is genuinely new under the martial sun. Indeed, Canada's experience historically in this field has been characterized by repeated attempts—variously motivated and certainly with varying degrees of success—to accommodate its military equipment, doctrine, training, and sometimes even its objectives and roles, to those of a patron power. The process began first in relation to the British. Later, starting roughly with the onset of World War II, the focus shifted to the United States, where it has remained ever since.

From Confederation to the end of World War 1, Canada's military preparedness—to the extent that it amounted to preparedness at all—reflected Ottawa's primary reliance on Great Britain, as the parent imperial state, for Canadian defence. With the impressive expansion in the power of the United States, however, and given London's primary preoccupation with potential challenges in other theatres, the British in this period were becoming increasingly leery of any prospect of significant military entanglements in North America on the ground.[16] Hence they came to rely more and more on the new Dominion to provide for its own defences by raising a local militia. Alas, from the military point of view the results were less than impressive. When circumstances posed the prospect of military operations in South Africa in the late 1890s, the British War Office initially made no attempt to acquire military contingents from the colonies. It was simply assumed that it would take too long to train them to British standards.[17] Similarly, while the British navy might be counted on, *in extremis,* to extend its protective umbrella to Canada, it became increasingly apparent in the years leading up to Sir Wilfrid Laurier's Naval Service Bill of 1910 and his subsequent defeat in the 'reciprocity' election of 1911 that London ultimately expected Canada to ante up ships and sailors, not for *local* defence, but for the far more compelling cause of defending the Empire itself.[8] In practice, then, the presumed purpose of the Canadian military was to supply troops to British-commanded units, and to operate in accordance with British doctrine, procedures and training standards—all in the service of the greater glory of the British Empire.

At the outbreak of World War I, Canadian military units were woefully unprepared for the conflict. Ottawa, moreover, lacked any independent vision that could be regarded as pertinent to the conduct of the hostilities. It was simply taken for granted that Canadians would fight alongside the British, under British leadership, and that they would follow British tactics and procedures in battling their common foe.[19] Here was interoperability with a vengeance! As the war progressed, of course, and as the size and stature of the Canadian contribution grew in parallel with disillusionment over the quality of British generalship, there was evidence of a 'Canadianization' of the Dominion's involvement.[20] But the basic premise of the operation was nonetheless starkly clear from the very beginning.

The inter-war period was characterized essentially by the demobilization and retrenchment of Canada's armed forces. With the failure of the League of Nations, however, and with storm clouds gathering in the Far East as well as in western Europe, Ottawa began in the late 1930s to

show signs of moving towards a closer defence relationship with its continental neighbour. Indeed, in many respects, the reciprocal pledges of mutual defence support that were issued by President Roosevelt and Prime Minister Mackenzie King in 1938 constituted the basic foundation for Canada-United States defence cooperation, a foundation that endures to the present day.[21]

These lofty rhetorical reassurances from the summit later found concrete expression in the Ogdensburg Declaration of August 1940, through which the President and the Prime Minister together authorized the creation of a Permanent Joint Board on Defence (PJBD) in recognition of "the beginning of a new era in Canadian-American relations".[22] As one analyst later noted, this declaration "provided the fundamental condition for military cooperation: a full and systematic exchange of military information upon which joint plans, operations and logistics could be based".[23] North American defence preparedness, in all its forms, had now become what it would henceforth remain, a matter of mutual concern.

The same spirit of cooperation was soon extended into the related area of defence production. In the Hyde Park Declaration of April 1941, it was agreed "as a general principle 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 co-ordinated to this end".[24]

Here was niche interoperability writ large, and from these two surprisingly informal declarations of intent flowed a host of more specific arrangements both during and immediately following World War II. Taken together, they had the cumulative effect of tying both the military establishments and the defence industries of the two states into a seemingly irrevocable web of closely coordinated interconnectedness. As time went on, interoperability became an increasingly prominent feature, and consequence, of this intricate construct.[25]

It was the 35th recommendation of the PJBD, adopted by both countries in 1947, that most clearly pointed the way to greater interoperability in the post-war period. It committed the two governments to the "Adoption, as far as practicable, of common designs and standards in arms, equipment, organization, methods of training and new developments to be encouraged, due recognition being given by each country to the special circumstances prevailing therein".[26]

This was followed almost immediately by a public "Joint Statement" on 12 February 1947 that was intended in part to quash rumours to the effect that the United States was insisting on large-scale defence projects, including military bases, in the Canadian north, and more generally to respond to ever-present Canadian sensitivities over the erosion of sovereignty. "[I]n the interest of efficiency and economy", the statement asserted, the militaries of the two countries should "continue to collaborate for peacetime joint security purposes" on the basis of five principles. These five principles were:

1. Interchange of select individuals so as to increase the familiarity of each country's defence establishment with that of the other country.
2. General cooperation and exchange of observers in connection with exercises and with the development and tests of material of common interest.
3. Encouragement of common designs and standards in arms, equipment, organization, methods of training and new developments, etc.
4. Mutual and reciprocal availability of military, naval, and air facilities in each country, applied as may be agreed in specific instances. Reciprocally each country will continue to

provide with a minimum of formality for the transit through its territory and its territorial waters of military aircraft and public vessels of the other country.

5. As an underlying principle all cooperative arrangements will be without impairment of the control of either county over all activities in its territory.[27]

These principles soon found concrete expression in the announcement of a nine-station weather network to be built across the Arctic Circle, the interchange of officers at several Canadian, American and British training schools and colleges, initiatives aimed at standardizing weapons and equipment, the regular exchange of observers and technical information and, by early 1949, joint naval exercises and full-scale combined army and navy amphibious assault manoeuvres.[28]

While some of these initiatives may seem prosaic and routine to the casual observer today, for military planners of the immediate post-war period they were the bedrock of interoperability and effective operations, and they represented significant progress. Indeed, one such measure, the tripartite "Screw Thread Convention" of 1948, has been heralded as no less than the "germinal act of engineering statesmanship" that eventually led to a wide array of additional, and equally vital, standardization agreements "in non-material areas such as doctrine, organization, operational procedures and communications, in logistic matters such as technical procedures for supply and maintenance, and in researches [sic] and investigations".[29]

From the perspective of command and control, the North American Air [later Aerospace] Defence (NORAD) Command formed in 1958 represented the zenith of Canadian-American military interoperability. Almost from its inception, however, NORAD also raised concerns among some Canadians over loss of autonomy in decision-making.

At its inception, NORAD was but the latest in a series of bilateral air defence arrangements that were designed to provide a more rapid and effective joint response to the commonly perceived threat to North America from Soviet long-range bombers carrying nuclear weapons.[30] This response initially included plans for destroying incoming bombers, but as the bomber threat receded in importance following the advent of intercontinental ballistic missiles, NORAD's primary function became that of monitoring North American airspace so as to provide adequate warning time to flush aloft the retaliatory forces of the US Strategic Air Command, and thereby reinforce the deterrent premise of mutual assured destruction (MAD).

The formal agreement by which NORAD was established observed that "the air defence of Canada and the United States must be considered as a single problem" and declared that this problem "could best be met by delegating to an integrated headquarters, the task of exercising operational control over combat units of the national forces made available for the air defence of both countries".[31] It further stated that "the agreed integration is intended to assist the two governments to develop and maintain their individual and collective capacity to resist air attack on their territories in North America in mutual self-defence."

In practice, the command and control arrangements that NORAD embodied meant that a US military officer would have "operational control" over Canadian interceptor squadrons in both peace and in war, although care was taken to ensure that adequate prior "consultation" would be maintained and that each government would have the final say over its own allocation of personnel and units to the NORAD structure.

Given this degree of integration, there were, and indeed there still remain, inevitable points of friction for Canada, as the smaller partner in an organization so unequally composed. One of these became very evident during the Cuban Missile Crisis in October 1962, when Canadian

components of NORAD were automatically placed on the same alert status as their American counterparts, even though the Diefenbaker government initially regarded such action as both unnecessary and potentially provocative.[32] A similar incident occurred during the Middle East crisis of 1973, when US forces were placed on higher alert, in an action that once again affected the Canadian contingent at NORAD Headquarters. Since then, procedures have been developed to allow US personnel to replace their Canadian colleagues should the two governments disagree on the need for a particular alert.[33]

Another continuing issue has been posed by the prospect that Canada's participation in NORAD could embroil it more generally in security policies with which it disagrees, such as the abrogation of the Anti-Ballistic Missile (ABM) Treaty of 1972, or in potentially de-stabilizing military projects like the Strategic Defense Initiative (SDI/'Star Wars') of 1983, or most recently the National Missile Defense (NMD) program that the Bush administration is now quietly pressing Canada to endorse. The point worth noting here is *not* that Ottawa has no choice on these matters. Clearly it has at least some room for manoeuvre, and in the past it has made use of it both to underscore its commitment to the ABM Treaty and to decline to participate directly in SDI. The point, instead, is that continued participation in the kind of interoperability arrangement that NORAD represents entails certain costs, some of which are political and others financial.

Even among the staunchest of Canadian nationalists, moreover, there is sometimes recognition that being a full partner in a binational organization like NORAD, inherently unequal though the partnership may be, can afford Canada a uniquely inside view of the intentions of the larger partner. That being so, it may even make possible from time to time the exercise of a moderating influence. For example, in accordance with Canada's wishes, a joint recommendation of the PJBD led to a realignment of NORAD's regional boundaries to coincide with national borders in 1983.[34] How real and how common is the use of this kind of influence, and whether it is worth the erosion of decision-making autonomy that goes with the opportunity to try it on, is a matter of political judgement. But it can be argued that the alternative—opting out of the partnership altogether—is almost a sure-fire guarantee that Canada's interests will be benignly neglected or even deliberately ignored by the United States. The costs, moreover, of going-it-alone would then almost certainly rise to prohibitive levels. Supporters of interoperable arrangements are thus easily drawn to their rhetorical question: What, in such circumstances, would be the true value-added for Canadian sovereignty?[35]

After the Cold War had ended, of course, the first real test of Canada-US interoperability came with the war in the Persian Gulf in 1990-91. In that example, far from undermining Canada's autonomy, the CF's closely knit 'connectivity' with American forces enabled Ottawa to parlay a relatively minor deployment into a major foreign policy advantage, one that was consistent with the country's traditional multilateralist preferences. It therefore deserves more detailed attention as we come now to consider some of the experiences of the last 10 years, experiences that have accelerated further the drive to enhance Canada's ability to participate effectively in joint military operations, most notably with the United States.

Interoperability: Recent Catalysts

Over the decade or so since the collapse of the Soviet Union and the demise of the Cold War, domestic political demands for "peace dividends" in the non-US NATO partners have led the governments involved to degrade their respective military establishments to such a significant

degree that the United States now spends more on its armed forces in absolute terms each year than all of the other allies combined. This growing disparity has developed in spite of the fact that there have been similar pressures for reductions in defence spending within the United States itself. One of the consequences has been that the United States has been able to devote a much larger proportion of its overall military expenditures than its allies do on equipment modernization and improved training.[36] This in turn has made it increasingly difficult for the other partners to keep pace with the qualitative improvements in American capabilities. The Holy Grail of interoperability within NATO is thus becoming notoriously hard to achieve. This is in spite of the fact that even the most autonomy-conscious of the allies are now forced to concede, in principle at least, that reaching it ought to be among their highest priorities.

While the argument for interoperability may seem particularly strong in the case of the smaller powers, it should be noted that the Americans themselves have come to share the same aspiration. This is partly for reasons that are peculiarly their own. Among them is their desire to encourage a capacity for effective cooperation in the field among their own individual services, a capacity they call "jointness". Almost *all* major military establishments have to cope with inter-service rivalry, but in the United States there has been a particularly long and vigorous tradition of warring among the various branches of the armed forces over their respective budgets—and hence more generally over doctrines, procurement and turfs.[37] In addition, however, the Defense Department in Washington now recognizes the importance, even for the United States, of developing better mechanisms for working with the armed forces establishments of coalition powers. This is because the United States has increasingly, if somewhat reluctantly, been compelled for diplomatic as well as practical reasons to ally with other players in conducting multinational military operations. This circumstance has applied not only to operations established under the aegis of the United Nations and/or NATO, but also in the context of ad hoc coalitions like the current campaign in Afghanistan against the forces of terrorism and their patrons.[38]

For Canada, field experiences in the Gulf War in 1990-91, in several NORAD and NATO training exercises, and in the Kosovo air campaign of 1999, have all reinforced the lesson that the effectiveness of multinational military operations now more than ever depends on greater attention being given to the interoperability imperative. From the professional military point of view, this is particularly urgent in relation to the larger allies, of which the United States is by far the most significant.

In the case of the war against Iraq, which involved operations in and around the Persian Gulf (*Operation Friction*), Canadian naval and air components both had considerable success in establishing effective interoperability 'up' to the forces of the United States, and 'down' to those of other coalition members. Moreover, astute Canadian commanders *in situ* were able to parlay the benefits of a reputation for reliable performance, naval vessels that were highly interoperable (especially in communications), and the intangible attribute of understanding the way they do business into a highly visible, Combined Logistics Command sub-command of the coalition's naval operations —a distinction unique to Canada during the Gulf conflict.[39]

Nonetheless, there were some serious problems and weaknesses. For example, Canada's A/B model of the CF-18 fighter aircraft, less modern than the C/D and E/F models used by the Americans, was found deficient in its tactical air communications equipment. Specifically, the Canadian CF-18s lacked the Link-4 ship-to-aircraft computer communications system, which, for American units, made it possible to sustain secure transmissions with the AEGIS anti-aircraft cruisers that were guarding the coalition surface fleet. Although the problem was ultimately

rectified with the help of upgrade arrangements hastily negotiated with American military authorities, the deficiency raised at the beginning of the operation the unsettling prospect of "blue-on-blue" ("friendly fire") incidents in what had quickly become a congested theatre, to say nothing of the possibility that engagements might be launched in error against innocent civilian aircraft. So serious was the problem as a source of hesitation at the operational level that, at times, it even delayed the process of intervening against the hostile military aircraft of the Iraqis.[40]

Similarly, following the Mulroney government's subsequent authorization of 'sweep and escort' missions for the CF-18s, the lack of secure voice radio communications, such as "Havequick", forced a change in coalition bombing missions from lower to higher altitudes. The decision was required in the first place to afford Canada's fighters greater protection against enemy missiles and anti-aircraft artillery, and in the second place to reduce the need for violent evasive manoeuvres—manoeuvres which, in the absence of continuous voice-radio contact, would have been potentially dangerous to other aircraft.[41]

Other limiting problems for Canada's CF-18s included: inadequate strategic refuelling capability; the lack of a precision-guided munitions (PGM) capability; and doctrinal differences with coalition partners that necessitated a 'crash' re-training regimen to ensure that everyone involved was adequately prepared for high-altitude bombing procedures.[42]

Many of the shortcomings of Canada's ageing CF-18s re-surfaced once again during *Operation Echo*, Canada's contribution to the coalition air campaign against Serbian forces in Kosovo, as well as in Serbia itself in 1999.[43] For example, Canada's pilots lacked both night-vision goggles and helmet-mounted bombsight 'cueing' systems. While these deficiencies were also evident in other coalition aircraft, including even some that were deployed by the United States, there is no doubt that their lack restricted the safe manoeuvring and bombing effectiveness of the Canadian aircraft. The complete absence, moreover, of any organic Canadian strategic air-to-air refuelling capability, a deficiency first encountered during the Gulf conflict almost a decade earlier, forced a near-total dependence on scarce USAF air tankers, and considerably lengthened the island-hopping transit times for CF-18s flying in and out of the Canadian base in Aviano, Italy. In addition, only 12 of the 18 Canadian CF-18s were fitted with "Nite Hawk" forward-looking infra-red (FLIR) pods, a circumstance that to some degree limited the overall bombing capacity of the Canadian contingent.

During the course of the campaign, the fighters were also confronted with shortages in the supply of the more accurate, laser-guided bombs. An American Air Force officer, Lieutenant Colonel Samuel J. Walker, has also reported that the Canadian CF-18s did not have the stores-management systems or weapons interfaces required by current generation air-to-air weapons and many PGMs. Finally, perhaps the most widely-cited shortcoming of the Canadian CF-18s operating in the Kosovo air campaign was their lack of secure, interoperable voice communications, data link interfaces, and friend-or-foe identification equipment that were up to the American "Havequick" and Link-16 standards. To some extent these latter deficiencies, which were not confined solely to Canadian aircraft, forced a 'dumbing down' of the way in which operations in the air were conducted, so as to accommodate the lowest common capability denominator. Doing so they significantly increased the combat risks involved.[44]

Interoperability: The Way Ahead for Canadian-American Practice

As we indicated at the outset, the June 1999 DND document, *Shaping the Future of Canadian Defence: A Strategy for 2020*, represents the department's detailed "guidance" for strategic decision-making in the immediate future, given in particular the lessons learned from recent operations as well as from assessments of newly emerging security challenges.[45] To some degree, of course, the latter constitute a moving target, as the events of September 11 have served to demonstrate in such tragically dramatic form. Indeed, it can be argued that one of their immediate impacts in the Canadian context has been not only to intensify the drive to interoperability as a matter of principle, but to broaden its implications to include a potential integration of command and control arrangements across the board and at the highest level. The 9/11 assault may also have had an important political consequence—perhaps positive from the professional military point of view—in creating a climate of receptivity within Canada for the further enhancement of interoperability arrangements. This may be true even if such arrangements come to imply an additional loss of autonomy and freedom of manoeuvre in relation to potential Canadian force deployments (see discussion below).

In any case, it is now worth emphasizing again that one of the key pillars of *Strategy for 2020* is the emphasis it gives to reinforcing Canada's special relationship with its principal allies, most notably the United States. As the document puts the argument in its most explicit form:

> A vital distinctive competency is the ability to work together with our allies. Our most important ally now and for the future is the United States where our strong relationship has long benefited both countries. We must plan to nurture this relationship by strengthening our inter-operability with the US Armed Forces, training together, sharing the burden for global sensing and telecommunications and pursuing collaborative ways to respond to emerging asymmetric threats to continental security.[46]

"Objective 5: Interoperable" is listed as one of the defence establishment's eight long-term strategic objectives. The goal is to "Strengthen our military to military relationships with our principal allies ensuring interoperable forces, doctrine and C^{4}I (command, control, communications, computers, and intelligence)". Three "five-year targets" are identified as prerequisites for achieving this end, and they require the department and the CF to:

- manage our interoperability relationship with the United States and other allies to permit seamless operational integration on short notice;
- develop a comprehensive program to adopt new doctrine and equipment compatible with our principal allies; and
- Expand the joint and combined exercise program to include all environments and exchanges with the United States.[47]

Sceptical 'old hands' might be inclined at first to suspect that there is more rhetoric than substance in this elaborate exposition. Statements of lofty intent, common though they may be to the hierarchical bureaucracies of government, often remain empty and unfulfilled unless they are buttressed by explicit, authoritative directives, and are closely monitored to enforce compliance with their aims. But a closer examination would lead even the most hardened observer to conclude that the authors of the document had both said what they meant, and meant what they

said. This is because *Strategy for 2020* was soon followed by other documentation that was clearly designed to put flesh on the bones, to give the high-blown phrases practical definition.

More precisely, specific policy planning guidance for greater interoperability can be found in two major in-house treatises. The first is *Defence Plan 2001*, a transitional document[48] which replaces the former annual *Defence Planning Guidance* for the CF as a whole, along with the *Level 1 Business Plan* documents for the individual environmental service commands. The second is the *Report on Plans and Priorities 2001-2002*. Taken together, these two publications provide ample evidence that the department has fully embraced interoperability as a key objective for the immediate future.

What is particularly notable about *all* of the new policy planning frameworks, in fact, is the degree to which they demonstrate that the concept of interoperability is now seamlessly, consistently and centrally woven into both the thinking and the fabric of the defence establishment. This is evident at the highest level of strategic direction for change, as manifested in *Strategy for 2020* itself (e.g., "Objective 5: Interoperable").[49] It is also reflected in the five so-called "core" priority areas of focus for major initiatives, as outlined in the *Report on Plans and Priorities 2001-2002* (e.g., "Optimizing Canada's Force Structure" and "Fostering Canada's Defence Relationships").[50] And it crops up prominently once again in the specific, short-term priorities that are identified for DND in the current fiscal year (e.g., "2.2 Develop DND/CF's C2ISR capability to ensure we can operate effectively in the information age with our allies").[51]

Absent a dramatic change in the receptivity of the external environment (that is, the United States), or an unexpected contrary intervention on the part of the political leadership, this tight interconnection of defence planning documents should help to ensure that the various capability enhancements identified for the CF will have the full weight of the department behind them. Moreover, a Joint Capability Requirements Board (JCRB) has recently been created with a mandate to "review proposals, challenge the issues and provide direction for the development of multi-purpose CF capabilities including the long term capital plan".[52]

Given that the Canadian Forces lack the capacity to achieve their mission objectives by themselves when deployed abroad, yet another key DND document, *Strategic Capability Planning for the Canadian Forces* (SCP), also assumes that Canada will have to act with its major allies. Hence, it notes that:

> [T]he fundamental asset that the CF requires for international operations (also a key contributor to domestic responsibilities) is what may be termed a tactically self-sufficient unit (TSSU). It follows that TSSU's must be capable of integrating into a Combined Force package as a "task-tailored" component. The consequences of [this] requirement ... is that TSSU's must be modular and adaptable, capable of integrating with other international and national forces that are likely to be involved in a joint and combined operation. *The most likely coalition leader for CF TSSUs is the US, which leads to the emphasis placed on interoperability with US forces by CF leaders. A corollary of the coalition nature of Canadian military operations is that decisions regarding commitments of Canadian TSSUs are vitally important, highlighting the importance of military strategic level command capability in the CF.*[53]

In addition, however, and with commendable candour for an in-house planning publication, the SCP also offers a warning about the possibly-adverse political consequences of the growing emphasis on greater Canada-US military interoperability:

This trend raises concern over the degree to which CF units and Canadian political authorities can retain the ability to make autonomous decisions in future fast-paced combat situations. *The trend toward integrated operations and interoperability may create an unintended interdependency* if CF units become too enmeshed in Alliance controlled network systems that require automatic linkages of sensor and weapon systems for effective tactical operation.[54]

One way in which this could occur would be through the Canadian Navy's ability to 'plug in' to a USN "net-centric" battle group via the evolving US concept of "cooperative engagement capability". Employing dedicated data links, ships and aircraft can share secure data gathered from a variety of different sensors to gain a single, composite battle space management "picture". This can then be used by a central command authority to command, fire and control the weapons of a subordinate, third-party unit to attack a target never seen by the firing entity. But as one Canadian officer has warned, there may be a high political price to be paid for such a far-reaching interoperability arrangement:

> Integration into a carrier battle group operating like this implies a level of commitment to force goals and therefore to the political objectives that underlie them. There will be no time to check national rules of engagement and "opt out" on a case-by-case basis or refer difficult decisions to national headquarters. Buy-in on operational decisions will be absolute and the consequences shared accordingly. Today, the USS *Vincennes* must take the full blame for misidentifying and engaging an Iranian 747 aircraft—tomorrow she could do it again, but with a missile fired from a Canadian ship.[55]

There is one final, but centrally significant, indicator of the commitment of both the Department of National Defence and the uniformed establishment to the implementation of the interoperability doctrine. Interoperability is partly about the sharing of operational practices. It is also about hardware. The equipment procurement programs currently planned for the CF thus help to tell the tale. And from the vantage point of even the most well informed analyst, the list of new additions and improvements that have interoperability as their primary justification is bound to look impressive. The package as a whole is an unambiguous demonstration that Canadian defence planners have been moving towards greater interoperability with the United States in a manner that is far more comprehensive and rapidly paced than most Canadians realize.

The best single account of these accumulating procurement projects, at least in the public domain, has been compiled by Sharon Hobson of *Jane's International Defense Review*. In a recent article, Hobson quotes Brigadier-General Marc Dumais, Chief of Staff for the Deputy Chief of Defence Staff, on the challenge that now confronts Canadian defence planners in deciding where to invest DND's limited capital funds. Dumais observes that the United States is "at the leading edge of many developments, and from a budgetary perspective, it's evident that we can't keep up in all areas, so we have to be very careful as to which areas we ensure that we keep up in, and get the most bang for our buck in terms of focusing future interoperability requirements".[56]

To a large extent, this is a reflection of the catch-up problem facing Canada as it strives to strengthen its defence relationship with the United States at a time when the much-discussed "Revolution in Military Affairs" (RMA) is threatening to leave behind all but the biggest of the defence spenders in the Western alliance. As DND's *Report on Plans and Priorities, 2001-2002* notes, "the US is leading the RMA, and thus, by remaining inter-operable with US Forces,

Canada will remain inter-operable with any major, future coalition force led by the US".[57] Ultimately, according to General Dumais once again, "it comes down to resources, and leveraging our partnerships and getting the most out of collective defence. *Because clearly we wouldn't be able to afford providing our own defence for our sovereignty, for example, or something of that nature.*"[58]

If going-it-alone is not, then, a viable option for the CF, where exactly is the DND placing its interoperability bets? As noted earlier, *Defence Plan 2001* stresses the need for the CF to give priority to their command, control and communications as well as their intelligence, surveillance and reconnaissance capabilities "to ensure that we can operate effectively in the information age with our allies ... [and] to enhance Canada/US interoperability".[59] This will require, among other things, the completion of the Omnibus Canadian Military Satellite Communications (CANMILSATCOM) Project already underway, at a budgeted cost of $480 million. Under this project, the DND will participate in the US Advanced EHF satellite system, which is scheduled to be operational in 2006. At present the CF have no dedicated long-range communications system of their own, and must rely instead on commercial satellite services. They can only operate with American forces, however, if they have a capability in, and a guaranteed access to, the type of system upon which the Americans themselves rely. The CF will also continue to cooperate with the United States through the Canada-US Space Cooperation Working Group on initiatives like the Joint Space Project.[60]

On land, the *Report on Plans and Priorities 2001-2002* notes that the Canadian Army will "work to develop and integrate inter-operability benchmarks into the design and implementation of the 'Army of Tomorrow'".[61] The army is currently re-structuring itself to become a lighter, and therefore more mobile, force by acquiring 651 General Motors LAV III armoured personnel carriers. But army planners hasten to add that becoming a "medium-weight force does not equate to a niche force". The army's planning concept is to "structure expeditionary forces to be of maximum strategic value to a joint force and potential coalition partners, particularly the US".[62] To this end, a top priority project for the army is the Land Force Omnibus ISTAR project. This will provide a capability for integrating and distributing information from a variety of army land- and air-based surveillance and target acquisition systems.[63]

Similarly, the Canadian Air Force is planning a comprehensive Omnibus CF-18 Incremental Modernization Project (IMP) to upgrade its reduced fleet of CF-18 fighter aircraft to US model C/D configuration standards. This project, if funded to the full estimated cost of $1.226 billion, will encompass 10 individual projects designed to overcome certain of the key interoperability problems experienced during the Gulf and Kosovo air campaigns, and will extend the operational life of the CF-18s to about the year 2020, thereby ensuring that they can play potentially significant roles in any future US-led coalition operations.[64]

With respect to the CF's strategic airlift capabilities, it is interesting to note that the DND has evidently decided against adopting a fully integrated solution. At one point the air force had considered buying as many as six Boeing C-17 aircraft for this purpose and then 'loaning' them to the United States when they were not required by the CF. In return, the United States would share the operating costs and would ensure that six of their own C-17s would always be available for Canadian military missions. According to Pat Dowsett, Project Manager for the Future Strategic Airlift Project, this 'swap' arrangement has fallen afoul of a variety of "complicating factors"—factors having to do in part with deciding on which country's colours would adorn the aircraft and who would crew them. There were "political sensitivities involved in that you might see American, airplanes with Canadian crews doing Canadian jobs and the Americans might not

be too happy with that", especially if Canada was using the C-17s to transport aid to Cuba, for example.[65]

As a stop-gap alternative, Ottawa is now planning to convert two of its CC-150 Airbuses into strategic refuellers, an initiative that has doubtless gained political support in the wake of the embarrassing delays the Canadian Forces have faced in getting 750 Canadian troops and their 12 Coyote reconnaissance vehicles to Afghanistan. While the refuellers will extend the range of Canada's existing Hercules tactical transport fleet, the Americans reportedly are still keen on Canada acquiring the C-17s. Dowsett explains that "should we acquire C-17s and should we have an excess capacity during peacetime, the Americans are very interested in ... tapping into that excess capacity". In that model, Canada would not actually lend the aircraft to US forces, but rather "on a case by case basis, we would satisfy an airlift task". In return, "there would be an offset, and some advantage to us in some other areas".[66]

The navy is examining a slightly different approach in attempting to enhance the CF's currently limited strategic lift capability. Specifically, it is planning to procure modern replacements for the two elderly fleet-replenishment ships that it now has in operation, ships that are absolutely essential to support its two naval task groups. It is estimated that the Afloat Logistics and Sealift Capability (ALSC) Project will cost between $1.446 and $2.3 billion (depending on the number of ships involved), and it has been fast-tracked to generate an initial operating capability in 2005. In addition to supporting the task groups with fuel, food, spare parts and so on, the ALSC is also expected to provide some sealift capability for troops and heavy equipment, headquarters command and control facilities, and support capacity for joint forces ashore. It is also slated to operate independently of a jetty, a requirement that has brought interoperability considerations into play. Commander Dave Harper, ALSC Project Director, confirms that the ship chosen will have to be compatible with the US Navy, and reports that "We're wrestling with what does integration [sic] mean and we believe that if we were involved in an allied effort, it may be wise to be able to accept a US Navy hovercraft. We would simply design the well deck in such a way that we would have the capability of accepting one."[67]

These examples—and there are many others—represent genuinely innovative approaches to achieving the interoperability objective, and they underscore the extent to which the military is factoring it into its long-term re-equipment plans in order to help defray some of the costs of maintaining an ability to project power abroad. To a very large degree, and in the absence of a sudden and uncharacteristic impulse on the part of Ottawa to increase Canadian defence spending dramatically, interoperability with the Americans is the only game in town.

Interoperability: Some Observations on the Wider Implications

From the purely military point of view, the rationale for pursuing the goal of interoperability seems unassailable. It maximizes military returns and minimizes combat risk. It holds out the prospect of operating with cutting-edge military technologies and in tandem with the most sophisticated military machine ever constructed in the history of humankind. It seems to be consistent, moreover, with the pattern of Canada's past experiences with combat operations abroad—operations that have always been conducted in the context of coalitions with allies. That being so, it also offers in addition what Canadian diplomacy wants most from the military game, which is the enhancement of its political credit where it really counts—in the capitals of the

foreign powers that matter to Canada most. And at the most mundane level, it makes the best of a bad budget.

But there are other potential implications that may also warrant the close consideration of Canadians as they reflect on a process which, as we have tried to demonstrate, is now very far advanced. As recent reports of continental defence integration across the board and at the command level suggest, it is also a process that may shortly be taken to new heights. Interoperability in the operational sense is not the same as the integration of structures for command and control, but the two are closely related, and clearly they are mutually reinforcing. That being so, we may be dealing here with a heavy train rolling downgrade without brakes. We are led, therefore, to offer the following as issues that may warrant public attention and debate.

First, is it necessarily the case that advancing the objective of interoperability, as its defenders have sometimes argued, will enhance Canada's role as a potential 'facilitator' or 'enabler' for other states wishing to 'plug into' American-led operations, and to reap such rewards of multilateral influence as this may bring?[68] It is certainly true that full interoperability with the Americans will also carry with it a greater degree of *de facto* interoperability with other potential allies. It is also true that Canada had some success in precisely this way in the context of naval operations during the Gulf War. Despite the rumblings of certain European allies in support of European Security and Defence Identity (ESDI), moreover, there are indications that even the Europeans recognize the need to remain reasonably interoperable with American forces.[69] (On the other hand, to the extent that they do it themselves, they will have less need of Canadian bridges to US contingents.)

But having said all that, the reality is that there is now increasing anecdotal and other evidence that in recent years the Europeans have come to assume that Canada as so fully integrated with the United States—economically and diplomatically as well as militarily—that it can no longer be regarded as a useful interlocutor, much less as an independent player. The recent European reaction to the Canadian desire to participate in the peacekeeping operation in Kabul is a telling demonstration of the point. To the extent that this is true, the Canadian position may be rendered more, rather than less, difficult as the interoperability process continues to advance.

Parenthetically, it should be noted here that, from the US perspective, interoperability with potential coalition allies is more a matter of choice than of necessity. If the allies further advance their interoperable capabilities, their doing so may on occasion be helpful. But from the American point of view, such cooperation is not essential, and if the problems involved in promoting it become more trouble than the results are worth, US forces will not allow such complications to retard their own military exploitation of cutting-edge technologies.

Second, will greater Canada-US interoperability have the effect in practice of narrowing Ottawa's options with respect to participation in future operations? Is it possible that Canada will be left with little choice but to go when—and only when—the Americans do, or not go at all? And is it conceivable that in some cases the second of these two options will be ruled out as well, given the kinds of pressures that may emanate from Washington as a result of the expectations of automatic support that will be created there by Canada's eager pursuit of further integration with the American structure?

These questions presuppose among other things that Ottawa remains unwilling to foot the cost of gaining a truly independent strategic lift capability. Whether or not this assumption proves to be well-founded will depend in part, of course, on Canada's near-term decisions in connection with the acquisition of dedicated strategic lift capabilities in both the air and sea

environments. But that, in any case, may be only one dimension of the problem, and it points to a much larger issue having to do with the scale of Canadian defence expenditures more generally. In concrete terms, one of the purposes (although certainly not the *only* purpose) of interoperability is to compensate for the unwillingness of the political leadership, and perhaps ultimately of the electorate, to allocate a larger portion of public funds to the armed forces. It is quite likely, however, that there is a direct functional connection between interoperability 'on the cheap' and loss of autonomy. To put the point another way, a fully-funded interoperability arrangement might still leave Canadian decision-makers with at least some military options of their own, because it would not deprive them of the capacity to operate independently of their larger partner. By contrast, a lightly-funded arrangement could force them to act in lockstep with American initiatives whether they like them or not, and it might even prevent them from responding to requirements and opportunities (generated, for example, through the United Nations) that are regarded as important in Ottawa, but as trivial, distracting or politically inconvenient in Washington.

This is a variation, of course, on a very old theme, a theme reflected many years ago in Nils Orvik's well-known aphorism that one of the primary purposes of the Canadian armed forces in the North American theatre was to provide a "defence against help". Their function, in other words, was to ensure that the Americans would not feel the need, in their own security interest, to defend Canada whether Canadians liked it or not, and to intrude on Canada's sovereignty in the process. You get what you pay for. You may also get what you don't pay for, but not in a form you like.[70]

Third, will greater interoperability ultimately have the effect of weakening the operational autonomy of Canadian theatre commanders? This question bears not so much on general policy issues of the 'to-go-or-not-to-go' variety, but more immediately on the position in which Canadian commanders may find themselves once their forces have actually been committed. Traditionally, Canadian in-theatre commanders, and through them the authorities in Ottawa, have always retained the final say—i.e., command—over Canadian contingents operating under the overall control of foreign commanders. This was certainly the case in relation to the Gulf War, Somalia, the Aviano and Adriatic deployments, the individual Canadian warships operating with both NATO's Standing Naval Force Atlantic (SNFL) and the West Coast US Carrier Battle Group, and the Kosovo air campaign.[71] Currently, it applies also to the case of *Operation Apollo* in the Arabian Sea and Afghanistan. Decades ago, it was the practice as well in the context of NORAD, where in both 1962 and 1973 the Canadian government opted not to put Canadian forces on higher states of alert that were commensurate with the decisions taken by their US counterparts.[72]

Arguably, there has been no loss of effective Canadian autonomy in any of these instances or in others like them. But it is now much less clear that this is still the case, not least because of the accelerating integration of Canadian and American forces on the one hand, and changes in the character of the threat to the security of both North America and targets elsewhere on the other. Jeffrey Simpson, for example, has recently reported that during the NORAD alerts that were stimulated by the 9/11 attacks, the Canadian government was *not* "consulted" before the decision was made, nor even "notified" of it afterwards.[73] If his report is accurate, it may be writing on the wall.

Fourth, is it likely, as the integrative process proceeds, that there will be an increasingly unavoidable linkage between technical and operational interoperability with the Americans on the one hand, and broader security policy matters on the other? And if so, will the trend towards

greater interoperability lead to a much more intensive focus on bilateralism in Canadian foreign policy at the expense of the more traditional emphasis on multilateralism as the preferred diplomatic strategy? As an example of a broader security issue that might be affected in this way, the National Missile Defense (NMD) initiative comes immediately to mind. If acceding to the American position NMD were a serious problem for the political leadership in Ottawa, either because it was internally divided on the issue or because it feared an adverse public reaction that it was unwilling to confront, Canada would probably still have the freedom to refrain from active participation, particularly since the Americans have not been asking for a significant financial contribution. But given a greatly elaborated system of interoperability at multiple levels, it would be much more difficult for the government to express open opposition to the American preference. Such opposition, in any case, would be inconsistent on its face with the underlying premises of the interoperability doctrine, and would enormously complicate the defence community's attempt to maintain the credibility with its American counterpart upon which the full implementation of the doctrine ultimately depends.

With regard to the potential implications of interoperability for the Canadian preference for multilateralism, John Manley has argued, in effect, that this is not a problem,[74] but there may be more wishful thinking and cosmetic politics than serious judgement in the assertion. Among other things it ignores the relatively recent experience of Manley's immediate predecessor as Minister of Foreign Affairs, Lloyd Axworthy, who clearly had to hold his nose while his government agreed to commit Canadian forces to the American-led coalitions in both Bosnia and Kosovo. These were, of course, NATO-sanctioned missions, and even the current deployment in Afghanistan has at least the partial endorsement of both NATO and the UN. But the ultimate policy 'driver' in all these cases has been the United States, and this reality may repeat itself, while becoming increasingly transparent, as time goes by. At the time of writing, for example, Prime Minister Chrétien has been implying that Canada would not be likely to join with the United States were it to open up a new round of hostilities against Iraq. But with Canadian forces operating closely with American units in the theatre, and given the general context of what the Americans have been pleased to call their "war against terrorism", he might well find in the practical event that his capacities for abstention are more limited than he currently appears to assume.

Finally, does Canada really have a choice? Is there, in fact, an alternative to the interoperability option, which is already far advanced? In principle, there obviously is. The difficulty, however—a difficulty that the Department of National Defence has clearly concluded is insurmountable—is that any serious alternative would demand a far greater expenditure of public funds than the workings of Canadian politics are likely to make possible. Certainly this is true of any alternative of a kind that would maintain a significant remnant of Canada's position as a useful contributor to security affairs. This difficulty might be overcome by a powerful and determined display of firm commitment from the political leadership, but such a display is improbable given that it would entail opportunity costs in the public policy sector (e.g., in health care, education, social welfare, or whatever) that could be politically damaging to whomever happens to hold public office.

It might be argued that other alternatives of a somewhat different sort are available. One of them would be a constabulary-only force that would be dedicated primarily to the protection of Canada itself. But this would entail a price of its own—notably the near-total evaporation of any Canadian capacity for exercising even marginal influence over the course of international security affairs. Another option would be to concentrate on the formation of a niche

specialization that would lead to Canadian units acting as single-purpose components deployed as complements to the multi-purpose forces of the United States (and perhaps occasionally those of other allied powers, too). But as the DND's senior policy planner has recently pointed out, his department's ability to predict the particular niche that would best fit future circumstances, given that these are unknown, "is very bad".[75] Any option of this sort, therefore, risks dooming Canada to a place of irrelevance on the international stage.

In summary, therefore, as their views are manifested in their politics, Canadians appear to want their country to be an active and contributive player in a wide variety of contexts around the world. On the other hand, they also appear reluctant to allocate the resources that are appropriate to their aspiration. The consequence, as interpreted thus far by a policy community that is attempting to respond to both of their preferences, is uncomfortably clear: In order to play a significant role on the world stage, Canada has to get into bed with the United States. For some, this may be a sobering thought. Others may not mind it at all. But whatever the reaction, surely no one would think that the process itself should proceed by stealth, or even by osmosis. It warrants a closer public look.

Endnotes:

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1.   DND, *Shaping the Future of Canadian Defence: A Strategy for 2020*, (Ottawa, ON: Department of National Defence, June 1999).[Hereafter *Strategy for 2020*].

2.   "Foreword", *Strategy for 2020*.

3.   *Strategy for 2020,* p. 2.

4.   The so-called "critical attributes" included modernization, deployability, inter-operability, force structure, domestic capability, jointness, capital program, command and control, engage Canadians [*sic*], human resources, and proactivity. *Strategy for 2020*, p. 6.

5.   *Strategy for 2020*, p. 3.

6.   The North Atlantic Treaty Organization was officially established in April of that year at a signing ceremony in Washington. Lester Pearson was in attendance. He later reported that the military band of the US Marines, apparently innocent of irony, offered a background musical repertoire that included "two selections from *Porgy and Bess*: 'I got plenty of nothing' and 'It ain't necessarily so.'" Munro, John A. and Alex. I. Inglis (eds), *Mike: The Memoirs of the Rt. Hon. Lester B. Pearson - Volume Two: 1948-1957,* (Toronto, ON: University of Toronto Press 1973), p. 37.

7.   The year in which President Roosevelt and Mackenzie King agreed to establish the Canada-United States Permanent Joint Board on Defence, an institution that persists to this day.

8.   *Strategy for 2020*, p. 6. Emphasis added.

9.   Vice Chief of the Defence Staff, "Glossary for Strategic Capability Planning for the CF", *Strategic Capability Planning for the Canadian Forces*, (Ottawa, ON: VCDS, the Department of National Defence, June 2000), 28. See also, The North Atlantic Treaty Organization, NATO Standardization Agency, *NATO Glossary of Terms and Definitions*, AAP-6(2002), 2-I-7, U.S. Department of Defense, *Department of Defense Dictionary of Military and Associated Terms*, [As Amended Through 15 October 2001], Joint Publication 1-02, (Washington, DC: U.S. Government Printing Office, 12 April 2001), 221, and the U.S. Joint Chiefs of Staff, *The Joint Doctrine Encyclopedia*, (16 July 1997), p. 352.

10.   National Research Council, Computer Science and Telecommunications Board, Commission on Physical Sciences, Mathematics and Applications, Committee to Review DOD Plans and Programs, *Realizing the Potential of C4I: Fundamental Challenges*, (Washington, DC: National Academy Press, December 1999), Chapter 2, p. 1.

11.   Anthony W. Faughn, *Interoperability: Is It Achievable?*, (Boston, MA: Program on Information Resources Policy, Center for Information Policy Research, Harvard University, April 2001), p. 5.

12.   *Strategic Capability Planning for the Canadian Forces*, p. 8.

13.   It needs to be recognized, of course, that 'self-sufficiency' is itself a matter of degree, and the issue is therefore given explicit attention in the DND's current internal discussions of 'capability planning'. We will refer to these discussions in more detail below. For present purposes, however, the central point is clear enough: the less self-sufficiency there is, the greater will be the need for smoothly-working interoperability arrangements and routines, and the more necessary will it be to have them in place at multiple levels of operational activity. The obvious corollary comes also to mind: the capacity to act autonomously in the field, and by extension in the offices of higher-level decision-making as well, is inversely related to the degree to which an armed forces establishment is capable of deploying and operating its military contingents on a 'stand alone' basis.

14.   For more on the evolution and practice of the Canadian naval Task Group concept see, Peter T. Haydon, "The Evolution of the Canadian Naval Task Group", and David Morse, "The Canadian

Naval Task Group", in Ann L. Griffiths, Peter T. Haydon and Richard H. Gimblett (eds), *Canadian Gunboat Diplomacy: The Canadian Navy and Foreign Policy* (Halifax, NS: Centre For Foreign Policy Studies, Dalhousie University, 2000). Also, Doug Thomas, "The Canadian Naval Task Group: What is it, what can it do?", *Maritime Affairs* (Summer/Fall 2001).

15.   Lester Pearson, quoted in Jon McLin, *Canada's Changing Defense Policy, 1957-1963: The Problems of a Middle Power In Alliance* (Baltimore, MD: The Johns Hopkins Press, 1967), p. 18.

16.   Desmond Morton, *A Military History of Canada: From Champlain to the Gulf War* (3rd ed.; Toronto, ON: McClelland and Stewart, 1992), p. 111.

17.   *Ibid.*, p. 113.

18.   A cause often shared by Canadian political leaders as evidenced by Laurier's unhesitating support for British-led conflicts when he stated in 1910: "When Britain is at war, Canada is at war. There is no distinction". Morton, *A Military History of Canada*, p. 130.

19.   Morton, *A Military History of Canada*, pp. 145-151. Morton also notes that men of the Canadian Expeditionary Force (CEF): enlisted as "imperials" under the *British Army Act*; officers carried temporary British commissions; and came under the authority of the British War Office as part of the Imperial army. Morton concludes, "From strategy to finance, Britain's authority was supreme and unquestioned", p. 145.

20.   *Ibid.*, pp. 147-151.

21.   During an August 1938 visit to Canada, President Roosevelt pledged "that the people of the United States would not stand idly by if domination of Canadian soil is threatened by any other empire." Two days later, Prime Minister King responded by assuring the United States that "we, too, have our obligations as a good friendly neighbour, and one of these is that, at our own instance, our country is made as immune from attack or possible invasion as we can reasonably be expected to make it, and that, should the occasion ever arise, enemy forces should not be able to pursue their way either by land, sea or air, to the United States across Canadian territory." Quoted in James Eayrs, *In Defence of Canada:* Vol II, *Appeasement and Rearmament* (Toronto, ON: University of Toronto Press, 1965), p. 183.

22.   "Declaration by the Prime Minister of Canada and the President of the United States of America Regarding the Establishing of a Permanent Joint Board on Defence Made on August 18, 1940", *Canada Treaty Series*, 1940, No. 14.

23.   Foster Lee Smith, "Canadian-United States Scientific Collaboration For Defense", *Public Policy*, Vol. XII (1963), p. 303.

24.   "Declaration by the Prime Minister of Canada and the President of the United States of America Regarding Co-operation for War Production Made on April 20, 1941", *Canada Treaty Series*, 1941, No. 14.

25.   For a brief overview of these cooperative developments, see Dan Middlemiss, "Economic Defence Co-operation with the United States, 1940-63", Kim Richard Nossal (ed.), *An Acceptance of Paradox: Essays on Canadian Diplomacy in Honour of John W. Holmes*, (Toronto, ON: Canadian Institute of International Affairs, 1982), pp. 86-114.

26.   United States Government, *Foreign Relations of the United States*, 1946, Vol. V, pp. 65-67.

27.   "Joint Statement By The Governments of Canada and of The United States of America Regarding Defence Cooperation Between the Two Countries" (February 12, 1947), *Canada Treaty Series*, 1947, No. 43.

28.   William R. Willoughby, "Canadian-American Defense Co-operation", *Journal of Politics*, Vol. 13, No. 4 (November 1951), pp. 682-83.

29.   Foster Lee Smith, 307 and 318. On the screw thread convention itself, see "Declaration of Accord With Respect to the Unification of Screw Threads" (18 November 1948), *Canada Treaty Series*, 1948, No. 21.

30.   For a comprehensive account of these arrangements leading up to the creation of NORAD, see, Joseph T. Jockel, *No Boundaries Upstairs: Canada, The United States and the Origins of North American Air Defence, 1945-1958* (Vancouver, BC: University of British Columbia Press, 1987).

31.	"Agreement Between Canada and the United States of America" (12 May 1958), *Canada Treaty Series*, 1958, No. 9.

32.	It should be noted that, while Canada's air force was not formally placed on the higher alert level for some 42 hours, Canadian naval vessels were "discreetly" dispatched into the NATO Atlantic region to "back-stop" US naval forces that were being withdrawn from their regular NATO patrol areas to enforce the quarantine around Cuba. For more on this little appreciated example of interoperability, see, Commander Peter Haydon, RCN (Retd), *The 1962 Cuban Missile Crisis: Canadian Involvement Reconsidered* (Toronto, ON: Canadian Institute of Strategic Studies, 1993), especially "Chapter 8: Canadian Hesitation".

33.	Canada, House of Commons, Standing Committee on External Affairs and National Defence, *Canada-US Defence Cooperation and the 1986 Renewal of the NORAD Agreement*, Report, 1ˢᵗ Session, 33ʳᵈ Parliament (14 February 1986).

34.	Once Canada's two Region Operations Control Centres (co-located at North Bay, Ontario) became fully functional on 15 August 1984, this reconfiguration of air defence boundaries meant that Canadians now exercised full operational control of all NORAD surveillance, identification and interceptor control activities in Canadian airspace. *Ibid*., p. 22.

35.	These and other pros and cons of embracing the 'continentalism' implied by interoperability with the United States are dutifully trotted out and publicly rehearsed each time the NORAD agreement comes up for renewal. But there is nothing really 'new' or unique about Canada's continuing *angst* over sharing its own continent with so overpowering a neighbour. The same sorts of concerns about American 'domination' arise for the European powers, as well as for Canada, in NATO's European theatre. They even emerge in the various agencies of the United Nations. In these latter fora, as in the case of NORAD, the revealed preference of successive Canadian governments has been to choose to work for reform from inside, *not* outside, the institution in question.

36.	In 2000, the United States spent 70 per cent of the total NATO expenditures on equipment for that year. Stockholm International Peace Research Institute, "Tables of NATO military expenditure: NATO distribution of military expenditure by category, 1991-2000". Available online at http://projects.sipri.se/milex /mex_data_index.html, accessed 2 February 2002.

37.	See for example, "Joint Doctrine Story", available online at *wysiwyg://4/http://www.ditc.mil/doctrine/joint_doctrine_story.htm*, accessed 2 January 2002.

38.	See especially Faughn, *Interoperability: Is It Achievable?*, "Chapter Three: Importance of Interoperability", pp. 7-17.

39.	This important story is detailed by Lieutenant-Commander Richard H. Gimblett, "Canadian Coordination of the Persian Gulf Combat Logistics Force", in Peter T. Haydon and Ann L. Griffiths (eds), *Multinational Naval Forces* (Halifax, NS: Centre for Foreign Policy Studies, Dalhousie University, 1996), pp. 231-243.

40.	Lieutenant Colonel Samuel J. Walker (USAF), "Interoperability at the Speed of Sound: Modernizing the CF-18 Hornet", David G. Haglund (ed.), *Over Here and Over There: Canada-US Defence Cooperation in an Era of Interoperability* (Kingston, ON: Centre for International Relations, Queen's University, special issue of *Queen's Quarterly*, and published in cooperation with the Conference of Defence Associations Institute, 2001), pp. 259-61. See also, Major Jean Morin and Lieutenant Commander Richard H. Gimblett, *Operation Friction, 1990-1991: The Canadian Forces in the Persian Gulf* (Toronto, ON: Dundurn Press, 1997), pp. 131, 158-59.

41.	Walker, "Interoperability at the Speed of Sound", pp. 259-61.

42.	Walker, "Interoperability at the Speed of Sound", pp. 262-63, and Morin and Gimblett, *Operation Friction 1990-1991*, pp. 159-175.

43.	These examples are drawn primarily from the analysis in Walker, "Interoperability at the Speed of Sound", pp. 269-71.

44.	This was confirmed by General Raymond Henault, CDS, in his testimony to the House of Commons, Standing Committee on National Defence and Veterans Affairs, *Evidence*, Meeting No. 23, (16 October 2001). See also the testimony of the senior US and NATO leadership to this effect

following the Kosovo air campaign cited in Faughn, *Interoperability: Is It Achievable?*, pp. 12-13, plus the remarks of Canada's own top airman, Lieutenant General David Kinsman, Chief of the Air Staff, "Canada's Air Operations in the Balkans", *National Network News*, VI:2 (Fall/Winter 1999), pp. 7-10.

45.   See the testimony of Dr. Kenneth J. Calder, Assistant Deputy Minister, Policy, DND to the Standing Senate Committee on Defence and Security, *Evidence*, Issue 7 (26 November 2001).

46.   *Ibid.*, p. 8.

47.   *Ibid*., p. 10.

48.   In order to reduce workload and the number of planning documents produced yearly, and to improve transparency through a single authoritative document that is valid within DND as well as for external audiences, including Parliament, *Defence Plan 2001* will soon be replaced by a single planning document for DND, *Report on Plans and Priorities*. See, DND, *Defence Plan 2001*, "Forward", p. i.

49.   *Strategy for 2020*, p. 10.

50.   DND, *Report on Plans and Priorities 2001-2002*, (Ottawa, ON: 10 April 2001), pp. 24-25, and 28-30.

51.   Minister of National Defence, DND, *Defence Plan 2001*, (Ottawa, ON: 19 April 2001), pp. 5-4 to 5-5. C^2ISR refers to Command, Control, Intelligence, Surveillance and Reconnaissance.

52.   *Defence Plan 2001*, Annex A to Chapter 7, "Senior Executive Committees", p. 7A-3.

53.   *Strategic Capability Planning for the Canadian Forces*, p. 18. Emphasis added.

54.   *Strategic Capability Planning for the Canadian Forces*, p. 8. Emphasis added.

55.   Lieutenant-Commander Mark Tunnicliffe, "The Revolution in Military Affairs and the Canadian Navy in the 21st Century", *Maritime Affairs* (Spring/Summer 2000), p. 5.

56.   Sharon Hobson, "Canada aims for defense interoperability with U.S.", *International Defense Review*, Online Edition (January 2001). Available online at http://idr.janes.com.

57.   *Report on Plans and Priorities 2001-2002*, p. 28.

58.   Quoted in Hobson, "Canada aims for defense interoperability with U.S". Emphasis added.

59.   *Defence Plan 2001*, p. 5-2.

60.   These examples are drawn from Hobson, "Canada aims for defense interoperability with U.S", and *Report on Plans and Priorities 2001-2002*, p. 29.

61.   *Report on Plans and Priorities 2001-2002*, p. 29.

62.   Hobson, "Canada aims for defense interoperability with U.S".

63.   Hobson, "Canada aims for defense interoperability with U.S".

64.   Walker, "Interoperability at the Speed of Sound", pp. 272-74.

65.   Quoted in Hobson, "Canada aims for defense interoperability with U.S".

66.   Quoted in Hobson, "Canada aims for defense interoperability with U.S".

67.   Quoted in Hobson, "Canada aims for defense interoperability with U.S". Note that the CF have no plans to acquire hovercraft or any other amphibious capability of their own.

68.   For example, Hobson quotes Commodore Dan McNeil, Director Force Planning and Program Coordination, as saying that "we also see ourselves as a facilitator for smaller nations as well ... other nations can plug into us, and not have to worry about plugging into the Americans. We can be enablers and facilitators."

69.   Testimony of Colonel (Ret'd) Brian S. MacDonald to the House of Commons, Standing Committee on National Defence and Veterans Affairs, *Evidence*, Meeting No. 37 (27 November 2001).

70.   Nils Ørvik, "Canadian Security and 'Defence Against Help'", *International Perspectives*, (May/June 1983), pp. 3-7.

71.   See, for example, the recollections of General (Ret'd) Lewis MacKenzie, "We're in this fight together", *Globe and Mail* (31 January 2001), p.A17.

72.   On the post-'9/11' NORAD rules of engagement for shooting down "hostage" civilian airliners, see the testimony of General Raymond Henault to the House of Commons, Standing Committee on National Defence and Veterans Affairs, *Evidence*, Meeting No. 23 (16 October 2001).

73.   See Jeffery Simpson, "What matters is defence integration, not the Eggleton sideshow", *Globe and Mail* (2 February 2002), p. A18.

74.   Shawn McCarthy, "Manley defends deployment", *Globe and Mail* (9 January 2002), p. A4.

75.   See the testimony of Dr. Kenneth J. Calder, Assistant Deputy Minister, Policy, DND to the Standing Senate Committee on Defence and Security, *Evidence*, Issue 7 (26 November 2001).