Shelf Life Extended:
The Longevity and Continued Relevance of the Binational North American Aerospace Defense
Command

by

Nicolas Allarie

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Department of Political Studies
University of Manitoba
Winnipeg, Manitoba, Canada

Abstract

This thesis asks why the North American Aerospace Defense Command (NORAD) continues to exist and remain relevant in the defence of North America following the disappearance of the threat of the Soviet Union at the end of the Cold War. This thesis argues that NORAD's binational nature is key to understanding the command's continued role in continental defence. By employing the international relation theories of functionalism and neoliberal institutionalism as a lens of analysis to understand binational defence cooperation, NORAD's origins as a binational defence command tasked with the air defence of North America, and its acquisition of its responsibilities for drug interdiction, the continental interior, and for maritime warning are analyzed. NORAD's longevity and continued relevance can be attributed to the command's binational nature, which has allowed the command to focus on and institutionalize specific functional-technical solutions to select issues of mutual concern in continental defence and security for Canada and the U.S.

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Abbreviations and Terms

AOR	Area of responsibility
AWACS	Airbourne Warning and Control System
BPG	Binational Planning Group
Canada COM	Canada Command
CBSA	Canada Border Services Agency
CINCADCANUS	Commander-in-Chief Air Defense Canada-United States
CINCCONAD	Commander-in-Chief, Continental Air Defense Command
CINCNORAD	Commander-in-Chief, North American Air (later Aerospace) Defense Command
CINCUSNORTHCOM	Commander in Chief, United States Northern Command
CINCUSSPACECOM	Commander in Chief, United States Space Command
CJOC	Canadian Joint Operations Command
CMIST	CANUS Maritime Information Sharing Teleconference
CONAD	Continental Air Defense Command
CONR	Continental US NORAD Region
COP	Common Operating Picture
DCINCNORAD	Deputy Commander-in-Chief, North American Air (later Aerospace) Defense Command
DEW Line	Distant Early Warning Line
DHS	United States Department of Homeland Security
FAA	Federal Aviation Administration
ICBM	Intercontinental ballistic missile

IMSWG	Interdepartmental Marine Security Working Group
ITW/AA	Integrated tactical warning and attack assessment
JCS	United States Joint Chiefs of Staff
JSS	Joint Surveillance System
MCC	Canadian-United States Military Co-operation Committee
MDA	Maritime Domain Awareness
MERP	*Maritime Event Response Protocol*
MOTR	*Maritime Operational Threat Response Plan*
MSIPC	Maritime Security Interagency Policy Committee
MSOC	Maritime Security Operations Centre
MSPCC	Maritime Security Policy Coordinating Committee
NATO	North American Treaty Organization
NEADS	North East Air Defense Sector
NMDAP	*National Maritime Domain Awareness Plan*
NMIC	National Maritime Intelligence Center
NMIO	National Maritime Intelligence-Integration Office
NMP	National Maritime Picture
NORAD	North American Air (later Aerospace) Defense Command
NPAMDA	*National Plan to Achieve Maritime Domain Awareness*
NSMS	*National Strategy for Maritime Security*
NSPD-41/HSPD-13	*National Security Presidential Directive-41/Homeland Security Presidential Directive-13*
PJBD	Permanent Joint Board for Defense

PPD-18	*Presidential Policy Directive-18*
RCAF	Royal Canadian Air Force
RCMP	Royal Canadian Mounted Police
RMP	Recognized Maritime Picture
SAC	Strategic Air Command
USAF	United States Air Force
USBP	United States Border Patrol
USCBP	United States Customs and Border Protection
USCBPS	United States Customs and Border Protection Service
USCG	United States Coast Guard
USCIS	United States Citizen and Immigration Service
USCS	United States Customs Service
USDoT	United States Department of Transportation
USELEMNORAD	United States Element NORAD
USFF	United States Fleet Forces Command/U.S. Navy North
USN	United States Navy
USNORTHCOM	United States Northern Command
USSPACECOM	United States Space Command
USSTRATCOM	United States Strategic Command
WMD	Weapon of mass destruction

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Introduction

Upon its establishment in 1957, the binational command of the North American Air (later Aerospace) Defense Command (NORAD) has been tasked with monitoring and defending the airspace of North America by the United States and Canada in concert. Even though the literature on North American continental defence and Canada-United States defence and security cooperation often emphasizes the fact that NORAD is a binational command, the importance and impact of this binational attribute are rarely expounded upon. The real political and security implications of this binational arrangement have been substantial, not the least of which has been the fact that the United States has contributed significantly more to the command in terms of funds, resources, and personnel in comparison to Canada. Yet, despite this profound difference in contributions, NORAD's binational characteristic continues to be a defining quality of the command. What is more, in 2006, an additional maritime warning mission was assigned to NORAD as the agreement was unprecedentedly renewed in perpetuity.[1] Are the benefits of NORAD's binational nature the reason it has lasted nearly 60 years? Could the binational nature also account for the expansion of its mission mandate, and for the two states to be confident enough to extend the terms of this cooperative arrangement in perpetuity? Furthermore, and perhaps more importantly, why was binational arrangement decided upon for monitoring and defending North American airspace and later maritime warning, rather than the much more common and clearly more numerous (given that that are over 475)[2] bilateral arrangements that dominate Canada-U.S. defence cooperation? While the existing literature has alluded to some potential answers to these questions, the literature has failed to consider the significance of the

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[1] *Agreement Between the Government of the United States of America and the Government of Canada on the North American Aerospace Defence Command.* Article I, Para l, & Article III. 28 April 2006. http://www.state.gov/documents/organization/69727.pdf.

[2] Canada, Library of Parliament, *Canada and the United States: Shared Interests and Concerns* (2008), 17.

binational nature of NORAD and make the nature of the relationship the central lens of analysis. This thesis seeks to address this gap in the literature.

The choice to assign these various defence responsibilities to a binational organization has yet to be situated within a framework of theories of international cooperation. Given NORAD's renewal in perpetuity, the addition of a new maritime warning mission and, as some claim, that the establishment of USNORTHCOM in 2002 indicates that the U.S. intends to take a more unilateral approach to continental defence, it is an opportune moment to evaluate just what NORAD and its binational nature contributes to continental defence and to Canada, and whether or not this institutional arrangement is worth preserving into the future.

They key to answering these and other related questions rest with the theories of functionalism, neofunctionalism, and neoliberal institutionalism because these theories have been used to explain instances of functional cooperation and the creation of formal organizations which this thesis finds to accurately represent binational cooperation in many respects. Analyses of NORAD tend to rely on alliance and realist theories of international cooperation that focus on the nature of threats. Necessarily, these same theories predict the demise of NORAD specifically because of its binational nature which was supposedly dependent on the nuclear threat posed by the Soviet Union. Contrarily, while NORAD may fall under the auspice of the Western defence alliance as manifested in the multilateral North Atlantic Treaty Organization (NATO), or may be seen to symbolically represent a Canadian-U.S. alliance, this thesis finds that NORAD remains distinct from alliances as traditionally conceived due to its binational nature.

Functionalist, neofunctionalist, and neoliberal institutionalist theories of international cooperation offer a perspective towards Canada-U.S. defence cooperation that emphasizes the capabilities of Canada and the U.S., the presence of functional-technical tasks, and the absolute

gains achieved for each party in the defence of North America. By doing so, it becomes clear that viewing NORAD through the lens of the theories of neoliberal institutionalism, functionalism, and neofunctionalism, provides an explanation for the command's longevity and continued relevance, despite the many political, economic and geopolitical shocks experienced by Canada and the U.S.

As this study endeavors to obtain an in-depth understanding of the complexities of NORAD as a binational institution, this thesis opts for a qualitative research design that applies the theories of functionalism, neofunctionalism, and neoliberal institutionalism as lens to re-evaluate the historiography of NORAD and changes to the NORAD agreement over time. This thesis relies heavily on a literature review, and primary and secondary documents. The literature and primary documents reviewed are of both a historical and contemporary nature. Given that I have been the research assistant for a research project looking into the maritime warning mission of NORAD, led by Drs. Andrea Charron and James Fergusson, I have been granted unprecedented access to a substantial portion of the primary literature. In addition, important secondary sources are utilized, such as those offered by Jockel, Goette, and Trudgen, which all analyze an assortment of archival fonds to provide a detailed and perspicacious account of Canada-U.S. air defence cooperation leading up to the establishment of NORAD and beyond. Ultimately, the literature and the primary documents—and the historical and contemporary accounts constructed thereof—are analyzed utilizing the theories of functionalism, neofunctionalism, and neoliberal institutionalism.

The structure of the thesis is as follows: Chapter One defines binational defence cooperation, revealing its institutional qualities, and situates it within a theoretical framework. This chapter weighs the applicability of alliance theory, the theoretical framework typically

applied to NORAD, towards describing and explaining binational defence cooperation and its attributes, against that of neoliberal institutionalism, functionalism, and neofunctionalism.

Chapter Two uses this understanding of binational defence cooperation rooted in neoliberal institutionalism, functionalism, and neofunctionalism to analyze NORAD's origins as a binational defence command. A substantial portion of this chapter focuses on explaining NORAD as the culmination of incremental bilateral cooperation in support of functional/technical issues in continental air defence following World War II. This works to highlight why NORAD was made a binational organization, how it contributed to the defence of North America, the manner in which it was perceived to be a beneficial arrangement for Canada and the United States, and how from the outset it was positioned to readily adapt to changing defence and security requirements in the future.

Chapter Three and Four then shift the focus towards examining NORAD's assumption of responsibilities in air drug interdiction and the air defence of the continental interior, respectively, in an effort to begin the explanation for NORAD's continued existence and relevance post-Cold War. These chapters focus primarily on the changing continental defence and security requirements after the fall of the Soviet Union and post-September 11, and how NORAD has been readily positioned to adapt to these changes. Chapter Five continues this post-Cold War analysis of NORAD's changing mission requirements and devotes itself to examining the functional and institutional drivers behind NORAD acquisition of a maritime warning mission as a binational command in 2006.

The final chapter, Chapter Six, summarizes what has been learned about NORAD, the importance of its binational nature, its perceived utility for continental defence, and why it as been able to continue to sustain itself as a vehicle for Canada-U.S. continental defence

cooperation long after the end of the Cold War. In doing so, this chapter offers some final thoughts on the future of North American defence and whether or not a binational NORAD could continue to have an active role in addressing future concerns. Moreover, in keeping with the argument being put forth by this thesis, the probability and possibility of NORAD and its missions continuing to be directed by functional/technical drivers will be examined. This chapter ends by evaluating the thesis's policy implications and assessing avenues it opens up for future research.

Chapter One: Explaining Binational Defence Cooperation

Functionalism, neofunctionalism, and neoliberal institutionalism can be used to construct a comprehensive, theoretical understanding of binational defence cooperation. While alliance theory, rooted in Realism, may be utilized to understand some aspects of binational institutions, or organizations for matters of defence cooperation between states, the understanding it provides is insufficient. Alliance theory[3] comprehensively covers most forms of interstate defence cooperation that arise in the international system, both in the past and present. However, interstate defence cooperation within a binational framework entails specific attributes that are typically not covered and explained by alliance theory. Rather than restricting analysis of binational defence cooperation to alliance theory, other theories of international cooperation that are usually applied to issue-areas other than defence—that is, functionalism, neofunctionalism, and neoliberal institutionalism—can be utilized to fill in these gaps of analysis and provide a comprehensive and new understanding of this topic.

Binationalism

The North American Air (later Aerospace) Defense[4] Command (NORAD), the world's only binational defence command to date, was established in 1957, effectively introducing the concept of binational defence cooperation into the political lexicon. And yet, it has not been until recently that the concept of binational cooperation, as distinct from bilateral cooperation (let alone binational defence cooperation), has been afforded much attention from the academic and defence communities. In this respect, to engender a more complete, holistic understanding of

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[3] Some key alliance theorists include George Liska, Stephen M. Walt, Ole R. Holsti, P. Terrence Hopmann, John D. Sullivan, Edwin H. Fedder, Bruce M. Russet, David J. Singer, Melvin Small, Julian R. Friedman, Christopher Bladen and Steven Rosen.

[4] The U.S. spells defense with a "s", while Canada spells defence with a "c". Therefore, both forms of spelling will be used to indicate whether the term is used in a U.S. context or Canadian context.

binational defence cooperation it is practical and fruitful to commence with an analysis of more

contemporary sources.

In December 2002, Canada and the United States (U.S.) signed an agreement that created

a Binational Planning Cell[5], replaced with the Bi-National Planning Group (BPG)[6] in 2003,

which investigated and evaluated future continental defence and binational defence cooperation.

After the terrorist attacks in New York, Philadelphia, and Washington D.C. on 11 September

2011, Canada and the U.S. were compelled to conduct a significant reassessment of the threats

that were facing the two states in the 21st century. There emerged a need to undertake an

extensive review of Canada-U.S. defence cooperation to identify strengths and weaknesses in

existing arrangements and to recommend paths of action for the future. To this end the BPG was

established, which was "to address the future of Canada and the United States (CANUS)

cooperation in broadening bi-national defence arrangements for North American security."[7]

Despite being the focus of research and discussion for the planning group, neither the

BPG's Interim Report nor Final Report provide a definition of the concept of 'bi-national.' In

studying the documents, it is clear that the authors use the term 'bi-national' primarily in a broad

sense, referring to most instances of cooperative defence arrangements between two states (in

this case, between Canada and the U.S.). As a result, the BPG reviews a variety of CANUS

military plans it considers binational in nature, including the NORAD Agreement[8], NORAD

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[5] James G. Fergusson, *Canada and Ballistic Missile Defence, 1954-2009: Déjà Vu All Over Again* (Canada: University of British Columbia Press, 2010), 220-221.
[6] United States, Department of State, "U.S. and Canada Sign Bi-National Agreement on Military Planning," *Office of the Spokesman*, [Washington, D.C.], 9 December 2002, http://2001-2009.state.gov/r/pa/prs/ps/2002/15783.htm (accessed 17 December 2015).
[7] Canada and the United States, Bi-National Planning Group, *Interim Report on Canada and the United States (CANUS) Enhanced Military Cooperation,* 13 October 2004, 2.
[8] Canada and the United States, *Agreement Between the Government of the United States of America and the Government of Canada on the North American Aerospace Defense Command*, 28 April 2006.

Terms of Reference, NORAD Concept of Operation (CONPLAN), CANUS Basic Security

Document (BSD), CANUS Land Operation Plan (LANDOP), CANUS Maritime Eastern

Operations Plan (MAREASTOP), CANUS Maritime Western Operations Plan (MARWESTOP),

and the (as of then not signed into effect) CANUS Combined Defense Plan (CDP). However,

some of these documents, namely the BSD, LANDOP, MAREASTOP, MARWESTOP, and the

CDP could be more aptly classified as bilateral plans or agreements. For instance, the Canada-

U.S. "Framework for Enhanced Military Cooperation among North American Aerospace

Defense Command, United States Northern Command, and Canada Command" emphasizes that

the CDP and the Canada-U.S. Civil Assistance Plan (CAP) are both bilateral plans, while the

NORAD Concept Plan is a binational plan.[9] A backgrounder from the Department of National

Defence (DND) further highlights this commonly held difference between binational and

bilateral instances of defence and security cooperation in its description of NORAD as a

binational command and the CDP as a "bilateral military defence plan."[10]

 Cooperation has generally come to be understood as "goal directed behavior that entails

mutual policy adjustments so that all sides end up better off than they would otherwise be."[11] As

such, cooperation and defence arrangements between two states can generally be classified as

either bilateral or binational. As the BPG demonstrates, in the broadest sense the terms binational

and bilateral can have a similar meaning. The terms are often used interchangeably and are used

to describe the existence of any cooperation between, or actions undertaken by two states. In this

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[9] Canada Command, "Framework for Enhanced Military Cooperation Among North American Aerospace Defense Command, United States Northern Command and Canada Command," *Canada Command,* September 2009, 7.

[10] Canada, National Defence and the Canadian Armed Forces, *Backgrounder: The Canada-U.S. Defence Relationship*, BG 13.055, 4 December 2014.

[11] Helen Milner synthesizes characteristics of cooperation as stated by Robert Keohane, Kenneth Oye, Joseph M. Grieco, and Peter Haas to formulate this cohesive and encompassing definition: Helen Milner, "International Theories of Cooperation Among Nations: Strengths and Weaknesses," *World Politics* 44.3 (1992), 468.

respect, the bilateral CDP is considered a binational arrangement while the binational defence command of NORAD is referred to on occasion as a bilateral arrangement.[12] For all intents and purposes this general and interchangeable use of the terms binational and bilateral usually poses no problem.

However, the terms binational and bilateral can also be used in a more precise manner that refers to the specific nature and manifestation of cooperative or interstate relations between two states. It is in this manner that NORAD is referred to as an instance of binational cooperation, a binational organization, or a binational command. At first glance, the distinction between binational and bilateral cooperation appears to be of little weight or importance. However, these arrangements have inherent benefits and costs that have the capacity to exert great influence on state cooperation and the success of their cooperative endeavors. Moreover, in describing an organization such as NORAD as a binational command, one is referring to specific qualities unique to NORAD that other bilateral defence arrangements would not possess. For these reasons, a comparative approach to defining binational cooperation in relation to bilateral cooperation is useful.

Lee Botts and Paul Muldoon, U.S. and Canadian environmentalists, provide perhaps the clearest distinction between binational and bilateral cooperation between nation-states in their research on Great Lakes water quality agreements and regimes between Canada and the U.S. At its core, Botts and Muldoon find binational cooperation to be defined by two essential

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[12] For instance, in the fourth of her seven-part series on the state of Canada-U.S. foreign and defence relations Marci MacDonald refers to NORAD as a "bilateral command," see: Marci MacDonald, "Fourth of seven parts: Turning NORAD into drug-buster," *Toronto Star*, 12 October 1993. A National Defence backgrounder also categorizes NORAD as bilateral *and* binational, see: National Defence and the Canadian Armed Forces, *Backgrounder: The Canada-U.S. Defence Relationship*.

components.[13] First, to be regarded as binational, cooperation must be conducted by way of a

formal joint-institution. Second, cooperation between two states must be based upon the

principles of parity and equality. Out of these two components other characteristics of

binationalism naturally emerge. For instance, even though staff and representatives may be

appointed by both states, the parity and equality between the two states expressed and facilitated

through a joint-institution provides for sufficient freedom from "nationalistic considerations" that

allows them to "serve in effect as international civil servants."[14] Binationalism also allows for

joint-fact finding, which works to facilitate cooperation and respect between states based upon

the perceived objectivity of the fact finding's results.[15] Finally, institutional policy-makers can

engage in discussions and create solutions free of "home-agency constraints," while still doing so

in a manner that is mindful and considerate of home-agency considerations.[16]

In sum, binationalism is cooperation performed by way of a joint-institution, which is

conducive to the accomplishment of the broader mutual purposes or common interests,

effectively superseding separate, national interests.[17] Bilateralism thus comes to be the opposite

of binationalism. Bilateralism places the separate, national interests of each state above the

broader mutual purposes, or common interests. As a result, bilateralism is not conducted through

a joint-institution where each states' appointed members can act free of nationalistic

considerations with parity and equality, but instead "involves negotiation between two parties

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[13] Lee Botts and Paul Muldoon, "Using the Boundary Waters Treaty for the 21st Century: Revitalizing the Great Lakes Governance Regime," *The Wayne Law Review* 54 (2008), 1558.
[14] Botts and Muldoon, "Using the Boundary Waters Treaty for the 21st Century: Revitalizing the Great Lakes Governance Regime," 1558; Lee Botts and Paul Muldoon, *Evolution of the Great Lakes Water Quality Agreement* (East Lansing: Michigan States University Press, 2005), 11 and 198.
[15] Botts and Muldoon, *Evolution of the Great Lakes Water Quality Agreement,* 11.
[16] Ibid., 198.
[17] Ibid., 198-199.

with national interests as the controlling factor."[18] With bilateralism, the scope and nature of

solutions to any problems between the states will be limited ahead of time as they are filtered and

constrained by national interests, and the objectives and limitations imposed by home-agencies.

Furthermore, negotiation means that decisions, actions, and solutions agreed upon between states

might be reached on a basis of an unequal distribution of power.

While it is uncommon, interstate defence cooperation can also be arranged binationally.

Despite the fact that the BPG employs a broad-based usage of the term binational, the BPG

Interim Report demonstrates an awareness of the differences in defence cooperation that the

terms binational and bilateral attempt to qualify. In its overview of these plans the BPG makes an

important distinction between NORAD CONPLAN and the three OPLANS of LANDOP,

MAREASTOP, and MARWESTOP, which has since been replaced with the CDP:

> NORAD's CONPLAN creates synergy between Canadian and U.S. Air Forces, however
> the structure of the other plans, and lack of synchronization among the plans lead to
> significant inefficiencies within and among the other domains between both nations. For
> instance, these OPLANs are combined, but not joint. "Combined" refers to a plan with
> two or more nations, whereas "joint" connotes plans, activities, operations, organizations,
> etc., in which elements of two or more military departments, environments or services
> participate.[19]

It is here that the BPG makes a distinction between NORAD, a binational arrangement, and the

OPLANS, commonly regarded to be bilateral defence arrangements. On the one hand, there is a

combined plan which is used to describe arrangements otherwise considered to be bilateral, and

simply indicates that two (or more) nations and their respective departments or services are

participating or cooperating on a particular plan. On the other hand, a joint arrangement, which is

used in reference to NORAD and binational command signifies a deeper level of integration

between two states and their respective military departments and services in the planning,

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[18] Ibid.

[19] Canada and the United States, Bi-National Planning Group, *The Final Report on Canada and the United States (CANUS) Enhanced Military Cooperation,* 13 March 2006, 10

activities, operations, and organizations of defence.

One of the rare instances of binational and bilateral defence cooperation defined explicitly can be found in an article written by Tracy Thibault in 2009, a reserve member of the Canadian Forces, for the *Canadian Military Journal*. According to Thibault, binational operations are "military actions conducted by forces of two nations, operating through an entity composed of the two nations, a coalition, or an alliance."[20] Binational operations remain distinct from bilateral defence cooperation, which she defines as the "military, and/or related actions, of two nations operating cooperatively pursuant to mutual agreement between them."[21] While binational and bilateral defence cooperation are both predicated upon cooperative military action, there is an important distinction to be made between them—binational operations involve the creation of a common, separate entity by the two cooperating states to conduct their cooperative military actions.[22] Bilateral operations do not result in a separate entity.

Published in 2009, "The Framework for Enhanced Military Cooperation among North American Aerospace Defense Command, United States Northern Command, and Canada Command," was one of three reports that emerged out of a Tri-Command study ordered in late-2007 by the United States' Chairman of the Joint Chiefs of Staff and Canada's Chief of the Defense Staff to investigate the future of the relationship between Canada Command (Canada

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[20] Tracy Thibault, "The Security and Prosperity Partnership: Will Canada Gain Security and Prosperity at the Expense of Sovereignty and Will It Ultimately Lead to the Militarization of Canada?," *The Canadian Military Journal* 10.1 (2009), 29.

[21] Ibid.

[22] This point and others throughout the chapter sheds light on the "elephant in the room" that this thesis is faced with: what implication does this have for the North American Treaty Organization (NATO)? Is NATO a multilateral organization, as it is currently conceptualized within the literature, or rather is NATO *multinational?* While the scope of this thesis precludes any further analysis of this question, the final chapter will discuss some of the implications this thesis has for understanding NATO and further research.

COM),[23] United States Northern Command (USNORTHCOM), and NORAD.[24] The Framework

for Enhanced Military Cooperation in particular described how the three commands "will operate

and interact, highlighted fundamental relationships, and underscored command responsibilities

concerning mutual support and cooperation."[25] In precise terms, the report presents what it sees

to be the essential characteristics of binationalism and bilateralism with respect to defence and

security cooperation between states, and Canada and the U.S. in particular, effectively providing

the most comprehensive and complete overview of these two concepts available.

The Tri-Command Framework reveals several explicit and implicit characteristics that

distinguish a binational command from a bilateral relationship. A binational command must be

an integrated command that is created by and responsible to both countries and subsequently

engages in missions that are established together.[26] Other attributes of binationalism include pre-

established, ongoing authorities present in both states, common architectures, rules of

engagement, procedures, and direct liaison with other government departments.[27] Moreover, a

binational command possesses an ongoing right of transit passage authority. That is, a binational

command may send its forces into the sovereign territory of either of its member states with no

prior political authority in times of war and peace, regardless of the nationality of the

commanding officers or operating forces relative to its operational terms of reference. Lastly, a

binational command may be supported by a national command or may be required to support it

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[23] Canada COM has since been merged into Canadian Joint Operations Command (CJOC) as of 2012.

[24] National Defence and the Canadian Armed Forces, *Backgrounder: The Canada-U.S. Defence Relationship*; Canada Command, "Framework for Enhanced Military Cooperation Among North American Aerospace Defense Command, United States Northern Command and Canada Command," *Canada Command,* September 2009.

[25] National Defence and the Canadian Armed Forces, *Backgrounder: The Canada-U.S. Defence Relationship*.

[26] Canada Command, "Framework for Enhanced Military Cooperation Among North American Aerospace Defense Command, United States Northern Command and Canada Command," 29.

[27] Ibid.

in turn.[28]

The characteristics of a bilateral relationship are markedly different than those that distinguish a binational command. Rather than an integrated command created by and responsible to both states, the two states attempt to cooperate by way of two national commands that cooperate, while ultimately remaining responsible to their own states.[29] Furthermore, these relationships involve cooperative national missions, instead of identical, harmonious missions that are conceived together.[30] In a bilateral relationship, authority in the host country is granted on a case-by-case basis, the national architectures and rules of engagement should be compatible, and the procedures are coordinated, rather than being common.[31] Moreover, right of passage between states must be requested on a case-by-case basis, liaison with other government departments is performed through national commands, and there exists no supporting/supported relationship between the national commands.[32]

Botts and Muldoon's interpretation of binationalism and bilateralism, the definitions put forth by Thibault, and the characteristics affirmed by the Tri-Command Framework report, seem to be complementary and harmonious, emphasizing common themes and attributes. As a whole, they present a rather complete picture of what exactly binational cooperation involves between two sovereign states and for defence cooperation between Canada and the U.S. in particular. Bilateral cooperation is cooperation between the national institutions (organizations, commands, departments) of the cooperating states, which tends not to be deeply institutionalized or institutionalized at all, is decentralized, and is ultimately directed by the national interests of each state. Meanwhile, binationalism is a more integrated form of cooperation. Binational cooperation

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[28] Ibid.
[29] Ibid.
[30] Ibid.
[31] Ibid.
[32] Ibid.

is conducted by way of a joint-institution (organization, command, department, entity) created by and responsible to both states, which is markedly more institutionalized, and defined by mutual interests, parity, and equality.

Alliance Theory

To foster a better understanding of binational defence cooperation, how this form of cooperation emerges, the advantages of this form of cooperation, and its place in the international system, situating it within a framework of international relations' theory is instructive. In her definition of binational operations, Thibault puts forth an alliance as an example of an "entity" that would constitute such an arrangement. However, rarely are alliances and their subsequent military actions referred to as binational. On the other hand, NORAD as the world's only binational defence command has been referred to as the world's most successful alliance[33] and its utility has often been defined in relation to the threat the Soviet Union posed during the Cold War. For instance, in the 1980's academics such as Charles Doran were questioning the utility of NORAD in the absence of the Soviet bomber threat.[34] In studying NORAD, the world's only binational defence command, it becomes clear that the institution is often viewed through the eyes of alliance theory.[35]

Alliance theory finds its roots in the Neo Realist school of thought. Rather than attempting to explain phenomena within the international system by looking towards the actions of individuals or the state and its constituent parts, Neo Realists prefer to look towards the nature

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[33] As the retired Canadian Lieutenant-General George Macdonald wrote in the summer of 2005, "NORAD has been the most successful military alliance ever." See, George Macdonald, "Canada-US Defence Cooperation: Where to From Here?," *Canadian Military Journal* (2005), 5.

[34] Charles Doran, *Forgotten Partnership: U.S.-Canada Relations Today* (United States: The John Hopkins University Press, 1984), 149.

[35] A facile reason for why NORAD tends to be viewed as an alliance may be because alliances are often seen to be synonymous with all things "military/security," which is an over-simplified and incorrect comparison.

of the system itself.[36] With this systemic approach in hand, Realism and its Neo versions professes to offer a realistic interpretation of international relations. Realists view states as the main actors in the international system which are primarily motivated by considerations of security and national interests, with their actions constrained by the structure of the international system. Moreover, to Realists the international system is defined by a state of anarchy.[37] This condition of anarchy in the international system shapes the interests and actions of individual sovereign states. In this self-help system where no central authority exists to guarantee security and survival, it becomes the primary interest of each state to maximize its own security through a preponderance of power. States are assumed to be unitary actors that are rational, concerned with relative gains, and act to maximize benefits and minimize costs. Naturally, this obsession with guaranteeing one's own security comes to have a determining effect on the nature of the relationships between states, and an environment of conflict and competition emerges out of this international anarchy. One mechanism by which states can manage their relationships with each other in this environment is through the use of alliances.

While the term alliance is used widely in the study of international relations its definition has not always been clear and uniform. Alliances have been viewed to be many different things in international relations, spanning the gamut of "*techniques of statecraft, international*

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[36] Refer to Kenneth Waltz's exploration of the levels of analysis present in international relations: Kenneth Waltz, *Man, the States and War: A Theoretical Analysis* (New York: Columbia University Press, 1959).

[37] See: Thomas Hobbes, *Leviathan* (United States: Oxford University Press, 2008); Kenneth Waltz, *Man, the States and War: A Theoretical Analysis* (New York: Columbia University Press, 1959); Kenneth Waltz, *Theory of International Politics* (United States: Waveland Press, Inc., 1979); John J. Mearsheimer, *The Tragedy of Great Power Politics* (United States: W.W. Norton & Company, 2001); Robert Jervis, "Cooperation Under the Security Dilemma," *World Politics* 30.2 (1978): 167-214.

organizations, or *regulating mechanism in the balance of power*."[38] Admittedly, a full analysis

into every aspect and intricacy of alliance theory is beyond the scope of this thesis. However,

despite the complexity of alliance theory and the diversity of opinion surrounding the concept,

alliances can still be reduced to their most basic components and characteristics. Stephen M.

Walt, one of the preeminent experts on alliances, defines an alliance clearly and simply as a

"formal… commitment for security cooperation between two or more states, intended to

augment each member's power, security, and/or influence."[39] Walt goes on to clarify that "the

essential element in a meaningful alliance is a commitment for mutual support against some

external actor."[40] Julian R. Friedman takes this last aspect one step further, stressing that an

alliance includes collaboration "for a limited duration regarding a mutually perceived

problem."[41] In Holsti, Hopmann and Sullivan's comprehensive overview of alliance theory,

Unity and Disintegration in International Alliances: Comparative Studies, they attempt to

establish the broadest definition of alliances possible and in doing so only establish two strict

requirements to their definition: an alliance must be established by a formal treaty and must be

concerned solely with issues of national security.[42]

       While this conception of alliances still needs to be qualified in some respects, some

essential characteristics of alliances are evident immediately. For one, an alliance is a

relationship between two or more nation-states. Second, an alliance is limited to matters of

security or defence. As political scientist George Modelski asserts firmly, "alliances are directly

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[38] Ole R. Holsti, P. Terrence Hopmann, and John D. Sullivan, *Unity and Disintegration in International Alliances: Comparative Studies* (Canada: John Wiley & Sons, 1973), 3.
[39] Stephen M. Walt, "Alliances in a Unipolar World," *World Politics* 61.1 (2009), 86.
[40] Ibid.
[41] Julian R. Friedman, "Alliance in International Politics" in *Alliance in International Politics,* ed. Julian R. Friedman, Christopher Bladen and Steven Rosen (United States of America: Allyn and Bacon, 1970), 4.
[42] Holsti, Hopmann, and Sullivan, *Unity and Disintegration in International Alliances: Comparative Studies*, 3.

concerned first and foremost with defence matters."[43] Third, alliances are a formal commitment. Alliances are a formal commitment in that they are established by way of a government-to-government agreement, predominantly in the form of a treaty, and in a manner that makes the intentions of the defence or security arrangement explicit and overt, rather than tacit, covert, or accidental.[44] Lastly, alliances are in response to a mutually perceived problem that requires collaboration to address and resolve.

George Liska argues in his seminal book *Nations in Alliance: The Limits of Interdependence*: "Alliances are against, and only derivatively for, someone or something."[45] In other words, an alliance is a group of nation-states that comes together for a limited amount of time in response to a specific threat or for a particular objective. In this instance a threat is conceived to be "an enemy or enemies, actual or anticipated,"[46] while an objective is what the alliance intends to do to address or extinguish this threat.

In alliance theory, the formation of an alliance is a political process. In an effort to increase their security states employ a cost-benefit analysis when contemplating joining an alliance. James E. Dougherty and Robert L. Platzgraff, Jr., summarize this process succinctly:

> Although a sense of community may reinforce alliances or coalitions, it seldom brings them into existence. In forming alliances to achieve some desired objective, decision makers weigh the costs and rewards of alignment. A decision to join an alliance is based on perception of rewards in excess of costs. Each country considers the marginal utility from alliance membership, as contrasted with unilateral action.[47]

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[43] George Modelski, "The Study of Alliances: A Review" in *Alliance in International Politics,* ed. Julian R. Friedman, Christopher Bladen and Steven Rosen (United States of America: Allyn and Bacon, 1970), 70.

[44] Walt, "Alliances in a Unipolar World," 106.

[45] George Liska, *Nations in Alliance: The Limits of Interdependence* (Baltimore: the Johns Hopkins Press, 1962), 12.

[46] Friedman, "Alliance in International Politics," 5.

[47] James E. Dougherty, and Robert L. Pfaltzgraff, Jr., *Contending Theories of International Relations: A Comprehensive Survey*, 5th edition (United States: Addison Wesley Longman, 2001), 533.

As such, if the costs of an alliance outweigh the rewards of joining, then states will opt out of entering into an alliance. In other words, an alliance must serve the national interests of each respective member state calculated within a cost-benefit framework. Two schools of thought, balance of power theories and coalition theories, further underscore this rationalization that states perform in their decision to form an alliance and sheds light on the impact states' preoccupation with relative gains has on this process.

The distinction between the two theories is rather straightforward: prevention and deterrence versus victory. Balance of power theories assert that alliances come about due to "attributes of the international system and the situation—the distribution of power, threats to the balance of power, and the like."[48] As a result, alliances are formed to restore equilibrium to the distribution of power in the international system—to preserve the status quo. Alliances exist to offset and prevent a state or group in the international system from becoming dominant, which would otherwise pose a threat to the members of the alliance.

Coalition theories are markedly different. Rather than aiming to prevent the rise of a dominant power, coalition theorists surmise that alliances are "motivated by the single goal of winning, and doing so under conditions that maximize their share of the gain—that is, with as few partners as are necessary to achieve victory."[49] In this respect, coalition alliances are concerned with the size of the alliance and the capabilities that potential alliance partners will bring to the table, in an effort to ensure victory against the threat in the international system and in a manner that will afford them the greatest share of the gains in the aftermath.

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[48] Holsti, Hopmann, and Sullivan, *Unity and Disintegration in International Alliances: Comparative Studies*, 5.
[49] Ibid., 7.

At its most basic level, alliances are collective defence[50] arrangements contingent on promissory obligations. An alliance is a formal commitment to come to the aid of an alliance partner in the event of a real or anticipated attack. However, such a formal commitment remains non-binding. While the formal commitment of an alliance helps to guarantee that an alliance's members will not defect from their promissory obligations to each other, each member retains the final decision-making power on whether to come to the aid of a alliance partner or not.[51] As James D. Morrow asserts: "Alliances allow their members to retain final freedom of action in foreign policy; tighter forms of relations cede some control over foreign policy to another state."[52]

Indeed, this characteristic is clearly embodied in the contemporary era's archetypical alliance: the North American Treaty Organization (NATO). Article V of the North Atlantic Treaty consigns each NATO member-state to consider an attack on one as an attack against them all, and while it asks for its members to contemplate using armed force to restore and maintain security it actually provides member states significant freedom, asking them to only take "such action as it deems necessary."[53] As a result, in theory and in practice, an alliance is not free of nationalistic considerations. To the contrary, alliances are overwhelmingly dictated by each

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[50] The concept of collective defence is best illustrated by the principle put forth in Article V of the North Atlantic Treaty that "an attack against one Ally is considered an attack against all Allies." It is the concept that in the face of a threat or an attack, the member-states of an alliance (in this case NATO) will combine their power and capabilities to balance or retaliate against the opposing state or alliance. While similar, collective security differs in that it finds its basis in international law. With collective security, states come together pool their power, capabilities, and resources to uphold international law in the face of an aggressor using a variety of tools, including diplomacy, sanctions, and the use of force. The United Nations is today's preeminent forum for collective security.

[51] James D. Morrow, "Alliances: Why Write Them Down?," *Annual Review of Political Science* 3 (2000), 67.

[52] Ibid., 65.

[53] "North Atlantic Treaty" in *Treaties and other international agreements of the United States of America 1776-1949: Volume 4, Multilateral 1946-1949,* ed. Charles Irving Bevans (Washington, DC: Department of State, 1970), 829.

member-state's consideration of its own national interests. Despite a formal alliance commitment, a state's unilateral calculation of whether or not military action serves its national interests will determine its decision to participate in any alliance military engagement.

Alliances have a limited shelf life. Alliances do not exist in perpetuity; they exist only for as long as the threat or objective for which it was created remains[54] or "until the *casus fœderis* no longer exists."[55] In this respect, "alliances or coalitions disband once they have achieved their objective."[56] Alliances are not a permanent arrangement and are assembled as a matter of expediency. Regardless of the factors that may contribute to an especially cohesive or resilient alliance, they tend to disband when the threat or objective for which it was established disappears.

Alliances are also not bound by any sense of equality or parity. Rather, the distribution of influence and decision-making power can vary greatly within and between alliances for numerous reasons. Typically, influence within an alliance is attributed to "the distribution of capabilities among its members." That is, the stronger the state is in material terms (hard power), the more influence and decision-making power it can wield within an alliance structure. However, many political scientists also hold that smaller powers may be afforded an advantage in terms of influence and decision-making power within an alliance. There are several different explanations for this phenomenon, including the fact that stronger members are "usually keener… to maintain the alliance," that "tighter"[57] international systems limit the number of

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[54] Dougherty and Pfaltzgraff, Jr., "Contending Theories of International Relations: A Comprehensive Survey," 532.

[55] Brett Ashley Leeds, and Burcu Savun, "Terminating Alliances: Why do Alliances Abrogate Agreements?," *The Journal of Politics* 69.4 (2007), 1124.

[56] Dougherty and Pfaltzgraff, Jr., "Contending Theories of International Relations: A Comprehensive Survey," 533.

[57] Holsti, Hopmann, and Sullivan, *Unity and Disintegration in International Alliances*, 15. Holsti, Hopmann, and Sullivan define a 'loose' international system as one that has a "large number of unaligned states and more than two alliance systems." A 'tight' international system, by that

potential replacement allies, making weaker states more irreplaceable and thus affording them a

stronger bargaining position, and the notion that the more pluralistic and democratic an alliance

is the more each individual member state's sovereignty is respected, the implication of which

grants all alliance partners more equitable influence and decision-making power regardless of

their capabilities.[58]

In any case, equality and parity between partners is not guaranteed in an alliance and may

favour either the stronger or the weaker powers depending on the circumstances surrounding a

particular alliance. The literature demonstrates that such issues of equality and parity are not

typically negotiated before the establishment of an alliance. While the reasons for this are not

explicitly clear, one can surmise that it may be due to the fact that alliances are formed on the

basis of balance of power politics between member-states and, as a matter of expediency for

states, are expected to be temporary arrangements serving a common agreed upon objective.

Under such conditions a long-term framework for apportioning decision-making power may not

be viewed as urgent and necessary. However, while decision-making authority may be

inequitable within an alliance, an equitable distribution of labour has been found to be essential

to alliance cohesion.[59]

Some academics have put forth the proposition that alliances may indeed lead to

integration, but there is very little evidence at hand to support such assertions. Christopher

Bladen is one such individual who questions whether or not an alliance can lead to "a more

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measure, is a system that has a small number of unaligned states and contains two or fewer
alliance systems.
[58] Holsti, Hopmann, and Sullivan, *Unity and Disintegration in International Alliances:
Comparative Studies*, 15-16.
[59] Ibid., 17.

lasting and substantial unity, one which is not based solely upon common threat perception."[60]

Based upon an overview of integration theory as put forth by Ernst Haas, Christopher Bladen concludes alliances cannot lead to integration due to the fact that the main factor which motivates states to integrate is the perception that it will bring long-term and increasing gains, which is usually only possible economically:

> Successful integration, having a significant basis in economics, would seem to employ continuing and increasing benefits. Alliance, by contrast, ceases to impart benefits to the full membership once the threat which brought it into being disappears.[61]

Holsti, Hopmann, and Sullivan also admit that there is a possibility that alliances can lead to integration and to the institutionalization of arrangements. However, they concede that the evidence at hand quickly dampens that possibility. Much like Bladen, they point towards research that has found that economic relations underpin integration and that "security-related matters [have] a lower potential for 'spillover.'"[62] Moreover, based upon an analysis of research by Karl W. Deutsch and Francis A. Beer, they conclude that alliances have been found to be "neither necessary nor sufficient for integration."[63]

Binational defence cooperation is distinct from bilateral defence cooperation due to the fact that it takes place within a joint-institution. Despite toying with the possibility of integration, alliance theorists such as Bladen, Holsti, Hopmann, and Sullivan are of the consensus that

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[60] Christopher Bladen, "Alliance and Integration" in *Alliance in International Politics* ed. Julian R. Friedman, Christopher Bladen and Steven Rosen (United States of America: Allyn and Bacon, 1970), 125.

[61] Ibid., 126.

[62] Holsti, Hopmann, and Sullivan, *Unity and Disintegration in International Alliances: Comparative Studies*, 38. See also Amitai Etzioni, "The Dialectics of Supranational Unification," *American Political Science Review,* 56, 1962.

[63] Holsti, Hopmann, and Sullivan, *Unity and Disintegration in International Alliances: Comparative Studies*, 38. See also Karl W. Deutsch et al., *Political Community and the North Atlantic Area: International Organization in the Light of Historical Experience,* Princeton University Press: Princeton, 1957, and; Francis A. Beer, *Integration and Disintegration in NATO: Processes of Alliance Cohesion and Prospects for Alliance Community*, Ohio State University Press: Columbus, 1969, 239-240.

alliances are not integrated or permanent cooperative units either. Rather, alliances are the result of states coming together for the common purposes of deterring or obtaining victory over another state that poses a threat to the alliance members. Once the threat or objective is no longer present then the alliance typically ceases to be. As a result of this temporary arrangement, the other attributes that distinguish binational defence cooperation are not present as well, including the notion of parity and equality amongst partners. Moreover, there is no indication that there is common, rather than compatible, architectures, rules of engagement, and procedures between the member-states, or that alliances include provisions for ongoing right of passage authority; an act that constitutes a significant reduction in sovereign authority for nation-states.

Importantly, an alliance does not have autonomy and independent decision-making authority separate from its member-states. Alliances are under the political control of their member-states, and they ultimately dictate the actions of the alliance in line with their own national interests. In Morrow's typecast of defence cooperation, alliances involve the retention of final freedom of action in foreign policy. Binational defence cooperation is defined by the prioritization of mutual interests over national interests and the fact that commanders and staff have autonomous decision-making power to take actions that conform to these mutual interests. In this case, binational defence cooperation may constitute one of the "tighter forms of relations" mentioned by Morrow as it demonstrably involves the transfer of foreign policy decision-making power to another body, state or otherwise.

Neoliberal Institutionalism

One of the defining attributes of binational defence cooperation is the fact that it takes place within a joint-institution established by the cooperating parties. Alliance theory has been shown to reflect and explain inadequately the attributes of binational defence cooperation and to

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account for this characteristic. Neoliberal institutionalism, however, with its focus on absolute gains and institutionalized arrangements may provide a solid foundation on which binational defence cooperation can be understood. As binational defence cooperation is conducted by way of joint-institutions, and this confers qualities that are not harmonious with traditional understandings of alliances, neoliberal institutionalism emphasizes the benefits of cooperating through institutions and is able to fill in some of the gaps of analysis.

Neoliberal institutionalism offers convincing arguments as to why and how states engage in cooperation in an anarchic system. Neoliberal institutionalists accept some realist premises, such as the notions that the relative power of states and state interests are critical in international relations, that states are self-interested, rational actors that strive for short-term gains, and that the international system is one of anarchy.[64] However, Neoliberal institutionalism diverges from Neo Realism in that it relaxes assumptions on rationality and egoism, and posits that states may take into account the welfare of others. Moreover, neoliberal institutionalists suppose the rationality of states is bound by the limited information and time at their disposal, and are not just interested in short-term gains but long-term gains as well.[65] Most importantly, neoliberal institutionalists believe introducing the institutional context to the anarchic system changes the prospects of cooperation between states.[66]

The works of Robert Keohane are probably the most instructive to understanding neoliberal institutionalism. Keohane's seminal text in the field, *After Hegemony,* attempts to

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[64] Anne L. Herbert, "Cooperation in International Relations: A Comparison of Keohane, Haas and Franck," *Berkeley Journal of International Law* 14.1 (1996), 5; Robert O. Keohane, "International Institutions: Can Interdependence Work?," *Foreign Policy* (1998), 86.

[65] Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy* (United States: Princeton University Press, 1984), 110; Herbert, "Cooperation in International Relations: A Comparison of Keohane, Haas and Franck," 6.

[66] Herbert, "Cooperation in International Relations: A Comparison of Keohane, Haas and Franck," 6 and 7.

formulate an answer to how international cooperation can persist in the absence of hegemony, which hinges upon cooperation through international institutions or regimes.[67] Pulling upon the ideas of Oran Young, Keohane asserts that international institutions or regimes are "recognized patterns of practice around which expectations converge."[68] These institutions or regimes may subsequently manifest as informal or formal organizations, or as merely implicit or explicit norms, principles, and rules.[69]

Keohane contrasts cooperation from discord, while also distinguishing it from harmony. Cooperation is a process of policy coordination emerging out of present or potential discord. Keohane finds that "intergovernmental cooperation takes place when the policies actually followed by one government are regarded by its partners as facilitating realization of their own objectives, as the result of a process of policy coordination."[70] As opposed to the realist interpretation of the Prisoner's Dilemma, in which states are concerned with relative gains and are confined to cooperation destined to end in zero-sum outcomes, states are interested in absolute gains and cooperation is a positive-sum game where it is possible for states to benefit simultaneously.[71] The aforementioned definition of cooperation as espoused by Keohane

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[67] Keohane, *After Hegemony*, 43.
[68] Oran Young, "International Regimes: Problems of Concept Formation," *World Politics* 32.3 (1980), 337; Keohane, *After Hegemony*, 8.
[69] Keohane, *After Hegemony*, 8 and 57; Stephen D. Krasner, "Structural Causes and Regime Consequences: Regimes as Intervening Variables," in *International Regimes* ed. Stephen D. Krasner, (Ithaca: Cornell University Press, 1983), 2.
[70] Keohane, *After Hegemony*, 51-52.
[71] The Prisoner's Dilemma consists of two rational, self-interested, and reliant players (in this case sovereign nation-states) who aim to maximize their own interests and are presented with the choice to either cooperate or to defect. The basic outline of the game is as follows: Both states are rewarded if they each choose to cooperate. If they both defect from cooperation they are both punished. However, if one player chooses to cooperate while the other defects, the former is punished to a greater degree than if they both defected, while the latter reaps the greatest reward attainable within the game. Despite the fact that Charles Lipson is a neoliberal institutionalist, his article provides a strong summary of the Prisoner's Dilemma and its basic impediments to

embodies this very idea, as there is recognition between partners that each other's policies are mutually beneficial.

The positive-sum outcome (possible by way of cooperation) is due to a few different factors.[72] For one, the Prisoner's Dilemma is not played only once but is iterated over a long period of time.[73] Over repeated plays, states come to realize that cooperation is mutually advantageous. While defection may be beneficial in the short-term it is mutually harmful in the long-term and cooperation that is mutually beneficial in the short-term will most likely retain that characteristic going into the future. Furthermore, reciprocity or a "Tit-for-Tat" strategy can facilitate cooperation, which may reinforce the mutual benefits of cooperation and punish those that defect.[74]

Cooperation is also made more attractive to states if mechanisms exist to combat the sanctioning problem; that is, the identification and punishment of those that defect and the creation of incentives for states not to do so. In the defence and security realm, defection can be broadly interpreted to be a state's failure to fulfill its obligations within a cooperative defence arrangement. In the case of alliances, failure to come to the aid of another alliance member experiencing a real or anticipated attack from an external threat would constitute defection from its alliance responsibilities. From a pragmatic perspective, Robert Axelrod and Keohane suppose that limiting the number of cooperating actors can make it substantially easier to verify those that are cooperating in good faith and detecting those that may defect. For instance, it is easier to

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cooperation as accepted by neorealists: Charles Lipson, "International Cooperation in Economic and Security Affairs," *World Politics* 37.1 (1984), 2.

[72] Joseph M. Grieco sets out these factors in his article "Anarchy and the Limits of Cooperation: A Realist Critique of the Newest Liberal Institutionalism," 494-495. However, for a more clear analysis and in order to convey my argument more precisely I go back to the primary source material.

[73] Keohane, *After Hegemony*, 75.

[74] Robert Axelrod and Robert O. Keohane, "Achieving Cooperation under Anarchy: Strategies and Institutions," *World Politics* 38.1 (1985), 244.

verify that one or two parties are not defecting rather than ensuring that twenty are not.

Alternatively, international institutions or regimes can be invaluable in combating the

sanctioning problem. As Axelrod and Keohane put it:

> Regimes provide information about actors' compliance; they facilitate the development
> and maintenance of reputations; they can be incorporated into actors' rules of thumb for
> responding to others' actions; and they may even apportion responsibility for
> decentralized enforcement of rules.[75]

As a result, institutionalizing mechanisms by which states can share information in an effort to

guarantee mutually its partners are not cheating can act to strengthen cooperation.

Viewed more broadly, this can be seen as part and parcel of reducing transaction costs.

By institutionalizing cooperation, transaction costs can be reduced. Expanding or engaging in

new agreements or arrangements can be made cheaper, states can benefit from economies of

scale, costs can be shared, and undertaking actions contrary to the cooperation agreed upon can

be made costly.[76] For example, by choosing to institutionalize an issue area once, revisiting the

same issue or creating new agreements will be cheaper as many of the initial hurdles to

cooperation will have already been worked out. Alternatively, rather than negotiating agreements

or creating institutions for new issue areas or problems that arise, states may be able to integrate

these issues into previous cooperative arrangements.

States' calculations of cooperative transaction costs can even have a decisive effect on

determining the institutional form that cooperation will take. Michael J. Gilligan argues that

international cooperation with low transaction costs relative to the total value of the transaction

will be conducted by way of negotiated agreements, while cooperation with relatively high

transaction costs should be conducted within international institutions and even supranational

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[75] Ibid., 237.
[76] Keohane, *After Hegemony*, 89-92.

institutions.[77] If cooperation in a particular issue-area has high transaction costs then affording the cooperative arrangement a more permanent infrastructure and framework can make cooperating cheaper and more effective over the short- and long-term as transaction costs would not have to be recurrent. From this another observation can be made regarding the relationship between the calculation of relative transaction costs by states and the form of cooperation. Since states are more likely to cooperate through international or international institutions when transaction costs are high, it is reasonable to conclude that there may also exist a positive relationship between high transaction costs and the willingness of states to provide the relevant institutional autonomy and independent decision-making authority. This is because international and supranational institutions are distanced farther from national pressures and are thus in a position to conduct their work restricted less by national interests.

An umbrella term for international and supranational institutions is formal institutions. Formal institutions are distinct from the concept of formal commitments as used in alliance theory. According to Kenneth W. Abbott and Duncan Snidal, formal institutions are defined by their centralization and independence, which aside from lowering the transaction costs of current and future cooperation are key reasons formal institutions are so attractive to states. The centralization of cooperation is attractive to states as an established organization with a permanent administration increases efficiency and the ability of the state to influence the organization.[78] The independence and autonomy from its member states that formal institutions

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[77] Michael J. Gilligan, "The Transactions Costs Approach to Understanding International Institutions: An Intellectual Legacy of Robert O. Keohane," (undated working paper), 6-7. http://www.princeton.edu/~hmilner/Conference_files/KEOHANE/gilligan.pdf (accessed 8 October 2015).
[78] Kenneth W. Abbot and Duncan Snidal, "Why States Act through Formal International Organizations," *The Journal of Conflict Resolution* 42.1 (1998), 5.

provide allows them to operate and manage issues and problems from a neutral standpoint.[79] In this respect, more formal institutions may offer another mechanism by which states can combat the problem of defection. Formal institutions, with their independence and autonomy from its member-states and centralization, may be afforded the ability to make the final foreign policy decisions for its member-states, spurring them to action automatically.

Abbott and Snidal argue, however, that the independence of formal institutions may be highly constrained as "member states, especially the powerful, can limit the autonomy of IOs, interfere with their operations, ignore their dictates or restructure and dissolve them."[80] For these reasons, cooperating through formal institutions is viewed by some states as unattractive. Indeed, the inherent benefits of cooperating through formal institutions can be curtailed by "the shortcomings of international bureaucracy, the costs of formal organization, and the irritations of IO autonomy."[81]

Neoliberal institutionalism may explain binational defence cooperation more readily as it exemplifies the manner in which institutionalized cooperation can overcome the international system's structural barriers to cooperation and is based upon the idea that cooperation is mutually advantageous and positive-sum. For neoliberal institutionalists not only is interstate cooperation possible, but is more likely to be achieved through formal joint-institutions as they allow states to be more confident that cooperation will be iterated, that a relationship of reciprocity will be abided by, that transaction costs will be reduced, and that the sanctioning problem can be mitigated. Moreover, by cooperating on the basis of perceived mutual advantages and the fact that formal institutions require independence and autonomy from its member states, there is a high probability that cooperative relationships will be based upon parity

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[79] Ibid., 5-6
[80] Ibid., 6.
[81] Ibid.

and equality, and that the common architectures, rules of engagement, and procedures characteristic of binational cooperation may emerge as it is a more permanent arrangement that would necessitate such commonality. Formal institutions appear to be a significant aspect of the "tighter forms of cooperation" touted by Morrow.

While neoliberal institutionalism demonstrates why states may be motivated to cooperate binationally, formal institutional arrangements still impose constraints on state action and have unattractive characteristics that may make states prefer to cooperate bilaterally. This can be particularly true of defence cooperation as defence and foreign policy is typically a sector about which states are extremely apprehensive relinquishing control or authority, despite high transaction costs. As a whole, neoliberal institutionalism is a good start to understanding binational institutions. Binational institutions are akin to formal institution and would therefore be bestowed with all of the advantages that formal institutions confer to the cooperating parties. However, a formal institution is not necessarily useful in and of itself. A formal institution is only useful and advantageous in relation to the purpose it serves.

Functionalism and Neofunctionalism

At its core, the functionalist perspective views cooperation between states as a process of integration that is conducted in response to the need to perform specific functions or tasks. Functionalism proposes that cooperation between states can be successfully accomplished by shifting the locus of cooperation from high politics to low politics. What David Mitrany referred to as the "virtue of technical self-determination,"[82] functionalists argue that states can find common ground in the technical nature of the problem, which is free of the controversy that

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[82] David Mitrany, *A Working Peace System: An Argument for the Functional Development of International Organization* (United States: Oxford University Press, 1944), 35.

poisons the political.[83] By focusing on the technical aspects of problems that arise, which

functionalists assert is easier to do when it comes to matters of low politics, cooperation can be

viewed by states and its people as being successful and mutually beneficial, leading to a process

of integration, further cooperation, and potentially a political community. Otherwise stated,

states need to avoid cooperating to solve problems on a political basis, as politics is grounds for

controversy and discord, and should instead focus upon the "practical and technical nature of the

problem."[84]

Integration is defined by Ernst B. Haas as a "process whereby political actors in several

distinct national settings are persuaded to shift their loyalties, expectations, and political

activities toward a new center, whose institutions possess or demand jurisdiction over the

preexisting national states."[85] As integration deepens, the mutual benefits of cooperation are

noticed, appreciated, and subsequently reinforced, and a political community emerges based

upon social bonds and common values. Supranational institutions, institutions with jurisdiction

over their member states, are created to address these technical problems, which involve states

relinquishing a degree of sovereignty and decision-making authority.

However, integration does not suppose that these supranational institutions have power

over all matters of state concern, or even over all aspects of a particular issue-area. By its nature,

integration should be viewed as expanding cooperation in specific issue-areas based upon

common interests and in which joint-action is desirable, thus making integration more limited in

scope than it may appear initially. David Mitrany, a forefather in the field of functionalism

advances this very view, arguing: "The essential principle is that activities would be selected

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[83] Peter Wolf, "International Organization and Attitude Change: Re-examination of the Functionalist Approach," *International Organization* 27.3 (1973), 348-349.
[84] Ibid.
[85] Ernst B. Haas. *The Uniting of Europe: Political, Social and Economical Forces 1950-1957* (London: Stevens & Sons Limited, 1958), 16.

specifically and organized separately—each according to its nature, to the conditions under which it is to operate, and to the needs of the moment."[86] Indeed, a defined and limited scope of activity is critical as "the wider and vaguer the range of its activity, the less is the likelihood that a technical organization would be given the freedom of supra-national autonomy."[87] Moreover, the literature on integration now supposes that intergovernmental and supranational institutions do not necessarily require states to completely relinquish sovereignty for integration to occur. Rather, it may be more appropriate to view the state transfer of sovereignty to supranational institutions as a pooling and sharing of sovereignty, as states can subsequently "remain powerfully engaged in the management of supranational institutions."[88]

As mentioned, this process of integration is spurred by a need to perform specific functions. Cooperation is initiated by states that are confronted with issues that transcend boundaries and require solutions that are beyond the capability of the state and the capacity of politicians.[89] States can initiate joint-functional undertakings in response to any number of areas, but to date have been limited generally to low politic issues, such as economics and the environment. The solutions to these types of problems have become increasingly technical in nature and the vast majority of governments do not have the unilateral capability to traverse these technical issues themselves. As a result, governments have a need for individuals and supranational institutions with the appropriate technical expertise given the specific, technical requirements of the situations at hand. When these issues are related to a mutually beneficial purpose such as trade, or transcend territorial boundaries in the case of many environmental

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[86] Mitrany, *A Working Peace System*, 105.

[87] David Mitrany, "The Prospect of Integration: Federal or Functional," *Journal of Common Market Studies* 4.2 (1965), 141.

[88] Dougherty and Pfaltzgraff, Jr., *Contending Theories of International Relations: A Comprehensive Survey,* 545.

[89] Ibid., 512.

issues, it can be ideal to assign technocrats to the problem who can work through the technical barriers to create mutually beneficial solutions.

Functionalism's successor, neofunctionalism, also provides interesting ideas regarding cooperation once arrangements have been initially established. Neofunctionalists suppose that inherent in the process of integration is a spillover effect that leads to further cooperation. The spillover effect can be either functional or political in nature. Functional spillover is the idea that cooperation to create solutions in issue-areas naturally leads to the emergence of new problems and to more complicated forms of interdependence for which more cooperation is needed.[90] There is also political spillover, which is the notion that "the existence of supranational institutions would set in motion a self-reinforcing process of institution building."[91] To summarize it more formally, cooperation and integration create patterns of interdependence between nations by facilitating the creation of common norms and values that recognize cooperation and integration as beneficial and in its creation of internal institutional dynamics, effectively making cooperation a self-sustaining process.[92]

Functionalists and neofunctionalists do not reject the value of institutions to foster cooperation, but they suspect the key to states successfully undertaking cooperative arrangements lies in basing them upon the functional-technical aspects of problems, rather than controversy-laden political processes. While functionalists typically call these cooperative arrangements supranational (or formal) institutions, binational institutions are arguably quite similar. Functionalists describe supranational institutions as independent and autonomous, with a degree of policy and decision-making authority over its member states derived from pooled or

[90] Andrew Hurrell, "Regionalism in Theoretical Perspective," in *Regionalism in World Politics: Regional Organization and International Order*, ed. Louise Fawcett and Andrew Hurrell (United States: Oxford University Press, 1996), 59.
[91] Ibid.
[92] Ibid.

shared sovereignty. In comparison, binational institutions are described as having independence and autonomy separate from its member states and from nationalistic considerations, all in an effort to address broader mutual purposes or common interests. Such independence and decision-making authority would theoretically also require its member-states to relinquish some degree of sovereignty and authority. Moreover, the spillover phenomenon that neofunctionalists argue is responsible for deepening integration may also be a factor that influences the decision of states to cooperate on a binational basis.

States are driven towards binational arrangements based upon a mutual desire to address particular functions or technical issues at hand that transcend territorial boundaries. It is in this way that functionalism overcomes the impediments to cooperating through formal or binational institutions that neoliberal institutionalists believe to be present. Rather than worrying about the constraints to sovereign authority that formal institutions may engender, they may still be viewed as the preferred arrangement for interstate cooperation if they are based upon specific functional-technical objectives. To date, the potential for focusing upon specific functional-technical objectives has been limited in the eyes of political scientists to issues of low politics. As a result, the vast majority of functionalist literature focuses upon economic integration and involves studying cases such as the European Economic Community (EEC), and its successors the European Community (EC) and now European Union (EU), which was one of the first instances of large-scale economic integration and effectively brought together a number of European nations into a common market and custom union, supported by an array of common institutions.

However, despite the political impediments to functional integration that may accompany high politics issue areas it is arguably still possible to achieve integration in these issue areas as long as the politics of the issue area are minimized and the functional-technical aspects are

placed at the forefront. For instance, while uncommon and admittedly difficult, integration and the establishment of formal institutions for matters of defence and security may indeed be possible if the functional-technical aspects of these defence and security issues are emphasized. It is this respect that binational defence arrangements, as formal institutions, can serve the purpose of facilitating and conducting functional-technical tasks in defence and security.

Conclusion

Based on this analysis of neoliberal institutionalist, functionalist, and neofunctionalist theories of cooperation within the field of international relations, it is readily apparent that these theories can be utilized to foster a more comprehensive understanding of binational defence cooperation. While alliance theory offers strong and relevant explanations for defence and security cooperation in the international system, it falls short of adequately describing, and thus explaining, instances of binational defence cooperation. Despite some commonalities with alliances, binational defence arrangements remain unique and distinct. Arguably, these gaps in understanding binational defence cooperation can be filled by neoliberal institutionalism, functionalism, and neofunctionalism. Neoliberal institutionalism demonstrates that mutual gains and institutions are the key to successful interstate cooperation as their attributes can counter the structural impediments to cooperation. While the conclusions of neoliberal institutionalism do not necessarily exclude more informal and less institutionalized cooperation, binational arrangements as perhaps one of the most institutionalized and formal arrangements possible between two states arguably maximize the benefits that cooperating through institutions confer.

Formal institutions are not useful in and of themselves. Cooperating through formal institutions and the relinquishing of some degree of sovereignty and decision-making autonomy can be viewed as unfavorable, especially in relation to certain issue-areas or for other political

considerations that must be considered. As a result, for issues such as defence, a binational, formal, or supranational arrangement may be seen as unacceptable. Functionalism presents a possible solution around these concerns that may limit the prospect of cooperation in some issue-areas and situations. According to functionalists, the most effective way for states to engage in cooperation is by focusing cooperation on specific functional-technical issues, which shifts the locus of cooperation from politics to the practical and technical aspects of the problem at hand. In this case, formal organizations are seen as the preferred path to cooperation as it is the only way that the autonomy and independence required to carry out the assigned technical tasks can be guaranteed.

Ideas about Functionalism and neofunctionalism are rarely applied to matters of defence. However, these theories can be applied to defence and security by viewing defence cooperation as cooperation based upon specific, mutually advantageous functional-technical defence tasks, rather than cooperation with the end goal of deterring or attaining victory over a mutually threatening state. As a result, the functionalist explanation for why states would cooperate through formal institutions may be applied to binational defence cooperation, effectively overcoming the political constraints that neoliberal institutionalist argue would preclude such defence cooperation.

Chapter Two: The Origins of the North American Aerospace Defense Command

The establishment of NORAD as a cooperative defence organization is commonly understood to have been a necessary and logical response by Canada and the U.S. to deal with the common threat towards North America by the Union of Soviet Socialist Republics (USSR) and the potential (and real) threat of aerial attack using nuclear weapons. For all intents and purposes this is a valid argument for why Canada and the U.S. engaged in the cooperative air defence of North America. Without such a large, looming, and potentially immediate threat, it is hard to conceive of a reason why Canada and the U.S. would cooperate to construct such an elaborate system of air defence otherwise.

Where this explanation for the establishment of NORAD flounders is in respect to the form this defence institution took. NORAD is a binational defence institution. Recalling the comparative analysis between binational and bilateral forms of cooperation, binational cooperation differs sharply from bilateral cooperative arrangements, which are much more common, especially on matters of defence and security. While the threat the Soviet Union and its nuclear arsenal posed to the security of North America was a necessary condition for the establishment of the binational NORAD, it is not sufficient to explain the binational form cooperative air defence ended up assuming. Otherwise put, the threat posed by the Soviet Union can explain the emergence of cooperation between Canada and the U.S. in the air defence of North America, but it offers no justification for why they opted for a binational arrangement that requires the relinquishment of some degree of national sovereignty.

The key to answering the question of why NORAD is a binational organization rests with the theories of functionalism, neofunctionalism, and neoliberal institutions. While neoliberal institutionalism, with its focus upon institutions, will prove invaluable to understanding NORAD

as an institution, its utility is limited in this chapter, which concentrates on the events of Canada-U.S. air defence and the process leading up to NORAD's establishment as a binational institution for cooperative, continental air defence. As a whole, however, these three theories offer a sufficient explanation for why a binational command, in the form of NORAD, was established by Canada and the U.S. to take charge of the air defence of North America in 1957.

This chapter presents a general and condensed historiography of continental air defence cooperation between Canada and the U.S., culminating in the establishment of NORAD as a binational command tasked with monitoring and defending the airspace of North America. Concurrent to this historical overview, the origins of continental air defence and NORAD as a binational defence arrangement is analyzed from the perspective of functionalism, neofunctionalism, and neoliberal institutionalism as set forth in the preceding chapter. The development of North American air defence cooperation was the product of incremental bilateral cooperation in functional-technical tasks, culminating in the establishment of a binational, or formal, institution.

The Origins of NORAD

Following the Second World War (WWII) there was a growing concern over the security of the North American continent.[93] Prior to WWII, the fact that North America was surrounded by three oceans, and as a direct result geographically isolated from Europe and any potential

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[93] These concerns were well founded. During WWII, the Japanese invaded two U.S. Arctic islands, Attu and Kiska, and also used the jet stream over the Pacific Ocean to send "fire balloons" to North America in an (ultimately unsuccessful) attempt to drop bombs over U.S. and Canadian cities and territory. As well, German U-boats successfully attacked U.S. commercial ships off the east coast of the U.S on occasion, predominantly off the coast of North Carolina. Moreover, there were always concerns that Germany might sail a submarine up the St. Lawrence Seaway.

adversaries, meant that it was safe from the vast majority of threats to its security.[94] With the development of the atomic bomb and intercontinental bombers, mounting tensions between the U.S. and the Soviet Union, and the fear that it was only a matter of time before the Soviets were able to acquire these advanced military capabilities, the security of North America was vulnerable to an unprecedented degree.[95] However, the concern that the Soviets would attack North America with nuclear weapons was not immediate. It would take time before this reality would emerge. Predictions as to when the Soviets would acquire atomic bombs varied widely and no general consensus was reached, with predictions as to when the Soviet's would acquire nuclear weapons stretching from a few to several years.

With the threat of nuclear war on the horizon, the U.S. had two primary paths of action for dealing with the potential threat that the Soviet Union posed to its security, which would become fundamentally tied to the doctrine of nuclear deterrence that would come to dominate the use (or more accurately, the non-use) of nuclear weapons. One option available to the U.S. was to develop a defensive capability to protect against any potential nuclear attack. A defensive capability against nuclear attack had the joint purpose of protecting population centres and industrial capacities, and protecting America's arsenal of nuclear weapons and intercontinental bombers to preserve its first (and later, second) strike capability. The latter purpose was arguably a higher priority than the former, as it was essential to an effective nuclear deterrence strategy. However, the U.S. also needed to create an offensive capability to attack any potential nuclear aggressor either preemptively or in retaliation for an attack against them. This course of action was indeed taken, as the U.S. amassed an extensive armament of nuclear weapons and intercontinental bombers, developed a second-strike capability, and continued to develop new

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[94] D.F. Holman, *NORAD In The New Millennium* (Canada: Irwin Publishing Ltd., 2000), 6.
[95] Ibid., 1.

and improved nuclear weapons and delivery methods (intercontinental ballistic missiles) far into the future.

Canada-U.S. cooperation in the defence of the North American continent emerged from Canada's strategic importance with regard to the initial requirement of defending against the Soviet Union's nuclear threat to formulate an effective deterrence strategy. As early as 1945, the Canadian north was assessed to be the most probable path of attack that a European or Asian adversary would take to attack North America.[96] Even more, if any air battle were to be conducted in the defence of North America it was expected to take place in southern Canada.[97] As the Canadian military would later proclaim in 1958, "Either by accident or by design, Canadian air defences contributed to the perimeter defence of the USA while using Canada as the killing area."[98]

For the U.S. to be able to defend successfully against an aerial attack on its homeland, it had to meet the threat an appropriate distance away from the Soviet's main targets of attack, located primarily in the U.S., and to push that southern "killing area" as far north as possible. To meet these requirements, the ability to construct a successful air defence of North America from a nuclear adversary could be reduced to three primary, functional-technical tasks. For one, in an effort to execute an effective defence response at a point where Soviet bombers were at their farthest from population centres, industrial capacity, and military installations, there was a need to erect radar installations in the Canadian north to detect and warn of Soviet intercontinental bombers encroaching on North American territory. This advanced warning provided by radar installations were also critical to providing the United States Strategic Air Command (SAC) with

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[96] David Cox, "Canada and NORAD, 1958-1978: A Cautionary Retrospective," *Aurora Papers 1* (Canada: The Canadian Centre for Arms Control and Disarmament, 1985), 6.
[97] Joseph T. Jockel, *Canada in NORAD, 1957-2007: A History*, (Canada: Queen's Centre for International Relations, 2007), 10.
[98] Ibid.

enough time to get its bombers airborne in order to launch a retaliatory attack in the case of

Soviet attack, before the Soviets could destroy SAC on the ground. As a whole, early warning

was not truly for the protection of the populace, but was more so for the strategic purpose of

preserving "the SAC force upon which the policy of deterrence depended."[99] This highlights the

interdependent relationship that existed between offensive and defensive capabilities as it relates

to the strategy of nuclear deterrence.

Second, there was the need for unimpeded access to both Canadian and American

airspace in which the U.S. and Canadian air forces could both pursue attacking intercontinental

bombers over each other's territory without issue or delay. Concurrent to that was the ability for

Canada and the U.S. to be able to station its aircraft on bases in each other's territories to

minimize the distance to be traveled to meet the threat and, as such, maximize the distance and

time between Soviet bombers and their targets. Finally, to tie all of these components together,

there was the task of creating a command and control structure conducive to coordinating an

effective, efficient, and quick air defence response between Canada and the U.S. Each of these

components or tasks was integral to being able to establish an effective system of continental air

defence and defence in depth.[100]

For each of these functional-technical tasks, Canadian territory and Canada-U.S.

cooperation came to be indispensable to mounting an air defence strategy for North America.

The establishment of a system of continental air defence that included these functional tasks

demonstrates how NORAD emerged as a process of gradual integration along functional-

technical lines and as a central hub to control and command these various technical tasks. The

U.S. did not need Canada's military or economic might to defend North America from an air

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[99] Jon B. McLin, *Canada's Changing Defense Policy, 1957-1963: The Problems of a Middle Power in Alliance*, (United States: The John Hopkins Press, 1967), 28.
[100] Ibid.

based attack. In fact, relative to the U.S., Canada's ability to contribute militarily and economically to air defence was modest.

The threat of the Soviet Union and its emerging ability to wage nuclear war on North America was the catalyst for the U.S. and Canada to deepen air defence cooperation. However, functionalism provides credence to the idea that the functional-technical problems behind how to cooperate and best respond to this novel airborne threat ultimately dictated the form this cooperation would eventually settle upon: a binational institution. Creating a radar system in the Canadian north, with the need for unimpeded access to Canadian airspace and territory to intercept Soviet intercontinental bombers, and the subsequent problem of how to facilitate operational control over the air defence response of two states drove the United States to secure the participation of Canada.

Throughout the mid-1940s most political and military officials in both Canada and the United States were not concerned with erecting a vast system of continental air defence. Two prevailing perceptions within Canada and the U.S. were responsible for this general disinterest in continental air defence. For one, there were budgetary cutbacks in defence in both the U.S. and Canada that made the allocation of funds to constructing air defences almost impossible from a political and practical standpoint.[101] Moreover, until May of 1947 when the Soviet Union put on public demonstrations presenting its intercontinental TU-4 Bull bombers, the United States was not overly concerned with the security of North America as the assumption was that the distance between the continental U.S. and most potential threats was too far to be able to mount a large scale attack.[102] In 1946, Canada was under the assumption that any Soviet attack would be

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[101] Joseph T. Jockel, *No Boundaries Upstairs: Canada, the United States, and the Origins of North American Air Defence, 1945-1958*, (Vancouver: University of British Columbia Press, 1987), 8 and 14.

[102] Holman, *NORAD In The new Millennium*, 1-2.

"diversionary," while U.S. officials were claimed to have shown no interest in erecting a system of continental defence for similar reasons to the Canadians.[103]

Functionalism argues that cooperation tends to first find credence in and emerge from a focus on functional-technical problems, rather than from political decision makers. This pattern is recurrent throughout the early days of U.S.-Canada cooperation in continental air defence. Despite the disinterest in continental air defence emanating from officials in the upper echelons of government and the military due to political considerations of reducing the national budget and short-term assessments of the Soviet threat, the view towards North American air defence was decidedly different within Canada-U.S. working groups and committees established at the time.

One of the first of these committees was the Canadian-United States Military Co-operation Committee (MCC), established to deal with technical defence cooperation issues beyond the senior advisory scope of the Permanent Joint Board for Defense (PJBD).[104] The MCC created two planning documents and appendices that were ultimately rejected by the Canadian and American governments, but were prescient in predicting the form continental air defence would eventually assume. The first of the documents the MCC produced, "Appreciation of the Requirements for Canadian-U.S. Security," dealt with the Soviet threat. The short-term threat assessments made by the committee within this document were in line with the view of Canadian and U.S. political officials that the Soviets were of no threat. However, when the outlook was extended not much farther into the future, the threat assessment changed drastically.

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[103] Desmond Morton, *A Military History of Canada*, 5th edition, (Canada: Hurtig Publishers, 2007), 230.

[104] See Joseph T. Jockel, "The Canada-United States Military Co-operation Committee and Continental Air Defence, 1946," *Canadian Historical Review* 64.3, 1983. The PJBD was established on 17 August 1940 by Canada and the United States for bilateral continental defence policy planning, while the MCC was established six years later in 1946 for similar planning but on a military-to-military level.

North America would quickly become vulnerable to attack as potential enemies gained more advanced intercontinental bombers, missile capabilities, and atomic weapons.[105]

The accompanying "Joint Canadian-United States Basic Security Plan" and its draft appendix "Air Interceptor and Air Warning Plan," called for a variety of defensive tasks in response to this impending threat.[106] An extensive air defence system was called for and outlined in great detail based upon what was required to combat effectively air attacks on North America from a technical standpoint. Chief among these tasks was constructing a system of radar coverage to warn of air strikes that would cover a large area of the U.S. and Canada, including a distant early warning line in Canada's north that would later "be moved even further north."[107] The number and location of aircraft to be provided and controlled by Canada and the U.S. were also planned out.[108] Importantly, in order to manage successfully this proposed system of air defence, the creation of a "combined Air Defence headquarters with operational control over all continental air defence forces" was recommended.[109]

Noted air defence historian Joseph Jockel asserts that at the time the MCC was sitting in 1946: "There was no overall air defence policy, much less one for the Canadian north."[110] As a result, the conclusions of the MCC reflects the fact that cooperative continental air defence was a matter that found acceptance in more technical circles while it was seen as largely unnecessary by those in the Canadian and U.S. government and senior military. Free from the constraints of politics, the MCC was able to take a more long-term view of the Soviet threat, with an eye on the potential technological developments on the horizon and the technical tasks that must

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[105] Ibid., 361.
[106] Ibid., 362.
[107] Ibid., 363-364.
[108] Ibid., 363.
[109] Ibid, 364.
[110] Ibid.

subsequently be undertaken to defend from such a threat. This was a trend that would continue throughout the development of a continental air defence system in the late 1940s and 1950s, as technical solutions to air defence system would be deliberated and acted upon, while the response to such extensive defence cooperation would remain lukewarm politically.

The U.S. led the charge to construct a radar system for continental airspace warning, and was therefore responsible for securing the participation of Canada in this undertaking because the radar bases would have to be located on U.S. and Canadian soil. The U.S. had unilateral plans for a radar system for air defence warning as early as 1947 following the establishment of an independent United States Air Force (USAF). Soon after the establishment of the USAF, the Radar Fence Plan, or Project SUPREMACY, was presented that called for the construction of "411 radar stations and 18 control centers in the continental United States."[111] This plan was shortly replaced with Colonel Gordon Saville's plan for a less extensive and cheaper plan to construct 85 radar stations and 11 control stations within the continental U.S. and Alaska.[112] In 1948, initial construction began on this Permanent radar system alongside a model test system known as Lashup.[113]

The Soviet Union tested its first atomic weapon on 21 August 1949, far earlier than the majority of intelligence predicted.[114] The Soviet's acquisition of an atomic bomb, alongside the view that the Korean War signified the beginnings of a communist offensive, acted as the impetus to accelerate the development of radar coverage, especially "early warning radar lines on

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[111] Kenneth Schaffel, *The Emerging Shield: The Air Force and the Evolution of Continental Defense, 1945-1960* (United States: University Press of the Pacific, 2004), 70.
[112] Ibid., 91-92.
[113] Ibid., 93-94.
[114] Arkadii Kruglov, *The History of the Soviet Atomic Industry* (Canada: Taylor and Francis, 2002), 124.

Canadian soil to detect a Soviet bomber attack from over the North Pole."[115] Discussions

between USAF and the Royal Canadian Air Force (RCAF) advanced in earnest from this point,

resulting in a Radar Extension Program in June of 1950.[116] This extension of the U.S. Permanent

radar system included "thirty-one radar stations in Canada," with the USAF paying for the

construction and equipping of eighteen.[117]

This radar line would come to be known as the Pinetree Line; the first of the cooperative

radar coverage lines constructed by Canada and the U.S. in concert. As Jockel recognized, there

was little Canadian radar coverage in effect at the time and "the Permanent system was exposed

at the border," which proved to be especially problematic due to the fact that the majority of U.S.

industry was located in the northeast in close proximity to the Canada-U.S. border.[118] The

Pinetree Line was to roughly run along the 50th parallel north, providing coverage just above the

Canada-U.S. border, but not by much. The final Pinetree Line arrangement resulted in Canada

funding only 1/3 of the radar line, with the U.S. funding the remaining 2/3 and also providing the

personnel for most of the stations as Canada lacked personnel with the requisite technical

background for operating them.[119] To assuage fears emanating from Canadian politicians that

such cooperation would erode its sovereignty, the Canadian government held title over all the

stations on its territory and the right to man them.[120]

Shortly thereafter in 1952, there was a growing recognition within the U.S. government

of the necessity of an early warning system due to "the combination of long-range bombers and

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[115] Matthew Trudgen, "Coping with fallout: The influence of radioactive fallout on Canadian decision-making on the Distant Early Warning (DEW) Line," *International Journal* (2015), 4.
[116] Schaffel, *The Emerging Shield*, 120-121.
[117] Ibid., 120-121.
[118] Jockel, *No Boundaries Upstairs*, 43-44.
[119] Ibid., 46.
[120] Ibid.

atomic weapons possessed by the Soviet Union."[121] In the early 1950s several working groups

were established within the U.S., including Project Charles, Project Lincoln, Project East River,

the Lincoln Summer Study Group, the Kelly Committee, the Bull Committee, and a RAND

Corporation study. Each of these studies or projects were attempts by primarily scientists to

"develop technological solutions to the increasingly pressing problem of air defence" and each of

them concluded that more radar systems further north could be useful for the purposes of early

warning, although the degree to which they were believed to be useful varied amongst the

groups.[122] In particular, the Lincoln Summer Study Group called for the construction of two

Distant Early Warning (DEW) Lines. The proposed DEW Lines would utilize more advanced

radar technology (aural presentation), with one located in the high north at the 75th parallel and

the other farther south to act as a backup at the 70th parallel.[123]

Concurrent to the Summer Study was a project being undertaken by the Canadian

government at McGill University on a technologically novel unmanned radar system.[124]

Eponymously named after the home of its researchers, the McGill Line or Mid-Canada Line was

created along the 55th parallel.[125] Sparked by the Soviet's detonation of a thermonuclear bomb,

the Mid-Canada Line was approved by the U.S. and Canada in 1954.[126] In addition to the

impetus the explosion of the Soviet bomb provided, Canada was convinced to participate in

constructing the Mid-Canada Line because it supposed that it would be hard "to resist a project

which the United States government had decided was essential for the defence of the

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[121] Cox, "Canada and NORAD, 1958-1978: A Cautionary Retrospective," 7.
[122] Jockel, *No Boundaries Upstairs*, 61-62.
[123] Ibid., 66.
[124] Cox, "Canada and NORAD, 1958-1978: A Cautionary Retrospective," 8.
[125] Steven Kendall Holloway, *Canadian Foreign Policy: Defining the National Interest*,
(Canada: Broadview Press, 2006), 59.
[126] Ibid., 58-59.

continent."[127] Moreover, Canada's Minister of National Defence at the time, Brooke Claxton,

"had accepted full responsibility for the Mid-Canada Line" in terms of equipment, construction

and costs.[128] This allowed Canada to provide a significant contribution to continental air defence

but at a reduced cost, leaving "the costs of the DEW Line, should it ever be built, to the

Americans."[129] The Mid-Canada Line was operational in 1958.[130]

Around the same time as the decision was made to construct the Mid-Canada Line, a

decision was made to construct the DEW Line along the 70th parallel as a first line of defence.

While the Mid-Canada Line would provide about two hours warning of an impending aerial

attack on North American cities from the north, the DEW Line would extend the warning time to

four or five hours when it became operational in 1957.[131] The DEW Line was formally

established by an exchange of diplomatic notes on 5 May 1955, and included several provisions

and conditions in an attached annex titled "Statement of Conditions to Govern the Establishment

of a Distant Early Warning System in Canadian Territory" to reinforce and protect Canada's

sovereignty, rights, and control in the Canadian Arctic.[132] As Canada assumed the cost and

construction of the Mid-Canada Line, the U.S. was to assume the cost and manning of the 200

kilometre-long DEW Line consisting of 57 radar stations.[133] Michael T. Fawcett argues that

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[127] Jockel, *No Boundaries Upstairs*, 81-82.

[128] Morton, *A Military History of Canada*, 240; Robert Bothwell, *Alliance and Illusion: Canada and the World, 1945-1984*, (Canada: University of British Columbia Press, 2007), 117.

[129] Jockel, *No Boundaries Upstairs*, 82.

[130] Patrick Lennox, *At Home and Abroad: The Canada-US Relationship and Canada's Place in the World*, (Canada, University of British Columbia Press, 2009), 6.

[131] Holman, *NORAD: In The New Millennium*, 8-9. Jockel claims the DEW line would provide 4 to 8 hours of extra warning time. However, as I cannot find other sources to corroborate the 8 hours claim I selected the more moderate estimate within the literature: Jockel, *No Boundaries Upstairs*, 92.

[132] "U.S.-Canadian Agreement on Distant Early Warning System," May 5, 1955, U.S. Department of State Bulletin, XXXIII (July 4, 1955), 22-25.

[133] Michael T. Fawcett, "The Politics of Sovereignty: Continental Defence and the Creation of NORAD," *The Canadian Military Journal* 10.2 (2010), 38.

Canada's agreement to constructing the Mid-Canada Line and DEW Line on Canadian territory was

> …to balance the cost of defence versus the cost of sovereignty. Pragmatically, if Canada did not assume full responsibly for defence programs in the north, then the US would do it for them. In the final analysis, the Canadian government knew it could not afford the cost of maintaining complete control over its sovereignty. Ultimately, the government agreed to the DEW / Mid-Canada Line cost sharing arrangement, and it stipulated conditions to guard against any loss of sovereignty.[134]

As such, the joint development and operation of a series of radar lines in the Canadian north between Canada and the U.S. was first and foremost a product of defence and military concerns on each side of how to respond effectively to a nuclear attack from the Soviet Union utilizing intercontinental bombers. Knowing that it could not construct and man a series of radar lines itself, and that the U.S. would continue with continental defence with or without its participation, Canada opted to participate in a manner that would protect and reinforce its sovereignty and command and control over its territory, while keeping the costs incurred at a minimum.

The application of functionalism to this period and aspect of air defence cooperation between Canada and the U.S. also reveals other patterns. First and foremost was the propensity of smaller, technical-minded working groups to point out the impending threat and initially recognize the need to create radar lines that would progressively be placed farther and farther into the north, in order to combat this threat. However, it would take events like the Soviet Union's first atomic test to spur politicians and senior military officials to adopt these measures first envisioned and recommended by technical working groups. But even here functionalism proves insightful. Air historian Kenneth Schaffel described the creation of the Radar Extension Program, or the Pinetree Line, as an agreement between the USAF and RCAF, rather than a

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[134] Fawcett, "The Politics of Sovereignty: Continental Defence and the Creation of NORAD," 38.

government-to-government agreement.[135] In addition, the DEW line was established by an exchange of diplomatic notes. The service-to-service agreement that established the Pinetree Line and the informal diplomatic exchange of notes that established the DEW Line both point towards the informal manner in which cooperation in air defence proceeded upon. Some may also choose to interpret the informal manner in which these radar lines were constructed as an indication of the lack of importance politicians and the government attributed to radar warning specifically, and air defence generally.

Lastly, the whole limited, technical undertaking of developing a radar system to warn of an impending nuclear attack by the Soviet Union by way of intercontinental bombers was a gradual process of functional spillover. While some of the working groups initially conceived of and argued for a comprehensive radar system consisting of several northern radar lines, the whole radar system that would come to be, consisting of the Pinetree, Mid-Canada, and DEW lines, was not agreed upon and constructed by Canada and the U.S. all at one time. Rather, the radar system was constructed in a piece-meal fashion as the geographic shortcomings of the previous lines were recognized, necessitating lines constructed farther and farther north, and as successive lines were eventually created with different, more effective technology (such as aural processing). Ultimately, it was the functional-technical requirement to respond to advances in Soviet technology that forced Canada and the U.S. to extend their radar line and thus their cooperation in air defence. As Bruce Jarvis, a former naval flight crew member who was deployed in support of the DEW Line in the late 1950s recounts, the Pinetree and Mid-Canada Lines "were useful against slow-moving propeller driven planes but, totally inadequate for the jet age."[136]

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[135] Schaffel, *The Emerging Shield*, 120-121.
[136] Bruce Jarvis, *Willy Victor and 25 Knot Hole* (United States: Xlibris Corporation, 2012), 13.

Concurrent to the development of the three-piece joint radar system, consisting of the Pinetree Line, McGill Fence or Mid-Canada Line, and the DEW Line, was the development of the capability to respond to any impending aerial attack. Throughout the late 1940s and early 1950s attempts would be made by the U.S. to be granted unfettered access to Canadian airspace in pursuit of hostile aircraft and to military bases on Canadian territory as a place to base its aircraft. Jon B. Lin, in his book *Changing Canadian Defense Policy,* recounts the principles of Canada-U.S. bilateral cooperation that were established in February 1947, which included "mutual and reciprocal availability of military and naval and air facilities in each country."[137] This was one of the earlier agreements to make military installations available to the services of the U.S. and Canada on each other's territory. However, this agreement did not go far enough for the needs of cooperation in continental air defence.

Extensive negotiations on securing permission for cross-border interception, the joint use of military installations, and facilitating the command and control of the U.S. and Canadian air forces on each other's territories did not truly commence and make substantial progress until the early 1950s.[138] In February 1951, the PJBD approved Recommendation 51/3, which gave Canada and U.S. fighter forces the "authority to carry out on local notification combined air defence training exercises."[139] Of course, this agreement came with a series of limitations from Canada including, but not limited to, provisions that dictated the number of USAF aircraft that

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[137] Jon B. McLin, *Canada's Changing Defense Policy, 1957-1963,* 11.

[138] Joseph Jockel provides a comprehensive overview of these components in: Jockel, *No Boundaries Upstairs*, 50-59. An extensive look into the functional development of the command and control structure of Canada-U.S. continental air defence can be found in: Richard Evan Goette, "Canada, the United States and the Command and Control of Air Forces for Continental Air Defence from Ogdensburg to NORAD, 1940-1957" (Ph.D dissertation, Queen's University, 2009), 183-205.

[139] Matthew Paul Trudgen, "The Search for Continental Security: The Development of the North American Air Defence System, 1949-1956" (PhD. dissertation, Queen's University, 2011), 173-174.

could fly over Canadian territory, restricting them to high altitudes over cities, requiring pre-filed flight plans, and allowing no live bombs to be mounted to the aircraft during these exercises.[140]

Due to the threat the Soviet Union posed, the desire to confine any air battle to the northernmost areas of North America, and the RCAF's lack of capabilities to undertake unilateral interceptions, the USAF began to pursue permission to track and shoot hostile aircraft on Canadian territory in times of war and of peace.[141] After a series of negotiations between the USAF and RCAF, Canada and the U.S. agreed to the PJBD's Recommendation 51/4 in May 1951. This Recommendation allowed for Canadian and U.S. aircraft to cross the shared Canada-U.S. border in order "to fly over the territory of both countries as may be required to carry out effective interception."[142] However, Canada insisted that the USAF would not have the ability to shoot down aircraft on Canadian territory, instead having to wait until they get back over American territory, and that they could only pursue aircraft that were demonstrably heading towards the U.S.[143] Due to these concerns, negotiations resumed on a replacement to Recommendation 51/4 to rectify these shortcomings, all in a manner that continued to take Canadian sovereignty concerns into considerations.

The first recommendation on this matter to come out of the PJBD following 51/4 was Recommendation 51/6 in October 1953. Recommendation 51/6 granted the Commanders of both the USAF and RCAF in times of war and in a declared emergency the power of mutual reinforcement of their air defence forces.[144] In sum, Recommendation 51/6 provided the USAF

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[140] Ibid., 175-176.
[141] Jockel, *No Boundaries Upstairs*, 50.
[142] Permanent Joint Board on Defense. *PJBD Recommendation 51/4, 9 May 1951*. Found in Appendix 2 of: Goette, "Canada, the United States and the Command and Control of Air Forces for Continental Air Defence from Ogdensburg to NORAD, 1940-1957," 319.
[143] Goette, "Canada, the United States and the Command and Control of Air Forces for Continental Air Defence from Ogdensburg to NORAD, 1940-1957," 198.
[144] Trudgen, "The Search for Continental Security," 178-179.

and the RCAF the ability to enter each other's airspace and to redeploy at each other's air bases in times of war and in emergencies. In terms of command authority over the air defence forces deployed, Canada would retain command authority over all of Canada except in Newfoundland, where a permanent USAF base was located, and over the Prairies, in which case "Canada would have to designate an American commander."[145] This arrangement was tactically required as the RCAF lacked the required forces to respond and patrol the Prairies and the Newfoundland USAF base was a remnant of a WWII agreement with a then-British Newfoundland.[146]

Shortly after Recommendation 51/6, Recommendation 53/1 emerged from the PJBD, removing the aforementioned restrictions on which aircraft could be intercepted on Canadian territory, giving the Americans permission to shoot hostile aircraft over Canadian territory, and "included the provision for the delegation by the national air defence commander of tactical control authority to order engagements to another officer," which could be either Canadian or American.[147] In effect, this extended the provisions set forth in Recommendation 51/6 from only being allowed in times of war and emergency to peacetime as well. The functional purpose of such a provision was crucial to an effective continental air defence system, as Richard Goette argues:

> …in order to ensure military efficiency by making certain that a potential hostile aircraft was intercepted as quickly as possible, the air commander could delegate tactical control interception and engagement authority to the nearest ADCC [Air Defense Control Center], regardless of nationality."[148]

There were strong reasons behind this bilateral agreement and these agreements were based upon functional considerations. In times of war there were formal and informal

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[145] Jockel, *No Boundaries Upstairs*, 54.
[146] Trudgen, "The Search for Continental Security," 179.
[147] Goette, "Canada, the United States and the Command and Control of Air Forces for Continental Air Defence from Ogdensburg to NORAD, 1940-1957," 202.
[148] Ibid., 202-203.

expectations that Canada and the U.S., and their respective services, would cooperate without much trouble. However, Jockel asserts that these "plans could only be put into effect by senior military or political authorities," which would most likely result in a delayed air defence response that would be unacceptable.[149] As a direct result, there was a growing desire for closer integration of the air defence forces between Canada and the U.S. in order to facilitate a quicker and more efficient response to any hostile aircraft as "there might not be enough time for the two air forces to seek senior military or civilian permission to begin cross-border wartime co-operation."[150] This integration of the air defence forces stemmed from functional-technical considerations of how to execute the most efficient and effective joint air defence response to a threat against the North American continent, rather than relying on military and political authorities to grant authority that would result in the loss of invaluable response time.

Furthermore, this situation becomes a quintessential example of functional spillover. As historian Matthew Trudgen notes, there was a concern that "the value of the early warning that would be provided by radar systems such as the Pinetree Line, which was under construction, would be lost if this problem was not corrected."[151] As a result, Canada and the U.S. expanded cross-border authority over airspace and permitted the redeployment of USAF and RCAF aircraft to each other's military bases in times of war and peace. This was necessary in order to reap the benefits of the radar lines being jointly constructed at the time. While there was value and use to these PJBD recommendations in and of themselves, they also maximized the advantages conferred by the radar lines to continental defence.

Importantly, despite the RCAF's insistence that Recommendation 51/3 be approved in a formal government-to-government statement, External Affairs asserted that only a "normal

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[149] Jockel, *No Boundaries Upstairs*, 52.
[150] Ibid., 53.
[151] Trudgen, "The Search for Continental Security," 178.

exchange of notifications through PJBD channels" was needed.[152] Successive agreements on

cross-border deployment and mutual reinforcement in times of war and of peace were also

conducted by way of informal and less transparent recommendations through the PJBD. Similar

to how Canada and the U.S. resorted to informal agreements for the cooperative building and

operation of the radar lines, the PJBD's recommendations demonstrate how more general air

defence cooperation between the RCAF and USAF relied on informal agreements as well. Given

how important the protection of Canadian sovereignty was to the federal government and the

Canadian population, the informal nature of these agreements is significant.

First, these recommendations diminish Canada's ability to defend its territory unilaterally.

However, more importantly, these recommendations drastically limited Canada's ability to

dictate the terms and conditions under which the U.S. can deploy defensive operations over

Canadian territory. Rather than evaluating the situation and course of action as a potential threat

approaches Canada and allowing the government to formulate an appropriate response, Canada

afforded the U.S. blanket authority to enter Canadian air space at any time. This demonstrates

how functional-technical considerations of formulating a quicker and more effective air defence

response to a potential threat found itself in a position of primacy over the political

considerations of sovereign control over Canadian territory. Without the solution of providing

blanket authority to enter the other's airspace in times of war and of peace, Canada would be

hard pressed to uphold its sovereignty unilaterally from an attack from the Soviet Union. It was a

balance that found the functional-technical considerations outweighing the political, and perhaps

even strengthening the political concerns of sovereignty in the end over the long-term.

The process of constructing this continental air defence system created a new, novel

problem, resulting in another functional spillover effect. The process of integrating the Canadian

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[152] Ibid., 174-175.

and American air defence forces gave rise to the problem of command and operational control over continental air defence, and it was not long before this subject was percolating throughout the Canadian and American services. A Canada-U.S. joint command over all air defence forces was suggested as early as 1946 by the MCC in its "Joint Canadian-United States Basic Security Plan."

However, the MCC's suggestion for a joint air force command was premature. The creation of a joint command was not viewed as tenable politically in either Canada or the U.S. for over a decade after the suggestion was tabled. Andrew Richter recounts how on the Canadian side the Department of External Affairs was opposed to a joint command on the grounds that it would threaten Canadian sovereignty, as well as for unspecified "larger ramifications of continental defence cooperation."[153] With the exception of Canada's DND, which found a joint Canada-U.S. command favourable as it would improve the continental air defences and would "therefore reduce the likelihood that a Soviet air attack would succeed,"[154] the sentiment towards a joint command held by External Affairs was shared throughout the Canadian government.[155]

The U.S. apprehension could be found in the Joint Chiefs of Staff, whose reluctance stemmed from the fact that they wanted to avoid linking "a bilateral North American air defence command to the multilateral North Atlantic Treaty Organization" and were all too familiar with Canada's sovereignty concerns, confident that any discussions about command and control relations would be fruitless as these concerns would dominate any discussions on the matter and would be difficult to appease.[156] Moreover, the MCC's recommendation was putting the cart before the horse as the matter of command and operational control over air defences was still in

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[153] Andrew Richter, *Avoiding Armageddon: Canadian Military Strategy and Nuclear Weapons, 1950-63* (Canada: University of British Columbia Press, 2002), 46.
[154] Ibid., 42.
[155] Jockel, *No Boundaries Upstairs*, 95-98.
[156] Ibid., 95-96.

disarray within the U.S. It was not until 1 September 1954 that U.S. inter-service rivalries on the matter of command and control over continental air defence forces would be settled in favor of a Continental Air Defense Command (CONAD), headquartered in Colorado Springs and having operational control over the "Air Defense Command, the Army Antiaircraft Command, and the naval forces of the contiguous radar coverage system."[157]

It was the USAF and the RCAF that would come to advocate for and ultimately were responsible for the establishment of a Canada-U.S. joint air defence command. A joint air defence command emerged out of the military and functional concerns for continental air defence. While the idea of a joint command was pushed by the wayside politically, the USAF and RCAF established a joint U.S.- Canadian military study group in May 1956 that was "given the task of exploring the operational and technical problems which would result from a joint command."[158] The arrangement that was decided upon pulled upon the command/control solution adopted by CONAD. Command remained with the services and included "such matters as training, discipline, or logistics."[159] On the other hand, this arrangement provided CONAD and its commander-in-chief with operational control over the services under its jurisdiction, which "included such authority as specifying states of air defence alerts, establishing battle procedures, and directing the tactical air battle."[160] This would allow the USAF and RCAF to extract their desired functional arrangement that would provide for a more efficient and quick air defence response while avoiding the creation of a command that was still viewed as politically untenable. In the end, the study concluded that the operational problems inhibiting a quick and

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[157] C.L. Grant, "The Development of Continental Air Defense to 1 September 1954," *USAF Historical Studies: No. 126* (Maxwell Air Force Base, Alabama: Air University USAF Historical Division Study, 24 April 1974), 80.
[158] McLin, *Canada's Changing Defense Policy, 1957-1963*, 39.
[159] Jockel, *Canada in NORAD, 1957-2007*, 21.
[160] Ibid.

effective continental air defence response could find a panacea in the "establishment of a joint headquarters to provide for the operational control of the air defence of Canada and the United States," all under the command of a single commander called the Commander-in-Chief Air Defense Canada-United States (CINCADCANUS).[161]

It did not take long after the study group presented its findings to establish this joint air defence command. The U.S. Joint Chiefs of Staff (JCS) and the U.S. Secretary of Defense quickly approved the recommendations of the U.S.-Canada military study group in February and March 1957.[162] A federal election in Canada and a subsequent change in the governing party complicated acquiring the approval of Canada. The new Conservative government under Prime Minister John Diefenbaker was reportedly "stampeded" into approving the creation of CINCADCANUS, being told that it was a closed deal negotiated by the outgoing Liberals that was just waiting to be signed.[163] A joint press release followed in August 1957 announcing the establishment of this integrated binational air defence command and the command headquarters was set up in Colorado Springs on 12 September 1957.[164] Rather than CINCADCANUS, this integrated joint air defence system was called the North American Air Defense Command at the behest of U.S. General Earle Partridge, second commander-in-chief of CONAD (CINCCONAD), and now dual-hatted as Commander-in-Chief of NORAD (CINCNORAD).[165]

The informal manner in which NORAD was established and the military channels used to organize it and secure political approval underscores the functional origins of NORAD. A joint integrated air defence command was unappealing politically in Canada and to the JCS. As a result, the USAF and RCAF spearheaded the campaign for its establishment. Even though

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[161] Ibid.
[162] Schaffel, *The Emerging Shield*, 251.
[163] Ibid., 251-252.
[164] Ibid., 251.
[165] Jockel, *Canada in NORAD, 1957-2007*, 25.

political approval was secured in the U.S. and Canada, little political consultation that was undertaken by Diefenbaker before signing off on NORAD and the length of time until a more political confirmation of the joint command was conducted by way of an exchange of diplomatic notes further highlights the command's functional origins. Diefenbaker did not consult Cabinet, the Cabinet Defence Committee, or the Department of External Affairs before signing off on NORAD.[166] Moreover, as historian Kenneth Schaffel notes, while NORAD began operating in September 1957, diplomatic notes were not formally exchanged until May 1958.[167] Even while the exchange of diplomatic notes is commonly perceived to be the "political" establishment of NORAD, it actually further underscores the functional driver behind NORAD. Rather than establishing NORAD by way of a treaty, which would make the arrangement relatively static, a more informal exchange of diplomatic notes allows NORAD's terms of reference and agreements to be renewed periodically and the provisions to change as deemed necessary by the military as the strategic landscape evolved into the future.

NORAD was the product of spillover resulting from incremental cooperation in the functional-technical elements of continental air defence, an issue of mutual concern. The solutions to the common problems in continental air defence that necessitated joint-action quickly gave rise to new and novel issues. As these new issues were rooted in the initial common air defence problems plaguing Canada and the U.S. the logical response was to address these new emerging problems with more cooperative undertakings. Eventually, air defence cooperation reached a point of such integration and mutual dependence that a joint-command akin to a formal institution was perceived to be the ideal mechanism by which to coordinate and control these functional-technical tasks.

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[166] Ibid.,
[167] Schaffel, *The Emerging Shield*, 252.

Conclusion

NORAD was a functional solution to the problem of how to best coordinate the air defence efforts of Canada and the U.S. to create a single effective system of continental air defence. While the threat the Soviet Union posed to the security of North America was eventually recognized by the majority of the individuals within the government and military, it initially only found credence within more technical military circles, as illustrated by the MCC in 1946. Sparked by material evidence of the Soviet's military capabilities, the governments of Canada and the U.S. supported efforts in continental air defence, but efforts at joint Canada-U.S. undertakings were quick to find objection from those within the governments, the JCS, and Canada's Chiefs of Staff Committee (CSC). Questions of defence budgets, national sovereignty, inter-service rivalries, and other political concerns preceded any serious political initiative to create a joint air defence command.

Cooperation in air defence between Canada and the U.S. was the product of initiatives by the USAF and RCAF, military and defence officials, and by those within study groups searching for technical solutions to the problems of continental air defence. These individuals supported deepening the Canada-U.S. air defence relationship because they recognized the important role that Canadian territory would inevitably play in the event of a nuclear attack. However, even if Canada's participation were to be secured to account for this inevitability, they recognized that functional gaps and weaknesses still remained in the ability of the U.S. and Canada to independently or collaboratively defend North America against a nuclear attack from the Soviet Union and its arsenal of intercontinental bombers. These experts argued that three functional tasks were required to construct an effective air defence system: an early enough warning to allow defensive aircraft and SAC to get off the ground before the Soviets could destroy them;

mutual open access of sovereign airspace between Canada and the U.S. and the ability to redeploy aircraft to bases located in each others territory in times of peace and war, and the creation of a command and control structure that could coordinate the air defences of each nation and the preceding two functional tasks. Positioning each nation's air defences and the task of air defence warning under the authority of a single binational command, NORAD, was viewed to be an arrangement by which a quick and effective air defence could be achieved.

Within this process of incremental integration along functional-technical lines in continental air defence between Canada and the U.S. can be felt the strong push of both functional and political spillover. Functional spillover in the development of cooperative endeavors in continental air defence is perhaps most readily apparent. Developing radar lines to warn of hostile aircraft encroaching on North American territory was seen to be one of the technical barriers to creating an effective continental air defence system. However, as radar lines were erected experts continued to recognize more gaps in the radars' ability to detect incoming aircraft due to either the shortcomings of the radars' locations or the manner in which the radar technology was quickly becoming outdated. The eventual outcome was that the radar lines were located farther north, using newer and more novel technology that promised to be more successful in producing the desired function for which the radars were being constructed.

At the same time, it was unclear if Canada and the U.S. were realizing the full potential of the early warning radar lines that they were in the midst of constructing. Barriers to quick cross-border interdiction of hostile aircraft and to redeploying aircraft to each other's military installations prevented Canada and the U.S. from fully capitalizing on the early warning afforded by the Pinetree Line, the Mid-Canada Line, and the DEW Line. At the same time this deepening integration in air defence measures continued to make cooperative air defence more and more

complicated and technical. As a result, coordinating the air defence efforts of Canada and the U.S.—which had its own shortcomings and was viewed as largely ineffective—was sacrificed in favour of conjoining continental air defence efforts under a single unified binational command.

The presence of political spillover may be more difficult to discern, but it is just as prominent. While cooperation and integration in continental air defence was a functional necessity in one respect, it was arguably facilitating the creation of common norms and values regarding air defence between Canada and the U.S., and the USAF and RCAF. Canada and the U.S. perceived a common threat to their security, and had a general consensus on the shortcomings of the existing air defence system and the solutions required to rectify them. With these common norms and values and the creation of common internal institutional dynamics resulting from cooperative undertakings in air defence they were gradually engaging in, cooperation in continental air defence became self-reinforcing. Indeed, as Canadian Air Marshall C. Roy Slemon declared in 1955, reflecting a widely held belief within the USAF and RCAF at the time, a binational command was "inevitable."[168]

As a whole, continental air defence was an issue of mutual concern for Canada and the U.S., and was an area of defence cooperation where absolute gains could be acquired. The Cold War was, at its root, an ideological clash between the two superpowers of the U.S. and the Soviet Union. For both political and geographical reasons, the U.S.'s and Soviet Union's respective spheres of influence were pulled into this hostility as well. Canada was no exception. As both an ally of the U.S. and due to its close geographic proximity, any attack on the U.S., using nuclear weapons or otherwise, directly affected Canada as well. The trajectory any Soviet intercontinental bombers (or later, ICBMs) would have to take to reach their targets in the U.S. would have to traverse Canadian airspace first. Were any nuclear weapons to successfully hit the

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[168] Jockel, *Canada in NORAD, 1957-2007*, 22.

U.S. the effects would extend to Canada as well, due to the direct devastation of the attack, the radioactive fallout, or for other indirect political and economic consequences. Invariably, in the case of nuclear war with the Soviet Union the fate of Canada would be thoroughly intertwined with that of the U.S.

Despite the political barriers emanating largely from Canada due to concerns that an American presence in the north would erode its sovereignty, a binational organization that required Canada and the U.S. to hand over a considerable degree of decision-making authority and sovereignty was created. What political avenues would and could not overcome in attempting to establish a joint air defence command, functional avenues to cooperation did. Moreover, there was a distinct reliance on informal exchanges of diplomatic notes, military-to-military negotiations, and negotiations within confidential, closed-door meetings with the PJBD, along with other similar committees. As a result, the origins of NORAD evince the drivers of cooperation as expressed by functionalism and neofunctionalism. A focus on the functional and technical tasks that continental air defence required, spearheaded by those within the military and defence establishment who kept their ears to the ground on these matters, resulted in the successful establishment of NORAD as a means to command and control an effective system of continental air defence.

Chapter Three: Moving Towards Drug Interdiction

This chapter seeks to track the development of NORAD's role and responsibilities post-Cold War in relation to its responsibilities for drug interdiction through the lens of functionalism, neofunctionalism, and neoliberal institutionalism. NORAD continues to embody the drivers of cooperation as espoused by these three theories throughout the Cold War and post-Cold War eras. Specifically, because of its binational nature, NORAD continues to be directed by functional-technical issues in continental defence and security that are of mutual concern to Canada and the U.S. When expressed through a formal joint-institution that is able to institutionalize and retain its decades of experience, this functional-technical approach has allowed NORAD to be flexible and adapt to changes to the North American defence and security environment and to integrate new functional undertakings into its mission suite at a reduced transaction cost for its host states. NORAD has expanded its responsibilities, dealing with contingencies in air defence rather than with a single air defence threat, as well as expanding its role into other domains.

NORAD's Shelf Life

Throughout the rest of the Cold War, NORAD continued to progress as a binational institution for continental aerospace defence and beyond its original mission as the nature of the threat towards the continent changed. In the 1960s the Soviet intercontinental bomber threat began to wane in comparison to the mounting threat of Soviet ballistic missiles. As the Soviet bomber threat became less of a concern the need for active defences decreased and the Cold War found NORAD shifting its emphasis "to missile warning, space surveillance and target identification because deterrence, rather than defence, became the main response to the altered

primary strategic threat."[169] To be sure, NORAD was still responsible for the active defence of

North America, only the forces and radars at its disposal were reduced considerably.[170] By the

1980s the cruise missile threat began to surface. The ability for intercontinental bombers to

launch cruise missiles somewhat restored the need for active defences. However, in contrast to

aircraft, cruise missiles are capable of traveling low to the ground, posing a real challenge to

detect. This further highlighted the increased need for early warning and surveillance and

reinforced the shift from active defence to supporting deterrence. To reflect this broadened

conception of threats to North America and NORAD's changing mission emphasis, the renewal

of the NORAD Agreement in 1981 changed the name of the command from the North American

Air Defense Command to the North American Aerospace Defense Command.[171]

Although NORAD changed in significant ways from its inception in 1957 and throughout

the Cold War, its core mission remained essentially the same. Functionally, the command was

still charged with early warning, surveillance, and control of the air approaches of the North

American continent, with a particular emphasis on the nuclear threat posed by the Soviet Union.

The primary threat to North America remained the Soviet Union, only it changed its preferred

means of attacking the continent from intercontinental bombers to intercontinental ballistic

missiles (ICBMs) and cruise missiles. As the continent's sole air defence command, NORAD

had to adapt to this changing defence environment and this resulted in the command placing a

greater emphasis on early warning and surveillance at the expense of active defence. To be sure,

an argument could be made highlighting the reduced transaction costs that were incurred by

NORAD shifting its emphasis towards the ICBM threat, rather than Canada or the U.S.,

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[169] Daniel C. Dosé, "NORAD: A New Look," *Center for International Relations National Security Series No. 1/83* (Kingston: Centre for International Relations, 1983), 7.
[170] Ibid., 6-7.
[171] North American Aerospace Defense Command, "NORAD Agreement," http://www.norad.mil/AboutNORAD/NORADAgreement.aspx (accessed 21 November 2015).

individually or in concert, establishing a new command with the responsibility over warning and monitoring the threat of ICBMs.

It is more important to examine NORAD's post-Cold War experience because alliance theory predicts its dissolution with the end of the Soviet threat. On 25 December 1991, Mikhail Gorbachev stepped down from his post as the President of the Soviet Union. The following day the Soviet Union was officially dissolved and the Russian Federation established in its place.[172] The state of political hostility between the U.S. and Soviet Union, the world's two sole superpowers that exerted incredible influence on the international system, including the defence and foreign policy of the U.S. and its allies had all but disappeared. No longer did the U.S. and NATO need to be in a state of constant preparedness to deter and defend against a nuclear attack from the Soviet Union and its arsenal of long-range intercontinental bombers and ICBMs.

Yet, upon the dissolution of the Soviet Union and the accompanying disappearance of the Soviet nuclear threat to North America and the rest of the West, Canada and the U.S. did not dissolve NORAD.[173] This flew in the face of what conventional wisdom and a traditional understanding of alliance theory suggested should have happened. Since NORAD's inception, academics and defence commentators alike stressed how NORAD was a Canadian-American alliance with the threat of the Soviet Union as its *raison d'être*—the logo of NORAD has a broad sword facing North toward the Soviet Union and the lightening-bolts serve as a warning to this

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[172] "The Union of Soviet Socialist Republics was an original Member of the United Nations from 24 October 1945. In a letter dated 24 December 1991, Boris Yeltsin, the President of the Russian Federation, informed the Secretary-General that the membership of the Soviet Union in the Security Council and all other United Nations organs was being continued by the Russian Federation with the support of the 11 member countries of the Commonwealth of Independent States.": United Nations, Member States of the United Nations, http://www.un.org/en/members/, accessed 29 December 2015.

[173] The Western powers did not disband NATO upon the dissolution of the Soviet Union either. It has remained the preeminent Western military alliance and has even expanded its ranks by 12 additional member-states post-Cold War.

foe. The utility of NORAD could be found in its functional-technical tasks of early warning and active aerospace defence, which contributed to the American and Western strategy of nuclear deterrence, establishing a defence in depth, and America's ability to respond to an impending Soviet nuclear attack in kind. A core tenet of alliance theory is that alliances dissolve or collapse when the threat or objective for which they were created disappears. If NORAD is an alliance, the threat and objective for which Canada and the U.S. had supposedly utilized the command had disappeared upon the end of the Cold War. The balance of power had shifted and the Soviet Union was no longer a dominant power in the international system. Facing these circumstances, as an alliance, NORAD's shelf life should have expired.

Nearly a quarter of a century after the fall of the Soviet Union, NORAD continues to carry out its core early warning and air defence mission mandate first assigned to it in 1957 and expanded in the 1960s to include the monitoring and warning of ballistic missiles as the Soviet Union shifted the focus of its arsenal from intercontinental bombers to ICBMs and cruise missiles. What is more is that this initial mission suite has since been expanded considerably. In the late 1980s, NORAD's responsibilities were expanded, first informally, then formally as per a renewed NORAD agreement, to include a role in drug interdiction; a functional undertaking often underemphasized if not ignored. While NORAD's role in drug interdiction has since been placed on the backburner,[174] other changes have been implemented as well. First, NORAD's responsibilities have expanded to include a focus on the early warning and air defence of threats emanating from the continental interior, rather than a limited focus on external threats. Lastly, in 2006 with the renewal of the NORAD agreement in perpetuity, there was the addition of a

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[174] NORAD's drug interdiction mission was put on the backburner in November 1993 with the issuance of the United States' *Interim National Drug Control Policy* that directed the bulk of U.S. antinarcotic efforts towards source countries. Thomas F. Veale, *Guarding What You Value Most: North American Aerospace Defense Command, Celebrating 50 Years* (United States: Government Printing Office, 2008): 23.

maritime warning mission. This is all without accounting for the numerous discussions between Canada and the U.S. on the potential to extend NORAD's responsibilities even further, to ballistic missile defence (BMD), land defence, and to expand its role in the maritime domain.

NORAD's longevity and continued relevance in the defence of North America and, by extension, to Canada and the U.S. individually, may be attributed to the addition of these new responsibilities and missions. With the addition of new responsibilities often comes renewed importance, and with that a continued existence. What is not painstakingly obvious is the role NORAD's binational nature has had in the command being able to acquire these new and expanded responsibilities, and thus the manner in which this characteristic of the command has contributed to its longevity and continued relevance.

NORAD was established as a binational institution for its perceived utility in the management and execution of functional-technical tasks, specifically the functions of integrated tactical warning and attack assessment (ITW/AA), and the active defence of North American airspace. NORAD's almost 35-year tenure throughout the Cold War demonstrates that it was successful in carrying out these functional-technical tasks. In the words of journalist David Hughes, known for his work with *Aviation Week and Space Technology,* in an article published 2 August 1993 on NORAD's post-Cold War responsibilities: "Being prepared for any contingency is what is important now [for NORAD] rather than specializing in dealing exclusively with the Soviet threat."[175] It is argued that due to its binational nature as a joint-institution concerned with functional-technical undertakings of mutual concern, being prepared for any contingency in the air defence of North America was always NORAD's true potential. This potential was stymied

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[175] David Hughes, "CF-18s, NORAD Shift to Drug Interdiction," *Aviation Week and Space Technology* 139.5, 2 August 1993, 48.

during the Cold War by the overwhelming threat of the Soviet Union and was only able to be

gradually realized after the Cold War subsided.

Defence Support for Drug Interdiction

In 1988, the U.S. formally mandated its military to participate in the interdiction of drugs

into the U.S. This addition to the U.S.'s military's responsibilities was passed through the

National Defense Authorization Act, Fiscal Year 1989.[176] Title XI of the Act for fiscal year 1989,

entitled "Drug Interdiction and Law Enforcement Support," legislated new responsibilities for

the U.S. military in the nation's efforts in combatting drug smuggling. Specifically, this Act

tasked the DoD with two core responsibilities in the U.S. drug interdiction effort. First, the Act

established the DoD "as the single lead agency of the Federal government for the detection and

monitoring of aerial and maritime transit of illegal drugs into the United States."[177] Second, the

Act mandated the military to create and coordinate "an effective communications network" for

drug interdiction efforts by integrating the existing "command, control, communications, and

technical intelligence (C3I) assets of the United States dedicated to the interdiction of illegal

drugs."[178] In doing so, a novel role for the U.S. military was established.

In the U.S., drug enforcement has traditionally been an effort organized and executed

exclusively by civilian agencies. The military's new role in drug interdiction ran contrary to (and

is one of the few exceptions of) the historical exclusion of the military from matters of civilian

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[176] The National Defense Authorization Act is an annual, federal bill that specifies primarily the U.S. Department of Defense's (DoD) budget and expenditures for the upcoming fiscal year, but often contains additional provisions concerning the actions of the DoD and military at large.
[177] *National Defense Authorization Act, Fiscal Year 1989*, Public Law 100-456, *U.S. Statutes at Large* 102 (1988): 2042
[178] *National Defense Authorization Act, Fiscal Year 1989*: 2042

law enforcement in the U.S., as set forth in the *Posse Comitatus Act* of 1878.[179] The majority of

authority and responsibility for the coordination and execution of the U.S.'s efforts at drug

interdiction and enforcement has historically been concentrated in the hands of a select few

civilian agencies, primarily the Drug Enforcement Administration (DEA), the Federal Bureau of

Investigation (FBI), the U.S. Customs Services (USCS), the U.S. Coast Guard (USCG), and the

U.S. Border Patrol (USBP) of the Immigration and Naturalization Service (INS).[180]

While there is some significant, unavoidable overlap in the role and activities of these

agencies involved in the U.S.'s drug interdiction effort, overall the responsibilities of these

agencies remain varied and carefully delineated among them. Authored by John Ahart and

Gerald Stiles, a RAND study entitled "The Military's Entry into Air Interdiction of Drug

Trafficking from South America," documents this division of responsibilities at the time of the

military's entrance into drug interdiction in the late 1980s to early 1990s. The DEA was the lead

law enforcement agency tasked with illegal drug enforcement operations at the federal level. In

this capacity its role was substantial and expansive. The DEA was concerned with "day-to-day

enforcement operations against drug trafficking," employing its agents with "the powers of arrest,

search, and seizure," while also remaining "the lead agency for the worldwide collection of drug

intelligence information."[181] The FBI's involvement with drug enforcement and interdiction was

concurrent and overlapping with that of the DEA, with a more broad and concentrated focus on

dismantling the criminal enterprises and organizations involved with these illegal activities.

[179] For a comprehensive overview of the Posse Comitatus Act, including its origins, application, exceptions, consequences of violation, etc., see: U.S. Library of Congress, Congressional Research Service, *The Posse Comitatus Act and Related Matters: The Use of the Military to Execute Civilian Law*, by Charles Doyle and Jennifer K. Elsea, R42659 (2002).

[180] U.S. Congress, Office of Technology Assessment, *The Border War on Drugs,* by Don Kash and George Lynn Cross, OTA-O-336 (Washington, DC: U.S. Government Printing Office, March 1987): 33.

[181] John Ahart and Gerald Stiles, *A RAND Note: The Military's Entry into Air Interdiction of Drug Trafficking from South America* (Santa Monica, CA: RAND, 1991): 11.

Meanwhile, the responsibility of lead agency for drug interdiction was divided among the three agencies of the USCS, USCG and USBC. The Coast Guard was the sole lead agency tasked with drug interdiction in the maritime domain with its "broad authority to inspect vessels and regulate maritime commerce."[182] Before its responsibilities were divided among other federal departments in 2003, the USCS's role in drug interdiction spanned all three domains of land, sea, and air. The USCS had lead agency status for drug interdiction in the domains of both land and air.[183] With regard to air interdiction, however, the USCS shared the responsibility of lead agency for drug interdiction with that of the USCG.[184] Furthermore, the U.S. Office of Technology Assessment asserts that while the USCS was not a lead agency in the maritime domain, it retained a limited role in maritime drug interdiction in areas of concurrent jurisdiction with the USCG.[185] Finally, the USBP had lead interdiction responsibility at the borders, which entailed close cooperation with the USCS.[186]

Despite the fact that these select agencies retained primary responsibility in the national drug enforcement and interdiction effort, several other agencies and departments consistently played significant roles. Ahart and Stiles found that even though federal, state, and local law enforcement agencies were the ones that were predominantly engaged in drug interdiction, "the total number of federal organizations involved…(including the military) could be as few as 37 and as many as 154."[187] For example, working alongside the USBP in drug interdiction at the border was the Department of Justice (DOJ), the U.S. Department of Transportation (USDoT),

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[182] Ibid., 12.
[183] Ibid.
[184] United States Coast Guard, U.S. Department of Homeland Security, "Drug Interdiction," www.uscg.mil. http://www.uscg.mil/hq/cg5/cg531/drug_interdiction.asp (accessed 7 October 2015).
[185] Kash and Cross, *The Border War on Drugs*, 35.
[186] Ibid., 37.
[187] Ahart and Stiles, "*A RAND Note: The Military's Entry into Air Interdiction of Drug Trafficking from South America*," 11.

the Department of Treasury, as well as "twenty-three separate federal agencies and scores of state and local agencies."[188] Moreover, crucial to the air interdiction effort was consistent and ongoing cooperation with agencies such as the Federal Aviation Administration (FAA), which provided valuable support "with its radar and flight information systems."[189] As a result, the interagency cooperation and communication necessary to conduct successful drug interdiction has been far-reaching and extensive.

The Canadian military was an active participant in drug interdiction efforts two years before the U.S. armed forces were tasked with such responsibilities in 1988. The Canadian armed forces were tasked with assisting the Royal Canadian Mounted Police (RCMP) with drug interdiction efforts in the spring of 1987 with the Canadian government's release of its national drug strategy/action plan, "National Drug Strategy: Action on Drug Abuse." This national drug strategy focused the six separate, yet interrelated tasks. Namely: 1) components of education and prevention; 2) enforcement and control; 3) treatment of drug users; 4) international cooperation; 5) research and information; and 6) national focus.[190] Perhaps taking inspiration from its southern neighbour's War on Drugs, Canada's national drug strategy sought to strengthen and expand enforcement and interdiction efforts considerably. In line with this national objective, a Memorandum of Understanding was signed between the DND and the RCMP, tasking the former to assist in the latter's efforts to combat drug trafficking.[191] Specifically, the Memorandum of Understanding allowed the DND "to provide ship-days and aircraft-hours to

[188] T. Michael Andrews, *The Border Challenge: An Insider's Guide to Stopping Drugs at America's Borders* (United States of America: University Press of America, 2012): 25.
[189] Kash and Cross, *The Border War on Drugs*, 38.
[190] Canada, Parliament, Senate, Special Standing Senate Committee on Illegal Drugs, *Report of the Special Senate Committee on Illegal Drugs: Cannabis: Our Position for a Canadian Public Policy,* 1st session, 37th Parliament, September 2002, Final Committee Report, 229.
[191] L.E. Murray, "Maritime enforcement: The Canadian federal government's marine fleets and the navy's mission," *Marine Policy* 18.6 (1994), 527.

monitor and track offshore craft suspected of involvement in illegal drug operations."[192]

Speaking to a reporter with the Vancouver Sun in 1990 on the Canadian military's participation in the nation's drug interdiction activities, an RCMP Inspector with the law enforcement agency's drug enforcement division, Vince Casey, revealed: "The Canadian military has assisted the RCMP for years… although the Mounties had to pay for the help before 1987."[193] Casey's comment indicates that while the Canadian armed forces did not participate in drug interdiction activities formally until 1987, such cooperation had been ongoing informally for several years prior. However, little documented is the manner in which the Canadian armed forces assisted in drug enforcement and interdiction prior to 1987. In one instance Deputy Chief of the Defence Staff, Vice Admiral L.E. Murray, recalls that the RCMP first secured the participation of National Defence in counter-narcotic activities in the late 1970s, primarily to assist in responding to large ships "offloading drugs along the Canadian coast."[194] One of the most successful instances of cooperation between the RCMP and the Canadian armed forces came in 1978 when "two Esquimalt-based destroyers participated in an operation against the mother ship *Toernyn* that netted 27 tonnes of marijuana."[195] As a whole, Murray and Casey's comments indicate that, as long as it was paid for by the RCMP's budget, such informal cooperation between the RCMP and Canadian armed forces in drug interdiction was a regular occurrence throughout the late 1970s and the 1980s.

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[192] Dixie Dysart, "'Committed to Make a Difference:' Canada's Role in the Inception of NORAD Counter-drug Operations" in *Sic Itur Ad Astra: Canadian Aerospace Power Studies: Volume 2: Big Sky, Little Air Force*, ed. W.A. March (Canada: Canadian Forces Aerospace Warfare Centre, 2009): 107.

[193] Peter O'Neil, "Until this week, few Canadians realized that...," *Vancouver Sun*, 27 April 1990.

[194] Murray, "Maritime enforcement: The Canadian federal government's marine fleets and the navy's mission," 527

[195] Ibid.

Similar to the U.S., drug enforcement and interdiction in Canada has been historically conducted by a hodgepodge of civilian agencies as well. In 1999, participants in efforts against drug trafficking in Canada included the Department of the Solicitor General, the Canadian Customs and Revenue Agency, the Department of Justice, the Attorney General of Canada, the Royal Canadian Mounted Police (RCMP), "provincial departments responsible for public security," and "some 250 bodies representing aboriginal, municipal, regional, and provincial police forces."[196]

A Binational Approach

As the command responsible for the air defence of North America, in possession of the requisite assets and personnel and supported by a breadth of operational experience, NORAD naturally found itself thrust into U.S. military's newfound role in drug interdiction and this complicated web of civilian agencies. NORAD's involvement with drug interdiction, while it occurred in relatively quick succession after the *National Defense Authorization Act, Fiscal Year 1988* was passed, was nonetheless not instantaneous. As the U.S. military's assigned role was to assist in a national drug interdiction effort, the DoD was unable to assign the binational NORAD to monitor the U.S. air approaches for drug smugglers and to deploy binational assets to respond to any suspected threat. Rather, responsibility for the military's mandated role in air interdiction was assigned to the commander of U.S. Element NORAD (USELEMNORAD), General John L. "Pete" Piotrowski, in January 1989, permitting him to use "US air defence [sic] assets to detect

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[196] Organization of American States, Inter-American Drug Abuse Control Commission, Multilateral Evaluation Mechanism, *Canada: Evaluation of Progress in Drug Control 1999-2000,* June 2001, 6, http://www.cicad.oas.org/mem/reports/1/Full_Eval/Canadaeng_fin.pdf (accessed 8 October 2015).

and monitor suspected airborne drug traffic entering the country, in coordination with other US agencies."[197]

Binational assistance to the national U.S. air drug interdiction was established on 4 February 1989 as "Canada's Chief of Defence Staff approved the use of NORAD assets in the performance of the US counter-drug mission," to which the Canadian government also agreed with shortly thereafter.[198] The Canadian CDS's approval to allow Canadian personnel and assets assigned to NORAD to partake in drug interdiction stemmed from the pressure General Piotrowski applied on the U.S. State Department to secure the participation of the Canadians.[199] Piotrowski's pressure prompted the State Department to approach the Canadian government to participate in NORAD's ancillary role in the U.S. drug interdiction effort; a request that took less than 48 hours for Canada to respond back with an affirmative yes.[200] NORAD, with its full-spectrum of Canadian and American assets, was now an active partner in continental-wide drug interdiction.

Two concerns underscored Piotrowski's decision to pressure the U.S. State Department to obtain Canada's participation. First, Piotrowski was dual-hatted as the commander of both NORAD and USELEMNORAD, yet only had personnel and assets to control as CINCNORAD.[201] As NORAD is partially composed of Canadians this made it difficult for him to utilize the command's personnel and assets as commander of USELEMNORAD in support of

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[197] Jockel, *Canada in NORAD, 1957-2007: A History*, 138.
[198] Dysart, "'Committed to Make a Difference:' Canada's Role in the Inception of NORAD Counter-drug Operations," 108.
[199] Ibid.
[200] Marci MacDonald, "Fourth of seven parts: Turning NORAD into drug-buster," *Toronto Star*, 12 October 1993.
[201] Technically, Piotrowski was 'tri-hatted', as in addition to being commander of NORAD and USELEMNORAD, he was Commander in Chief of United States Space Command (USSPACECOM).

his drug interdiction mandate.[202] Second, Piotrowski perceived the trafficking of illicit drugs as a threat facing both Canada and the U.S. equally, and thus worthy of binational action.[203] On the other side of the border, the Canadian military was apparently concerned that if it did not participate in this new drug interdiction mission, it would be responsible "for further marginalizing NORAD."[204]

As a whole, however, it was NORAD's functional-technical expertise and assets that made the institution attractive for continental drug interdiction efforts. The radar lines constructed in the early 1950's that were maintained and upgraded throughout the Cold War, the new North Warning system in the midst of construction set to replace the aging DEW Line, various continental U.S. radars oriented towards the continent's east, west, and south, and its E-3 Airbourne Warning and Control System (AWACS), aircraft utilized for mobile surveillance and C3, were all assets at NORAD's direct disposal that were perceived to be invaluable to air interdiction efforts.[205] All of the data from these assets would subsequently be fed into assets such as the Joint Surveillance System (JSS); "an air surveillance network of joint-use United States Air Force (USAF) and Federal Aviation Administration (FAA) radars," Region Operation Control Centers (ROCCs) that "provided centralized automatic data processing and display of censor data," as well as NORADHQ and its Combat Operations Centre located at Cheyenne Mountain.[206] Compounded with the NORAD personnel trained and experienced in operating these assets and possessing a wealth of experience in the overall monitoring and control of North America's airspace, reorienting NORAD towards assisting with drug interdiction, especially in

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[202] Dysart, "'Committed to Make a Difference:' Canada's Role in the Inception of NORAD Counter-drug Operations," 108.
[203] Ibid.
[204] MacDonald, "Fourth of seven parts: Turning NORAD into drug-buster."
[205] Dysart, "'Committed to Make a Difference:' Canada's Role in the Inception of NORAD Counter-drug Operations," 107-108.
[206] Ibid.

the absence of a Soviet threat, was a low-cost way (relative to other options) for the U.S. and

Canada to provide drug interdiction agencies with an advanced surveillance and tracking

function. In 1990, NORAD attempted to unify these assets and experience with the establishment

of the NORAD Tactical Intelligence Center (NORTIC), capable of organizing large swaths of

data to create a "comprehensive air picture of drug trafficking from all sorts of air tracking

sources already in place."[207]

In April 1991 the NORAD Agreement was once again renewed for another five-year

period. Despite the threat of the Soviet Union being in a state of gradual decline, the NORAD

Agreement did not stray far from the (identical) 1981 and 1986 agreements, except in one

important respect. After a number of years of NORAD successfully participating in the

continental fight against drug smuggling informally, the 1991 NORAD Agreement expanded the

command's mission to include a focus on drug interdiction formally. Drug interdiction was now

part and parcel of NORAD's responsibilities of warning and control of North American airspace.

However, even though the 1991 NORAD Agreement marks the formal appropriation of a drug

interdiction responsibility, this agreement still took on an informal character. Political scientist

Andrew Richter astutely observes "that the text of the NORAD Agreement was not amended to

recognize the increased importance given to counter-narcotic activities," instead leaving the

recognition of a renewal and this new responsibility to "an exchange of notes dated 30 April."[208]

The exchange of notes read,

> With respect to our common interest in maintaining effective surveillance and control of
> North American airspace, our two governments understand that such control includes the

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[207] Tony Payan, *Cops, Soldiers, and Diplomats: Explaining Agency Behavior in the War on Drugs* (United States of America: Lexington Books, 2007): 115-116.
[208] Andrew Richter, "External Affairs and National Defence: Developments in Canadian Defence and Security Policy" in *Canadian Annual Review of Politics and Public Affairs, 1991*, ed. David Leyton-Brown (Canada: University of Toronto Press, 1998): 125.

surveillance and monitoring of aircraft suspected of smuggling illegal drugs into North America.[209]

As such, the formal, yet informal, manner of agreement that marked the first NORAD Agreement and the assignment of its initial mission suite in the spring of 1958 again presented itself in the NORAD Agreement reached in spring of 1991.

Many commentators speaking on the matter of NORAD's role in drug interdiction fail to appreciate the value and significance of this role. It has been argued often that Canada benefitted from the Agreement minimally and that any benefits that were incurred were disproportionate to the benefits derived from the U.S. Therefore, as the argument goes, NORAD's role as a major actor in continental drug interdiction was of little value for Canada in both the short- and long-term. This is an inaccurate interpretation of what NORAD's drug interdiction role conferred on Canada and fails to recognize the absolute gains of such participation, as well as the common, transnational technical problems that drug interdiction entailed.

First and foremost, Piotrowski was correct in pressing for a binational response to air drug interdiction on the premise that the trafficking of illicit drugs was a concern to both NORAD partners. Indeed, the trafficking of illicit drugs was an issue of mutual concern for both Canada and the U.S. that, due to their interdependence, would require joint-action. A 2010 United States-Canada Joint Border Risk and Threat Assessment documents the origins and transit patterns for various illegal drugs entering Canada and the U.S. The assessment found that cocaine is predominantly smuggled into the U.S. from South and Central America and the Caribbean, which is then distributed within the U.S. to then be smuggled into Canada by land or

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[209] "Exchange of Notes between the Government of Canada and the Government of the United States of America," 30 April 1991, *Canada Treaty Series*, 1991, No. 19.

sea.[210] Meanwhile, heroin is primarily smuggled into the U.S. from Mexico and Columbia, while

Canada receives it from distributors based in India and Pakistan who obtain their product from

Afghanistan.[211] On the other hand, marijuana is overwhelmingly smuggled from Canada into the

U.S., after being both grown in Canada and trafficked in from Jamaica.[212]

Admittedly, illicit drugs, predominantly marijuana and cocaine, are mainly trafficked

between Canada and the U.S. by land or by sea, smuggled through ports of entry.[213] However,

while these illicit drugs are not typically smuggled between Canada and the U.S. by air, these

illicit drugs do not often originate in either Canada or the U.S. Instead, in most instances illicit

drugs are first trafficked into Canada or the U.S. by air before they can be transited by land or

sea between the two NORAD partners. Canada and the U.S.'s geographic proximity to each

other (especially via the Great Lakes) and their porous borders made drug smuggling a problem

of mutual concern. Due to the prevalence of drug smuggling between Canada and the U.S. and

the low success rate of detecting trafficking by land and sea, which the DEA puts at a mere one

to two percent,[214] air interdiction efforts may be viewed as particularly valuable by stemming the

flow of drugs into the two countries from their source before they can be subsequently trafficked

between them. Moreover, from a functional perspective the flight path drug smugglers take to

reach Canada often involve traversing U.S. territory and hugging its coasts. The common,

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[210] Canada and the United States, U.S. Customs and Border Protection, the Canada Border
Services Agency, and the Royal Canadian Mounted Police, *United States-Canada Joint Border
Risk and Threat Assessment*, July 2010, 6. While this research was published in 2010, there is no
indication that this pattern of drug smuggling into and between Canada and the United States
was significantly different in the 1980's and 1990's.
[211] Ibid., 9.
[212] Ibid., 6-7.
[213] Ibid., 6.
[214] United States Congress, House of Representatives, Subcommittee on Immigration and Claims,
Committee of the Judiciary, *Law Enforcement at the Border Between the U.S. and Canada:
Drug Smuggling, Illegal Immigration and Terrorism: Hearing Before the Committee on the
Judiciary*, 106th Congress, 1st session, 14 April 1999, 2.

intertwined functional problem of drug trafficking demonstrates that NORAD's air drug interdiction responsibility was a valuable and beneficial arrangement for Canada and the U.S.

Second, just as the initial air defence arrangement in the 1950s acted to reinforce Canada's sovereignty by providing it with capabilities to respond to air-based threats that it would not have the means to acquire unilaterally, NORAD's drug interdiction responsibility exerted a similar effect. While the Americans had the means to detect, track, and respond to aircraft suspected of drug smuggling without Canadian assets, demonstrated by the DoD's initial assignment of USELEMNORAD to the U.S. military's mandated role in air interdiction, the Canadians were limited without its access to the U.S. assets, personnel, and other capabilities assigned to NORAD. Already modestly contributing to NORAD in comparison to the U.S., Canada received a notable increase in its ability to assert its sovereignty over its airspace relative to its contributions.

Furthermore, there is little recognition of the functional value that NORAD's drug interdiction mission has conferred to continental defence and security as a whole, as well as to NORAD itself. A common perception among commentators is that in the absence of the Soviet threat, NORAD's drug interdiction role was nothing more than an activity that had no real value to continental defence and security, which was being used to fill up the command's newfound free time. In the words of Tariq Rauf, a then senior associate with the Canadian Centre for Global Security, NORAD's "new drug busting mission is 'basically nonsense – a way of finding rationales for NORAD's existence.'"[215] Similarly, in reference to the recent addition of drug interdiction to NORAD's mission suite, academic David Cox was quoted as saying that "NORAD is basically looking for self-employment."[216]

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[215] MacDonald, "Fourth of seven parts: Turning NORAD into drug-buster."
[216] Ibid.

While NORAD's drug interdiction responsibilities may not have been perceived as an ideal use of its personnel and assets, especially in the wake of the threat it was previously tasked with warning and defending against, it did fulfill the command's original mandate of monitoring and defending the air approaches of North America. NORAD was a binational command created as a functional-technical solution to the problem of operational command over the joint-assets and personnel of Canada and the U.S. employed to defend the airspace of North America against threats of mutual concern, all in a manner that freed them from the considerations of national borders and sovereign territory that would otherwise prevent timely and efficient responses. In monitoring the air approaches for aircraft potentially smuggling drugs and subsequently tracking them to their destination, NORAD continued to execute its functional-technical responsibilities in joint air defence and arguably made them consider smaller planes and air threats then they otherwise would have just focusing on state-based threats. Just as the threat of the Soviet Union was not enough on its own to prompt Canada and the U.S. to create a binational command, the disappearance of the Soviet threat alone was not enough to make NORAD obsolete. The airspace of North America was not suddenly secure absent the Soviet Union; other threats were of mutual concern to Canada and the U.S. and drug interdiction was but one of the first to be recognized and acted upon.

NORAD's drug interdiction mission indeed posed a functional challenge as by 1993 NORAD was identifying 300-600 aircraft daily, or nearly 135,000 yearly, in support of its continental air defence mandate.[217] Despite this challenge, NORAD can be viewed as being indeed relatively successful in meeting the mutual concern of drug smuggling head-on. By 1993, drug interdiction reportedly comprised "50 percent of Norad's [sic] air defense mission" with the

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[217] Hughes, "CF-18s, NORAD Shift to Drug Interdiction," 51.

command scrambling its jets "104 times to intercept drug smugglers" in 1992 alone.[218] Dixie

Dysart, in her comprehensive overview of NORAD's drug interdiction, offers recollections of a

few notable, successful drug interdiction operations in which NORAD played a integral role. In

one instance, NORAD's successfully detected and monitored an aircraft carrying $50 million

worth of cocaine from South America to Fredericton, New Brunswick, that ended with the

successful arrest of five individuals.[219] On another occasion in 1992, NORAD tracked and

intercepted a shipment of cocaine worth $2.7 billion en route from Columbia to Casey, Québec,

resulting in the successful seizure of the narcotics on board and the apprehension of six

individuals.[220] Even the first drug interdiction operation that NORAD participated in, which is

often considered a failure due to USCS violating Canadian sovereignty, had NORAD carrying

out its responsibilities "well" and without any serious problems.[221]

The general success of NORAD in its drug interdiction responsibilities is also highlighted

by the instances in which its functional tasks were prevented from operating as normal. In late

1989, the JCS established a FORCOM Drug Interdiction Centre to lead "all combatant

commands supporting the DoD's Drug Interdiction Program."[222] Rather than the commands

directly receiving important information and data from the civilian agencies and departments

involved in drug interdiction, as the central centre facilitating the roles of the combatant

commands, the FORCOM Drug Interdiction Centre opted to receive the data first to fuse and

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[218] Schmitt, "Built for Cold War, Bunker Shifts its Weaponry to Drug Battle."
[219] Dysart, "'Committed to Make a Difference:' Canada's Role in the Inception of NORAD Counter-drug Operations," 110.
[220] Ibid., 111.
[221] Jockel, *Canada in NORAD, 1957-2007: A History,* 139.
[222] General John L. "Pete" Piotrowski, *Basic Airman to General: The Secret War & Other Conflicts: Lessons in Leadership & Life* (United States of America: Xlibris Corporation, 2014): 689.

validate, before forwarding it onto the commands to which the data would be pertinent.[223] In the first month of FORCOM's Drug Interdiction Centre being operational, this procedure resulted in data from the DEA regarding an air shipment of cocaine from Mexico into the U.S. reaching NORAD eight hours after the flight departed.[224] This delay prevented NORAD from deploying its assets to respond to this sizable drug shipment in a timely manner. An exchange of words between NORAD and FORCOM following this event resulted in the protocols changing and "NORAD receiving the DEA alerts without delay."[225]

On the surface, NORAD's drug interdiction responsibility and its traditional aerospace warning and air defence mission were similar. Warning and responding to both airborne threats required monitoring the air approaches of North America with vigilance, while utilizing the same personnel, technology, and assets, as well as similar protocols and procedures. This demonstrates how NORAD's experience as an institution carrying out functional-technical tasks in air defence relative to the Soviet threat naturally positioned it to respond to different threats in the same domain. In a 1993 special to the New York Times on NORAD's reorientation towards drug interdiction, U.S. Lieutenant Colonel David Tillotson, then with NORAD, is quoted as saying "'Norad [sic] is not taking the world as an unchanging place'… 'We're not pretending that the cold war threats still exist, but rather than reinvent the wheel, we should adapt to new missions.'"[226] As an institution of successful joint-aerospace warning and defence was already in operation, the transaction costs of revisiting an issue-area of similar concern, drug interdiction in the air domain, was drastically reduced by simply adapting that existing institution to the new threat or objective.

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[223] Ibid., 690.
[224] Ibid.
[225] Ibid.
[226] Eric Schmitt, "Built for Cold War, Bunker Shifts its Weaponry to Drug Battle," *The New York Times*, 18 July 1993.

However, drug interdiction also brought some notable changes to NORAD's protocols and procedures. One such change was the dropping of the 180-knot rule. Implemented early on in NORAD's tenure, the 180-knot rule was derived from the speed at which the Soviet intercontinental bombers traveled.[227] Anything slower than 180-knots was slower than the speed at which Soviet bombers or other threatening military aircraft would approach North American airspace, and as such NORAD limited itself to detecting and tracking aircraft at and exceeding 180-knots. In 1989, NORAD would drop the 180-knot rule to accommodate the requirements of its new drug interdiction responsibilities as aircraft used to smuggle drugs are considerably smaller and less advanced than military aircraft and, as a result, travel well below 180-knots.[228]

Another significant development was the manner in which drug interdiction required NORAD to work with other civilian agencies and law enforcement to a degree that was not previously required.[229] Drug interdiction in both Canada and the U.S. consisted of a hodgepodge of civilian agencies with overlapping responsibilities and jurisdictions. Some of the agencies, such as the DEA, USCG, USCS, and the RCMP, for instance, assumed the position of lead agency and managed all drug interdiction operations. NORAD was merely operating in support of these agencies' broad drug enforcement mandates. Journalist Marci MacDonald, in a seven-part special to the Toronto Star on Canada's foreign and defence relations with the U.S., notes that "when it comes time to collaring the smugglers, NORAD is obliged to bow out. Under U.S. and Canadian law the military must leave the shootouts and derring-do to the RCMP and nine

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[227] Arthur Charro, "Continental Air Defense: A Neglected Dimension of Strategic Defense," *Center for Science and International Affairs Occasional Paper No. 7* (Canada: Canadian Institute for Peace and Security, 1990), 37.
[228] ____, "U.S., Canada Agree to Renew NORAD Pact," *Aviation Week & Space Technology,* 29 April 1991.
[229] Hughes, "CF-18s, NORAD Shift to Drug Interdiction," *Aviation Week and Space Technology*, 48.

squabbling U.S. law enforcement agencies."[230] Ultimately, NORAD had no authority to actually

interdict aircraft suspected of smuggling drugs. As a military command restricted from law

enforcement activities, it was merely tasked with detecting and monitoring suspect aircraft as

they made their way to their destination, at which point civilian agencies would come together to

interdict the aircraft and do the brunt of the work.[231] NORAD's drug interdiction role required

cooperation and communication with these civilian agencies that had lead and supporting roles in

drug enforcement and interdiction. As Canadian defence expert Ann Denholm Crosby shrewdly

observed:

> The drug interdiction program […] demonstrated how military and domestic law
> enforcement agencies could work together on 'national security' program. Computers for
> tracking suspected aerial drug traffic were installed in regional NORAD headquarters, as
> were new communications system allowing for instant and direct communication
> between NORAD personnel and relevant law enforcement agencies in Canada and the
> United States.[232]

NORAD's drug interdiction responsibilities allowed it to develop and acquire the

necessary connections, organizational protocols, and technology to cooperate and communicate

with the civilian and law enforcement agencies at the forefront of drug interdiction. For instance,

the U.S. East and West Sector Operations Control Centres (SOCCs) became integrated "into the

anti-drug network (ADNET), which links them to law and drug enforcement agencies in the U.S.

and Canada," allowing access to real-time common operating pictures of drug interdiction

operations and two-way communication with the agencies connected to the network.[233] NORAD

cultivated a culture of cooperation and communication with numerous agencies and departments

including the USCG, USCS, the RCMP, and with other agencies assisting such as the FAA.

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[230] MacDonald, "Fourth of seven parts: Turning NORAD into drug-buster."
[231] Jockel, *Canada in NORAD, 1957-2007: A History,* 139.
[232] Ann Denholm Crosby, "Defining Security Environments for Global Governance: Canada and the U.S. 'Global Protection System'," *Global Governance* 4.3 (1998), 338.
[233] Hughes, "CF-18s, NORAD Shift to Drug Interdiction," 48.

Moreover, NORAD personnel were reputedly diligent in "establishing relationships with local law enforcements" in an effort to counter the tactics drug smugglers used to avoid detection.[234] Unknowingly, this experience working with civilian agencies would be very important in the future when NORAD was tasked with its Maritime Warning Mission in 2006. The 180-knot rule change was a major catalyst for enhanced communication with civilian agencies as the detecting and monitoring of aircraft traveling under 180-knots increased the number of aircraft under surveillance considerably, particularly in terms of support and coordination with Transport Canada (TC) and the FAA.[235] Notably, as a binational institution, NORAD was in a unique position in that it was able to foster enduring connections with civilian and law enforcement agencies on both sides of the border and develop the procedures and infrastructure to do so. Moreover, since NORAD is an institution the experience, knowledge, skills, protocols, and procedures that it cultivated in working with these civilian agencies would subsequently be incorporated in NORAD's organizational memory. NORAD's organizational memory in cooperating and communicating with civilian agencies and departments would allow it to adapt to an emerging international system where the demarcating lines between defence and security were becoming increasingly blurred.

Conclusion

While USELEMNORAD's role in drug interdiction was largely a political decision made by government, and as a result, was imposed from above onto the U.S. military and ELEMNORAD, NORAD's participation in drug interdiction as a binational institution was done with little political debate and was apparently pushed forth and advocated for largely by military

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[234] Dysart, "'Committed to Make a Difference:' Canada's Role in the Inception of NORAD Counter-drug Operations," 111.
[235] Ibid., 113.

personnel within NORAD and the Canadian military. NORAD's full participation in the drug

interdiction effort was advocated by CINCNORAD Piotrowski, who saw the benefits of utilizing

the full personnel and assets available to NORAD, provided for by both the U.S. and Canada.

Moreover, as an individual with considerable experience in continental air defence, the

commander saw the common problem that was facing both Canada and the U.S. and the mutual

benefits that could be derived from addressing drug interdiction in concert. Indicative of the lack

of political debate on NORAD's participation in U.S. drug interdiction is the fact that Canada's

permission to participate in the effort took less than 48 hours to get back to the Americans, was

referred to by a former NORAD general as being "probably the fastest diplomatic response in

history," and was an agreement that was "secretively signed" by Mulroney "with no public

debate whatsoever."[236] Even the formal inclusion of drug interdiction in the 1991 NORAD

Agreement passed by with little political discussion or fanfare in both Canada and the U.S.[237] As

functionalism demonstrates, it is revealing when such discussions and agreements are decided

upon not on the basis of politics, but with an focus on the practical and technical aspects of

common problems.

Lastly, even though the Soviet Union was undoubtedly waning in 1989 when NORAD

informally acquired its drug interdiction responsibility, the threat of nuclear attack from the

Soviet Union did not disappear with certainty until the end of 1991 when the Soviet Union

officially collapsed. This important fact strengthens the argument that NORAD was not an

alliance created in response to a singular, monolithic threat. For nearly three years NORAD

executed its aerospace warning and air defence mission relative to the threat of the Soviet Union

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[236] MacDonald, "Fourth of seven parts: Turning NORAD into drug-buster." Of course, the Prime Minister of Canada does not need to seek Parliament's approval for any decisions regarding missions for the Canadian military.

[237] Joel J. Sokolsky and David Detomasi, "Canadian defense policy and the future of Canada-United States security relations," *The American Review of Canadian Studies* 24.4 (1994), 4.

and that of drug smuggling concurrently. This adds credence to the argument that NORAD serves broader functional purposes and somewhat weakens the argument that drug interdiction was just NORAD trying to fill in the gap left by the absence of the Soviet threat. In carrying out its drug interdiction responsibilities for a number of years alongside warning and defending against the Soviet threat, NORAD was demonstrably executing a broader mandate of aerospace warning and air defence to address the mutual functional-technical problem of how to best secure the air space of North America, rather than operating in response to a singular threat for which the functional-technical tasks of aerospace warning and defence was subsequently necessary.

Chapter Four: NORAD Turns Towards the Continental Interior

The 1990s could perhaps be considered an unexciting decade for NORAD, especially in contrast to its Cold War responsibilities, but they were not uneventful. Following the 1991 renewal of the NORAD Agreement, which formally added drug interdiction to its responsibilities, the agreement was once again renewed in 1996. Although NORAD's mission and functional purpose remained fundamentally the same as it always had been, the 1996 agreement nonetheless changed the phrasing of its mission suite, redefining "NORAD's missions as aerospace warning and aerospace control for North America."[238]

While NORAD was an eager participant in drug interdiction, the decade was marked by continuing and deep equipment and budgetary cuts to NORAD by both Canada and the U.S., with little political appetite to take on new projects in support of the command and to continue its path towards modernization.[239] Some NORAD modernization projects that had already been put into motion saw it past the construction phase. However, even these did not often assume operational status, getting placed into indefinite periods of warm storage,[240] as was the case with the over-the-horizon-backscatter (OTH-B) radars, the North Warning System, and Forward Operating locations.[241] The allocation of forces to NORAD dropped off considerably in the wake of the Cold War. By 2001, NORAD only had eighteen aircraft at its disposal to put on alert, with only fourteen aircraft spread across seven alert sites (down from its Cold War high of twenty-six

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[238] North American Aerospace Defense Command, "NORAD Agreement."

[239] As Joel Sokolsky reveals, by the late 1990s the number of radar stations and aircraft at NORAD's disposal were cut back to 'bare minimums.' See, Joel Sokolsky, "U.S. Ballistic Missile Defence, NORAD and the Canadian Conundrum," *Bridgewater Review* 33.1 (2014), 10.

[240] Warm Storage or warm standby means that these assets are inactive, have no or few personnel assigned to them, and are maintained to a minimum standard, but can be quickly returned to full service if needed.

[241] Jockel, *Canada in NORAD, 1957-2007: A History,* 145-146.

sites) within the continental U.S.,[242] and an additional 4 aircraft split evenly between Alaska and Canada.[243] Those forces that remained available were often placed on flexible alert instead of 24-hour alert to trim back on defence expenditures in the perceived low-threat environment of the post-Cold War era,[244] while other senior military officials in the U.S. attempted to remove the NORAD alert sites entirely.[245] Elsewhere, the debate over ballistic missile defence was still captivating both political and public discourse on both sides of the border, which included discussions about a potential role for NORAD should Canada decide to participate in the controversial endeavor.

The twenty-first century, however, reinvigorated NORAD and continued its post-Cold War transition. On 11 September 2001, members of the terrorist group al-Qaeda perpetrated one of the deadliest attacks on U.S. soil. These terrorists commandeered four commercial passenger airliners, flying three of them into the North and South towers of the World Trade Center and the Pentagon, killing thousands, while the fourth airliner crashed into a field in Pennsylvania thanks to the heroism of its passengers, effectively preventing it from reaching its intended destination—the White House. Despite proving to be wholly ineffective to prevent the attack, NORAD played a crucial role on the fateful morning of September 11, working in close cooperation with the FAA to scramble aircraft from its North East Air Defense Sector (NEADS) in Rome, New York to intercept the hijacked airliners in New York and Washington.

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[242] U.S. National Commission on Terrorist Attacks upon the United States, *The 9/11 Commission Report: The Final Report of the 9/11 Commission,* Washington, D.C.: U.S. Government Printing Office, 2004, 16.
[243] William B. Scott, "NORAD, Fighters on High Domestic Alert," *Aviation Week & Space Technology* 155.14, 1 October 2001.
[244] Jockel, *Canada in NORAD, 1957-2007: A History,* 146.
[245] *The 9/11 Commission Report,* 16.

The Gaps and Shortcomings of Continental Defence

In 2004, the 9/11 Commission published the results of its inquiry into the attacks of September 11. The 9/11 Commission's eponymous report carefully chronicled the cooperative response of NORAD and the FAA, concluding that they "were unprepared for the type of attacks launched against the United States on September 11, 2001."[246] The Commission's minute-by-minute recollection of NORAD's and the FAA's actions as the events of the morning of September 11 unfolded reveals that "the NEADS air defenders had nine minutes' notice on the first hijacked plane, no advance notice on the second, no advance notice on the third, and no advance notice on the fourth."[247] The shortcomings of NORAD's and the FAA's preparedness is perhaps best illustrated by the circumstances surrounding the fourth hijacked airliner, United 93. United 93 was most likely hijacked at 9:28 and this fact was indeed made known to FAA headquarters by 9:34. But NEADS was not made aware of this hijacking until 10:07, four minutes after the aircraft crashed outside Washington at 10:03,[248] with NORAD not acquiring a shootdown authorization until 10:31.[249] If the heroism of United 93's passengers did not cause the aircraft to crash prematurely, it may be safe to conclude that the disastrous communication between the FAA and NORAD would have inhibited their ability to intercept United 93 before it reached its intended destination.

The terrorist attacks of that day illuminated gaps and shortcomings in the U.S.'s system of homeland and continental defence and security, which prevented the earlier detection of this threat and the mounting of a more effective response to the attacks as they were transpiring. The

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[246] Ibid., 45.
[247] Ibid., 31.
[248] Ibid., 33.
[249] United States Government Accountability Office, "Homeland Security: Progress Has Been Made to Address the Vulnerabilities Exposed by 9/11, but Continued Federal Action is Needed to Further Mitigate Security Risks." *Government Accountability Office,* GAO-07-375, January 2007, 38, http://www.gao.gov/new.items/d07375.pdf (accessed 7 October 2015).

most immediate and obvious shortcoming was NORAD's lack of forces. NEADS only had control over four of NORAD's fourteen total aircraft and those aircraft "had an area of responsibility (AOR) covering over one million square miles."[250] Such a small number of available forces with such a wide area of responsibility contributed greatly to NORAD's failure to respond effectively to the September 11 attacks. However, aside from these logistical or physical limitations that hindered an effective response on September 11, there were also more fundamental gaps or shortcomings with the approach towards homeland and continental defence and security utilized at the time.

First, succinctly summarized by the 9/11 Commission as a 'failure in imagination,' NORAD interpreted its missions historically in relation to external threats only, failing to recognize that threats emanating from the domestic interior of either Canada or the U.S. may pose just as big a security threat as external threats.[251] NORAD was not ignorant to the emergence of asymmetric threats to the security of North America. It accepted the fact that terrorists may come to use aircrafts as weapons or to deliver weapons of mass destruction (WMD), only it believed such threats would emanate from outside the continent, not from within.[252] As the 9/11 Commission discovered, the preparedness protocols for hijackings conformed to this preoccupation with external threats of a more traditional nature and therefore proceeded from the assumption that NORAD and the FAA would be provided with ample time to respond.[253] As with the Soviet bomber threat, the ability to respond in a timely manner where minutes and seconds could prove indispensable was a dictum that applied equally to other traditional and asymmetric threats in the air domain.

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[250] Mark J. Reents, "Operation Noble Eagle and the Use of Combat Air Patrols for Homeland Defense," (Master's Thesis, Naval Postgraduate School, 2008), 16.
[251] *The 9/11 Commission Report,* 16.
[252] Ibid., 17.
[253] Ibid., 18.

Second, the events of September 11 exposed the flaws, gaps, and shortcomings of the U.S. intelligence apparatus that constitutes such a critical, invaluable component of homeland and continental defence and security. All of the defence, security, and intelligence agencies, in both the U.S. and Canada, failed to discover in advance the plan to conduct the attacks of September 11. However, this was not due to the information not being available. Rather, the problem was that there was too much information and it was not being shared adequately among the appropriate agencies. There were several factors underlying the lack of information sharing in the intelligence community including, but not limited to, the fact that the intelligence community was "stove-piped" or over-fragmented, devoid of an actor that could provide "an integrated, all-source analysis of information,"[254] as well there being insufficient mechanisms and a general reluctance for agencies to share the information that they had among each other.[255]

The Americans immediate response to counteract these gaps in intelligence and the broader shortcomings of homeland security was to create a new federal, cabinet department called the Department of Homeland Security (DHS). Stood up in November 2002, the DHS was to centralize the activities of an array of U.S. agencies and state contacts responsible for various aspects of homeland security. After reorganizing the responsibilities and activities of these various agencies, the DHS had seven federal agencies under its auspice: the U.S. Citizen and Immigration Services (USCIS), the U.S. Customs and Border Protection (USCBP), the U.S. Immigration and Customs Enforcement (ICE), the Transportation Security Administration (TSA), the USCG, the U.S. Secret Service (USSS), and the Federal Emergency Management Agency (FEMA). On the other side of the 49th parallel, Canada followed suit with its establishment of the

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[254] Hans de Bruijn, "One Fight, One Team: The 9/11 Commission Report on Intelligence, Fragmentation and Information," *Public Administration* 84.2 (2006), 269-270.
[255] Ibid.

Department of Public Safety and Emergency Preparedness in 2003 with the intent to centralize much of its domestic security activities.

The 9/11 Commission Report, which presents perhaps the most detailed and comprehensive overview of these intelligence failures and the deficiencies of the U.S. intelligence community, does not explicitly reference or condemn NORAD in its exposé of the community's gaps and shortcomings. However, the deficiencies of the intelligence community are presented as systemic, affecting the entire system. As a result, the report does not necessarily exonerate NORAD, the FAA, or other unmentioned agencies from being party to these intelligence failures.

To the contrary, the mechanisms and procedures in place for NORAD and the FAA to share information and communicate on September 11 demonstrate that they were indeed subject to these shortcomings. For instance, in the case of a hijacking within the domestic interior of the U.S., "NORAD depended on information from the FAA, but the FAA was not a part of the infrastructure for defense against foreign attack."[256] There were no mechanisms or procedures in place for direct FAA to NORAD communication in the event of a hijacking. Once a hijacking was internally verified within the FAA, they would request military assistance from the National Military Command Center (NMCC) and, following approval from the Office of the Secretary of Defense, "the orders would be transmitted down NORAD's chain of command."[257] Even after the initial establishment of a military response to a hijacking, communication between the FAA and NORAD would still not be direct and NORAD would not have the FAA's radars fed directly into their system:

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[256] Stephen E. Atkins, *The 9/11 Encyclopedia*, 2nd edition, (United States of America: ABC-CLIO, 2011), 328.
[257] *The 9/11 Commission Report,* 18.

> The NMCC would keep the FAA hijack coordinator up to date and help the FAA centers coordinate directly with the military. NORAD would receive tracking information for the hijacked aircraft either from joint use radar or from the relevant FAA air traffic control facility.[258]

Rather than direct, real-time FAA to NORAD communication, the NMCC would act as a communication conduit between the two agencies in the event of a hijacking.

Even though NORAD and the FAA had access to some of each other's radar data, largely by way of the shared JSS (which did not cover the continental interior)[259] and from the FAA as needed or upon request, that information sharing was limited. The functional-technical drive that drove the creation of NORAD, the need to centralize the monitoring and control of continental airspace within a single hub to facilitate the quickest and most effective response to air based threats, did not drive pre-9/11 plans for dealing with hijackings within the domestic interior. Even if centralization to the same degree as was required to deal with the Soviet bomber threat was not possible, more proactive action was needed to break down the barriers between the relevant agencies, specifically NORAD and the FAA, for a more expeditious response to internal hijackings. Indeed, the need to strengthen and refine intelligence and data collection functions, and to establish more effective mechanisms to share and communicate information would come to exert considerable influence over NORAD's future with regard to the monitoring and control of internal airspace and maritime warning.

A Common Problem and a Binational Solution

Monitoring and controlling the airspace of the continental interior was, and still is, a functional-technical issue of mutual concern to Canada and the U.S. Historically, U.S. border concerns were overwhelmingly focused on the U.S.-Mexico border, while the U.S.-Canada

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[258] Ibid.

[259] Jockel, *Canada in NORAD, 1957-2007: A History,* 168.

border remained low-profile, inconspicuous, and far from the minds of U.S. politicians and its

populace. Quickly following the September 11 attacks, the Canada-U.S. border was nearly shut

down which created serious concerns for businesses, especially on the Canadian side. Peter

Andreas provides a compendious summary of the immediate consequences the September 11

attacks had on the Canada-U.S. border:

> After the September 11 attacks, U.S. border inspectors were put on a level 1 Alert,
> defined as a "sustained, intensive, antiterrorism operation." The predictable result was a
> dramatic slowing of cross-border traffic. The United States and Canada conduct 1.3
> billion worth of two-way trade a day, most of which is moved by truck across the border.
> Some 40,000 commercial shipments and 300,000 people cross the 40,000 mile-long U.S.-
> Canada border every day. In the days after the attacks, delays for trucks hauling cargo
> across the border increased from 1-2 minutes to 10-15 hours, stranding parts, shipments,
> and perishable goods. For example, trucks were backed up for 36 kilometers at the
> Ambassador Bridge linking Windsor, Ontario and Detroit.[260]

Following the September 11 attacks and with the U.S.'s renewed focus on increasing homeland

security, its shared border with Canada quickly became an object of public attention.

Aside from the immediate economic impact felt on September 11 and the following days

as trade came to a near standstill, there was the concern that the event would have long-term

economic implications. In the wake of such a devastating breach of homeland security there was

a very real possibility that the U.S. would take concrete measures to thicken the Canada-U.S.

border, which would invariably slow and increase the costs of future trade.

Canada's concern that the U.S would strengthen their shared border was also fuelled by

the quickly promulgating claim that some of the September 11 terrorists found transit into the

U.S. through Canada. These claims began to be tossed around almost instantly after the attacks,

with major publications such as the *Boston Globe*, *Washington Post*, and *New York Post* having

been found to be but the firsts to propagate these ideas to the U.S. populace on 13, 14, 16

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[260] Peter Andreas, "A Tale of Two Borders: The U.S.-Canada and U.S.-Mexico Lines after 9-11" in *The Rebordering of North America: Integration and Exclusion in a New Security Context*, edited by Peter Andreas & Thomas J. Bierstelker (United States: Routledge, 2003), 9-10.

September 2001, respectively.[261] Although the 9/11 Commission would prove these claims wrong in their 2004 report when it found that none of the terrorists found their way into the U.S. from Canada, such concerns were legitimate and worthy of serious consideration in the wake of the attacks when the true facts were not yet known. As such, despite the falsity of such statements, Canada needed to take action to assure the U.S. that terrorists would not be able to find safe haven in Canada, and that their common border would not continue to be perceived as a weak point or leaky, becoming a point of entry for terrorists in the U.S., or that terrorist attacks would not emanate from Canada. Of course, Canada itself could not presume that it would be immune to orchestrated terrorist attacks in the future. As September 11 demonstrated, a terrorist attack in either Canada or the U.S. would quickly become an issue of mutual concern, affecting them both significantly. In the wake of the September 11 attacks and as both Canada and the U.S. were taking steps to improve their system of homeland and continental defence and security, a binational approach to monitoring and controlling the airspace of North America's interior could be viewed as but one cost-effective, functional-technical means of addressing this mutual concern.

In the days following the September 11 attacks and in line with its more inclusive approach towards air defence, NORAD provided round-the-clock monitoring and control of the continent's internal airspace as part and parcel of the U.S.'s Operation Noble Eagle; the blanket designation "given to military operations related to homeland security and support to federal, state, and local agencies in the wake of the September 11th attacks."[262] Under the command and control of NORAD and with the cooperation of the Air National Guard, reservists, and other Air

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[261] Doug Struck, "Canada Fights Myth that it was 9/11 Conduit: Charge Often Repeated by U.S. Officials," *Washington Post,* 9 April 2005.

[262] U.S. Library of Congress, Congressional Research Service, *Operations Noble Eagle, Enduring Freedom, and Iraqi Freedom: Questions and Answers About U.S. Military Personnel, Compensation, and Force Structure,* by Lawrence Kapp, RL31334 (16 February 2005), 1.

Force squadrons, Operation Noble Eagle originally entailed 220 aircraft patrolling U.S. cities and

critical infrastructure on a daily basis, but was eventually whittled down to "a minimum of 32

fighters (plus 16 spare jets), along with eight refueling tankers, and two AWACS aircraft on

constant alert."[263] What initially showed no indication of permanence, Operation Noble Eagle

became institutionalized as an ongoing show of force and NORAD continues to monitor and

control the internal airspace of North America to this day. It has also become standard practice

for NORAD to fly air defence missions in support of major events and in close cooperation with

civil and law enforcement agencies, referred to as National Special Security Events, held within

Canada and the U.S. that may be possible targets for terrorists.[264] Such was the case with the

2010 Winter Olympic Games held in Vancouver, Canada,[265] which was relatively close to the

Washington border and Seattle, Superbowl XL held in Detroit, Michigan, a stone's throw away

from Windsor, Ontario, and events that find many political leaders congregating in a single area,

such as the G-8 Summit.[266]

      Moving towards monitoring and responding to all aircraft within the continental interior

was a task that was made all the more natural and logical following measures undertaken by

NORAD in support of its drug interdiction mission at the tail-end of the 1980s. In order to

monitor and respond to aircraft utilized to transport narcotics in and out of North America,

NORAD had to unchain itself from the 180-knot speed rule to identify possible air threats.

Although NORAD was not monitoring and responding to suspicious aircraft within the

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[263] Reents, "Operation Noble Eagle and the Use of Combat Air Patrols for Homeland Defense,"
22 & 24.
[264] North American Aerospace Defense Command, Office of History, *A Brief History of
NORAD: As of 31 December 2012,* 9,
http://www.norad.mil/Portals/29/Documents/History/A%20Brief%20History%20of%20NORAD
.pdf (accessed 8 October 2015).
[265] Elinor Sloan, "Continental and homeland security: From Bush to Obama," *International
Journal* 64.1 (Winter, 2008/2009), 198.
[266] _____, "NORAD supports Super Bowl XL," *Canada NewsWire,* 31 January 2006.

continental interior, it was indeed monitoring and responding to suspicious aircraft of any nature

in the continental exterior, not just military-grade aircraft capable of traveling at or above 180-

knots. NORAD was already prepared and seasoned in monitoring and responding to personal or

commercial aircraft that would most likely be utilized by terrorists in an asymmetric attack. As

such, expanding its focus towards all types of aircraft within both the continental interior and

exterior could be interpreted as only an expansion of scope, which for NORAD to accommodate

required modest upgrades to its assets and procedures.

 Orienting itself towards concentrating on the continental interior and executing Operation

Noble Eagle required NORAD to reinforce and expand on cooperation with civilian agencies and

law enforcement agencies. Cooperation with civilian agencies began in earnest in the late 1980s

with NORAD's foray into drug interdiction. Such cooperation involved establishing protocols

and procedures, and building the required infrastructure to communicate and coordinate with the

American and Canadian agencies that had a role in the drug interdiction effort. As a result,

NORAD was already experienced in domestic and cross-border cooperation with civilian

agencies in a large part due to this history of drug interdiction, but also as a result of other

periodic instances of cooperation with civilian agencies that were more limited in scope, such as

the protocols developed in the 1990s with the FAA on how to respond to traditional hijackings.

Expanding its air monitoring and control mission to include a focus on the continental interior

necessitated even more complicated forms of interdependence and further integration with

civilian agencies. Indeed, in an article from 2012 in the *Canadian Military Journal,* recently

retired Deputy Commander-in-Chief NORAD (DCINCNORAD), Lieutenant-General Thomas

Lawson, and Captain Michael Sawler, a manager with NORAD J3 (Operations), assert that the

September 11 attacks have been directly responsible for NORAD's closer integration with civil

and law enforcement agencies and has found the command exchanging representatives and establishing "strong ties with organizations such as the FAA, the Transportation and Security Administration (TSA), the Department of Homeland Security (DHS), the CIA, NAV Canada, TC, and the RCMP."[267]

Most significant among NORAD's moves toward greater cooperation with civil and law enforcement agencies was the more integrated cooperation that was established between NORAD and the FAA following the communication and coordination difficulties that occurred between them on September 11. Now that the scope of NORAD's mission was expanded to include the continental interior and there was an acceptance that asymmetric threats posed a real danger to North America, NORAD had to increase its cooperation with the FAA to create a better, more comprehensive awareness of internal airspace and to quicken its response time to these potential threats. As then NORAD Commander during 9/11, Ralph E. Eberhart[268], asserted in 2002: "We have increased our radar coverage; designed ways [to route FAA radar data] into our facilities so we see what they see; and increased our connectivity, our coordination and collaboration with the FAA."[269]

As of 2002, NORAD, which previously only had direct access to joint-radar data through the JSS, was "linked to 51 long-range FAA radars throughout the nation's interior."[270] The FAA's radars monitoring U.S. internal airspace have since been integrated directly into NORAD

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[267] Thomas Lawson and Michael Sawler, "NORAD in 2012 – Ever Evolving, Ever Relevant" *Canadian Military Journal* 12.3 (2012), 11.

[268] Note, to reflect the significance of the actions of NORAD on September 11, the NORAD/USNORTHCOM building at Peterson Air Force base in Colorado Springs was renamed the Eberhart-Findley building in 2012 to reflect the surnames of the Commander and Deputy-Commander of NORAD on September 11.

[269] Leslie Miller, "Military now notified immediately of unusual air traffic events," *Associated Press*, 8 December 2002.

[270] William B. Scott, "Norad and FAA Sharpen View Inside Borders," *Aviation Week & Space Technology* 156.23, 10 June 2002.

for the use of the Continental US NORAD Region (CONR).[271] Integrating FAA radar data into

NORAD's current operating picture required NORAD and its sectors to acquire new, novel

assets, initially in the form of the NORAD Contingency Suite, installed at "NORAD's three

Sector Operations Control Centers (SOCC) and its Air Operations Center (AOC)."[272] The

NORAD Contingency Suite, an interim command and control (C2) system, and the JSS[273] have

since been replaced by the Battle Control System-Fixed (BCS-F), a "$60 million national

airspace defense system, meant to marry Federal Aviation Administration (FAA) and NORAD

radars with Air Force monitoring and defense capabilities."[274] NORAD's new C2 platform,

BCS-F, is integral to integrating civil/military assets for continental defence and security and

NORAD's monitoring and control of continental airspace, correlating and fusing "data from

airborne, ground and naval elements and civil air traffic sensors into an integrated air picture that

allows commanders to surveil and monitor the airspace above, beyond and within the U.S. and

Canadian borders."[275] Moreover, steps have been made toward improving "the ability of NEADS

and other Conar [sic] sector personnel to receive data link information from aircraft,"

complementing the increased radar information now available from the FAA and contributing to

a much more comprehensive operating picture of continental airspace.[276]

Communication and coordination were also improved following September 11. As an

official with the FAA announced near the end of 2002, NORAD and the FAA were "now linked

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[271] Jockel, *Canada in NORAD, 1957-2007: A History,* 168.
[272] Eric C. Firkin and Margaret M. McMahon, "Network Centric Warfare for Coalition Integrated Defense Against Terrorism," *Raytheon Solipsys,* September 2004, 20. http://www.dtic.mil/dtic/tr/fulltext/u2/a466526.pdf (accessed 7 October 2015).
[273] Lawson and Sawler, "NORAD in 2012 – Ever Evolving, Ever Relevant," 8.
[274] Michael Fabey, "Air space defense system now shielding CONUS, AF says," *Aerospace Daily & Defense Report* 221.49, 14 March 2007.
[275] _____, "ThalesRaytheonSystems' New Battle Control System-Fixed Passes U.S. Air Force Interoperability Tests; Is Certified for Military and Homeland Security Missions," *PR Newswire,* 7 December 2005.
[276] Scott, "Norad and FAA Sharpen View Inside Borders."

up telephonically 24 hours a day, seven days a week, so anything that's an anomaly or a suspected anomaly that's found in the system, NORAD knows about it as quickly as we do."[277] NORAD has since moved away from the pre-September 11 procedures that did not allow for the FAA to directly notify the command when any suspicious activity in the skies were detected. Instead NORAD had to rely first on the FAA to verify the threat internally and then the NMCC to act as a communications conduit between the two actors. Today, NORADHQ's Combat Operation's Centre possesses "a noncommissioned officer [who] listens to conversations on the FAA network from all over the United States," which acts to facilitate more expeditious responses to potential air-based threats.[278] The FAA now also keeps a representative at NORADHQ's Combat Operation's Centre for 16 hours a day (down from an initial 24 hours), which works to streamline the flow of information and communication between the two organizations, while the FAA's 21 air traffic control centres are now in possession of air control squadron personnel "to help direct military air operations in concert with AWACS and FAA controllers."[279] The United Nations' International Civil Aviation Organization (ICAO) has placed great emphasis on the role that these FAA Air Traffic Security Coordinators (ATSCs) have now assumed in NORAD's and the FAA's push to increase the defence and security of continental airspace, explaining that they act to "facilitate rapid coordination and information exchange among the participating civil/military agencies, thereby enhancing the ability of these agencies to fulfil their own air security or defence responsibilities in the prevention, deterrence and, where necessary, interdiction of air threats."[280]

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[277] Miller, "Military now notified immediately of unusual air traffic events."
[278] Ibid.
[279] Scott, "NORAD and FAA Sharpen View Inside Borders."
[280] United Nations, "Civil/Military Cooperation in Air Traffic Management," *International Civil Aviation Organization* CIRC330, AN/189, 2011, 27, http://www.icao.int/APAC/Meetings/2012_CMC/CIR330_en.pdf (accessed 7 October 2015).

Lastly, there is also the Domestic Event Network (DEN) and the Defense Red Switch

Network (DRSN) that have facilitated communication and cooperation between NORAD and

other defence, civil, and law enforcement agencies. The DEN was sponsored and established by

the FAA and grew out of the "conference call on the morning of 9/11 to coordinate the federal

response to the hijacked aircraft."[281] The DEN is a teleconference system designed to facilitate

cooperation and communication between a number of federal, state, and local agencies in the

case of air based threats or incidents within the continental U.S.[282] Now an indispensable

component of interagency communication for U.S. homeland and continental defence and

security, the DEN provides an array of federal agencies and even domestic air carriers the ability

to share information and communicate between each other in real time, NORAD included.[283]

The DRSN, on the other hand, is another teleconference system that is described as a "secure,

classified network administered by the DoD that allows multiple agencies to discuss intelligence

information over a secure line" utilized by NORAD and other agencies and commands for

Operation Noble Eagle.[284]

As a binational organization, NORAD is positioned to interact with the relevant civilian

and law enforcement agencies on the both sides of the border. Demonstrated by NORAD's role

and experience in drug interdiction, NORAD possesses the unique ability to coordinate not only

with the FAA and civilian agencies on the American side of the border, but with Canadian civil

and law enforcement agencies as well. To expand its operating picture of the airspace of the

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[281] United States Government Accountability Office, "Homeland Security: Progress Has Been Made to Address the Vulnerabilities Exposed by 9/11, but Continued Federal Action is Needed to Further Mitigate Security Risks," 38.
[282] Part 245—Plan for the Emergency Security Control of Air Traffic, *Code of Federal Regulations,* National Defense, title 32, sec. 191.1 (2010): 549.
[283] United States Government Accountability Office, "Homeland Security: Progress Has Been Made to Address the Vulnerabilities Exposed by 9/11, but Continued Federal Action is Needed to Further Mitigate Security Risks," 38.
[284] Ibid.

continental interior NORAD did not only integrate the FAA's internal operating image of the U.S. and radar data into its air defence systems, but the radars and capabilities of Canada's civil air navigation service, NAVCANADA, as well.[285] Moreover, just as the FAA's ATSCs are assigned to each NORAD sector's operating centre, NAVCANADA now also places representatives physically at each NORAD sector to help streamline information sharing and communication with NORAD and to contribute to the identification of suspicious aircraft.[286] In sum, NORAD has taken great strides in increasing cooperation with civil and law enforcement agencies in Canada, specifically NAVCANADA, TC, and the RCMP, to enhance its ability to monitor and control the airspace of North America.

Conclusion

Such a prescribed focus on external threats, the shortcomings of the intelligence community, and the lack of real-time communication between agencies handicapped the preparedness of NORAD to respond to the September 11 attacks. Rather than Canada or the U.S. creating a new national or binational agency tasked with the surveillance, warning, and air defence of internal air space, NORAD automatically assumed this role. It was not a political decision imposed from above. Rather, it was a natural extension of its previous functional responsibilities in the monitoring and control of external airspace, especially in light of the changes the command undertook in support of its drug interdiction mission. An alternative, and perhaps more accurate, perspective is that shifting to a focus on all continental airspace, both external and internal, was simply correcting for what NORAD's mission suite should have been

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[285] Lawson and Sawler, "NORAD in 2012 – Ever Evolving, Ever Relevant," 10.
[286] Ibid., 10 & 11; Norman M. Wade, *HDS1: The Homeland Defense and DSCA Smartbook: Protecting the Homeland/Defense Support to Civil Authority* (United States of America: The Lightening Press, 2015), 1-44.

all along, as the NORAD Agreement had never explicitly made a distinction between external and internal airspace.

In either case, as an integrated, binational organization, NORAD was already carrying out similar tasks to what was required for the monitoring and control of the airspace of the continental interior. Adapting to include a focus on the continental interior was made all the easier for NORAD as it was a permanent joint-institution, with existing protocols, experience, common ROEs, assets and personnel, and subject to a multitude of existing agreements between Canada and the U.S. concerning elements such as information-sharing. Moreover, even though communication and coordination between NORAD, the FAA, and other civil and law enforcement agencies was lacking on September 11, there was an established foundation of cooperation with civil and law enforcement agencies to build upon from its experience in drug interdiction and its limited preparations for dealing with internal hijackings and other contingencies in the air domain. This experience and NORAD's position as a binational command lowered the transaction costs of cooperating with other civilian agencies on both sides of the border, including NAVCANADA and the RCMP for instance. The transaction costs of orchestrating an effective, cooperative system of defence and security of the continental interior was reduced considerably by NORAD's adaptation to the day's new functional-technical requirements for continental defence and security.

Chapter Five: A Novel Maritime Warning Mission

On 1 October 2002, just over a year after the September 11 attacks, the U.S. government established a new military command, U.S. Northern Command (USNORTHCOM), tasked with deterring, preventing, and defeating "threats and aggression aimed at the United States, its territories, and interests."[287] The area of responsibility that USNORTHCOM has been assigned is extensive, if not daunting, comprising "all air, land and sea approaches to North America, encompassing the continental U.S., Alaska, Canada, Mexico and the surrounding water areas out to approximately 500 nautical miles."[288] In order to meet its defence and aid of civil authorities' (DSCA) responsibilities in the air, land, and maritime domains, USNORTHCOM has nine different units placed under its command: 1) U.S. Special Operations Command, North (SOCNORTH); 2) U.S. Marine Forces Northern Command (MARFORNORTH); 3) U.S. Fleet Forces Command/U.S. Navy North (USFF); 4) Air Forces Northern; 5) U.S. Army North (Fifth Army); 6) Joint Task Force North (JTF North); 7) Joint Task Force Civil Support (JTF-CS); 8) Joint Task Force Alaska (JTF-AK); and 9) Joint Force Headquarters National Capital Region (JFHQ-NCR).[289]

As NORAD has operational control over the airspace of North America and since USNORTHCOM's AOR encompasses the airspace and air approaches of North America, the establishment of close ties and cooperation between the two commands was only natural. To this end, just as CINCNORAD had been dual-hatted as Commander in Chief of U.S. Space Command (CINCUSSPACECOM) from the establishment of that command in 1985 up until its

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[287] United States Northern Command, Office of History, *A Short History of United States Northern Command,* 4, http://www.northcom.mil/Portals/28/Documents/A%20Short%20History%20of%20USNORTH COM%20(current%20as%20of%20March%202014).pdf (accessed 22 November 2015).
[288] Ibid., 5.
[289] United States Northern Command, "About U.S. NORTHCOM," http://www.northcom.mil/AboutUSNORTHCOM.aspx (accessed 22 November 2015).

absorption into U.S. Strategic Command (USSTRATCOM) in 2002, the Commander in Chief of USNORTHCOM (CINCUSNORTHCOM) was dual-hatted as CINCNORAD as well. As a result, USNORTHCOM's headquarters was established at Peterson Air Force Base in Colorado Springs, Colorado, where U.S. Space Command (USSPACECOM) had previously resided, a half-hour's drive away from NORADHQ at the Cheyenne Mountain Air Force Station. In 2006, at the behest of CINCNORAD and CINCUSNORTHCOM, Admiral Timothy Keating, NORAD and USNORTHCOM were brought together within a single command centre at Peterson Air Force Base, largely in an attempt to forestall a repeat of the difficulties CINCNORAD Eberhart faced on September 11, which found him bouncing between the NORAD and USSPACECOM headquarters, preventing him from effectively carrying out his duties and communicating with the necessary officials and agencies.[290]

Despite the close relationship that was established between NORAD and USNORTHCOM, the creation of the latter was in part a necessary response to Canada's refusal of a U.S. political initiative, championed by then U.S. Secretary of Defense Donald Rumsfeld, to expand NORAD's mission suite to include the defence of the continent's land and maritime domains. Philippe Lagassé, an associate professor of political science at the University of Ottawa, reveals how Rumsfeld was searching for methods of improving U.S. homeland and continental defence and security following the September 11 attacks and was particularly receptive to an idea presented to him in October 2001 by NORAD planners "to expand NORAD to include a comprehensive, binational defence of the continent's land mass and maritime approaches."[291] Rumsfeld subsequently presented this option to create what would effectively be a 'North

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[290] Ibid., 8-9.
[291] Philippe Lagassé, "A Common 'Bilateral' Vision: North American Defence Cooperation, 2001-12" in *Game Changer: The Impact of 9/11 on North American Security,* ed. Jonathan Paquin and Patrick James (Vancouver: University of British Columbia Press, 2014), 194

American Defense Command' to the Canadian Minister of National Defence, Art Eggleton, in an October 2002 letter, which was "quietly declined" by Eggleton two months later due to concerns that "Canada was not yet prepared to expand NORAD."[292] With this Canadian rejection in Rumsfeld's hands, a political avenue towards expanding Canada-U.S. binational defence cooperation to the land and maritime domains effectively petered out. However, this was the first step towards NORAD once again expanding its mission mandate, this time into the maritime domain with a maritime warning mission.

NORAD's maritime warning mission marks the binational command's largest deviation from its original purpose as a Canada-U.S. integrated air defence command tasked with aerospace monitoring, warning, and control for North America. While NORAD's move towards drug interdiction and the continental interior constituted significant changes to the command's mission suite, these new responsibilities still took place within the air domain, thus continuing to reinforce and preserve NORAD's defining characteristic as an air defence command. The addition of these two new missions, the air defence of the continental interior and air support for drug interdiction, did not indicate that NORAD was shifting away from the air domain, but rather that the command was shifting its conception of what air-based threats were most immediately threatening to North America. As the Soviet Union collapsed and the distinction between defence and security was progressively blurring, no longer was NORAD fixated upon the Soviet threat and it was gradually expanding its horizons towards dealing with all contingencies in the air domain.

Maritime warning saw NORAD making an unprecedented move into a new theatre: the maritime domain. The logic behind NORAD's acquisition of this novel maritime warning mission can continue to be attributed to the command's binational nature. NORAD's binational

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[292] Ibid.

nature means that it is a formal institution, created and operated by Canada and the U.S. that due to its unique institutional attributes can be positioned to focus upon limited functional-technical tasks in the cooperative defence of the North American continent. NORAD's experience in the air domain has revealed its ability to execute specific functional-technical tasks that can reduce, if not overcome, substantially and meaningfully, the constraints that time, geography, and coordination places on continental and homeland defence and security. Maritime warning finds NORAD repurposing its position as a binational command, its institutional experience to date, and its functional strengths in continental aerospace defence towards a functional-technical task that is only modestly different than its aerospace counterpart. NORAD's maritime warning mission aims to reduce the constraints hindering Canada's and the U.S.'s ability to construct an effective system of maritime security and Maritime Domain Awareness (MDA).

North American Maritime Security

Maritime warning is a component of MDA, which itself is a subset of overall maritime security. Providing an overview of the history and development of U.S. and Canadian maritime security is beyond the scope of this thesis. Even providing a comprehensive overview of maritime security since September 11 is impractical, as maritime security covers such a broad range of areas of focus and activities, each deserving of lengthy, individual attention. While such an extensive understanding may be useful to have, it is arguably not necessary to understand NORAD's maritime warning mission. Rather, in this context it is more appropriate to provide a general, condensed overview of maritime security in the U.S. and Canada post-September 11, with a specific focus upon MDA and the agencies involved to highlight where NORAD and its maritime warning mission stand as a function of the current North American MDA environment.

The maritime domain is defined by the U.S. as "all areas and things of, on, under, relating to, adjacent to, or bordering on a sea, ocean, or other navigable waterway, including all maritime-related activities, infrastructure, people, cargo, vessels, and other conveyances."[293] As the term so clearly communicates, MDA is concerned with creating a holistic awareness of the maritime domain. The U.S. and joint Canada-U.S. definitions of MDA, as set forth in the 2013 *National Maritime Domain Awareness Plan* (*NMDAP*) and the *Interim BPG Report,* respectively, are identical aside from the substitution of "United States" for "CANUS," with MDA understood to be "the effective understanding of anything in the maritime environment that could adversely affect CANUS security, safety, economy or environment."[294] The Canadian definition of MDA, as offered by TC, is only modestly different:

> Maritime domain awareness means having true and timely information about everything on, under, related to, adjacent to, or bordering a sea, ocean or other navigable waterway. This includes all related activities, infrastructure, people, cargo, vessels, or other means of transport. For marine security, it means being aware of anything in the marine domain that could threaten Canada's national security.[295]

While the Canadian conception of MDA conveys the same general idea as the U.S. and Canada-U.S. definition, it adds the provision that in order to construct an effective awareness of the maritime domain and to facilitate an efficient response to any potential maritime threat the required information must be accurate and correct, and must be collected, disseminated, evaluated, understood, and acted upon in a timely manner. To be sure, the U.S. emphasizes this time-sensitive and accurate component of MDA elsewhere in the *NMDAP* and asserts that "information must be collected, fused, analyzed, protected, and disseminated so that decision-

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[293] United States, The White House, *National Maritime Domain Awareness Plan for the National Strategy for Maritime Security*, December 2013, iv.
[294] Canada and the United States, Bi-National Planning Group, *Interim Report on Canada and the United States (CANUS) Enhanced Military Cooperation,* 13 October 2004, 36.
[295] Canada, Transport Canada, "Maritime Security Initiatives: Maritime Domain Awareness," last modified 11 May 2012, https://www.tc.gc.ca/eng/marinesecurity/initiatives-235.htm (accessed 22 November 2015).

makers are able to anticipate potential threats and take effective and appropriate action."[296] MDA

is indispensable as it enables the maritime community to respond to any impending maritime

threat in a timely and efficient manner.

Maritime security and MDA are, if anything, characterized by the large number of actors

involved. All of these actors engage in extensive interagency cooperation and communication on

either the 'left side of bang' (the detection phase where bang represents the threat) or the 'right

side of bang' (the response phase), with a majority of them pulling double duty as key figures on

both sides.[297] These actors include defence commands and agencies, federal, state/provincial, and

municipal civil and law enforcement agencies, and the private sector. As the U.S. *Strategy for*

Homeland Defense and Defense Support of Civil Authorities asserts: "The *maritime domain* is

multi-jurisdictional, with various U.S. agencies responsible for tracking maritime traffic,

including vessels, cargo and people, from port of origin to arrival in the United States."[298]

On the defence side of the equation for the U.S. is the DoD and all of the commands

under its purview, including USNORTHCOM and USFF, USTRATCOM, U.S. Pacific

Command (USPACOM), the U.S. Navy (USN), and the USCG.[299] They utilize their capabilities

and resources to collect intelligence on maritime activities, contributing to MDA and the U.S

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[296] United States, *National Maritime Domain Awareness Plan for the National Strategy for Maritime Security*, 10.
[297] The idioms 'left side of bang' and 'right side of bang' are intended to reflect the period of time before and after a maritime threat presents itself. 'Left side of bang' is the period of time preceding a threat. For maritime security the "left side of bang" is MDA and consists of information collection and analysis, the recognition of maritime threats, and the warning of such threats. 'Right side of bang' is the period of time immediately following the recognition and warning of a threat. It is here that actors mobilize and actions are taken to respond actually to the threat, which in the context of maritime security would be MOTR and MERP.
[298] United States, Department of Defense, *Strategy for Homeland Defense and Defense Support of Civil Authorities*, February 2013, 11.
[299] Andrea Charron, James Fergusson, and Nicolas Allarie, "'LEFT of BANG:' NORAD's Maritime Warning Mission and North American Domain Awareness," *Centre for Defence and Security Studies*, 8 October 2015, 30.

maritime Common Operating Picture (COP), as well as being instrumental to the right side of

bang. The civil agencies that partake in maritime security and MDA are even more extensive.

One of the main actors is the DHS which "brings together at least 22 federal agencies in the

effort to secure the U.S. homeland," including the USCG, USCBP, USCIS, and FEMA.[300] Other

federal civil agencies that play central and ongoing roles are the Director of National Intelligence

(DNI), the DOJ, the USDoT, the USDoT Maritime Administration (MARAD), the DEA, the

USCBPS, the National Maritime Intelligence Center (NMIC), the National Maritime

Intelligence-Integration Office (NMIO), the U.S. Department of State (DoS), the Maritime

Security Interagency Policy Committee (MSIPC), and the Maritime Domain Awareness

Executive Steering Committee (MDA ESC).[301] Moreover, up to seventeen, federal intelligence

agencies and organizations, including the CIA and FBI, are active participants in MDA,[302] while

numerous "[s]tate and local governments also provide a variety of crisis response organizations

and capabilities, as well as police and forensics experts to facilitate and enhance MDA goals."[303]

Although maritime defence and security are long-standing areas of focus for both Canada

and the U.S., the current MDA environment as it operates today, with a greater focus upon

interagency cooperation among and between defence and security agencies, began arguably on

21 December 2004. On this day U.S. President George W. Bush signed the *National Security*

Presidential Directive-41/Homeland Security Presidential Directive-13 (*NSPD-41/HSPD-13*)*,*

which focused upon the subject of Maritime Security Policy and directed "the coordination of

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[300] Ibid., 31.
[301] Francis J. Campion, "Strategic Maritime Domain Awareness: Supporting the National Strategy for Maritime Security," (Master's Thesis, U.S. Army War College, 2008), 13, and; Charron, Fergusson, and Allarie, "'LEFT of BANG:' NORAD's Maritime Warning Mission and North American Domain Awareness," 27-33.
[302] Charron, Fergusson, and Allarie, "'LEFT of BANG:' NORAD's Maritime Warning Mission and North American Domain Awareness," 27 and 29.
[303] Campion, "Strategic Maritime Domain Awareness: Supporting the National Strategy for Maritime Security," 13.

United States Government maritime security programs and initiatives to achieve a comprehensive and cohesive national effort involving appropriate Federal, State, local, and private sector entities."[304] In accordance with this effort to guarantee the security of the U.S. in the maritime domain and to protect its maritime interests, this presidential directive initiated two primary actions. First, it formally established the Maritime Security Policy Coordinating Committee (MSPCC) (later the MSIPC), which it tasked "as the primary forum for interagency coordination of the implementation of this directive."[305] Second, it called for a comprehensive and interagency effort, led by the MSPCC, to construct a *National Strategy for Maritime Security* (*NSMS*) that focuses upon eight individual, yet interdependent, policy plans: the *National Plan to Achieve Maritime Domain Awareness* (*NPAMDA*), the *Global Maritime Intelligence Integration Plan* (*GMII*), the *Maritime Operational Threat Response Plan* (*MOTR*), the *Domestic Outreach Plan* (*DOP*), the *International Outreach and Coordination Strategy* (*IOCS*), the *Maritime Infrastructure Recovery Plan* (*MIRP*), the *Maritime Transfer System Security Recommendations* (*MTSSR*), and the *Maritime Commerce Security Plan* (*MCSP*).[306] The *NSPS* and its supporting implementation plans were completed and released in the following couple of years, putting into motion a national, interagency effort to enhance maritime security, with the *NPAMDA*, *GMII*, and *MOTR* in particular forming the foundation of maritime security and MDA.

NSPD-41/HSPD-13 has since been replaced by *Presidential Policy Directive-18* (*PPD-18*) on Maritime Security, under the administration of U.S. President Barack Obama on 14 August 2012. *PPD-18* does not deviate far from the policy approach to maritime security set

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[304] United States, The White House, *National Security Presidential Directive NSPD-41 / Homeland Security Presidential Directive HSPD-13: Maritime Security Policy,* 21 December 2004, 1.
[305] Ibid., 3.
[306] Ibid., 4-8. See also, United States, The White House, *Presidential Policy Directive/PPD-18: Maritime Security,* 14 August 2012. 4-5.

forth in *NSPD-41/HSPD-13*. Indeed, aside from calling for the development of two maritime frameworks to address the Caribbean Region maritime migration response and piracy off the Horn of Africa, *PPD-18* primarily concerns itself with "reaffirming the 2005 *National Strategy for Maritime Security* (*NSMS*), including its definition of maritime domain, while providing guidance and responsibility to update/consolidate its eight supporting plans."[307] To this end, the *NSMS* saw its supporting implementation plans reduced from eight to seven with the amalgamation of the NPAMDA and the GMII into a single *National Maritime Domain Awareness Plan* in December 2013, which is intended to provide "the framework for collaboration to appropriately share and safeguard information within the Global Maritime Community of Interest to position decision-makers to prepare for, prevent, respond to, and recover from abroad spectrum of potential maritime related threats."[308]

As a whole, the *NMDAP* is concerned with the early detection and warning of potential maritime threats, with a specific focus on integrating intelligence and promoting information sharing among the relevant actors or agencies to create a national maritime COP, which in turn facilitates a timely, effective response. If this interagency effort to collect, disseminate, fuse, and analyze maritime intelligence results in the detection of an imminent maritime threat, the *MOTR* is engaged. Signed in 2006, the *MOTR* is the U.S. process that is used to coordinate a whole of government response to a maritime threat, bringing together most of the internal government actors contributing to MDA, including federal, state, and local civil and law enforcement agencies.[309] In effect, the *MOTR* facilitates extensive interagency cooperation and coordination between a number of actors to respond to any potential maritime threats.

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[307] United States, *Presidential Policy Directive/PPD-18: Maritime Security*, 1-2.
[308] United States, *National Maritime Domain Awareness Plan for the National Strategy for Maritime Security*, ii.
[309] Canada and the United States, *Maritime Event Response Protocol / Maritime Operational Threat Response Strategic Protocol*, 2012, 1.

Concurrent to the American initiative to enhance its maritime security and MDA efforts

and capabilities Canada paralleled many of the U.S. processes and structures. First, Canada

responded to the U.S. initiative to create USNORTHCOM with the establishment of a unified

Canada Command (Canada COM) and its Regional Joint Task Forces (RJTF), tasked with the

defence of the Canadian homeland.[310] On 5 October 2012 Canada COM, along with two other

commands, the Canadian Expeditionary Force Command (CEFCOM) and Canadian Operational

Support Command (CANOSCOM), were unified into the Canadian Joint Operations Command

(CJOC) which "is responsible for conducting full-spectrum Canadian Armed Forces operations

at home, on the continent of North America, and around the world."[311] CJOC—as was its

predecessor, Canada COM—is pivotal to Canada's ability to achieve maritime security and

MDA, as it employs its resources and capabilities for maritime surveillance and intelligence,

provides operational support in the case of responding to a maritime threat, and "establishes the

parameters for the DND's Recognized Maritime Picture (RMP) for Canada," which pulls RMPs

created and supplied by the military and other civil agencies, that is shared throughout the

Canadian government.[312] The RMPs are eventually translated into a Canadian COP.

Aside from increasing the reporting requirement for vessels entering territorial waters

from twenty-four to ninety-six hours from port, the security of ports, and the inspection of

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[310] Desmond Morton, *A Military History of Canada*, 5th edition, (Canada: Hurtig Publishers, 2007), 316.

[311] Canada, National Defence and the Canadian Armed Forces, "Organizational Structure: Canadian Joint Operations Command," last modified 16 September 2014, http://www.forces.gc.ca/en/about-org-structure/canadian-joint-operations-command.page (accessed 22 November 2015).

[312] Charron, Fergusson, and Allarie, "'LEFT of BANG:' NORAD's Maritime Warning Mission and North American Domain Awareness," 23.

containers shortly after the September 11 attacks[313]—all actions the U.S. undertook—Canada

took immediate steps to create an Ad Hoc Cabinet Committee on Public Security and Anti-

Terrorism (PSAT) that was tasked with reviewing "policies, legislation, regulations, and

programs across the government in order to strengthen all aspects of Canada's approach to

fighting terrorism and ensuring public security."[314] According to Peter Avis, in a 2003 article in

the *Canadian Military Journal*, the PSAT was instrumental to enhancing maritime security in

Canada post-September 11 and the following recommendations were acted upon posthaste:

> Transport Canada was tasked as lead department to undertake a comprehensive threat
> assessment and a vulnerability gap analysis. The Coast Guard and Fisheries and Oceans
> Canada were tasked with increased surveillance of our ocean approaches, and the Canada
> Customs and Revenue Agency [which included customs until 2003 when the Customs
> Border Services Agency was created] was given responsibility to increase security at
> ports, most particularly in the handling of containers.[315]

Furthermore, the PSAT tasked TC with creating and leading the Interdepartmental Marine

Security Working Group (IMSWG).[316] The IMSWG brought together seventeen departments and

agencies to coordinate the federal government's interagency efforts in maritime security.[317]

Moreover, in an effort to increase Canada's MDA, three Maritime Security Operations Centres

(MSOC) were created on Canada's coasts and the Great Lakes that are administered by the DND

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[313] For an in-depth look at changes to Canadian Maritime Security following September 11, see:
Peter Avis, "Surveillance and Canadian Maritime Domestic Security," *Canadian Military Journal* 4.1 (2003).
[314] Canada, *March 2004 Report of the Auditor General to the House of Commons, Chapter 3: National Security in Canada—the 2001 Anti-Terrorism Initiative*, Office of the Auditor General of Canada, March 2004, 4, http://www.oag-bvg.gc.ca/internet/docs/20040303ce.pdf (accessed 22 November 2015).
[315] Peter Avis, "Surveillance and Canadian Maritime Domestic Security," 10.
[316] Ibid., 11.
[317] Canada, Transport Canada, "Marine Security Partnerships and Initiatives: Interdepartmental Marine Security Working Group," last modified 14 May 2012, https://www.tc.gc.ca/eng/marinesecurity/partnerships-285.htm (accessed 22 November 2015).

and the RCMP, respectively.[318] Recent research into the MSOCs considers them to be "maritime intelligence analytical fusion centres," in which they house representatives from a number of Canadian federal departments and agencies to collaboratively collect and analyze maritime intelligence for the Canadian maritime COP, also known as the National Maritime Picture (NMP).[319] Canada also has an official *Maritime Domain Awareness Strategy* that was published in the early 2010's that is not publicly available, but demonstrates further initiative Canada has taken to secure itself from maritime threats.

Lastly, the Canadian government decided to establish the *Maritime Event Response Protocol* (*MERP*). The *MERP* is a national protocol or process to facilitate the interagency coordination and communication of departments and agencies involved in maritime security, and "seeks to coordinate them into a comprehensive approach to event management."[320] The *MERP* is similar to the U.S. *MOTR* in that it is Canada's "right side of bang" in the event that a maritime threat manifests into a maritime event. Indeed, Canada and the U.S. have already entered into bilateral cooperation to synchronize their national MDA and response efforts to a maritime threat. In 2012, Canada and the U.S. coordinated the *MERP* and *MOTR* by way of the bilateral *Maritime Event Response Protocol / Maritime Operational Threat Response Strategic Protocol*, which is a "process for enhanced information exchange, supporting timely and effective responses to significant maritime threats and events… [and] strengthens national-level efforts and a perimeter approach to improve maritime security responses of both Canada and the

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[318] Canada, Maritime Security, Canadian Coast Guard, and Fisheries and Oceans Canada. "Canadian Coast Guard: Maritime Security Contributions," 8. http://www.dfo-mpo.gc.ca/Library/344826.pdf (accessed 22 November 2015).
[319] Charron, Fergusson, and Allarie, "'LEFT of BANG:' NORAD's Maritime Warning Mission and North American Domain Awareness," 236-27. Also see, 2013 Draft Memorandum of Understanding.
[320] Canada, *MERP: Maritime Event Response Protocol*, April 2012, 2.

United States."[321]

As can be seen, the multi-jurisdictional nature of the maritime domain, maritime security, and MDA is just as true for Canada as it is for the U.S. Between the defence commands, and the federal, provincial, and local departments, civil agencies, and law enforcement agencies, many of whom actively participate in initiatives such as the IMGWS, MSOCs, and MERP, the Canadian actors involved in MDA and maritime security are numerous. The Canadian actors involved in MDA and maritime security include, but are not limited to, CJOC, the Canadian Armed Forces (CAF), DND, the Department of Fisheries and Oceans Canada (DFO), the Department of Public Safety (DPS) or Public Safety Canada (PS), the Privy Council Office (PCO), TC, the Canadian Coast Guard (CCG), the Canada Border Services Agency (CBSA), the RCMP, as well as countless other provincial and local civilian and law enforcement agencies. Furthermore, the number of federal departments and agencies involved continues to increase when one considers those that are represented within the IMSWG, which in addition to some of the agencies mentioned above, includes the Canadian Food Inspection Agency (CFIA), the Canadian Security Intelligence Service (CSIS), the Canadian Space Agency (CSA), Defence Research and Development Canada (DRDC), the Department of Justice, Environment Canada (EC), Finance Canada (FIN), the Department of Foreign Affairs, Trade and Development (DFATD), the Government Operations Centre (GOC), and the Treasury Board Secretariat (TBS).[322]

NORAD's Maritime Warning Mission

In the midst of Canada's and the U.S.'s effort to get their defence and security apparatus in order, they decided to launch a joint effort to research the status of their current defence

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[321] *Maritime Event Responses Protocol / Maritime Operational Threat Responses Strategic Protocol*, 1.
[322] Charron, Fergusson, and Allarie, "'LEFT of BANG:' NORAD's Maritime Warning Mission and North American Domain Awareness," 22.

cooperation, the strengths and weaknesses of this existing cooperation, and areas for potential improvement or expanded cooperation. This joint effort took the form of the Canada-U.S. Bi-National Planning Group (BPG). Initially established in 2002 as a binational planning cell and based out of NORADHQ, the BPG was composed of Canadian and U.S. representatives who were tasked with determining "the optimal defense arrangements in order to prevent or mitigate threats or attacks, as well as respond to natural disasters and or other major emergencies in Canada and the United States."[323] During the course of its tenure the BPG released two reports, an interim report in October 2004 and a final report less than two years later in March 2006.

Among the BPG's key findings and recommendations to better coordinate Canada-U.S. defence cooperation were the establishment a *North American Defense Command* and the addition of MDA to NORAD's mission mandate. In spite of the potential benefits of establishing a multi-domain command, it was not ultimately viewed to be politically and functionally tenable by Canada and the U.S., especially in regard to land forces where both states are apprehensive to surrender even a modicum of sovereignty and operational control.[324] Responding to comments made by CINCNORAD Eberhardt in October 2002 regarding the possibility of NORAD expanding into the land and maritime domains, Michael Byers, a Canada Research Chair of Global Politics and International Law at the University of British Columbia, was a vocal proponent of such sovereignty concerns. In effect, Byers' argued that NORAD expanding into the land domain would mean that "U.S. commanders will ultimately have the power to give

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[323] Bi-National Planning Group, *Interim Report on Canada and the United States (CANUS) Enhanced Military Cooperation,* i.

[324] The BPG expressed such concerns in its recommendations for a binational, all-domain North American Defence Command. See: Canada and the United States, Bi-National Planning Group, *The Final Report on Canada and the United States (CANUS) Enhanced Military Cooperation,* 16 March 2006, 38.

orders to Canadian troops on Canadian soil, compromising Canada's sovereignty."[325] Integrated control over Canadian and American maritime forces was also not looked upon favorably by maritime actors who were not inclined to relinquish their maritime responsibilities.[326] Nor was integrated command and control over maritime forces functionally tenable, given the multi-jurisdictional nature of the maritime domain where lead responsibility for responding to maritime threats could quickly shift between numerous agencies as the circumstance of the maritime event change.

MDA and maritime security were the centerpiece of the BPG's Interim Report. This interim report highlighted the gaps and seams in maritime information sharing between Canada and the U.S., calling for enhanced cooperation in MDA between the two states. In the course of this analysis, the BPG stressed the fact the command's COP already contained a maritime picture created by the Canadian and U.S. navies that is "forwarded to USNORTHCOM from Atlantic Fleet and is received through a guard device."[327] As a result, the BPG concludes that "the most significant impediment to enhanced maritime surveillance is the lack of seamless interagency MDA and ISR."[328] With this reality in mind and citing NORAD's wealth of experience in binational surveillance, warning, and control, the BPG ultimately recommended that MDA and maritime warning be affixed to NORAD's existing mission suite.[329]

In 2006 the NORAD Agreement was up for its quinquennial renewal, having last been renewed in 2001. While the 2006 NORAD Agreement retained aerospace warning and control

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[325] Sheldon Alberts, "U.S. General seeks closer military ties: Sovereignty worries: Anti- terror chief urges co-operation for navy, land forces," National Post, 19 October 2002.

[326] Charron, Fergusson, and Allarie, "'LEFT of BANG:' NORAD's Maritime Warning Mission and North American Domain Awareness," 15.

[327] Bi-National Planning Group, *Interim Report on Canada and the United States (CANUS) Enhanced Military Cooperation*, 39.

[328] ISR is an acronym for intelligence, surveillance, and reconnaissance.

[329] Bi-National Planning Group, *Interim Report on Canada and the United States (CANUS) Enhanced Military Cooperation,* 43.

for North America as primary missions for the binational command, it added a third primary

mission to its suite: maritime warning. The agreement is explicit in what maritime warning

consists of, leaving maritime surveillance and control in national hands and to ad hoc bilateral

coordination:

> "Maritime warning" consists of processing, assessing, and disseminating intelligence and information related to the respective maritime areas and internal waterways of, and the maritime approaches to, the United States and Canada, and warning of maritime threats to, or attacks against, North America utilizing mutual support arrangements with other commands and agencies, to enable identification, validation, and response by national commands and agencies responsible for maritime defense and security. Through these tasks NORAD shall develop a comprehensive shared understanding of maritime activities to better identify potential maritime threats to North America.[330]

Otherwise put, NORAD's maritime warning mission consists of the command receiving

intelligence and information from national, interagency surveillance efforts in Canada and the

U.S. to be processed and assessed for any potential maritime threats, and upon the detection of

any potential threat it is tasked with warning the relevant national maritime control authorities so

that they can respond in a timely manner. Importantly, while the agreement stipulates that it shall

be reviewed every four years and that amendments may be made at any time, it is the first

agreement to not specify a term of renewal. In this respect, the 2006 NORAD Agreement

becomes the first to exist "in perpetuity" or indefinitely, with its mission suite frozen as it is for

the foreseeable future.

NORAD's maritime warning mission is assigned to its J-32 or joint maritime warning

division and it is tasked with analyzing the shared North American maritime COP and "maritime

intelligence and operational information provided by other organizations."[331] Importantly,

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[330] Canada and the United States, *Agreement Between the Government of the United States of America and the Government of Canada on the North American Aerospace Defense Command*, 28 April 2006.
[331] Charron, Fergusson, and Allarie, "'LEFT of BANG:' NORAD's Maritime Warning Mission and North American Domain Awareness," 36.

NORAD and its J-32 Division do not actually fuse the U.S. and Canadian COPs into a single

North American COP. Rather, USFF receives and fuses the Canadian and American maritime

COPs into a single, unified North American COP which is then sent up to USNORTHCOM, at

which point it becomes available for use by NORAD.[332] However, as a binational institution

NORAD is able to access a wide array of maritime intelligence from departments, commands,

and agencies on both sides of the border at a moment's notice in order to confirm and verify the

accuracy of information within the North American maritime COP provided by

USNORTHCOM. For instance, NORAD can access USNORTHCOM intelligence and

intelligence assets, including the NORAD-USNORTHCOM J22 Division (cyber and

intelligence) Division. It can acquire the Canadian maritime COP via the Canadian Consolidated

Secret Network Infrastructure (CSNI) and/or it can receive intelligence from USPACOM and

USSOUTHCOM, as well as from the numerous other Canadian and American agencies involved

with MDA and maritime security.[333]

If NORAD's analysis of the North American maritime COP reveals a potential threat, J-

32 employs a six-step operational MDA process to determine if a maritime advisory[334] or

warning is warranted that involves identifying and categorizing the threat, assessing the threat for

completeness, accuracy, and relevancy, determining if there are any related objects,

vulnerabilities, or concerns, analyzing the impact of the potential maritime event, and culminates

with the decision to issue or not issue a maritime advisory or warning.[335] Upon the decision to

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[332] Ibid.

[333] Ibid., 42.

[334] NORAD Maritime Advisories were a new category of maritime communication created in 2010 after the Sun Sea Voyage. See, Charron, Fergusson, and Allarie, "'LEFT of BANG:' NORAD's Maritime Warning Mission and North American Domain Awareness," 17.

[335] William Quinn, "North American Aerospace Defense Command & United States Northern Command: A Maritime Perspective," 24, http://www.maritimearcticsecurity.ca/c/document_library/get_file?uuid=e3ac7e94-1688-4285-

issue a maritime advisory or warning, "NORAD initiates a CANUS Maritime Information Sharing Teleconference (CMIST): a telephone notification system that allows NORAD to contact relevant agencies on both sides of the border, which can vary depending upon the threat scenario" or may choose to communicate the warning using "message traffic - direct calls between command centers, national leadership conferences and email distribution lists."[336] These maritime actors to which NORAD communicates its maritime advisory or warning to are subsequently responsible for initiating a response process and to respond actually to the maritime threat.[337]

In sum, the functional process of NORAD's maritime warning mission begins with the command analyzing the North American maritime COP provided to it by USNORTHCOM, pulling upon the classified national COPs and other Canada and American intelligence sources to verify information contained within the shared COP, and upon the detection of a potential maritime threat leads to the command employing a six-step operational MDA process to decide if a maritime warning is warranted. If a maritime warning is found to be warranted, NORAD's role in MDA ends with it issuing a maritime advisory or warning to national maritime agencies using binational or national processes. While NORAD does not develop the North American maritime COP, the binational command makes a valuable contribution to providing Canada and the U.S. with a comprehensive shared understanding of the maritime domain that facilitates timely, effective national and bilateral maritime response structures.[338]

9833-c89efc7f17fe&groupId=10136 (accessed 22 November 2015), and; Charron, Fergusson, and Allarie, "'LEFT of BANG:' NORAD's Maritime Warning Mission and North American Domain Awareness," 36.
[336] Charron, Fergusson, and Allarie, "'LEFT of BANG:' NORAD's Maritime Warning Mission and North American Domain Awareness," 38.
[337] Ibid., 38.
[338] For a much more detailed and comprehensive study into NORAD's maritime warning mission, how it works functionally, and its value to North American defence and security see

Maritime Warning

The defence and security community has been slow to recognize the functional logic that underscores NORAD's maritime warning mission and the advantages it has conferred on Canada's and the U.S.'s ability to enhance their maritime security and achieve MDA. Indeed, even the Canadian and the U.S governments and their respective agencies involved in maritime security and MDA do not often, if ever, emphasize or even make reference to NORAD's maritime warning mission in official documents and overviews of their mandates and responsibilities. Moreover, while the BPG and other defence and security commentators have acknowledged NORAD's experience in aerospace monitoring, warning, and control as a potential indicator that the command may possess an aptitude for maritime warning, NORAD's maritime warning mission has not been analyzed in a comprehensive manner with a focus upon the binational command's functional and institutional development.

NORAD's acquisition of a maritime warning mission appears to buck the trend of its past expansions into new issue areas, drug interdiction and the monitoring and control of the airspace of the continental interior, as it was apparently "[d]eveloped by NORAD and imposed from above."[339] However, there is a clear and demonstrably functional and institutional logic that underscores NORAD's acquisition of its maritime warning mission. Indeed, NORAD's maritime warning mission is but another instance of the binational command's proven, robust ability as a joint-institution to adapt to changing continental defence and security conditions, building upon its institutional experience in continental defence to adapt to novel functional-technical

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Charron, Fergusson, and Allarie, "'LEFT of BANG:' NORAD's Maritime Warning Mission and North American Domain Awareness." This study concludes that NORAD's maritime warning mission does make a value-added contribution and that "the mission is vital for the security of North America and must be continually nurtured, monitored and resourced" (6).

[339] Charron, Fergusson, and Allarie, "'LEFT of BANG:' NORAD's Maritime Warning Mission and North American Domain Awareness," 9.

undertakings of mutual concern. NORAD's maritime warning mission is predicated upon threats that can be considered issues of mutual concern that require and deserve cooperative practical and functional solutions, and stands to benefit from NORAD's position and experience as a binational institution monitoring, warning, and controlling the airspace of North America.

Just as the shortcomings of the intelligence community forced the agencies responsible for the defence and security of the air domain to overhaul and revamp how they approached cooperating, communicating, and sharing information between themselves, there was a recognition that similar seams may exist in the realm of maritime defence and security as well, as illustrated by the BPG. National efforts to eliminate these shortcomings or gaps in the defence and security of the maritime domain and to create national maritime COPs were undertaken by the U.S. in the implementation of the *NSPS* and the *NMDAP*, as well as in Canada with its concurrent efforts to enhance maritime security. However, due to the close Canada-U.S. relationship and the potential for maritime threats on either side of the border to affect both states significantly, national efforts would not be enough.

As retired CF Commander Eric Lerhe makes clear, during the Cold War there was no immediate continental maritime threat that necessitated an efficient, timely sharing of maritime intelligence or the creation of a common maritime COP.[340] As a result, while "a common ocean picture existed in a purely technical sense," the sharing of intelligence data between the Canadian and American navies has historically been on a need-to-know basis, slow and inefficient, and the data that they did receive was rarely assessed for quality and fused with the national COP.[341] Moreover, despite the fact that Canada had a high-quality interagency offshore surveillance effort and its data was shared regularly with the USN, Lerhe claims that "there was

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[340] Eric Lerhe, "Will We See A Maritime NORAD?," *Journal of Military and Strategic Studies* 8.4 (2006), 3.
[341] Ibid., 3.

little evidence of it being used by them" and this gesture was not reciprocated in kind with data "of like quality from their immediate offshore surveillance effort."[342] Exacerbating this was the general, systemic tendency for information flows between Canada and U.S. departments and civil agencies to be stove-piped.[343]

In effect, aside from the maritime picture NORAD incorporated into its COP as a binational aerospace defence command with no maritime mandate, there existed no common maritime COP between Canada and the U.S of any real meaning or functional utility prior to 2006. As Lerhe asserts, a common Canada-U.S. maritime COP or integrated control over Canada-U.S. maritime forces was not pushed for because "the Soviet Navy never presented a threat sufficiently dire or close to home to spur continental naval cooperation to these heights."[344] Otherwise put, as neither Canada nor the U.S. perceived any immediate maritime threat to their homelands and the continent there was no common, mutual problem for which the two states would need a cooperative, functional-technical solution. Creating a common maritime COP or an integrated maritime command would have been a complicated, expensive functional solution to a problem of no real urgency.

After World War II, Canada and the U.S. recognized the need for an integrated aerospace command and a common North American COP of the continent's external and internal airspace to deter, detect, and respond to threats of mutual concern, specifically the Soviet Union. Post-September 11 there was a growing recognition that maritime threats to the continent were quickly becoming a reality, that the nature of these threats posed a complicated functional-technical problem, and such threats would have the capacity to affect both Canada and the U.S.

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[342] Ibid., 4.
[343] Bi-National Planning Group, *The Final Report on Canada and the United States (CANUS) Enhanced Military Cooperation,* 4.
[344] Lerhe, "Will We See a Martime NORAD?," 3.

To this end, it was suspected that a common, North American COP of the maritime domain, the capability to analyze this COP in a binational manner, and the ability to provide binational maritime warning may act to enhance North American maritime security in a similar manner to how NORAD, as an aerospace defence command, contributed to the defence of the continent during the Cold War.

While the maritime domain has always been a central area of focus for the defence and security community, the novel and asymmetric nature of the air-based September 11 attacks forced a reevaluation of the possible maritime threats that faced Canada and the U.S. The most immediate maritime threats are arguably those that have the capacity to cause death or harm to civilians, inflict great damage to critical and even non-critical infrastructure, and disrupt maritime trade. Historically, states have been the only actors with the potential to attack from the sea with their navies, armed with weapons that only states would typically be able to acquire, such as cruise missiles.[345] However, it was a quickly emerging reality that resourceful non-state actors, predominantly terrorist groups, may be able to mount deadly and crippling attacks against a state from the sea. As a Congressional Research Service report reveals, these scenarios may include, but are by no means limited to, the use of "commercial cargo containers to smuggle terrorists, nuclear, chemical, or biological weapons, components thereof, or other dangerous materials," the use of commercial cargo ships as collision weapons, attacks on commercial cargo ships to disrupt port traffic and maritime trade, the use of fuel tankers or ships with cargo containers containing a bomb to cause in-port explosions or to damage critical infrastructure, the

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[345] Indeed, tensions and the potential for conflict between states still exist in the maritime domain. A recent article in the Economist reviews China's expanding maritime influence and the challenges this poses for America and her allies, see: ____, "Sea Power: Who Rules the Waves?" *the Economist*, 17 October 2015. Elsewhere, on 7 October 2015, Russia demonstrated its ability to launch cruise missiles from its warships in the Caspian Sea against ISIS targets in Syria.

hijacking or attacking of ferries or cruise ships, and attacks on military vessels.[346] Moreover,

there is an increasing worry that especially resourceful terrorists may be able to acquire cruise

missiles and would choose to launch them against targets in North America from vessels at sea.

The scope of what constitutes a security threat has broadened in recent years to

encompass threats that can be classified as matters of environmental security, human security,

health security, and so forth. When this expanded conception of security is applied to the

maritime domain, the scope of potential maritime threats expands as well. Indeed, the potential

for the contents of commercial and other ships to damage the environment, for vessels to be used

for human trafficking, drug trafficking, and piracy, and the possibility of deadly diseases being

brought into a state by seafaring travelers are all but a few, very real situations that states have

also come to consider threats to maritime and national security, Canada and the U.S. included.

The maritime domain proves to be a functional challenge due to the large assortment of potential

threats that can emanate from the domain, each requiring a unique, tailored response by different

groupings of Canadian and American commands and agencies.

These maritime threats can cause great harm and damage to people and infrastructure and

it is a challenge to be vigilant over the enormous number of vessels that come to port every year.

In the U.S., for instance, statistics compiled by MARAD reveal that in 2011 "7,836 oceangoing

vessels made 68,036 calls at U.S. ports."[347] While the sheer number of maritime vessels and calls

to port is a complicated challenge that requires inventive approaches and solutions to monitor

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[346] United States Library of Congress, Congressional Research Service, *Port and Maritime Security: Background and Issues for Congress*, by John F. Frittelli, RL31733 (27 May 2005), 5-6. Frittelli emphasizes that some of these scenarios or similar scenarios have actually transpired in recent years. For instance, bomb-laden boats were used in Yemen to attack a French oil tanker in 2002 and a U.S. Navy Destroyer in 2000, and an Egyptian-Canadian was found stowed away in a cargo container in Italy and was arrested on terrorism charges.

[347] United States, Department of Transportation, "Vessel Calls Snapshot, 2011," *Maritime Administration*, March 2013 (revised November 2013), 1, http://www.marad.dot.gov/wp-content/uploads/pdf/Vessel_Calls_at_US_Ports_Snapshot.pdf (accessed 22 November 2015).

and manage, the impact that maritime threats can have on trade and the economy also weighs heavily on the U.S. and Canada. In the case of the U.S., maritime trade accounted for 53 percent of total U.S. imports and 38 percent of exports in 2011, which according to the USDoT was "the largest share of any mode," for a combined value of $1.730 trillion USD.[348] By 2013, the value of all maritime trade entering U.S. ports had increased to $1.747 trillion USD.[349] Significantly, U.S. maritime trade in 2003 was valued at $811 billion USD, demonstrating that the value of maritime trade had more than doubled in a span of only ten years.[350]

Maritime trade is a cornerstone of the U.S. economy and the same can be confidently said about Canada's economy as well. For Canada, maritime trade was "worth $170 billion in 2010."[351] Moreover, TC asserts that year "ships carried nearly 60 per cent of all of Canada's $143 billion overseas trade of goods (exports & imports), excluding the US."[352] While the total dollar value of maritime trade is significantly lower than the U.S.—the difference is more than a factor of ten[353]—the number of commercial ships visits that Canada must manage at its over 300 ports and harbours, 66,900 in 2009,[354] appears to be comparable to that of the U.S., which was 68,036 visits in 2011.

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[348] Matthew Chambers and Mindy Liu, "Maritime Trade and Transportation by the Numbers, United States Department of Transportation, 1-2, http://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/by_the_numbers/maritime_trade_and_transportation/pdf/entire.pdf (accessed 22 November 2015).

[349] United States, Department of Transportation, *U.S. Waterborne Foreign Trade by U.S. Custom Districts*, *Maritime Administration*, 15 December 2014, http://www.marad.dot.gov/resources/data-statistics/ (accessed 22 November 2015).

[350] Ibid.

[351] Canada, Transport Canada, "Canada: Committed to the Goals of the International Maritime Community," *Transport Canada* TP14916, 2, https://www.tc.gc.ca/eng/marinesafety/tp-tp14916-menu-182.htm (accessed 22 November 2015).

[352] Ibid., 8.

[353] This is when comparing Canada's 2010 figure of $170 billion CAD and the United States' 2011 figure of $1.73 trillion USD. The Canada-U.S. average currency exchange rate was 0.97 and 1.01 in 2010 and 2011, respectively, so a difference between the two maritime trade values by a just over a factor of 10 is, in the opinion of this researcher, a fair approximation.

[354] Canada, "Canada: Committed to the Goals of the International Maritime Community," 2.

While maritime threats are of great individual concern to Canada and the U.S., they should also be considered an issue of mutual concern, capable of exerting transnational effects, and thus deserving of cooperative action. Economically, for instance, maritime trade between Canada and U.S. is significant and is of great importance, even if it weighs more heavily in favor of the former. In 2010, just under a third of all of Canada's maritime trade in terms of tonnage was en route to the U.S.[355] Recent statistics from USDoT reveals that in 2013 the total value of Canada-U.S. maritime trade was $36.183 billion USD, with exports comprising $12.817 billion of that figure and imports accounting for the remaining $23.366 billion.[356] While as a portion of its total annual maritime trade the U.S.'s maritime trade with Canada is relatively small, it is still a significant figure and it comprises a significant portion of Canada's total trade and maritime trade. Moreover, maritime trade between Canada and the U.S. has also grown significantly. Between 2003 and 2013 maritime trade between Canada and the U.S. grew by 330 percent and there is no indication that this trend will stop or reverse course, highlighting the continued importance maritime trade is sure to have into the future.[357]

A significant portion of Canadian and U.S. maritime traffic, imports and exports to and from states around the world, must traverse U.S. and Canadian waters, respectively, while en route to their destination. Due to the nature of maritime transportation routes the vast majority of U.S. maritime trade must traverse Canadian waters.[358] Meanwhile, the nature of maritime trade routes necessitates that Canadian trade with Central and South America' must also transit

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[355] Mary R. Brooks, "Maritime Security in Canada," in *Maritime Transport Security: Issues, Challenges and National Policies*, ed. Khalid Bichou, Joseph S. Szyliowicz, and Luca Zamparini (Great Britain: Edward Elgar Publishing Limited, 2013), 146.
[356] United States, Department of Transportation, U.S. Waterborne Foreign Trade by Trading Partners, *Maritime Administration*, 14 December 2014, http://www.marad.dot.gov/resources/data-statistics/ (accessed 22 November 2015).
[357] Ibid.
[358] Bi-National Planning Group, *The Final Report on Canada and the United States (CANUS) Enhanced Military Cooperation,* C-8.

through U.S. waters in order to reach ports in Canada and the Americas.[359] From a purely

functional perspective, these maritime trade transit patterns indicate that Canada and the U.S.

must have a vested interest in each other's ability to achieve maritime security.

Yet, this does not account for the large number of Canada and U.S. maritime imports

from other nations that are subsequently shipped between Canada and the U.S. by land or air.

This point is an important consideration for two reasons and highlights how maritime threats can

be considered an issue of mutual concern in other respects. First, if Canadian and U.S. maritime

imports from other states are thereafter transited between Canada and the U.S. by land or air, it is

possible that maritime threats may be able exert a larger negative effect on the Canada-U.S. trade

relationship than may be apparent initially, having a secondary effect on land and air trade that

comprises the majority of Canada-U.S. trade.

Second and perhaps more importantly, there is the possibility that security threats may

first find their way into either Canada or the U.S. by sea, to only then be moved by land between

the two nations to its intended target. For instance, one potential scenario could have a WMD

being shipped into Canada via sea and then transported into the U.S. by land for use by terrorists,

or vice-versa. When considered alongside the mutual defence and security concerns that emerged

post-September 11, namely that the terrorists that perpetrated the September 11 attacks found

transit into the U.S. through Canada and the unsatisfactory cooperation and communication that

existed among and between commands and agencies on both sides of the border, maritime

threats are clearly an issue of mutual concern for Canada and the U.S. with the capacity to

impact greatly each others' security and economic well-being. As a result, treating maritime

threats as a North American problem, rather than isolated national problems, is a reasonable

approach as they are demonstrably issues of mutual concern deserving of defence and security

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[359] Ibid.

cooperation due to the strong possibility that the consequences of such threats will have transnational effects.

As highlighted by the large number of vessels that continuously come to dock at Canada's and U.S.'s several hundred ports, the variety of defence and security threats that can emerge from the sea, the shipping routes of Canadian and U.S. maritime traffic, and the extensive interagency cooperation that is characteristic of maritime security, monitoring the maritime domain is a functional-technical endeavor. Functionally, the monitoring and warning of the internal and external airspace of North America and of the continent's maritime approaches are similar in some respects. Both entail monitoring a large number of vehicles, particularly aircraft and maritime vessels, processing and analyzing various intelligence sources to do so, including radars and on-board transponders, all of which requires extensive interagency cooperation.

To be sure, significant differences between these two domains do exist and this affects the manner in which potential threats in each of these domains must be monitored and managed. For instance, aircraft are significantly faster than maritime vessels and, as the Cold War demonstrated, the speed of potential airborne threats necessitates the pursuit of the timeliest defence response possible. Echoing commonly held sentiments against NORAD's expansion into maritime warning, Brian Nicholson, in an article published in the *Canadian Naval Review*, argues that because of these inherent differences between aerospace and maritime threats NORAD is not suitable for providing either a warning or control function in the maritime domain as "[t]he time factor involved with aerospace threats demands a robust command and control structure that can respond in an extremely short time. This is not the case in the maritime

context where 'unknown' naval vessels do not require immediate response."[360] In light of this revelation, Nicholson concludes that "it is not immediately evident why an integrated command structure is essential when there is ample time to coordinate individual or combined responses to a potential maritime target."[361] This argument, however, quickly falters.

First, even if MDA does not require the degree of timely warning and response as air defence does it would be arguably irresponsible to not strive for the timeliest and most efficient response regardless and to meet any potential maritime threat as far away from North American shores as possible. Moreover, it would run contrary to the defence and security objectives of Canada and the U.S. Both the Canadian and American approaches to maritime security and MDA place great emphasis on the ability for MDA to be timely, efficient, and accurate to facilitate the successful prevention of any maritime threat by the appropriate response authorities as far away from North American shores as possible. Despite the slow-moving nature of maritime threats, MDA and maritime warning is a time-consuming process and by the time a threat is recognized the response window may be reduced considerably. Moreover, one must consider that maritime response vessels will most likely match the relatively slow-speed of maritime threats and are unable to come close to reaching the 180-knots plus speeds that the aircraft at NORAD's disposal are able to travel at.[362]

In support of his argument against NORAD's maritime warning mission, Nicholson defers to a statement made by DCINCNORAD, Lieutenant-General George MacDonald, in a testimony to the Standing Committee on National Defence and Veterans Affairs in May 2002:

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[360] Brian Nicholson, "Mending Fences: Assessing the Canadian Decision to Expand NORAD," *Canadian Naval Review* 2.4 (2007), 10.

[361] Ibid., 11. Maritime warning is part and parcel Nicholson's use of the terms "command and control" and "integrated command structure," as he is concerned with determining the utility derived from NORAD's expansion into maritime warning.

[362] Charron, Fergusson, and Allarie, "'LEFT of BANG:' NORAD's Maritime Warning Mission and North American Domain Awareness," 16.

> In an air situation, you may have to respond in a couple of minutes to whatever you suddenly detect on your radar screens, whereas in a maritime situation, it is likely that, with the proper intelligence and surveillance capabilities, you can track a potential threat for quite a long period of time and you will have the luxury of being able to decide how to address it without having to respond in a matter of a couple of minutes.[363]

However, rather than supporting the commonly held argument against NORAD's maritime expansion that Nicholson puts forth, MacDonald's statement seemingly works against it. Upon careful reading of MacDonald's statement, the luxury of a longer response period to maritime threats does not arguably hinge upon the inherent differences between the aerospace and maritime domains and threats, but upon 'proper intelligence and surveillance capabilities.' As the events of September 11 and numerous studies and analyses in its aftermath demonstrated, such intelligence and surveillance capabilities were sorely lacking, with stove-piped intelligence, faulty communication between agencies, and the lack of a North American maritime COP among the characteristics of the homeland and continental defence and security apparatus at the time. Moreover, at the time of MacDonald's statement this luxury was arguably not yet afforded as Canada and the U.S. made great efforts to increase national maritime security and MDA intelligence, surveillance, and response capabilities throughout the rest of the decade.

Conclusion — Why NORAD?

As this analysis of the Canadian, American, and continental maritime security and MDA environments demonstrates, MDA and maritime warning are complicated functional endeavors of mutual concern due to the nature of maritime threats, the manner in which they can exert transnational effects, the primacy of timely and efficient intelligence collection and analysis, and the convoluted, interagency effort that is necessary for an effective system of maritime security.

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[363] Canada, Parliament, Senate, Standing Senate Committee on National Security and Defence, *Proceedings* (Issue No. 14, 6 May 2002), 1st session, 37th Parliament, 2002, 55.

MDA and maritime warning are demonstrably ongoing functional-technical tasks that are oriented towards a variety of contingencies, rather than a single, clearly defined threat. Instead of being unnecessary or redundant, NORAD, with its wealth of institutional experience as a binational institution tasked with monitoring and warning for North America's airspace, makes an important contribution to the ability of Canada and the U.S. to possess the proper intelligence and surveillance assessments required to attain an effective, successful system of maritime security.

Importantly, NORAD's maritime warning mission reinforces the sovereignty of Canada and the U.S., placating the concerns that a NORAD maritime control mission would be an unacceptable concession of sovereign authority over Canada's and the U.S.'s armed, maritime forces and other civil agencies. In its analysis of maritime intelligence from numerous agencies on both sides of the 49th parallel and subsequent responsibility to issue a maritime warning or advisory to Canadian and U.S. national authorities upon the detection of any potential threat, NORAD's maritime warning mission contributes to a more effective national control over their respective maritime approaches. By analyzing a common North American COP constructed from the intelligence of numerous agencies in Canada and the U.S., each nation may be acquiring crucial information that it may not otherwise be privy to or may be overlooked due to stove-piping. Due to these factors, and the fact that NORAD is positioned to communicate directly with response authorities on both sides of the border, the command contributes to a more efficient and timely national response structure, providing a more organized and longer lead time and facilitating smoother, more organized interagency maritime responses.

NORAD, as a binational institution, is the only form of Canada-U.S. defence cooperation—binational, bilateral, or otherwise—that is positioned, equipped, trained, and

experienced with a proven record of success for nearly sixty years in the surveillance and warning of any military domain. To carry out its binational mandate NORAD is already subject to many bilateral Canada-U.S. information sharing agreements and was already the recipient of a North American maritime COP, setting a solid foundation upon which to expand to the maritime domain. To be sure, NORAD in its acquisition of its maritime warning mission had its work cut out for itself to implement and then carry out this new mission. Fleshing out the specifics of its maritime warning mission required the binational command to consult and work with the various actors comprising the Canadian and American maritime security communities. NORAD could not develop its maritime warning mission in isolation. Cooperation with other agencies and commands was essential to NORAD's ability to establish the required framework for receiving maritime intelligence from the various actors responsible for collecting maritime intelligence and for sending out maritime warnings or advisories to the actors on the right side of bang.

The transaction costs of establishing an all new binational organization, with all of its personnel, infrastructure and technology, agreements, networking, training, and so forth, would have been much larger than the chosen alterative of affixing maritime warning to NORAD's mission suite. Indeed, this fact was highlighted and strongly emphasized by the BPG in its recommendation that NORAD be assigned the responsibility for MDA and maritime warning. Especially post-Cold War, NORAD's responsibilities in aerospace monitoring and warning had been characterized increasingly by transnational, interagency cooperation and communication. Drug interdiction saw NORAD engaging in unprecedented cooperation with various civil and law enforcement agencies in Canada and the U.S. In so doing, NORAD established protocols and procedures with these civil and law enforcement agencies with primary responsibility over drug interdiction, created new infrastructure to do so, and repurposed existing capabilities

towards this new mission. Similar patterns emerged just over a decade later when NORAD found itself building upon this interagency experience in drug interdiction to foster closer ties with other Canadian and U.S. civil and law enforcement agencies to successfully defend the airspace of the continental interior. By the time the BPG was in session (at which the prospect of NORAD acquiring responsibilities in MDA was being seriously considered) NORAD was an institution whose functional-technical tasks in aerospace defence hinged upon its expertise in transnational, interagency cooperation and communication. Instead of establishing a new binational maritime institution tasked with processing, assessing, and disseminating maritime intelligence from a wide array of Canadian and U.S. agencies and warning national maritime response authorities of any potential maritime threats, NORAD's experience as a binational institution in continental aerospace monitoring, warning, and control was leveraged and the command's functional-technical strengths were simply adapted to a new domain.

Lastly, rather than discrediting the functional argument behind NORAD, the fact that that the command's maritime warning mission was "developed by NORAD, [and] imposed from above"[364] is the natural culmination of NORAD's functional evolution to date. While the BPG, a technically-minded working group, was instrumental to NORAD moving towards MDA, there is a clear functional logic behind the command's maritime warning mission similar to the logic that drove the creation of NORAD as a binational airspace defence command. At its core this novel mission is a product of political spillover. The patterns of interdependence that NORAD has has established between Canada and the U.S. has fostered common norms and values that have come to recognize NORAD as a beneficial arrangement for Canada-U.S. defence cooperation by political officials and senior military officers. The BPG recognized NORAD as a beneficial

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[364] Charron, Fergusson, and Allarie, "'LEFT of BANG:' NORAD's Maritime Warning Mission and North American Domain Awareness," 9.

arrangement for Canada-U.S. defence cooperation, noting the command's advantages and the potential transaction costs that could be minimized by adding maritime warning to NORAD's mission suite. Importantly, the BPG in its research into the feasibility of a NORAD maritime warning mission astutely observed that "the greatest push back on NORAD involvement in MDA came from mid-grade Navy and Coast Guard officers, not from senior personnel."[365]

NORAD's functional strengths and the ability to leverage these strengths for other cooperative defence purposes were not only becoming more widely recognized at the upper echelons of the military, but the government as well. The fact that U.S. Secretary of Defense Rumsfeld was the individual who initially attempted to expand NORAD to the land and maritime domain is also indicative of this phenomenon of political spillover. However, the rejection of Rumsfeld's proposal by Canada also demonstrates that political spillover alone is not enough; a strong functional logic still must be present for NORAD to adopt new responsibilities. Functionally and politically, an integrated command in control of land and maritime forces was not tenable. Binational maritime warning, however, largely sidestepped the concerns that impeded binational command over land and maritime forces, and moreover it makes an important contribution to Canada's and the U.S.'s ability to achieve MDA and maritime security.

NORAD's acquisition of its maritime warning mission was made possible in part due to the command's binational nature. NORAD has a broad functional-technical mandate under which it can subsume numerous different threats and is facilitated by the command's unique institutional qualities as it is a joint-institution, rather than a temporary collaboration or coordinated effort. The fact that NORAD's maritime warning mission is an ongoing mission geared towards any possible contingency in the maritime domain provides further validation for

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[365] Bi-National Planning Group, *Interim Report on Canada and the United States (CANUS) Enhanced Military Cooperation,* 41.

the idea that there is a distinct difference to be made between alliances and binational defence cooperation. The command's binational nature has allowed it to be flexible in response to North America's changing defence and security needs, leveraging its experience and adapting its functional-technical skills in aerospace defence to a new domain and new mission that poses just as much of a common functional-technical problem as continental air defence. NORAD's institutional experience and position as a binational institution means it is well equipped to navigate the increasingly blurred line demarcating defence and security, is able to address the intelligence shortcomings that were revealed post-September 11 which have come to pose a great challenge for the defence and security communities, can excel in the management of the technical, interagency process that characterizes MDA and maritime warning, and can competently provide Canada and the U.S. with a shared understanding of the North American maritime domain.

Chapter Six: Conclusion — Looking Forward

This thesis set out to examine whether or not the institutional qualities of NORAD as a binational defence command, as outlined by the theories of neoliberal institutionalism, functionalism, and neofunctionalism, could provide an explanation for the command's longevity and continued relevance, especially in the wake of the collapse of the Soviet Union. NORAD's binational characteristic is an aspect of the command that is often and consistently emphasized by political scientists and those within the North American defence and security community. However, frustratingly so, what NORAD's binationalism actually means and the implications it carries for the command and continental defence and security, especially as distinct from instances of bilateral defence cooperation, has rarely been examined. For such a defining characteristic of the centrepiece of Canada-U.S. defence cooperation to have been afforded so little in-depth analysis despite being so frequently emphasized is a glaring gap in the existing literature on NORAD and North American defence and security.

Defence cooperation is rarely, if ever, analyzed from the perspective of neoliberal institutionalism and functionalism. These international relations theories are typically reserved for studying cooperation and formal institutions based upon issues of low politics. Neoliberal institutionalists are inclined toward emphasizing the absolute gains that states can gain from addressing issues of mutual concern and the benefits institutions can have on interstate cooperation. Meanwhile, functionalism and its neo variant focus on integration based upon the need to perform specific functions. This can be a useful process of engendering cooperation between states as it directs focus towards the technical nature of a common problem, effectively shifting the locus of cooperation away from the political, which minimizes the potential political barriers that would normally inhibit such cooperation. Studying binational defence cooperation

generally, and NORAD specifically, through the lens of these theories has demonstrated that functionalism and neoliberal institutionalism are applicable in the realm of defence cooperation and have use beyond issues of low politics. For instance, this thesis demonstrates that focusing on the functional requirements of defence and security matters is a strong basis upon which states can come together and enter into defence cooperation. Incorporating neoliberal institutionalism and functionalism alongside or in place of alliance theory can produce fresh and unique insights into various instances of defence cooperation.

An analysis of the continental defence and security environment and the events surrounding NORAD's establishment as a binational command and of the expansion of its mission suite into drug interdiction, the continental interior, and maritime warning reveals that NORAD's binational nature has allowed the command to focus on and institutionalize specific functional-technical solutions to select issues of mutual concern in continental defence and security for Canada and the U.S. Viewed through the lens of these three theories of international cooperation it is readily apparent that NORAD's binational nature has allowed Canada and the U.S. to orient the command towards a wide array of defence and security threats and contingencies. NORAD's binationalism means that it is an integrated defence institution that operates round-the-clock with relative autonomy from its host states, providing it the ability to perform specific, ongoing functional responsibilities in continental defence.

An implication of NORAD's binational nature is that it is a permanent joint-institution (insofar as Canada and the U.S. periodically agree to continue this cooperation). The continued decision for NORAD to undertake its functional-technical responsibilities in continental defence and security means it endures and is institutionalized. NORAD's ability to institutionalize and build upon its functional-technical experience means that when new continental defence and

security challenges emerge the command can orient itself towards these new challenges at low transaction costs relative to other unilateral or bilateral options. On the surface, NORAD turning its capabilities toward new or novel threats and unfamiliar military domains may appear to be too different for comfort compared to the command's original mission suite for the defence of North America's air approaches, presumably ill-suited for responsibilities in drug interdiction, the continental interior, and maritime warning. However, conceptualizing NORAD's role not in relation to specific threats, but rather with an eye towards its functional expertise and institutional development finds that the command has been able to move relatively seamlessly between new missions, threats, and domains. In doing so, the command remains a persistent, fungible means of defence cooperation with the ability to adapt to changes in the continental defence and security environment and is capable of withstanding the disappearance of specific threats that would otherwise mark the end of most forms of defence collaboration that tend to disappear along with the *casus fœderis*[366].

This thesis expands collective knowledge about NORAD and Canadian-U.S. defence and security considerably. NORAD's binational attribute is given definitional clarity and the implications that this attribute has for NORAD and North American defence and security are elaborated upon. Furthermore, by concentrating on the functional-technical nature of its continental defence responsibilities, the absolute gains that could be derived from continued cooperation, and the reduced transaction costs that could be capitalized upon, one can begin to understand why NORAD has continued to exist post-Cold War. While NORAD has displayed a tendency to emerge as a politically contentious topic on occasion, the events surrounding the command's acquisition of its responsibilities for drug interdiction, the airspace of the continental interior, and maritime warning were not politically-heated, garnering minimal attention from

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[366] The case for the alliance.

politicians, those at the upper echelons of government, and the public. Rather, these mission additions appear to emerge from natural functional considerations in continental defence and security advocated by those that were actually closely involved in the day-to-day operations of NORAD and other continental defence and security initiatives. A close analysis of NORAD's origins as a binational defence command demonstrates as much; a binational NORAD was the product of incremental bilateral cooperation between Canada and the U.S. for specific functional tasks beginning in the Cold War with continental air defence.

This study reaffirms the observation expressed by some throughout the literature, primarily the BPG, that NORAD was a suitable mechanism by which Canada and the U.S. could achieve maritime warning due to its successful history in aerospace warning throughout the Cold War. NORAD's history in the monitoring and surveillance of North America's airspace, the command's ability to quickly and efficiently fuse and analyze aerospace data, and its existing infrastructure used to perform these tasks demonstratively contributed to NORAD's ability to assume and carry out a maritime warning mission effectively in short order. Indeed, this same experience in the air defence of the continental exterior no doubt contributed to NORAD acquiring mandates for drug interdiction and the defence of the continental interior, and its ability to perform these duties.

This study finds that NORAD's post-Cold War development and binationalism has contributed to the command's ability to adopt its new missions, maritime warning in particular, and its ability to remain flexible within the present and future continental defence and security environment. NORAD's Cold War experience in providing air defence for the continent's external airspace in direct relation to the Soviet threat provided a solid foundation that the command could build upon for its future responsibilities for drug interdiction, the defence of the

continental interior, and even maritime warning. Drug interdiction and defending the airspace of the continental interior provided new functional challenges for NORAD to monitor and respond to drug smugglers and threats in North America's internal airspace, primarily due to the reduced speeds of these aircraft compared to Soviet bombers, ICBMs, and cruise missiles, the limitations of existing radar infrastructure for these purposes, and the need for close cooperation and communication with the various Canadian and American departments and agencies already involved in these issue-areas. While transaction costs are reduced for Canada and the U.S. with NORAD's assumption of a role in drug interdiction and the internal airspace of North America, they are not eliminated entirely. Changes, improvements, and upgrades are concomitants of new responsibilities and NORAD was required to change its protocols, upgrade its infrastructure, and foster new and improved ties with other departments and agencies in both Canada and the U.S to successfully partake in drug interdiction efforts. NORAD's move towards the defence of the internal airspace of North America benefited greatly from the advancements the command made to perform its drug interdiction responsibilities, and it continued to further upgrade its infrastructure and protocols, and engender even closer ties with various federal, state/provincial, and local departments and, civil and law enforcement agencies.

NORAD's adoption of its maritime warning mission in 2006 was facilitated by NORAD's binationalism and its functional development over the preceding sixteen years. Maritime warning in support of MDA is an ongoing, 24/7 activity that necessitates close cooperation and communication with both Canadian and American maritime actors. As a binational entity, NORAD is positioned perfectly to provide maritime warning as it is able to reach out to both Canadian and American actors to pull and access intelligence and resources and to push maritime advisories and warnings back out. However, more than being favourably

positioned to cooperate and communicate with both Canadian and American actors, NORAD actively grew this capability through its experience in drug interdiction and the defence of the airspace of the continental interior. Many of the departments and agencies that NORAD is required to cooperate and communicate with in the fulfilment of its maritime warning mission it had already cooperated and forged connections with in the past for drug interdiction and continental air defence, even upgrading its infrastructure and protocols to do so. This same logic also underscored NORAD's transition to a role in the air defence of the continental interior; the relationships the command engendered for drug interdiction were repurposed and re-established in support of its expanded air defence mission post-September 11 to prevent a repeat of that day's communication and community-wide intelligence failures.

In all fairness, there is no mechanism by which to measure empirically the impact that these existing relationships had on NORAD's ability to effectively undertake the air defence of the continental interior and maritime warning. However, neoliberal institutionalism suggests that such agreements, relationships, and experience would be institutionalized and retained by NORAD due to its formal, binational institutional characteristic. In this respect, Canada and the U.S. could have viewed their assignment of maritime warning to NORAD's mission suite as a means of reducing the transaction costs of such cooperation, due in part to the command's wealth of experience as a binational command in cooperating and communicating with actors in both states.

NORAD's post-Cold War tenure is fast approaching the length of its Cold War days. As such, it is pertinent to ask what NORAD's post-Cold War mission development—from drug interdiction, to the air defence of the continental interior, to its most recent mission addition, maritime warning—reveals in terms of the command's real and perceived utility for the defence

and security of Canada and the U.S., as well as for its future orientation. Undoubtedly, NORAD's largest responsibility remains the early warning, surveillance, and control of the airspace of North America. However, aside from reinterpreting NORAD's original air defence mandate to include control over the continent's internal airspace after September 11, NORAD's post-Cold War development has been defined by two unique functional abilities it has been able to perform as a binational entity. First, each of NORAD's three most recent mission additions has emphasized its ability to cooperate and communicate with numerous defence agencies, federal, state/provincial, and local departments and, civil and law enforcement agencies within Canada and the U.S. Second, there has been an ongoing focus on NORAD's expertise in monitoring military domains, processing and analyzing large swaths of information and intelligence, and its ability to provide timely warning of any potential threat to the continent to the relevant authorities and actors on both sides of the border. Conceptualized as a single whole, one of NORAD's central functional-technical strengths as a binational institution post-Cold War has been its ability to act as a central hub of Canadian and U.S. defence and security information, intelligence, and COPs, with personnel that possess the capability and expertise to effectively and efficiently analyze and assess this data, and upon the detection of a potential threat can communicate and cooperate with the relevant Canadian and American actors with authority over a particular situation.

If there were to be a security incident that involved land that necessitated defence cooperation between Canada and the U.S., NORAD would be the natural choice to assign this command authority. NORAD's experience in Canada-U.S. air control means that there is an institutionalized framework to build upon which could be transferable to a land or maritime control context within the binational command. Indeed, there are significant obstacles to

NORAD assuming command and control of continental maritime and land forces along the same vein as its air defence mandate, due primarily to the multi-agency nature of the Canadian and American maritime and land "right of bang," the organizational resistance from those worried their command and control mandates will be supplanted, and political resistance centred primarily around the sovereignty implications of such expansion. On top of the logistical and political impediments to such expansion, one must also question the supposed functional advantages that could be derived from NORAD acting as an integrated command over Canadian and American land forces in particular. Many commentators stress how existing bilateral agreements between CJOC and USNORTHCOM already comprise a successful basis of Canada-U.S. land cooperation in times of emergency and crisis.[367] The functional logic behind NORAD assuming command and control over a binational land force is unclear and is deserving of further inquiry. The political resistance to such expansion appears to overshadow the functional advantages of expanding NORAD in this respect.

Those within the North American defence and security community have also flirted with the possibility of NORAD moving towards an expanded role in the Arctic, given the expectation that the region will experience increased activity in the near future. However, as Andrea Charron recently argued, NORAD's role in respect to the Arctic will most likely remain unchanged. The Arctic has always been part and parcel of NORAD's air defence mission and this continues to be true. Charron argues that the current situation in the Arctic for NORAD remains status-quo and unless there is a sharp uptick in the challenges and threats facing the Arctic, an increased Arctic

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[367] See Philippe Lagassé, "A Common 'Bilateral' Vision: North American Defence Cooperation, 2001-12" in *Game Changer: The Impact of 9/11 on North American Security,* ed. Jonathan Paquin and Patrick James (Vancouver: University of British Columbia Press, 2014.

focus for NORAD is unwarranted.[368] For the time being, there appears too little functional utility to increasing NORAD's Arctic presence.

NORAD appears to be capable of adapting its strengths which have been institutionalized over the years within a unique binational structure to the functional defence and security needs of the day. NORAD is not an alliance as traditionally conceived and is not oriented towards a single, monolithic threat. Rather, it is oriented towards any number of defence and security contingencies. NORAD's binational characteristic has allowed it to adapt its functions in support of its original aerospace monitoring, warning, and control mission as the nature of the continental aerospace threat changes. Still, NORAD's external aerospace mission may gain renewed importance in the coming years as Russia proceeds with sabre rattling unseen since the days of the Cold War, as China continues its military ascendancy, and as nuclear proliferation remains as urgent a matter as ever.

What this study means for Canadian and American policy-makers is that any further expansion of NORAD is likely to display a propensity to continue along the lines of development that began in earnest with drug interdiction and led up to its most recent mission addition, maritime warning. The command possesses the ability to cooperate and communicate with both Canadian and American defence and security actors, to quickly and efficiently process and assess information and intelligence provided to it by these actors, and a capability to push information back out as needed. These tasks are much more functional and technical, free from the controversial political baggage that attaches itself to discussions over binational command and control arrangements. Rather than North American-wide all-domain command and control, the functional and institutional strengths NORAD has exhibited as a binational command

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[368] Andrea Charron, "Canada, the Arctic, and NORAD: Status quo or new ball game?," *International Journal* 0.0 (2015): 16.

highlights its potential to provide all-domain situational awareness of North America for Canada and the U.S, the land domain and Arctic included.

This research also has important policy implications for binational and bilateral cooperation in general. Policy-makers in Canada, the U.S., or elsewhere may use the functional and institutional approach as a basis to decide whether or not certain cooperative defence and security initiatives would benefit from a binational structure rather than a bilateral arrangement, or vice-versa. For instance, further study could reveal whether or not Canada and the U.S. could benefit from the binational management of its shared border. Moreover, binational cooperation is already a staple of Canada-U.S. cooperation on the Great Lakes and this study may provide some insight into the advantages that can be derived from further binational cooperation in other issue areas of mutual concern, such as for environmental purposes.

There are many avenues for potential future research. A closer examination of NORAD's responsibilities and experiences throughout the Cold War through the lens of analysis employed in this thesis could continue to frame NORAD's binational characteristic and post-Cold War experiences in a different light. With the more complete understanding of binational defence cooperation that this thesis provides, especially in relation to NORAD and its adaptability, there are opportunities to investigate further the ways in which the command's binational nature has affected the command throughout the years. For instance, there is an opportunity to investigate what limitations NORAD's binational nature has placed upon the command and continental defence. Furthermore, as NORAD is responsible for aerospace monitoring and warning, and this entails warning of ballistic missile attack, the U.S. has periodically looked at the command as a potential option for placing BMD. Another avenue of research exists in examining BMD in relation to NORAD's binational nature, such as asking if NORAD's binational framework would

stand to advantage or disadvantage BMD, and whether or not BMD would be a natural next step for NORAD following the functional and institutional development it has progressed through with its acquisition of responsibilities in drug interdiction, the continental interior, and maritime warning.

An opportunity also exists for further research into the nature of defence and security alliances and NATO in particular. For instance, the existence of binational defence cooperation and the manner in which it stands distinct from alliances may demonstrate a need for a more specific typology of military and defence relations. Conversely, it may merely point towards the fact that the current conception of alliances in international relations is overly restrictive and may need to be expanded to reflect more integrated forms of defence cooperation, that while are by no means common, have been shown to be possible and fruitful over the last half century due to the success of NORAD. On the other hand, NATO, which the literature refers to as an alliance and a multilateral organization, displays some striking commonality with binational defence cooperation/institutions. And yet, in some respects this thesis reaffirms that NATO is indeed an alliance in that Article V provides its member-states freedom of action in its foreign policy decisions. While touted as a multilateral institution, it may be more accurate to refer to NATO as multinational. Further research could determine if this is useful and if there is an important distinction to be made between multilateral and multinational, and what impact, if any, this has for NATO. Furthermore, similar to NORAD, the end of the Cold War brought about the disappearance of NATO's supposed *raison d'être* or *casus foederis* and yet the Western organization continues to remain supremely relevant. Further study into NATO's structure and functions as an organization or institution can provide some explanation for these questions and apparent contradictions through a functional and neoliberal institutionalist lens.

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