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Prevention Through Awareness: Understanding the Structure of the RCAF Is Inefficent. What Should We Do to Fix It?

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THE STRUCTURE OF THE RCAF IS INEFFICENT. WHAT SHOULD WE DO TO FIX IT?

By Major A.J. Webb

TABLE OF CONTENTS

LIST OF FIGURES

ABSTRACT

This paper argues that the RCAF structure in 2021 is inefficient and that solutions to creating a better organization can be taken from the body of knowledge found in organizational theory. The RCAF's lack of organizational efficiency is a vital consideration, for while the force remains effective, these inefficiencies are creating frustration, burnout and potential retention issues amongst its people. The inefficiency comes from three areas. First is an often-confusing organizational structure with many people having large spans of control, making it difficult for people to coordinate across units, levels and capabilities. The second is multiple divisions of the workforce horizontally without consistency of how or why they are divided across the organization. Finally, headquarters across the RCAF have been understaffed, leaving its cognitive function underpowered to adeptly coordinate and prioritize its resources while casting an eye on managing its future.

By examining the history of the RCAF's organizational structure and analyzing the current civilian analysis about organizational theory, this paper has produced 12 recommendations for consideration for ways to address the inefficiencies. These approaches will disrupt the Air Force and will be daunting to undertake. With burnout and frustration plaguing the air force while struggling to retain experience within its ranks, this paper affirms that these steps need to be considered for the continued health and success of the RCAF. Committed leadership and positive messaging from its commanders will help guide the RCAF through a transition. It has done so four times in the past 70 years, and the air force has the resiliency to do so again, especially when the end-state is a more efficient and understandable organization.

PREFACE

I have been an officer in the RCAF for 25 years as a tactical helicopter pilot. I have deployed to Afghanistan, Haiti and Mali, and have the privilege of serving as the Canadian Exchange Officer to the British Army Air Corps. Throughout my time in the Air Force, I have met many outstanding individuals who want to serve their country and work hard to enable the system that they work within. I realized that we have great people in our organization, though it seems that we end up spinning our wheels. So, what is the issue? This leads me to explore the idea of the Organizational Structure of the RCAF to determine if it might be a cause and write this paper.

My intent with this paper was to start a conversation within the RCAF without emotion about our structure. For nearly 30 years, the Wing Concept has been the central organization that has been the organizational structure for the Air Force, and few people remain within its ranks that will remember anything else. As a tactical helicopter pilot, I was able to see the other side of the organization by working within a functionally aligned organization (1 Wing and the Canadian Army), with its many pieces working in the same direction, without the burden of base issues or geography. But to do so, I needed to include a pan-RCAF approach to the issues that we face. People are leaving the organization; those that remain are frustrated and burning out. The RCAF has had to stand up Operation (Op) TALENT and Op EXPERIENCE to try and stop the exodus and attempt to retain some experience. By investigating how the RCAF is organized and looking at how to create organizational structures, I believe that this paper provides some insight that can help us get through the turbulence and flying back in the clean air.

Throughout the writing of this paper, I have received a great deal of support and encouragement from former and serving members of the Canadian Armed Forces. Their voices have helped to provide the necessary pan-RCAF feedback that such a project requires. First, I would like to thank Lieutenant-Generals (retired) Alain Parent and Pierre St-Amand, former Commanders of 1 Canadian Air Division (1 CAD), who provided their insights from the top of the operational level of the Air Force. My appreciation also goes to Major-General's Scott Clancy, former Commander 1 Wing and currently NJ3 Director Operations at NORAD HQ, and Blais Frawley, current Deputy Vice Chief of the Defence Staff and former Deputy Command 1 CAD, as well as Brigadier-General Robert (Bob) Ritchie, former Commander 1 CMBG and presently serving with the US Army, for providing their time in their busy schedules to discuss organizational theories and the military with me.

Four current and former Wing Commanders were instrumental in painting the picture at the coalface within their specific capabilities that they lead. Specifically, they

CHAPTER 1: INTRODUCTION

Human beings are an interesting study. Indeed, the entire field of psychology is devoted to understanding how people behave, their motivations, how they interact with their environment and other humans within it. One study area is how humans interact within an organization when direction and tasks need to be passed and performance needs to be measured. Since the Industrial Revolution, this field has exploded with theories of how human beings are best arranged to find the optimal structure for organizations to succeed and gain a competitive edge in their various fields.

The multiple theories and ideas on how best to organize humans are informative for understanding the Royal Canadian Air Force's (RCAF's) structure. The RCAF is a nearly 100-year-old Canadian institution, distinguished by its role in the Second World War, Korea and the Cold War, and through its operations in the post-9/11 asymmetric environment. There is no argument that the organization has risen time and again to provide its capabilities in the defence and interests of Canada. However, has it capitalized on its people to produce the most efficient outcomes to achieve these results?

Before answering this question, a discussion of the term efficiency and its application to this paper is necessary. According to one dictionary definition, to be efficient is to be "functioning effectively with little waste of effort."[1] In military and government applications and reports, too often efficiency refers to a financial cost and how much money can be saved. For example, in the 1990s the government sought to find "efficiencies" in the Canadian Forces (CF) by eliminating positions and other cost

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[1] *Collins English Dictionary & Thesaurus* (Glasgow: HarperCollins, 2005), 88.

outlays to save money as a dividend of the end of the Cold War.[2] While in one respect money was saved, the same outputs were expected to be achieved and were transferred to those personnel and units that remained. In contrast to the money-saving approach, this paper will support the viewpoint that the Canadian Armed Forces (CAF) efficiencies and the entire Department of National Defence (DND) should be seeking is the best utilization of its people. In the last 30 years, the expression "doing more with less" has become a standard phrase among military members, along with other terms such as "double-hatting" and ultimately "burned-out."[3] There is an expectation to keep doing more with less as an institution, never giving up a capability when more positions are transferred to generate a new one, when recruiting targets are not fulfilled, or when people are not retained in the service. Therefore, the definition moving forward for this paper of efficiency, borrowing from the dictionary one above, will be "[*people*] functioning effectively with little waste of effort."[4]

This paper will argue that the RCAF structure in 2021 is inefficient and that solutions to creating a better organization can be taken from the body of knowledge found in organizational theory. The RCAF's lack of organizational efficiency is a vital consideration, for while the force remains effective, these inefficiencies are creating frustration, burn-out and potentially retention issues amongst its people. Over time, failure to address the efficiencies will result in a reduction of force effectiveness.[5] The

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[2] Dr Al English and Colonel (ret'd) John Westrop, *Canadian Air Force Leadership and Command: Implications for the Human Dimension of Expeditionary Air Force Operations*, Toronto: Defence R&D Canada, 2006, 62.

[3] Author's observations based on 25 years of service in the Canadian military.

[4] *Collins English Dictionary*, 88. Emphasis added by the author.

[5] While efficient is "functioning with little waste of effort," effective is defined as "producing a desired result." One can be *inefficient* while still being *effective*, but it will ultimately cost more in the long run. Definition from *Collins English Dictionary*, 88. An example in the creation of NORAD, Canadian military planners were "keen to devise *efficient* command and control arrangements that would ensure *effective*

RCAF's inefficiency comes from three areas. First is an often-confusing organizational structure with many people having large spans of control, making it difficult for people to coordinate across units, levels and capabilities. The second is multiple divisions of the workforce horizontally without consistency of how or why they are divided across the organization. Finally, headquarters across the RCAF have been understaffed, leaving its cognitive function underpowered to adeptly coordinate and prioritize its resources while casting an eye on managing its future.

Why does the organizational structure of the RCAF matter? The Air Force is effective because it completes the missions the government assigns it, from executing North American Aerospace Defence Command (NORAD) sorties to successfully developing and deploying a heli-born Medical Emergency Response Team (MERT) to Mali within three months of being tasked to do it. It is the behind-the-scenes of these successes that the inefficiencies of the RCAF's organizational structure, of how humans interact with other humans arise. Miscommunication, misunderstanding, frustration and confusion can become commonplace as people do not understand how the structure works. Part of this could be attributed to a failure of education and mentorship throughout the force and not properly explaining how the current system functions. It can also stem from having an organizational structure that is not intuitive, and due to the overall resource constraints, has not been a priority to repair. There are indicators, which will be explored in this paper, that this situation leads to a work environment in which people may not enjoy working.

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bilateral continental air defence operations protecting North America from enemy attack." (from Richard Goette, *Sovereignty and Command in Canada-US Continental Air Defence, 1940-57* (Vancouver: UBC Press, 2018), 33.

Organizational structure matters for the RCAF because it is suffering from a retention problem. Two of the most significant issues people identified as dissatisfiers are their work/life balance and overload in their position or role.[6] Programs have been stood up to address overall retention issues, specifically Op TALENT and Op EXPERIENCE. The intent of the program is "to make the RCAF an employer of choice, and to make the decision to leave the RCAF more difficult to make."[7] There are many positive steps within the program, but few are dealing with the heart of the problem: the RCAF's inefficiency. This paper provides is a possible roadmap of how the programs, and the RCAF writ large, can genuinely focus on and fix the fundamental issues its members are struggling with by discussing how organizational theories can inform changes to make the RCAF more efficient.

Literature Review

Research into this paper can be divided into two distinct areas: the academic and business analysis into organizational theories and the understanding of the current RCAF structure. The former has been broadly written, with arguments for and against concepts throughout the literature. It is a field that has only come into being since the Industrial Revolution of the late 19th century. Some of the sources come from the middle of the 20th century, with well know organizational theorists such as Vytautas Graicunas (1933),[8] Luther Gulick (1936),[9] Lyndall Urwick (1956),[10] and Elliot Jaques (1976),[11]

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[6] Royal Canadian Air Force. *OP TALENT and OP EXPERIENCE Info Brief*, February 2021, 6.
[7] Ibid, 7.
[8] Lieutenant-Colonel L.F Urwick. "V.A. Graicunas and the Span of Control," *Academy of Management Journal* (Vol 17, No 2 (June 1974)), 349-354.
[9] Luther Gulick, "Notes on the Theory of Organization," *Papers on the Science of Administration*. (21:2-4 (1937)), 441-641.
[10] Urwick. "V.A. Graicunas and the Span of Control." 349-354.
[11] Elliot Jacques, *A General Theory of Bureaucracy*. (London: Heinemann Educational Books, 1976).

who have laid the groundwork for understanding the concepts discussed in this paper.

While these theorists have provided a cornerstone of knowledge, it has been further

expanded and debated through collections of articles and papers, with the principal

sources in this research coming from publications such as *Harvard Business Review* and

the *Journal of Organizational Theory*. The ideas proposed throughout the materials

include span of control, division of labour, and a need to control the labour and outputs,

and are all applicable to the military setting. A key takeaway from the organizational

theory literature is that there are no correct answers; the ultimate design of an

organization is situational dependent. However, understanding the authors' various

viewpoints in this field is critical to help leaders make informed choices on creating

organizational structures.

An obstacle to the researcher of the RCAF organization is the lack of

information available on its history, specifically post-unification, and even fewer

documents concerning the Air Force's organizational structure. A significant exception

is Allan English and John Westrop's *Canadian Air Force Leadership and Command:*

Implications for the Human Dimension of Expeditionary Air Force Operations (2006),

which is instrumental in understanding how Canada's air force became organized as it

was.[12] Some additional government documents have provided some insight, such as *The*

Formation of Wings (1993),[13] or various reports found from the Management, Command

and Control Re-engineering Team (MCCRT) of the 1990s. Major Stephen James'

master's thesis, *The Formation of Air Command: A Struggle for Survival,* provided a

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[12] English et al, *Canadian Air Force Leadership and Command.*
[13] Air Command, *The Formation of Wings in Air Command,* (Winnipeg: Air Command HQ, 29 April 1993).

solid platform to understand the impacts of unification and the creation of Air Command in 1975.[14] Several articles in the *RCAF Journal* also offered additional insight into the organization, building up a greater pool of knowledge of current issues. In general, however, this area specifically has very little available written information, and in particular minimal understanding of *why* the RCAF is currently structured as it is.

To develop an informed understanding of the current RCAF structure and its effects, primary sources ultimately form the bulk of the references. These include the documents as mentioned above and discussions with current and retired senior Air Force officers who were more than happy to contribute their perspective on the RCAF's organizational issues. This paper aims to fill the current void of information on how to structure Canada's Air Force. The intent is to create a new viewpoint, fusing the academic thoughts on how organization can occur with the realities of Canadian military aviation and providing a potential roadmap to address the issues found within the RCAF today. It cannot provide the *why* the force is structured the way it is today, but it allows those questions to be answered for future organizational designs and understanding.

Chapter Outline

This paper has been organized into five chapters to map out the plan to address the RCAF's organizational structure. Following the introduction, the second chapter will examine the history of the organizational structures of the RCAF. Starting in the 1940s, the chapter will move forward through the four major events that impacted its structure in the latter half of the 20th century. It will discuss the post Second World War re-arrangement from geographical commands to functional ones based on expeditionary

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[14] Major Stephen James, "The Formation of Air Command: A Struggle for Survival" (master's thesis, Royal Military College of Canada, 1989).

experiences with the Royal Air Force. Chapter two will then examine the 1960s and 1970s with the disbandment of the RCAF and the eventual standing up of Air Command. It will also analyze the impacts of the defence cutbacks of the 1990s, with the introduction of the Wing Concept in 1993, and the disbandment of the functional groups in 1997. By addressing this history, Chapter 2 allows for a greater understanding of why the Air Force is in its current structural situation.

Chapter 3 reviews the current research on organizational theory. The field for this topic is quite large and is informed through academic papers and insights from business leaders. This paper will look at three specific aspects in this area. First, it will examine spans of control, or the number of direct reports a supervisor can reasonably manage while maintaining overall effectiveness. Second, it will investigate how a workforce should be divided to achieve the desired outcomes, such as function, client served, or geography. Finally, it will look at the importance of headquarters in any structure and its benefits in providing a well-managed organization.

Taking the RCAF's history and organizational theory results, Chapter 4 will provide an analysis of the current organizational structure and offer insights based on the theory. Using the same topics broached in Chapter 3, this chapter will examine the impacts of large spans of control and responsibility, the current division of labour, and the role that headquarters (HQ) play in the existing Air Force structure. It will also explore the idea of simple organizational structures and their significance in providing efficient management. Lastly, the findings from the research will be summarized in Chapter 5, which will also include a series of recommendations that should be considered to improve the overall structure.

Conclusion

The current RCAF structure is inefficient. Effort is being wasted throughout the force because of a poor organizational structure. While the Air Force remains effective for the near future, the impacts of its inefficiency may result in a degraded overall performance over the longer term. Studying the theories of how people are grouped and structured within an organization will provide a better understanding of how to design an organization. If carried out successfully, it will culminate in a work environment where people wish to remain. The subsequent pages will set the stage by exploring how this has occurred in the RCAF since the Second World War.

CHAPTER 2: HISTORY OF RCAF ORGANIZATION

The RCAF is approaching its centenary in 2024, and it has had a remarkable history in the last 100 years. Its early beginnings in mapping the country that grew experientially through its prominent role in the Second World War resulted in the world's fourth-largest air force. Through the second half of the 20th Century, Canada's air force worked with NORAD and the North Atlantic Treaty Organization (NATO) to defend western airspace from Soviet aggression until the collapse of the Berlin Wall and the peace dividend of the 1990s. The start of the new century has seen expeditionary operations for all of the Air Force's capabilities to pursue asymmetric threats.

The RCAF's historical experiences have had an impact on its overall structure. Therefore, before an honest assessment of the current force's organizational disposition can occur, a solid understanding of how the RCAF came to this structure is required. This chapter will explore the history of the RCAF's organizational structure, starting at the Second World War,[15] and examine the influences and actions which led to the significant changes to the command and staff arrangements. These will include the functional group alignment in 1957, unification in 1968, the creation of Air Command in 1975, the major changes of the 1990s, and the latest initiatives over the last 20 years.

The Middle-Century

As war broke out in Europe in 1939, the RCAF began deploying forces to Britain. Its deployed squadrons aligned within the Royal Air Force's (RAF) functional organizational command design. In 1936, the RAF was restructured into four initial

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[15] Given the difficulty in finding resources discussing the organizational structure of the RCAF, specifically prior to the Second World War, the author has made a deliberate choice to start the investigation from the 1940s and onward. This does not change the outcome of the impact of the current structure in 2021.

commands by role: Bomber, Fighter, Coastal, Army Co-operation and Training.[16] Each

of these functional commands had a unifying purpose and were able to focus on their

assigned tasks. For example, Fighter Command was assigned the role of defending the

British Isles, while Bomber Command was tasked with offensive operations against the

Axis powers. During the war, these arrangements grew with other commands, including

maintenance, transport, and geographical commands such as the Mediterranean and Far

East Commands.[17]

Back in Canada, the structure of the home defence was much different than the

RAF's. At the start of the war the force was divided into two geographical commands,

each responsible for all RCAF units and operational matters within their assigned areas.

These were Eastern Air Command, with its HQ in Halifax, and Western Air Command,

focused on Vancouver.[18] A final command, Air Training Command, was the only

functional command, with its HQ in Toronto.[19] There were several changes to the

structure at home, most notably the expansion of the Air Training Command into four

separate commands to support the British Commonwealth Air Training Plan.[20]

Following the war, under the leadership of RCAF Chief of the Air Staff Air Marshal

Curtis, functional commands were soon established.[21] Starting with Air Transport

Command and Air Defence Group's initial creation in 1948, by 1953 the RCAF's

geographical structure was replaced with a functional one. The final six commands

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[16] Ken Delve, *The Source Book of the RAF*, (Shrewsbury UK: Airlife Publishing, 1994), 95.
[17] Ibid, 106.
[18] English et al. *Canadian Air Force Leadership and Command….*, 15.
[19] Samual Kostenuk and John Griffin, *RCAF Squadron Histories and Aircraft 1924-1968*, (Toronto: Hakkert & Company, 1977), 17. A Central Air Command was also established, though it had minimal resources.
[20] Ibid, 19.
[21] Bertram C. Frandsen. "The Rise and Fall of Canada's Cold War Air Force, 1948-1968" (PhD thesis, Wilfrid Laurier University, 2015), 9.

created were: 1 Canadian Air Division for NATO in Europe; Maritime Air Command; Air Transport Command, Air Materiel Command, and Training Command.[22] This functional organization would become the main structure of Canadian military air power until the 1990s.

The 1960s brought about the next major change for the RCAF: unification. It saw the RCAF's disbandment and integration with the Canadian Army and the Royal Canadian Navy into the Canadian Armed Forces in 1968. While the overall RCAF Air Force Headquarters (AFHQ) was eliminated, the functional structure seen from the reorganization of the 1950s remained, with capabilities being more closely aligned with their customer. In addition, the RCAF Station concept for managing bases was incorporated into the new Canadian Armed Forces (CAF) base concept.[23] From the tactical level, there was little change in how air power was exercised. At the operational level, however, the overall coordination of air effects at a central level was lost. While Air Defence and Air Transport Commands continued as before, the remaining air assets were combined with their Army Air cousins under Mobile Command (the former Canadian Army) or their Fleet Air Arm cousins in Maritime Command (the former Royal Canadian Navy). While there had not been a central agency speaking on behalf of all aviation issues previously, considering that the Army and Navy had their air assets, and Mobile and Maritime Commands retained them, the coordination of air effects was further diluted in this reorganization.[24]

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[22] Kostenuk et al. *RCAF Squadron Histories and Aircraft...,* 144.
[23] English et al. *Canadian Air Force Leadership and Command...*, 54.
[24] Lieutenant General (ret'd) William Carr, "Canadian Forces Air Command: Evolution to Founding," *The Royal Canadian Air Force Journal*, 1, 1 (Winter 2012): 14.

The results of the unification of 1968 led to the advancement for, and achievement of, Air Command in 1975. Under Lieutenant-General Bill Carr's leadership, a case was made to group all air assets into one new command. This would affect the original RCAF functions pre-1968 and take on the air units that were previously Army and RCN to combine them all into a single organization. This organization would be set up along the continued functional alignment, except that the commands would now be referred to as groups. There was significant opposition to establishing the new command from the commanders of Mobile and Maritime Command, who argued that this was pulling away key enablers.[25] General Carr was able to convince the Defence Minister, James Richardson, that not only would this allow for better management of the air domain, but its creation would also save 155 positions in the CAF.[26] This was a critical compromise to achieve the outcome of Air Command. Unfortunately, finding concessions starts to become a theme of advancing Air Force goals. As mentioned by Allan English "the structure that Air Command adopted was not the result of a holistic planning exercise, but […] the result of compromise and reorganization of structures already in being."[27]

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[25] Major Stephen L. James, "The Formation of Air Command: A Struggle For Survival." (Master's Thesis, Royal Military College of Canada. 1989), 51-60.
[26] English et al, *Canadian Air Force Leadership and Command...,* 51.
[27] Ibid, 55.
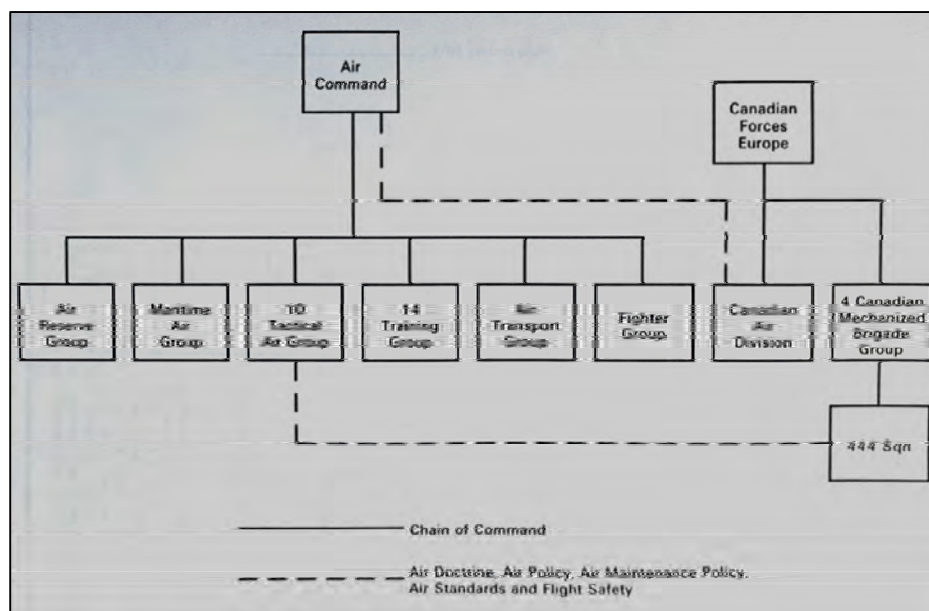
Figure 2.1: Structure of Air Command in 1989

Source: Air Command, B-GA-400 *Basic Aerospace Doctrine*, 1989, Figure 2-3A-2.

The new command stood up with four subordinate groups: Air Defence Group, Air Transport Group, Maritime Air Group and Tactical Air Group. The groups were solely responsible for providing operational effects within their assigned capabilities. Administrative and base issues were managed directly by Air Command with the base commanders.[28] Those serving during this time indicated that the system was very understandable, making it easy to comprehend who was in charge of what.[29] Between 1975-1993, there were very few significant structural changes to Air Command, with the structure aligned as per Figure 2.1. Number 14 Training Group was reintroduced in 1981, having previously been managed by Air Command itself, and Air Defence Group was renamed Fighter Group in 1982.[30] With the advent of the 1990s, the Cold War was won, and changes were required across the CAF as part of the success of peace.

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[28] James, "The Formation of Air Command"…, 92.
[29] Email discussion, Col Irvine with the author, 19 January 2021.
[30] English et al, *Canadian Air Force Leadership and Command*…, 60.

The 1990s

During the 1990s, the entire structure began to morph into the model currently seen in the RCAF. In 1993, Air Command introduced the Wing Concept, believing that the current Canadian Forces (CF) base model did not consider Air Force operations. There were several changes that this transformation brought forward. First, the base commander would now be a wing commander, double-hatted with both operational roles and support requirements. Wing commanders were also now considered a formation commander and placed in the command's operational chain. Finally, all the air elements and units were now under the command of the wing commander.[31]

The groups still existed, but were reorganized, with Training Group absorbed into Air Command HQ, and the end of 1 Canadian Air Division (1 CAD) in Europe. The new groups were no longer homogeneous, though they kept their overall roles. Each group was assigned various new wings, but as the wings were geographically aligned, the groups now took command of units that were not initially within their hierarchy. As an example, Air Transport Group (ATG) had as subordinates 7 Wing (Ottawa), 8 Wing (Trenton), 9 Wing (Gander) and 18 Wing (Edmonton) as of 1993. Both 7 and 18 Wings had former 10 Tactical Aviation Group (TAG) units (450 Squadron in Ottawa and 408 Squadron in Edmonton).[32] This created confusion about command and control of

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[31] Air Command, *The Formation of Wings…*, 2.
[32] Ibid, 14.
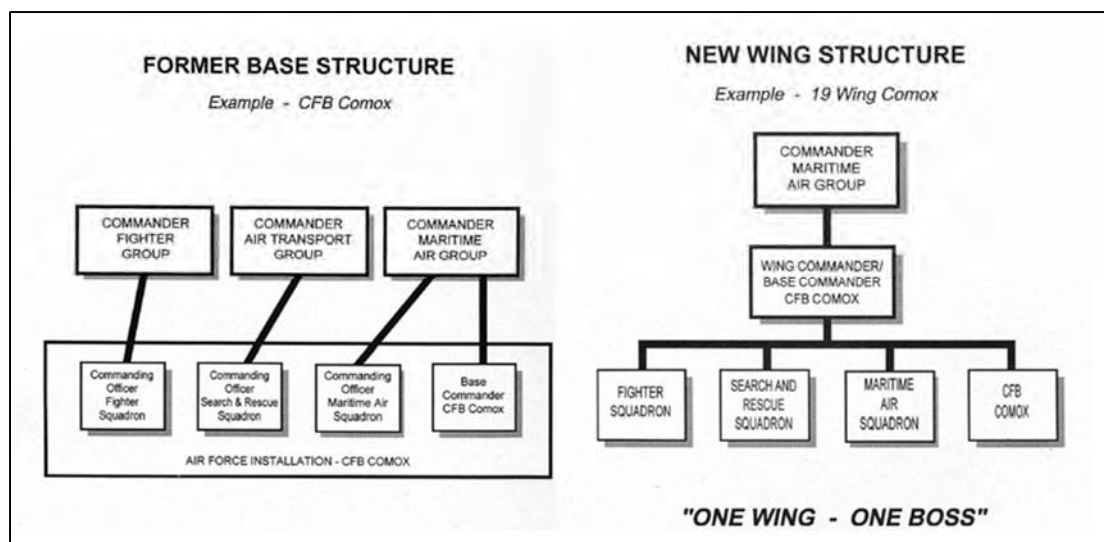
Figure 2.2: The structure that the Wing Concept brought forward

Source: Air Command, *The Formation of Wings...*, 8 & 9.

subordinate units outside of the assigned group's standard capabilities. Using 408

Squadron as an example, it was now subordinate to ATG through 18 Wing, but would

have still have had residual doctrine and tactics linkages back through 10 TAG.

There has been some criticism of the Wing Concept. In his work *Canadian Air*

Force Leadership and Command, historian Allan English points out that "although

widely acclaimed by senior airmen at the time, in retrospect the wing structure

reorganization seemed more pre-occupied with addressing perceptions than with

reality."[33] One of the key aspects of this was senior Air Command leaders' desire to

place the air force base commander within the operational chain of command. In 1976,

this had been initially achieved by a minor restructure where a base was assigned to the

most appropriate group (for example, CFB Trenton was assigned to ATG).[34] One of the

critical issues that arose with this restructure was that the groups, now in the chain of

command between bases and Air Command, had to manage administrative and support

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[33] English et al, *Canadian Air Force Leadership and Command...*, 67.
[34] Ibid, 61.

issues that they were not previously accountable for and were not populated to carry out.[35]

The Air Command publication, *Formation of Wings*, was critical of the construct. It observed that the CF base concept did not recognize that

- "the primary role of an air force base is to conduct air operations";
- that "at each Air Command installation, there is one central task, the air mission, and one person should be in charge";
- or that "[the CF] base nomenclature does not reflect the operational character of an air force installation and the air force team concept."[36]

There is no empirical evidence that shows that squadrons had difficulty executing their missions and operating from their existing bases before 1993. English states that the concept "effectively added a level of command, which was neither required nor consistent with CF organizational principles […] with little if any operational benefit."[37] The reality was that the impetus for change was not organizational effectiveness, but a desire to rebrand the Air Force.[38] In the words of the Commander Air Command at the time, LGen Huddleston:

> Air Command's main thrust is to build on the strong motivation of its people to foster an esprit de corps and dedication which comes from pride in belong to Canada's Air Force. Perhaps more important that the clinical logic of the restructure, our organizational emphasis on wing formations endeavours to capture the hearts of our people.[39]

The Air Force entered the 1990s with a new organization that seemed to emphasize its identity more than the actual employment of air power. The end of the Cold War would make a subsequent significant impact on its structure. The

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[35] Ibid, 67.
[36] Air Command, *The Formation of Wings…*, 6-7.
[37] English et al, Canadian Air Force Leadership and Command…, 67.
[38] Email discussion, Dr English with the author, 20 January 2021.
[39] Air Command, *The Formation of Wings…*, 2.

government's need for financial savings to reduce its debt saw the requirement for large cuts to the defence budget. Over $3 billion was eliminated from DND's annual budget, which included base shutdowns, positions slashed and fleets reduced or scraped.[40] One method to achieve this was the standup of the Management, Command and Control Re-engineering Team (MCCRT) to eliminate positions within HQs, and entire HQs if possible. Across the CF, 14% of the department (14,000 personnel) were involved in HQ functions, and it was felt at the time HQs were consuming too large a portion of the overall CF resources.[41] The MCCRT would need to create a new command and control structure for the military by 1997, with a better "tooth-to-tail" ratio, and one layer of headquarters would need to be eliminated. It was set the task of removing 50% of HQ positions by 1997.[42]

Air Command stood up the Air Force Command and Control Redesign Team (AFCCRT) in September 1995 to look at the process of reducing its various HQ positions. The changes it proposed and implemented were drastic. Air Command HQ in Winnipeg was replaced with 1 Canadian Air Division (1 CAD) as the operational level in Winnipeg and created an Air Staff, which moved to Ottawa. The group level was eliminated, and their functions were absorbed into the new 1 CAD HQ.[43] While some wings were eliminated in the cuts (for example, 7 Wing in Ottawa), the result, illustrated in Figure 2.3, was the cutting the group headquarters. This saw the operational level HQ change from an average of four subordinate wings before the AFCCRT to having 13

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[40] LGen (ret'd) Michael K. Jeffery, *Inside Canadian Forces Transformation: Institutional Leadership as a Catalyst for Change*, (Kingston: Canadian Defence Academy Press, 2009), 3.
[41] Department of National Defence, *Management, Command and Control Re-engineering Team, Phase 1 Report*. (MCCRT Document Number 17.3, March 1995), 11.
[42] Ibid p 4.
[43] Air Command, 1901-3999 (Comd) *Master Implementation Plan for the Stand-Up of 1 Canadian Air Division/Canadian NOARD Region Headquarters* (July 1997), 1/9.

wings in 1997, while the new strategic HQ of the Air Staff only had one subordinate, 1 CAD.[44] Overall, while the Canadian Forces overall lost 20% of its effective strength through the MCCRT process, the Air Force took the large brunt of the cuts with 48% of its positions eliminated.[45]
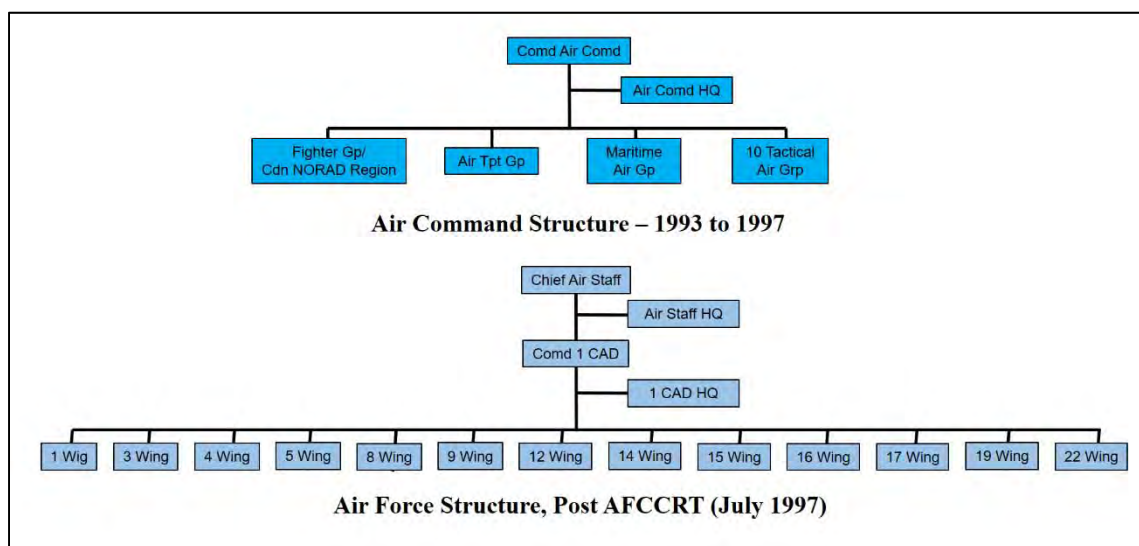
Figure 2.3. Illustration of the pre and post AFCCRT structure of the Air Force.

Source: Produced by the author, based on Air Command, 1901-3999 (Comd) *Master Implementation Plan for the Stand-Up of 1 Canadian Air Division/Canadian NORAD Region Headquarters* (July 1997), A1/1 and B1/5.

Much like the implementation of the wing concept only four years prior, there were several criticisms of Air Command's approach in its reorganization. First was the lack of strategic alignment between the strategic, operational and tactical organizations in their staff.[46] At the Air Staff level, Director General (DG) titles were used, 1 CAD introduced the continental system with the A-staff, while the Wing level continued to use the staff structure of the wing concept (i.e., Wing Operations Officer, Wing

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[44] Ibid, 1/9.
[45] English et al. *Canadian Air Force Leadership and Command…*, 56.
[46] Email discussion, LGen (ret'd) St-Amand with the author, 25 January 2021.

Administrative Officer, etc.).[47] It is noteworthy that the AFCCRT had recommended that the Air Force needed "to install 'A-staffs' at every wing and establish the single point of entry for mission-related activity."[48] However, once the program was disbanded, only 1 Wing adapted this system.

The more significant issue resulting from the restructure was eliminating a functional focus by commanders on their various capabilities. The former structure placed the importance of the air force functions established by those who fought in the Second World War and had been part of air operations for over 40 years. In response to this, the Air Force established Capability Advisory Groups (CAGs), a set of informal groups where key individuals would be charged with the conduct and sustainment of their assigned capability.[49] The CAGs have no formal authority over similar units that they represent. For example, Commander 14 Wing is the CAG chair for the Long Range Patrol (LRP) capability, and as the Comd 14 Wing has direct command of the LRP units in Greenwood, but the unit in Comox is under the command of Comd 19 Wing. The CAGs also do not have assigned staff. Whereas the former groups could plan for the future, many current CAGs must double hat their wing staff, or carry out the work themselves to carry out capability planning.[50]

The 21st Century

The changes that occurred in the 1990s still remain the main structural component of the RCAF in the 21st Century. While not as prominent as the restructuring

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[47] Paul Johnston, "Staff Systems and the Canadian Air Force: Part 2 A Convoluted Evolution," *The Canadian Air Force Journal*, 1, 3 (Fall 2018): 25.
[48] Air Command, *Flight Plan 97 Executive Summary: Where's the Beef and What's the Future?* (Prepared by Col Mould, 23 May 1997), 6.
[49] English et al, *Canadian Air Force Leadership and Command…*, 73.
[50] Email discussion, Col Moar with the author, 2 March 2021.

previously seen, several more minor changes have occurred between 2000-2020. The standup of 2 Canadian Air Division (2 CAD) in 2009 saw the establishment of a training division reporting directly to the Chief of the Air Staff, with the associated wings of 15 Wing (Moose Jaw), 16 Wing (Borden) and eventually 17 Wing (Winnipeg) assigned from 1 CAD.[51] In 2012, 2 Wing was established and assigned within 1 CAD under the Air Force Expeditionary Capability (AFEC) concept to provide high-readiness personnel that could deploy to establish expeditionary command and control structures.[52] In 2017, the RCAF Aerospace Warfare Centre (RAWC) was elevated to Level 2, and is now on par with 1 & 2 CAD, providing the Comd RCAF with three subordinate formations at their command.[53] Around the same time, the wings' organization was adjusted, moving away from the original 1993 generic wing organization, and replacing it with the Operational Support Squadron (OSS), Mission Support Squadron (MSS) and a Deputy Wing Commander structure.[54]

One structural change of note occurred in 2012 when the Air Force took the first step towards creating functional wings. This concept was not a new one, as MGen Duval initially proposed in the mid-2000s.[55] It was also discussed within the *Canadian Air Force Journal* in 2009 in an article by LCol Lee Smith, who argued that "a wing should be a fighting formation, made up of two or three squadrons [of similar capabilities]."[56] The Comd 1 CAD, MGen Parent, felt that there were too many people involved in the

[51] Col Rick Witherden, "2 Canadian Air Division," *Royal Canadian Air Force Journal*, 5, 3 (Summer 2016): 9.
[52] Royal Canadian Air Force, *B-GA-402-005-FP-001 Expeditionary Air Operations*, November 2020, 1.
[53] Matthew Kuhn, "Project Optimize Air Force: The Strategic Awakening of the RCAF." (Master's Thesis, Canadian Forces College, 2020), 66.
[54] Email discussion, LGen (ret'd) St-Amand with the author, 1 March 2021.
[55] Email discussion, MGen Clancy with the author, 23 February 2021.
[56] Lieutenant-Colonel A Lee Smith, "The Wing Concept Revisted: The Adoption of Capability-based Wings as an Alternative to Groups" *The Canadian Air Force Journal,* 2, 2 (Spring 2019): 59.

generation and employment of capabilities. He advocated "to have only one dog to kick" when the Commander needed to discuss specific capabilities issues.[57] By spring 2012, a message was sent to Comd 14 Wing and Comd 19 Wing, changing their reporting relationships, with 19 Wing becoming the functional wing for Search and Rescue (SAR) and 14 Wing the same for LRP. For three weeks, this new arrangement existed until LGen Blondin was appointed the Comd RCAF, who promptly ended the new process and returned both wings to the previous status quo. According to MGen Parent's successor as 1 CAD, MGen St-Amand, the decision to end the functional alignment was that it would take a lot of effort to make it work properly and that, at the time, the effort was not worth the possible gains.[58]

Conclusion

The structure of the RCAF in 2021 has not changed much since the transformations of the 1990s. It currently has 12 subordinate wings, all geographically aligned or composite wings, except for 1, 2 and 12 Wing being functionally aligned. It is a dynamic organization that has seen operations on five continents over the last ten years, with operations in Afghanistan, Africa, the Middle East and Eastern Europe, in addition to its role defending North America in conjunction with the United States in NORAD, and domestic response to national catastrophes.[59] The force works to sustain its mission, to "provide the CAF with relevant, responsive and effective air and space power to meet the defence challenges of today and into the future."[60] It continues to accomplish its tasks with success and accolades.

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[57] Email discussion, LGen (ret'd) Parent with the author, 2 February 2021.
[58] Email discussion, LGen (ret'd) St-Amand with the author, 1 March 2021.
[59] RCAF Website, http://www.rcaf-arc.forces.gc.ca/en/index.page, last accessed 12 April 2021
[60] Royal Canadian Air Force, *RCAF Vectors,* (Trenton: RCAF Air Warfare Centre, 2014), 1.

Many decisions have been taken to establish the best structure for the RCAF over the last 70 years. In several cases, resource constraints were one of the major obstacles to achieving the best organization. The resulting structure in 2021 is an overall compromise to ensure the conduct of operations while continuing to do more with less. The Air Force remains effective, able to generate air power and meet the current demands placed on it, but at a cost. It is the concessions of the previous decades have caused it to become inefficient overall, and has potentially mortgaged its future efficiency to sustain its operations today with the resulting poor structure.

Having seen how the RCAF has arrived at its current organizational alignment, the next chapter will examine organizational theories. These are critical to understand how the current structure is inefficient by understanding how organizations in general find effective means to coordinate their personnel. The intent will be to look at the force's structural arrangements and determine what is not conductive while determining what changes could be applied moving forward, potentially seeking a better compromise between what is ideal to what is practical.

CHAPTER 3: UNDERSTANDING ORGANIZATIONAL THEORY

Humans are social beings who have become ingrained with structure throughout their lives and throughout generations. There are class structures, family structures, social structures, and team structures, to name a few. In the majority of structures, authority, responsibility and direction come from higher up in the chain and moves down. Since the Industrial Revolution, many have entered the field of organization theory to determine the ideal practices which can be applied to best structure humans to complete tasks. How many individuals can report to a single individual? Should people be grouped by their output or location? Are flat organizations better than hierarchical ones?

This chapter will examine the various theories of organizational concepts to allow for an effective analysis of the current RCAF structure. Although the overwhelming majority of these concepts comes from outside of the military, they are still applicable to a military organization and the profession of arms writ large. While leaders within the military can compel subordinates to go into harm's way as well as unleash lethal force, they must also manage humans, and will need to draw on the same experiences as their civilian counterparts.[61] There will be four key areas this chapter will examine. First, it will explore what an organization is and how it relates to this conversation. Second, the concept of span of control, and the advantages and issues of determining the best outcome will be discussed. Next, an examination of the various ways that humans can be organized will be undertaken to better understand the practice.

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[61] Andrew Webb, "Addressing the Need for a Functional Wing Concept" (Joint Command and Staff College Service paper, Canadian Forces College, 2021), 4.

Finally, a review of the roles of headquarters in both civilian and military organizations will look to determine any lessons that can be gleaned.

Defining an Organization

Before beginning the investigation of organizational theory, the question of what entails an organization deserves an examination. An *organization* "is a tool people use to coordinate their actions to obtain something they desire or value – that is, to achieve their goals."[62] An *organizational structure* "determines where formal power and authority are located […] It channels the energy of the organization and provides a "home" and identity for employees. The structure is what is shown on a typical organization chart."[63] Finally, *organizational design* "is the means for creating a community of collective effort that yields more than the sum of each individual's efforts and results."[64] These three elements are essential to understand in a discussion about the structure of the RCAF or any organization. The span of control, division of labour, and role of headquarters all impact these three definitions and will be explored individually to determine their effects on organizations.

Another aspect to consider is the difference between an *organization* and an *institution*. According to Elias Khalil, in his 1995 work *Organizations Versus Institutions,* "organizations are agents like households, firms and states that have preferences and objects. Institutions are formal and informal social constraints (rules, habits, constitutions, laws, conventions) which apparently reduce the total scarce

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[62] Gareth R Jones, *Organization Theory, Design and Culture* (New York: Pearson Education Inc, 2013), 2.
[63] Jay Galbraith, Diane Downey and Amy Kates. *Designing Dynamic Organizations* (New York: American Management Association International, 2002), 3.
[64] Galbraith et all, *Designing Dynamic Organizations…*, ix.

resources available."[65] In other words, institutions provide guidance, and as seen in the previous paragraph, organizations are the actual interactions of people. This paper will focus solely on the structure of organizations and how to build one to accomplish its goals.

Span of Control and Hierarchy

One of the first theories that will be investigated is the concept of span of control. This refers to how many people a single manager can effectively supervise and develop. Many theories have been postulated about what are the most effective spans that people can control. One of the first people to quantify thoughts about this concept was Vytautus Graicunas in 1933. He stated that "no supervisor can supervise directly more than five or, at the most six subordinates whose work interlocks."[66] Luther Gulick, another author who has written extensively on the topic, adds the psychological term span of attention. He argues from a 1936 dissertation that "in any department of activity the number of separate items to which the human brain can pay attention at the same time is strictly limited […] in the vast majority of cases the "span of attention" is limited to six digits. The same holds good of other intellectual activities."[67] The common understanding is that the more complex the task completed, the smaller a manager's span of control should become to allow them to have a higher degree of oversight. In contrast, straightforward tasks or highly disciplined teams could potentially provide managers with wider spans.

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[65] Elias, L. Khalil, "Organizations Versus Institutions," *Journal of Institutional and Theoretical Economics* (151/3 (1995)), 445.

[66] Lieutenant Colonel L.F. Urwick, "V.A Gracunas and the Span of Control," *Academy of Management Journal* (Vol 17, No 2 (June 1974)), 351.

[67] Luther Gulick, "Notes of the Theory of Organization," *Papers on the Science of Administration*. (21:2-4 (1937)), 630.

While the theory has been in existence for nearly 90 years, civilian organizations have been steadily increasing their spans of control in practice. According to the *Harvard Business Review (HBR)*, between 1986-1990, a sample of Fortune 500 companies found an average of 4.7 positions directly reported to the Chief Exeecutive Officer (CEO). Between 2004-2008 this figure more than doubled to 9.8 direct reports. These companies are successful, and the business community's current trend points towards increased spans size.[68] One counter-argument to Graicunas' line of thinking is that every leader is different, and the context of the situation will also have a bearing on the successful outcome. For example, practical training for managers can put everyone on the same page. At the same time, trust can be built between the superiors and subordinates, requiring time and a degree of competency to establish. It is not the number of direct reports a supervisor manages; it is what that individual can get out of having those direct reports.[69]

There are warnings of increasing spans on managers and organizations as a whole. The first is an increased temptation for a manager to micromanage their teams or get stuck in the day-to-day aspects of the organization vice looking strategically.[70] A second concern is the amount of time available for subordinates to see their supervisor. The larger a span that a leader has, the more it will be challenging to have meaningful discussions and feedback with their team, and subordinates may start to feel ostracized or neglected as their boss does not seem to have the time available for them.[71] Finally,

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[68] Gary Neilson and Julie Wulf, "How Many Direct Reports," *Harvard Business Review* (Vol 90, Issue 4 (April 2012)), 114.
[69] Mike Myatt, "Span of Control – 5 Things Every Leader Should Know," *Forbes.com,* last accessed 3 Mar 2021.
[70] Neilson et al, "How Many Direct Reports"…, 116.
[71] Elliot Jacques, *A General Theory of Bureaucracy*, New York: Halsted Press. 1976, 83.

large spans can lead to burn out for managers. It is not easy to balance understanding

and organizing the work of many subordinates while also focusing on their specific job

requirements. The more complex the situation becomes, the more taxing larger spans of

control can become on a supervisor.[72]

Understanding the concept of complexity is essential within the context of

organizational design. Organizations divide their tasks in many different ways, and

complexity comes from the "ways to coordinate and control the subparts so that their

separate activities mesh and the more complex an organization is, the more difficult it

becomes to achieve such coordination and control."[73] Put another way, as Tolbert & Hall

note, "the greater the number of occupations and the longer the period of training

required, the more complex the organization."[74] This is a crucial attribute to consider

when designing an organizational structure. While it has been argued that different

people can handle different spans of control, the increasing level of complexity in an

organization does make it more challenging for an individual to manage large spans.[75]

One aspect that comes out of the span of control is the resulting organizational

structure that results from the number of direct reports going up a chain of command.

There are generally considered to be two types of overall hierarchal structure: a tall, or

pyramid, one, and a flat one. Flat organizations are generally seen with large spans of

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[72] Ibid, 84.

[73] Pamela Tolbert and Richard Hall, *Organizations: Structures, Processes and Outcomes* (New York: Routledge), 27.

[74] Jerald Hage, "An Axiomatic Theory of Organizations," *Administrative Science Quarterly* (Vol 10, Issue 3 (December 1965)). 294.

[75] Valerie Smeets, Michael Waldman and Frederic Warzynski, "Performance, Career Dynamics and Span of Control" *Journal of Labour Economics* (37:4), 1185. This publication gives two specific examples that can impact the span of control an individual can mange: a manager's level of education, or previous performance/experience level.

controls for managers and leaders and few layers between the bottom and top.[76] Some of the positive aspects stated about these structures are that they promote a higher amount of decision-making and the associated empowerment at lower levels with less supervision.[77] This style of structure has been associated with the technology industry from the late 1990s onwards and is thought to encourage innovation and the free-flowing of ideas.[78]

It has come to light that there are issues with a flat organization which many businesses have learned. First, the span of control in a flat structure is large, making it difficult to coordinate and control. One observation from a company that attempted this organization found that "for initiatives that require coordination across functions, it can be time-consuming and divisive to gain alignment."[79] Secondly, because there is a lack of structure, informal ones naturally emerge. Where this becomes dangerous is in Jo Freeman's discussion from *The Tyranny of Structurelessness* that "as long as the structure of [a] group is informal, the rules of how decisions are made are known only to a few and awareness of power is limited to those who know the rules."[80] Organizations that require a high level of accountability and responsibility typically are best to avoid structuring in this manner

On the opposite end of the spectrum is the hierarchal pyramid, or the tall organization. It is what is generally pictured when imagining the structure of large

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[76] Garth R Jones *Organizational Theory…*, 123.
[77] Craig William, "The Nature of Leadership in a Flat Organization," *Forbes.com*, last accessed 3 March 2021.
[78] David A Garvin, "How Google Sold its Engineers on Management" *Harvard Business Review* (December 2013), 75.
[79] "Nails in the Coffin: Why a flat organizational structure will fail," *getlighthouse.com,* accessed 17 March 2021.
[80] Jo Freeman, "The Tyranny of Structurelessness," *Women's Studies Quarterly* (41: 3&4 (Fall/Winter 2013), 232.

companies or government bureaucracies. There are multiple layers between the top and the bottom of the organization, with managers at each level. Generally, in the hierarchal structure, these managers tend to have smaller spans of control. Many start-up organizations want to avoid setting themselves up in this fashion as they perceive that they will have a bureaucratic system and lose their flexible edge. While some have argued that all organizations that grow will ultimately become a hierarchy, others push back with the overarching concern "that the hierarchical structures prevailing in many organizations tend to stifle any dialogue on ideas arising from the shop floor or the front line."[81] Google is an example of a company that wanted to eliminate managers, but found out that these positions helped out the organization in many important ways, such as "communicating strategy, helping employees prioritize the project, facilitating collaboration, supporting career development and ensuring that processes and systems aligned with company goals."[82]

The negativity associated with tall organizations typically comes from the term "bureaucracy." The term was defined in the early 20th century by Max Weber, a German sociologist, as "a form of organizational structure in which people can be held accountable for their actions because they are required to act in accordance with well-specified and agreed-upon rules and standard operating procedures."[83] In and of itself, the term bureaucracy defines the majority of the organizations today. According to Jacques Elliot, bureaucratic/bureaucracy as negative terms can "be applied to any organization which has become monolithic, ensnared by its own regulations and

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[81] A Georges Romme, "Climbing up and down the hierarch of accountability: implications for organization design" *Journal of Organizational Design* (8:20), 1.
[82] Garvin, "How Google Sold its Engineers on Management"…, 75.
[83] Jones, *Organizational Theory…*, 134.

hamstrung by red tape, or […] cannot learn from its own errors."[84] Elliot postulates that bureaucracies that are failing like this "are those which have outgrown their organizational structure or have never had an adequate structure, and which are too rigidly controlled from the centre."[85] Failing to provide effective feedback loops that allow managers at multiple layers to see the impact of their decisions helps create the red tape. Using the Google example above, the company's leadership found that they created great managers when training and feedback were provided to their leaders. They found that the hierarchy worked better and that great managers also lead to greater satisfaction for workers in their jobs.[86]

A final example of vertical versus flat structures is Canadian Helicopters Ltd., a successful Canadian aviation company operating 112 aircraft of nine varying types throughout the country. The company is focused on the same overall function and is subdivided into two regions, east and west, with seven bases per division. According to Andrew LeBlanc, the Vice President of Operations of the company, a vertical alignment was the best approach, though there were benefits and drawbacks. The cons were increased costs, as there was a need to duplicate roles to support the two divisions, requiring multiple chief pilots within their divisions. A flat organization would have seen a span of control of 14 subordinates and potentially few managers. But for the company, the benefits of smaller spans resulted in gaining overall control of the organization and being able to serve their customers better.[87]

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[84] Jacques, *A General Theory of Bureaucracy…*, 51.
[85] Ibid, 2.
[86] Garvin, "How Google Sold its Engineers on Management"…,77.
[87] Email discussion, Mr. Andrew Leblanc with the author, 25 January 2021.

Division of Labour

While the span of control of supervisors and the subsequent associated hierarchy is one aspect that needs to be considered when designing a structure, another that needs to be considered is how the workforce will be arranged to achieve the organization's desired outcomes. This process, referred to as differentiation or as the division of labour, is where "an organization allocates people and resources to organizational tasks and establishes the task of authority relationship that allows the organization to achieve its goals."[88] This definition is similar to the one for complexity discussed earlier, but there is a fundamental difference. Differentiation determines and places the resources in various divisions or departments, while complexity refers to how the multiple divisions interact. A complex organization has many different divisions of labour.

There are two types of differentiation: vertical and horizontal. Vertical differentiation is "the way an organization designs its hierarchy of authority and creates reporting relationships that link organizational roles and subunits."[89] Generally, complex organizations are seen as pyramid organizations, with many levels between the top and bottom of the structure. As seen with the span of control, the higher the complexity, on average, there is a decrease in the spans which managers are given with direct reports, in order to increase overall supervision and accountability. This decrease tends to increase the vertical differentiation of an organization.[90]

Horizontal differentiation refers to how tasks are grouped into roles and units across an organization. The more divisions of the roles and creation of teams result in an

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[88] Jones, Organizational Theory…, 92.
[89] Ibid, 97.
[90] Tolbert et al, *Organisations…*, 31.

increase in the organization's overall complexity. According to Tolbert and Hall, increasing the horizontal complexity in an organization can be a positive aspect. It allows people to specialize within their field and focus on their tasks, resulting in greater overall efficiency. However, they caution that as complexity increases, so does the need to provide effective command and control across the horizontal span of the structure.[91] As the horizontal divisions increase, there will likely need to be a balance between supervisor spans of control and the addition of vertical levels. Organizations that seek to maintain flatter organizations with fewer levels between the boss and the workers on the floor will be faced with increasing the number of direct reports going to their supervisors.[92] This becomes one of the dilemmas for organizational design. Is it better to maintain overall control within an organization or to have fewer levels of management?

An organization can group people and tasks horizontally in several different ways. The four main ones that are found within many organizational theory texts are product focused; customer-focused; geographical grouping; and the matrix structure. Every organizational situation is different, and the design solution exists between these four main grouping styles. What drives a company to pick one design over another will ultimately come from its strategic direction on how they see the organization operating.[93] In most cases, groups need to be banded together, as people desire to work together with a unifying purpose. From Gulick's work, he states, "any organizational structure which brings together in a single unit work divisions which are non-homogeneous […] in purpose will encounter the danger of friction and inefficiency."[94]

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[91] Ibid, 29.
[92] Ibid, 30.
[93] Galbraith et all, *Designing Dynamic Organizations…*, 24.
[94] Gulick, "Notes of the Theory of Organization"…, 454.

The first horizontal grouping to be explored is the product structure, which can also be referred to as a functional alignment. In this arrangement, groups are organized within their functional alignment to support the production of their output product. A "product" can be considered either a good or service. There are solid arguments for this type of structure. Using a single director with all the required resources, the team can press forward with some autonomy and increase the certainly to complete the required tasks or goals. This is amplified because people working in such a structure have a unifying purpose, which is understood by the entire team, making this a very efficient possibility.[95] There are drawbacks to this structure. The first is divergence. The advantage of an autonomous group can become a disadvantage, and multiple product structures may end up competing with each other, lose sight of the organization's goals, and lead to stove-piping. This leads to the second detractor of duplication. Some core functions, such as human resources or finances, can become more strongly aligned to the product division than the overall organization.[96] There is a need for organizations using the product structure to develop lateral processes and vertical oversight to ensure that any potential stove-piping can be reduced or eliminated.

Secondly, the client-based structure sees the arrangement of resources and personnel to focus on a specific customer. The job of each grouping is to design and implement either products or services based on what a customer group is seeking.[97] It is similarly structured in many ways to that of the product structure; however, the outcome is based more on a client's needs than a specific product or service. The positives for this

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[95] Ibid, 466.

[96] Galbraith et all, *Designing Dynamic Organizations…*, 71.

[97] Jones, *Organizational Theory…*,164.

way of structuring include building strong relationships between the client and the organization that can endure over time, which leads to the second constructive aspect of this structure, the ability to use those relationships to help customize effective outcomes.[98] This style of organization also has the same disadvantages as the product grouping, with one notable exception. Focusing on the customer can dilute the overall output of the department if there are multiple customers in a single stream or the potential of having one client that dominates others.[99]

The geographical alignment seeks to align groups within an organization through cartography, bringing together people and services under one boss, with the unity of effort being coordinating their output for a specific area. The geographical divisions can be of varying size, such as by city, province, region, or country. They are all dependent on the overall outcome that the organization is trying to achieve with its structure. Many positive factors come from this type of horizontal grouping. There is the initial practical aspect of reducing travel expenses and speed up administrative decisions, assuming that many of those functions are delegated down to this grouping level.[100]

Dividing by area also allows those operating in those regions to understand the requirements of a given place better and tailor the organization's outputs to maximize that knowledge and adapt to local areas.[101] Finally, there is the ability to have most of the team working within the same time zone and in international settings, having similar language and cultural considerations. The detractors for the geographical approach are similar to product and client-based alignment. Unlike the other two forms of structure,

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[98] Galbraith et all, *Designing Dynamic Organizations*…, 73.
[99] Gulick, "Notes of the Theory of Organization"…, 470.
[100] Gulick, "Notes of the Theory of Organization"…, 473.
[101] Tolbert et al, *Organisations...*, 30

the geographical alignment generally requires having a standard across all of its regional divisions, increasing the need for further oversight. For example, a fast-food chain that seeks to provide the same level of quality and service across multiple regions will need to ensure that each division approaches their outputs in the same manner.[102]

Finally, the matrix structure is a more modern take on structuring personnel and resources. It attempts to align people between their functional tasks (for example, financial, legal, operations, etc.) and the expected output of the company by being assigned to a project team. The expectation is that this creates a flatter, decentralized, flexible organization with a situation where people end up having two different bosses, their functional boss (for example, the Vice President of Finance) and their project manager.[103] The expected advantage of this structure is the forcing of a multidimensional view for those involved while having a more effective use of specialized resources and people within a project.[104]

Unfortunately, there are also many negatives associated with this organizing style, which has seen it fall out of favour within industry as a group alignment process. One of the first things is the lack of actual structure found within the matrix, which generates role conflict with those assigned. For example, one boss may have one approach, and the other boss has an entirely different method, resulting in an increase in overall friction or conflict within the grouping, with more time required to solve these issues.[105] This also conflicts with the principle of unity of command, which applies both

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[102] Galbraith et all, *Designing Dynamic Organizations…*, 67.
[103] Jones, *Organizational Theory…*,166.
[104] Galbraith et all, *Designing Dynamic Organizations…*, 171.
[105] Jones, *Organizational Theory…*, 168.

in civilian and military organizations, where a single individual ideally is in charge.[106] Another considerable concern is the need to lead this type of structure carefully. Over time "people in a matrix structure are likely to experience a vacuum of authority and responsibility [which leads to] high levels of stress and uncertainty."[107]

In designing organizations, these horizontal structures can be different at varying levels of the vertical structure. For example, a company may decide that it is better to divide geographically and then apply functional or client divisions below. This type of design is referred to as a hybrid structure and is found in many large organizations.[108] In the same fashion that there is no right answer for how an organization is grouped horizontally, the same is true of groupings along the vertical structure. Various factors will drive decision-making and will influence different organizations in their distinct manner. This also becomes a danger for firms trying to copy the structures of successful companies: what might have worked for them might not work for others. Organizations need to understand their strategic direction before they design or modify their structure.[109]

Coordinating Multiple Levels – The Need for Headquarters

One of the key themes seen through the four horizontal types of groupings is the need to coordinate the efforts of those teams at a higher level. The risk of stove-piping is a genuine issue for organizations, as seen in the structural alignments discussed above. To overcome this, headquarters (HQs) are created to coordinate and control the various

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[106] Royal Canadian Air Force, B-GA-402-001/FP-001 *Royal Canadian Air Force Doctrine: Command and* Control (Trenton: Canadian Forces Air Warfare Centre, July 2018) 3, and emphasized by Mr. Andrew Leblanc, Vice-President Operations for Canadian Helicopters, in an email discussion with the author, 25 January 2021.
[107] Jones, *Organizational Theory...*, 168
[108] Ibid, 170.
[109] Galbraith et.all, *Designing Dynamic Organizations…*, 24.

horizontal divisions. For civilian firms, these are referred to as Corporate HQs (CHQs). CHQs provide several key aspects to the running of the organization. It carries out the administrative and some support functions of groups, monitors the performance of its assigned divisions, conducts the long-term planning for the overall structure, and finally balances resources between its multiple divisions.[110] It can be considered as holding the cognitive functions of an organization, regardless of the level that a HQ finds itself. A well-designed and run HQ will eliminate stovepipes and find the efficiencies between its divisions to find success.

Within a HQ there is a reference to line and staff positions. This is true both within military and civilian organizations. Line positions refer to "managers charged with designing, making and selling the company's products or services."[111] This could also be referred to as the "lines" on the vertical grouping between the various horizontal alignments. The staff are those positions that support the line, which the majority of personnel found in an HQ do.[112]

Interestingly, in the body of research about organizational theory, little is given to designing and organizing a HQ. In the *Journal of Organizational Design*, Andrew Campbell states that "CHQ often do not have a documented strategy for the CHQ [and that] corporate strategy rarely says much about the work of or role of CHQ."[113] He states that this leads to the perception that HQ is a strain "asking endlessly for information,

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[110] Nicolai Foss, "On the Rationales of Corporate HQ" *Industrial and Corporate Change* (Vol 6, No 2 (1997)), 314.
[111] Robert M. Tomasko, "Reducing the girth of corporate headquarters staff," *Management Review* (January 1984), 27.
[112] Jaques, *A General Theory of Bureaucracy...*, 259.
[113] Andrew Campbell, "Reflections on the design of corporate HQ," *Journal of Organizational Design.* (9:15 (2020)), 3.

slowing down decisions, and imposing inappropriate constraints."[114] Another aspect

about headquarters is that when cost-cutting generally occurs, they are generally the first

part of an organization targeted for cuts. Terms such as "bloat" and "corporate burden"

come to mind, and many organizations seek to reign in their headquarters personnel in

the attempt to control costs.[115]

While cutting HQs is an easy target with the belief that a leaner HQ will result in

greater savings, current research points in a different direction. *Harvard Business

Review* conducted a study of over 600 companies worldwide and found that companies

with HQs that were on average 20% bigger were more successful overall. In the *Journal

of Organizational Design*, Nicolai Foss explains this observation that the difficulty in

having HQs that are too small as they "may imply relatively weak supervision

capabilities and a lack of capabilities of synthesizing information from the rest of the

organization."[116] In some instances, the staff within a HQ is sometimes referred to as the

"tail" of the organization, the support method that allows the "teeth" of the organization

to get stuck into the operations of the company. English clearly demonstrates the danger

of this analogy:

> We know that any […] animal is a complex biological system that
> includes a brain, nervous system, lungs, digestive and immune systems,
> and so on. Consequently, when considering what cuts to make [in an
> organization], one might change the current underlying assumption about
> where to make cuts by posing the questions 'is it better for the animal to
> lose a tooth or two, or a significant part of its brain?'[117]

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[114] Ibid.

[115] Sven Junisch, Markus Menz and David Collis, "Corporate headquarters in the twenty-first century: an organization design perspective" *Journal of Organizational Design*. 9:22 (2020): 16.

[116] Nicolai Foss, "The corporate headquarters in organization design theory: an organization economics perspective," *Journal of Organizational Design* 8, 1 (1997): 3.

[117] Allan English, "Cultural dissonance ethical considerations from Afghanistan," *Canadian Foreign Policy Journal,* 22:2 (2016): 168.

It is worth noting that changes do need to occur within an organization, including its HQ functions and can include downsizing over time. For example, as a company starts up, it will see growth within its staff functions with the learning of critical roles and the supervision of new divisions. As a company reaches a mature stage, processes are better understood, and personnel training becomes more effective. There will come a natural point where a rebalance of priorities, in line with the strategic objectives, will reduce the necessary staff to maintain its steady-state.[118] In the military construct, Ross Pigeau and Carol McCann argue that the act of commanding does require the need to update organizational structures that are suitable for the current environment,[119] something which can be easily transferred within the civilian sector as well.[120] As previously mentioned, the difficulty is that if there is no clear vision for what the CHQ brings to the organization, these systematic reductions will not become apparent and will likely result in arbitrary cuts. It could be argued that this should be the same within any organization, regardless of the level or function, with continuous verification that the structure remains relevant. For HQs, using the cognitive comparison, this can potentially lead to the impairment of the organization's brain function, resulting in negative consequences in the long-term if not appropriately managed.

Conclusion

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[118] Tomasko, "Reducing the girth"…, 38.

[119] Dr. Ross Pigeau and Carol McCann, "Re-conceptualizing command and control," *Canadian Military Journal* (Spring 2002), 56.

[120] Galbraith et. all, *Designing Dynamic Organizations*…, 24. Companies need to continuously evolve their strategy, and from process find new organizational structures to remain competitive in their respective industries.

The field of organizational theories is vast, with multiple ideas which contradict themselves. The key takeaway is that there is no correct answer into which an organization can simply select and fit itself. An overall strategy of where the team is headed is essential to determine the best design. Perhaps spans of control can be large for managers because people will get appropriate training and foster trust of their subordinates, thereby flattening the structure. Perhaps HQs can be small and agile. Potentially focusing on clients versus products or functions might meet the aims better. Two things that help design an effective organization are having the right people in the right roles and making sure one determines one's strategic outlook. In the words of Andrew LeBlanc, VP Operations at Canadian Helicopters, "you need to invest in great running shoes BEFORE you start training for the marathon."[121]

The concepts discussed in this chapter deliberately ignored the current structure of the RCAF. The intent was to better understand the various theories without clouding the issue with a side-by-side comparison. The next chapter will take these theories as a lens to examine the current structure of the Air Force to determine what problems exist and how they might be resolved in the future.

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[121] Email discussion, Mr. Andrew Leblanc with the author, 25 January 2021.

CHAPTER 4: ANALYSIS OF RCAF STRUCTURE WITH ACADEMIC ORGANIZATIONAL THEORY

Up to this point, this paper has looked at the background of the structure of the RCAF that exists today. Its history has seen several significant reorganizations, for better or worse. There has also been a focus on organizational thought, examining current ideas and trends on how people are best grouped and coordinated to accomplish all manner of tasks, including the management of violence in militaries around the world. This chapter will now bring these two previous chapters together and look at the Air Force structure under the lens of organizational thought. The intent is to examine the impact on the intersection of these two concepts and determine how inefficiencies exist within the system.

First, this chapter will describe the RCAF structure using organizational terms to build an assessment framework. It will then examine several of the key issues and inefficiencies within the RCAF today as discussed with key senior leaders of the organization and determine whether they result from its structural alignment. Specifically, this chapter will look through the lens of organizational confusion, the need for HQs, division of labour and the impact of spans of control.

The RCAF Structural Framework

The RCAF is a hierarchal bureaucracy. According to its doctrine, the RCAF has six levels between the Commander RCAF and the most junior members of the force, as seen in figure 4.1.[122] Each level is denoted a number, with Level 1, or L1 being the

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[122] Royal Canadian Air Force, B-GA-402-001…, 25.

strategic-level command, and the
numbers increasing as one moves
down the hierarchy (i.e., Divisions
are L2, Wings, L3, etc.). At each
level from Squadron upwards are
the associated HQs that help
commanders manage their
workloads. HQs at the subunit level
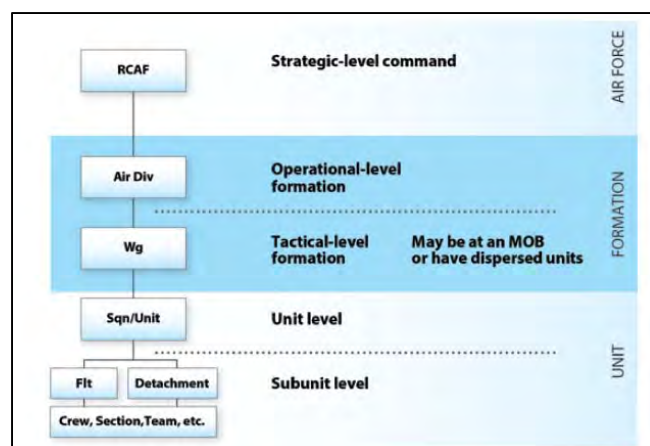
Figure 4.1: Hierarchical organization of the RCAF
Source: Royal Canadian Air Force, BGA-402-001..., 25

and below are rare but can occur. The RCAF is also a rules-based organization, with

authorities, responsibilities and accountabilities (ARAs) vested in commanders at every

level.[123] ARAs are provided through formal structures are defined in the Canadian

Forces Organizational Orders (CFOOs) and apply to the units described in Figure 4.1.

There are also informal structures, the primary one being the Capability Advisory

Groups (CAGs) that do not have any ARAs assigned but still have an essential role in

representing and advocating for their assigned air capability.[124]

The horizontal alignment varies throughout the organization. The three L2s are

functionally aligned, with their outputs aligned within their function. For example, 1

CAD is responsible for generating and employing the operational force, 2 CAD is

responsible for developing ab-initio personnel, and the RCAF Aerospace Warfare

Centre (RAWC) is tasked to create doctrine for the entire Air Force.[125] Units and sub-

units are typically also functionally aligned. It is the Wing level (or L3) where horizontal

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[123] When comparing the military structure to the civilian structure, commanders are the equivalent of civilian line managers
[124] English et al, *Canadian Air Force Leadership and Command...*, 74.
[125] Kuhn, "Project Optimize Air Force"…, 66.

alignment varies. Of the 14 Wings in the RCAF (11 with 1 CAD and 3 with 2 CAD), 11

are primarily organized with a geographical alignment. While these Wings oversee

functional tasks, such as Search and Rescue or Fighter operations, their initial alignment

is to their assigned air base. The final three Wings are primarily organized as

functionally aligned. Two of them could also be argued aligned to a client (1 Wing

Tactical Aviation with the Canadian Army and 12 Wing Maritime Helicopters with the

Royal Canadian Navy).[126] Note that in terms of client alignment, a customer is

considered someone who is outside the organization.[127] Therefore, while 2 CAD is

producing its product for the remainder of the Air Force, it is still under the overall

organization's control.

Finally, the Span of Control in terms of actual immediate subordinates, or direct

reports, a superior has on the line diagram differs throughout the organization. There are

three direct reports from the L1 to L2, which meets the span of control's initial theories.

The most significant number of direct reports comes at the L2 level, with 15 immediate

subordinates to Comd 1 CAD in Winnipeg (11 Wings, an HQ and 3 Deputy

Commanders), higher than the average number of direct reports for Fortune 500

companies of 9.8.[128]

Understanding the current structure of the RCAF allows for a solid footing to

conduct the analysis. The following sections will take the organizational theories

presented in Chapter 3 and examine the structure to determine if there are inefficiencies

that can be identified. Four specific areas will be examined: the desire to have clear and

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[126] Webb, "Addressing The Need for Functional Wings," …, 4.
[127] Jones, *Organizational Theory* …, 164.
[128] Neilson, et. al, "How Many Direct Reports."…, 115.

understandable structures; the need for coordination of horizontal groupings through headquarters; the requirement to successfully align horizontally by goals; the ability to manage spans of control and its impact on the need for education

Coherent Structure

One of the first areas to examine is the complexity of the overall structure. Chapter 3 introduced the concept of complexity in terms of what a single manager could manage in terms of their span of control. It must be determined if the organization is easy to understand for those working within it and those interacting externally. What impact does a clear, understandable organization bring to overall effectiveness?

In the words of Gill Corkindale, former management editor of the *Financial Times*, "poor organizational design and structure results in a bewildering morass of contradictions: confusion within roles, a lack of coordination among functions, failure to share ideas, and slow decision-making bringing managers unnecessary complexity, stress and conflict."[129] Further issues include poor communication within the organization, which results in the strategic messages not flowing through the structure because people do not know where to send the information. This leads to reduced productivity and inefficiency as people spend large portions of their time trying to figure out the structure, resulting in missed opportunities.[130] Finally, Sir Charles Haddon-Cave, who led the investigation in the UK of the tragic loss of a Nimrod in Afghanistan in 2006, offers that "structures, processes and rules must be as simple and straightforward

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[129] Gill Corkindale, "The Importance of Organizational Design and Structure," *Harvard Business Review,* (11 February 2011). Last accessed 14 April 2021 through *hbr.org*.
[130] Steve Milano, "What is the Impact of Poor Organizational Structure Relative to Growth?" *Chron.com* accessed 18 March 2021.

as possible so that everyone can understand them. A safe system is generally a simple and stable system."[131]

The RCAF is not a simple structure to understand. People both within and external to the Air Force are confused by its current arrangement. An example of this comes from a Canadian Army logistics officer who worked at the Canadian Joint Operations Command (CJOC), who stated, "I worked at CJOC for two years and regularly interacted with the Air Force. If you held a gun to my head, I still couldn't tell you how the RCAF works."[132] Brigadier-General Robert Ritchie had similar, albeit more nuanced, observations of RCAF structure based on his past employment as Canadian Army G35 Plans (2011-2013) and CJOC J3 (2016-2017). He found that the delineation of force generation/employment authorities and responsibilities between RCAF strategic and operational HQs were both unique from the other two CAF service environments and not intuitive; consequently, if the relationship between RCAF HQ, 1 CAD HQ and the JFACC is not animated by concerted RCAF external messaging and education, it could ultimately impair joint interoperability.[133] A former executive assistant (EA) to the Commander 1 CAD also observed that it took him six months to understand who everyone was and how they interacted with each other, both within 1 CAD HQ and the Wings, creating inefficiencies and longer days in his job.[134] In fact, in discussions with several current and retired senior RCAF officers, they have all agreed that Canada's air force structure is not intuitive to understand.[135]

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[131] Charles Haddon-Cave, *Leadership & Culture, Principles & Professionalism, Simplicity & Safety – Lessons from the Nimrod Review*. (Royal United Services Institute of Australia, 9 April 2014), 8.
[132] Email discussion, Maj Hansen with the author, 2 March 2021.
[133] Email discussion, BGen Ritchie with the author, 11 April 2021.
[134] Email discussion LCol Whalen with the author, 18 March 2021.
[135] Specific comment associated with Col Speiser-Blanchet in email discussion with the author, 3 March 2021; however, many other officers' who participated in the research made similar observations.

One fundamental aspect that can be attributed to the confusing RCAF structure is the lack of strategic vertical alignment from the top down.[136] For example, within the vertical alignment between the L1, L2 and L3, each level uses the same terms for its line managers (Comd RCAF, Division Comd, Wing Comd); however, they use different arrangements for their staff functions. The RCAF HQ is organized as directors, 1 CAD HQ is organized predominately using the Continental Staff System, though it is also populated with directors and senior staff officers (SSOs), while the Wings are organized using the OSS/MSS construct as discussed in Chapter 2.[137] This makes it very difficult between the L1 through the L3 to see how information should be flowing from the strategic through to the tactical level. It does result in failure to communicate effectively.

There is also an issue of internal horizontal misalignment. Take, for example, the function of assigning personnel to fill operational tasks. The task is double hatted and confusing. The RCAF Tasker is responsible for the L1 personnel taskings, seeking people to fill positions from 1 CAD, 2 CAD, the RAWC, as well as RCAF HQ on behalf of the Comd RCAF, falling under Director General Air Readiness. However, the RCAF Tasker is also the 1 CAD Tasker, which falls under 1 CAD A1[138]. Throughout the various Wings, each has placed the tasker function in a different area of responsibility. While some have it under their OSS, others have it under MSS, D/W Comd or within their Wing HQ Squadron (see figure 4.2 for the full breakdown). This approach makes it confusing for RCAF Taskers to determine who at each Wing they are communicating with to fill personnel tasking requirements, thus increasing the time it takes to confirm a

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[136] Email discussion with LGen (ret'd) St-Amand with the author, 1 March 2021.
[137] Email discussion with LGen (ret'd) St-Amand, with the author, 1 March 2021.
[138] Email discussion with LCol Aldous, with the author, 18 April 2021.

position. The result, in many instances, is failing to provide enough time for someone to prepare themselves and their family for a possible deployment.[139] Surprisingly, the most recent Doctrine Note from the RAWC encourages this approach, stating that "there is a degree of uniqueness to each wing […] WComd's […] while directed to organize within these doctrinal principles, are permitted to modify their respective organizations to optimize resources as per the unique mission demands, responsibilities and output of their respective wings."[140] Essentially this line seems to be stating that the RCAF has a doctrine, but it does not need to be followed.

Task Cell	Structural Location Based on MM
1 CAD	
1 Wg	A3
2 Wg	2 ACCU (Air Component Coord Centre)
3 Wg	A3
4 Wg	4 MSS/Admin Flt
5 Wg	OSS
8 Wg	D W Comd
9 Wg	103 SAR Sqn
12 Wg	12 Wg COS/W Admin (Assumed DComd)
14 Wg	14 MSS
19 Wg	D W Comd
22 Wg	22 MSS
2 CAD	
15 Wg	15 OSS
16 Wg	A3
17 Wg	17 MSS

Air Div	OSS/Ops	MSS	DComd	Other
1	4	3	3	1
2	2	1	0	0

Figure 4.2: A representation of the struggles that the 1 CAD Tasker has in understanding where requests need to go to fill personnel taskings. Note also the different staff structures, with 1, 3 and 16 Wings using the continental staff system.

Source: Provided from a Monitor Mass query by the 1 CAD A1 Tasker, LCol Scherr, to the author, 26 Mar 2021.

[139] In 2018, OP PRESENCE was formed around an Aviation Battalion generated from 1 Wing with the task to deploy to Gao, Mali by mid-July 2018. The task to deploy arrived in mid-March 2018, and by the end of March the entire 1 Wing TO&E had been populated with primaries and alternates, allowing ample time to prepare members and their families for deployment. However, the Air Task Force HQ was filled from across the Air Force, with many positions not filled prior to the validation exercise in May 2018, and some people were only identified as late as June 2018. While the deployment was a success, the stress on many members and families with the failure to quickly identify people to deploy is an example of the magnitude that failures caused by inefficiencies in the RCAF's structure can create. Based on the author's experience deploying with OP PRESENCE as the Deputy Commanding Officer of the Aviation Battalion, July 2018-January 2019.

[140] Royal Canadian Air Force. RCAF Doctrine Note 19/01, *RCAF Domestic Organizational Structures, Wing Restructure* (2 October 2019), 5.

A confusing structure also causes issues with partners and allies, leading to the situation seen above where an individual at the CAF's joint operational HQ could not understand the system. Using terms and processes that contrast to parallel organizations, such as the CA or RCN, creates the same frictions seen internally within the RCAF, resulting in slowing decision-making and miscommunication. This is contrary to the *RCAF Vectors* doctrine from the Commander of the RCAF, where he states, "the RCAF needs to pursue a transition to an integrated force […] while concurrently pursuing measures to improve integration with the rest of CAF."[141]

An example of this is illustrated using the previous example of assigning personnel for operational tasks. In the Air Force, 1 CAD HQ has determined that the cell responsible for assigning personnel to tasks rests not with the A3 but with the A1.[142] In the CAF, this is the only organization that carries out this function in this way. CJOC and the CA assign their tasks through their J3, G3 functions, using the principle that their operations cell is responsible to their commander to manage assigned resources and priorities against the required tasks.[143] The RCAF defines operations support as "the provision of assistance that directly supports air operations."[144] While the preponderance of the CAF sees the assignment of tasks to its personnel as an essential part of their operations, the Air Force seems to view operations as only the delivery of air effects in its approach, with the tasking of personnel taking a secondary role. This difference has

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[141] Royal Canadian Air Force, *RCAF Vectors* (Trenton: RCAF Air Warfare Centre, 2014), 51.
[142] It was noted that the 1 CAD Tasker position has shifted several times between the A1 and the A3/CAOC over the last several years. Email discussion LCol Cameron, with the author, 21 April 2021.
[143] Email discussion, Lt(N) Chunn, with the author, 21 April 2021. In addition, see CJOC CDIO, 3.4-5 (Table of Organization and Equipment (TO&E) and 1.2-2.E Force Generator (FG) Responsibilities (2020).
[144] Royal Canadian Air Force, B-GA-402-001…, 25.

created distractions and frictions between the various organizations.[145] It fails to align the RCAF horizontally with its key domestic partners, ultimately threatening the CAF's principle of achieving jointness to achieve success.

A final aspect to consider is the lack of doctrinal oversight of what structure should look like in the RCAF. Until the publication of the doctrine note on the OSS/MSS Construct by the RAWC in 2019, very little had been developed on best practices for organizational structure in the RCAF. The *B-GA-400 RCAF Doctrine* from 2016 briefly mentions concepts of command and control and maps out the generic organization of an Air Task Force (ATF).[146] Until the RAWC doctrine note's release, there had been very little provided in Air Force doctrine on structuring the domestic force. How should a squadron be organized, or a detachment, or a wing staff? In contrast, the other elements and allied nations have created doctrine to provide a framework. The Canadian Army has doctrine regarding the organization of its key functional groupings and what those formations consist of in many of its publications.[147] It also has the publication B-GL-331-002 *Staff Duties for Land Operations*, built to "provide guidance and procedures for brigade and battle group staffs in support of […] land force operations."[148] The United States Air Force (USAF) has *Air Force Instruction (AFI) 38-101 Manpower and Organization*, a 192-page document that defines its structure elements, explaining how commanders must use the organizational procedures

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[145] Observation by the author from previous three sources.

[146] Royal Canadian Air Force, B-GA-400 *RCAF Doctrine* (Trenton: Canadian Forces Air Warfare Centre, 2016), 47

[147] Canadian Army, *Waypoint 2018: The Canadian Army Advancing Toward Land Operations 2021* (Kingston: Canadian Army Land Warfare Centre), 14 and 33, is just one example. Note that while the RCN also uses doctrine to describe their structures, references to this fact have not been provided for this argument.

[148] Canadian Army, B-GL-331-002 *Staff Duties for Land Operations*, (Kingston: Canadian Army Doctrine and Training Centre, 2008), iii.

and standard structures it describes.[149] In these previous examples, these organizations provide a footprint to ensure, as stated in AFI-38, "the efficient use of […] resources."[150]

One argument against doctrinally mandating structure is that it can hamstring commanders in delivering their specific outcomes. In Chapter 3, the work of Pigeau and McCann was referenced about the need for commanders to update their organizational structures,[151] and this still holds true following the analysis in this chapter. Commanders and their subordinates need a start-state to build from before modifying. The AFI-38 from the USAF goes as far as to state that "if a unit's unique mission or location requires a different structure, a waiver to the standard structure can be requested."[152] While a commander's freedom may be restricted to establish their formation, it does ensure that horizontal and vertical efficiencies remain. The A1 tasker issue seen earlier is an excellent example of how confusing structures become when there is no enforcement of an overall standard within an organization, resulting in lost productivity and inefficiency throughout the RCAF.

The Case for Headquarters

The previous section has introduced incoherent structural alignment within the RCAF, specifically between the RCAF, the Divisions and the Wings as a cause for concern. This issue links to another essential aspect examined in Chapter 3: the importance of headquarters within organizations with vertical structures with multiple horizontal grouping. HQs are crucial to coordinate the efforts across the horizontal level

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[149] Secretary of the Air Force. *Air Force Instruction 38-101, Manpower and Organization*, 29 August 2019, 68.

[150] Ibid, 12.

[151] Pigeau et al, "Re-conceptualizing command and control"…, 56.

[152] Secretary of the Air Force. *Air Force Instruction 38-101…*, 68.

to ensure priorities on tasks and applying limited resources across the organization. This concept applies in both the civilian sectors and military environments. This section will explore the issues within the Air Force's various HQs that result in inefficiency overall, specifically HQ staffing levels and structures.

First, an examination of the low level of staffing HQs across the vertical levels of the RCAF is one aspect resulting in inefficiencies. As a result of low manning levels across the RCAF, populating HQs has proven difficult, with the strategic level deliberately privileging the tactical level. As a result, in 2020, the RCAF HQ in Ottawa was deliberately only staffed to approximately 65% of the available positions.[153] At 1 CAD HQ, the long-term planning staff (referred to as the A5) was not filled between 2020 and 2021.[154] According to Col Jamie Speiser-Blanchet, Commander of CF Intelligence Group and former Commanding Officer of 403 Squadron, the RCAF "has under-invested in our HQs due to limited resources, choosing to instead prioritize the operational focus of the air force despite the increasing institutional requirements; this results in us continuing to do more with less."[155]

It is no secret that the RCAF has been struggling to retain experienced personnel within its ranks. The Air Force launched Op EXPERIENCE to retain pilot experience and Op TALENT to improve the overall quality of life for all its members, starting in 2019.[156] To maintain its operational output, as stated by Col Speiser-Blanchet, the focus of the Air Force continues to be to push personnel to the flight line and sustain

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[153] Email discussion Col McKenna with the author, 29 March 2021.
[154] Email discussion LCol Morrison with the author, 19 March 2021.
[155] Email discussion Col Speiser-Blanchet with the author, 3 March 2021.
[156] Royal Canadian Air Force, Quality of Life – Quality of Service, http://www.rcaf-arc.forces.gc.ca/en/services/benefits-military/quality-life-quality-service.page, last accessed 25 March 2021.

operations at the expense of maintaining its HQs.[157] However, looking through the lens

of English's analogy in Chapter 3 of the need for an organization's cognitive functions,

does this approach allow for short-term operational wins at the risk of long-term

failures?[158] Judging by the experience of two current Wing Commanders, the

unfortunate reality is that it does.

Commander 14 Wing, Col Brennan Cook, discussed the lack of personnel to

conduct staffing functions resulting in him needing to pull personnel out of active flying

positions in Greenwood to manage the required work to plan and execute their COVID-

19 response in 2020. In his opinion, "we are not a big enough air force to do everything

we want to do, so we need to keep trying to find innovative ways of doing something,

but usually that means operational needs far exceeding available resources, so corners

are inevitably cut."[159] The fighter force has reported similar and potentially starker

concerns. Col Dave Moar, Commander 4 Wing is concerned about the "horsepower" of

HQs, which leaves his wing continuous dealing with the short-term issues and unable to

easily apply thought to future problems. They effectively need to choose to leave many

issues until they get to the crisis point due to the lack of staff capacity. He amplifies the

problems in the fighter force are through a multitude of factors:

> Multiple capability upgrades and fleet transition activities are occurring,
> which all compete for the participation of the same small group of
> experienced individuals. Simultaneously, we are experiencing the most
> significant pilot staffing deficit that we have ever had to deal with. As a
> result, we have had to prioritize our combat capability (i.e., the flight
> line), leaving essential staff positions and projects unsupported. Because
> all of our experienced aircrew are at [3 Wing and 4 Wing], the rest of the
> CAF enterprise leans heavily on the Wings to provide advice and support

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[157] Email discussion Col Speiser-Blanchet with the author, 3 March 2021.
[158] English, "Cultural dissonance: ethical considerations from Afghanistan"…, 168
[159] Email discussion Col Cook with the author, 26 January 2021.

that would normally be given by a fighter pilot staff officer (who no longer exists). The personnel at the Wings are currently working at an unsustainable rate.[160]

The decision to choose to focus staffing on the flight line vice an HQ is difficult. On the one hand, the air force exists to conduct flying operations in defence of Canada. Aircrew and technicians need to develop their skills in very technical jobs, which requires continued exposure to the flight line. Junior members need to be supervised by experienced mentors to help build those skill sets. It is difficult to reduce or eliminate existing capabilities; the Air Force's remaining abilities are all critical for the country's defence. Many aircrew resent the thought of giving up their cockpit and associated benefits to need to work in an HQ.[161] But in terms of the cognitive functioning of the RCAF, there is a need to plan and run the force effectively. From Chapter 3, if successful companies had larger HQs, this could apply within the military context. If the RCAF had larger HQs, and there is a high likelihood if done in a well-structured manner, it could likely lead to efficiencies overall.

The second area of concern lies with the structure of the HQs. As discussed in Chapter 3, one role of a HQ is to conduct the organization's long-term planning.[162] While it has been demonstrated that the Air Force is not prioritizing filling these positions, many of the critical positions required of an HQ do not exist, specifically the planning function and the doctrine and training function. Using the RAWC Doctrine Note on the OSS/MSS Construct, it does state that "the OSS provides appropriate A2,

[160] Email discussion Col Moar with the author, 2 March 2021.
[161] Major Paul Johnston, "Staff Systems and the Canadian Air Force: Part 2, A Convoluted Evolution," *The Canadian Air Force Journal* (Fall 2008), 20.
[162] Foss, "On the Rationales of Corporate HQ"…, 314.

A3, A5, A6 and A7 continental staff support to the WComd."[163] Unfortunately, the note fails to demonstrate how an OSS should be structured to capture these critical air force roles of planning (A5 function) and doctrine and training (A7). These two functions can be argued as two areas in which the RCAF struggles.[164] Col Cook provided the perspective from 14 Wing that there is still no planning group, with most planning coordination occurring between himself and the Squadron COs directly. In addition, he mentioned that 14 Wing attempted to solve the doctrine branch issue by standing up 415 Squadron, but that this was not resourced. In his words, "this amplifies the difficulty for the pan-RCAF to develop its doctrine when the wings/capabilities don't have the resources to properly develop and staff this [doctrine and development] work."[165]

Further to providing the structure within just one HQ level is the need to amplify how the linkages between higher and lower HQs should be organized. For example, at the OSS, who is expected to coordinate with the Canadian Air Operations Centre (CAOC) in Winnipeg? Who at the CAOC do they speak to for various functions? The Chapter 3 assessment of division of labour shows that the matrix organization model might work well here. One of the detractions of the matrix model, as presented, was the fact that an individual would have two bosses. An option to consider is to adjust the matrix model diagram, allowing a command axis (line) and a control axis (staff) that would enable individuals to increase their information flows and keep the supervisor along the line axis, eliminating the dual-manager issue.[166]

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[163] Royal Canadian Air Force, RCAF Doctrine Note 19/01…, 4.
[164] Colonel T.F.J. Leversedge "Alternate Strat Vectors for Canada's Air Force" (National Security Studies Course Paper, Canadian Forces College, 2004), 13.
[165] Email discussion, Col Cook with the author, 26 January 2021.
[166] Gareth R Jones, 166.

An example is shown in Figure 4.3 of how the matrix model works within 1

Wing's organization. With the example of the Squadron Operations Officer (OpsO), that

individual would have one direct

report, the Squadron CO, who has

overall command of the unit and its

resources. Coordination of using

those resources is coordinated

through the OpsO and the Wing

operations staff (in the 1 Wing

Figure 4.3: Matrix aspect of staff functions between Squadron and Wing (using 1 Wing model).

Source: produced by the author.

example, the A3 staff). While many

individuals are provided with this information during handovers as they transition into

their new roles, the majority of understanding the linkages between higher and lower

levels is provided in corporate memory vice being correctly documented in Air Force

doctrine. Considering that handovers occur every year, it is very easy for critical

information to be missed, ultimately resulting in delays in the effective passage of

essential coordinating details.[167]

HQs do have an essential role in running an organization, and the RCAF is not

immune from avoiding this fact. This section has demonstrated the impacts seen

throughout the Air Force from losing the cognitive ability of its HQs, the stresses placed

on individuals to navigate a confusing system, and the resulting inefficiencies of

increased workloads. HQs could be considered a snowplow on a snowy day, and the

subordinate units are the cars trying to travel down the road. When the snowplow has

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[167] Based on the experience of the author with the annual posting cycle every year, and needing to determine who is new in each job.

cleared the route, the cars have an easy run to get to their destination, but when the snowplow has not been out, cars must travel slower, tend to skid and slip, or may choose not to undertake the journey at all. While it might be counter-intuitive, investing in personnel in doctrinally structured HQs may result in personnel savings. Increased knowledge of how the system functions allow workers more time to focus on their tasks, leads to overall organizational efficiency, allowing for the reduction in required positions.

Effective Horizontal Alignment

One of the themes explored in Chapter 3 was the importance of dividing labour into manageable groupings to achieve the organization's desired outcomes. One of the key takeaways from that analysis was that grouping roles horizontally across an organization is not a straightforward solution. This section will look at the current horizontal alignment of the RCAF and determine if the existing structure remains ideal for the Air Force today. This section will look at the effects of functional alignment versus geographical alignment, the impact of staff structures on either type of alignment, the impact of Real Property (RP) Operations (Ops) with base operations today, while contrasting to models used by other Western allies.

The RCAF is organized using two primary horizontal grouping methods discussed in Chapter 3: functional/product grouping or geographical/composite grouping. For this analysis, a functional wing can be defined as where a single commander has full command of one air force capability and is not tied to geography. For example, 2 Wing is a functionally aligned organization responsible for providing

expeditionary support to RCAF units deployed outside of Canada.[168] It is a lodger unit at

CFB Bagotville, so it is not tied to its geography nor base commanding. The Comd 2

Wing has all the authorities and responsibilities to develop and employ the entire

capability. In contrast, 14 Wing, located at CFB Greenwood, is a geographical wing.

The Comd 14 Wing is not only responsible for units of different capabilities on their

base (this includes Search and Rescue (SAR) and Long Range Patrol (LRP) assets) but

is also responsible for running the airbase with its associated tasks.[169] Figure 4.4 breaks

down the differentiation of the groupings by Wing in both 1 CAD and 2 CAD. It can be

seen that the impacts of the 1993 Wing Concept remains a crucial aspect to the

organization of the force, with 11 of the Wings having a primary geographical horizontal

grouping, leaving 1, 2 and 12 Wings the only actual functional wings.

One of the aspects of the 1993 Wing Concept and the 1997 AFCCRT that still

Wing	Horizontal Grouping
1 CAD	
1 Wg	Functional/Client
2 Wg	Functional
3 Wg	Geographical
4 Wg	Geographical
5 Wg	Geographical
8 Wg	Geographical/Functional
9 Wg	Geographical
12 Wg	Functional/Client
14 Wg	Geographical
19 Wg	Geographical
22 Wg	Geographical/Functional
2 CAD	
15 Wg	Geographical/Functional
16 Wg	Geographical/Functional
17 Wg	Geographical

Air Div	Primary Horizontal Grouping/Wing			
	Func	Client	Geo	Other
1	3	0	8	0
2	0	0	3	0

Figure 4.4: Breakdown of current RCAF Wing horizontal organization by major grouping method.
Source: produced by the author

lingers within the RCAF today is the responsibility for managing capabilities. The

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[168] Royal Canadian Air Force, B-GA-402-005/FP-001 *RCAF Doctrine: Expeditionary Air Operations*, (Trenton: RCAF Air Warfare Centre, 2020), 1.
[169] Email discussion, Col Cook with the author, 26 January 2021.

functionally aligned commands and groups that existed from the 1950s until the 1990s

provided staff horsepower and all the required resources to develop and execute their

assigned assets. Following the 1997 elimination of the groups, to create management of

the capabilities or air force functions, Capability Advisory Groups (CAGs) were created

as an informal process "to provide a recognized mechanism for community/capability-

based leadership consultation and decision making."[170] While on the surface this

development might have made up for the difference that the former functional groups

were able to bring to the table, in the opinion of Comd 14 Wing (currently the LRP CAG

Chairperson), the CAGs are just functional wings "on the cheap," with "all the ambition

of a functional wing concept, but without the matching [accountabilities, responsibilities

and authorities (ARA's)]."[171] The reality is that CAGs have very little authority over

their assets, and their role is to "advise."[172] In the case of the LRP CAG, the CAG chair

can make recommendations, but if the CAG Chair is Comd 14 Wing, that individual has

no authority to task 407 Squadron, currently as a direct-report unit, to Comd 19 Wing.[173]

In addition, CAGs that are not part of functional wings have no additional staff

horsepower to push through key elements that capabilities need to focus on, precisely

doctrine, training, force development and long-term planning. In his role as the Fighter

CAG co-chair, Col Moar highlighted the fact that the staff he does have is overwhelmed

with base issues that they often find themselves "lacking the bandwidth and staff to

tackle the bigger [Fighter] CAG projects."[174]

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[170] English et al, *Canadian Air Force Leadership and Command…*, 74.
[171] Email discussion, Col Cook with the author, 26 January 2021
[172] English et al, *Canadian Air Force Leadership and Command…*, 73.
[173] Email discussion, Col Cook with the author, 26 January 2021.
[174] Email discussion, Col Moar with the author, 2 March 2021. Note that Commanders 3 and 4 Wing share the duties as the co-chair of the Fighter CAG. Either commander has additional staff within the overall CAG to address CAG issues. As a point of note, Col Moar mentioned that a recent "Fighter Get-Well

While 4 Wing and 14 Wing are both struggling to govern the development of their capabilities, functionally-aligned wings seem to be managing much better. Col Chris McKenna, Comd 1 Wing, commands the entire tactical aviation capability for the RCAF. His HQ is in Kingston, Ontario, but his six units are dispersed over three time zones, with two fleets and one primary customer, the Canadian Army (CA). He has a staff of approximately 60 personnel in Kingston, which coordinates the functionally-aligned wing, which is structured using the continental staff system, providing structural alignment to 1 CAD HQ, but horizontal alignment to the Wing's primary customer. While he is the CAG Chair for tactical aviation, Col McKenna is one of the few who have the ARAs task the entire capability at the Wing level. For example, large-scale training exercises can involve several tactical helicopter squadrons, but all are coordinated through the 1 Wing A3 without any further input from 1 CAD staff. In his opinion, Col McKenna stated that he "does not have any of the many distractions that Wing Commanders with a Base Command function have to face [where they] spend a larger portion of their time with 1 CAD discussing issues with their bases/infrastructure as opposed to the generation and employment of their air capabilities."[175] Interestingly, not only is 1 Wing not responsible for its own functions, it still manages to achieve its annual flying hours while operating from Canadian Army installations.

Program" document was written primarily by himself and Commander 3 Wing. A similar document created by Col McKenna at 1 Wing was built primarily through the 1 Wing HQ staff (email discussion Col McKenna with the author, 8 February 2021).

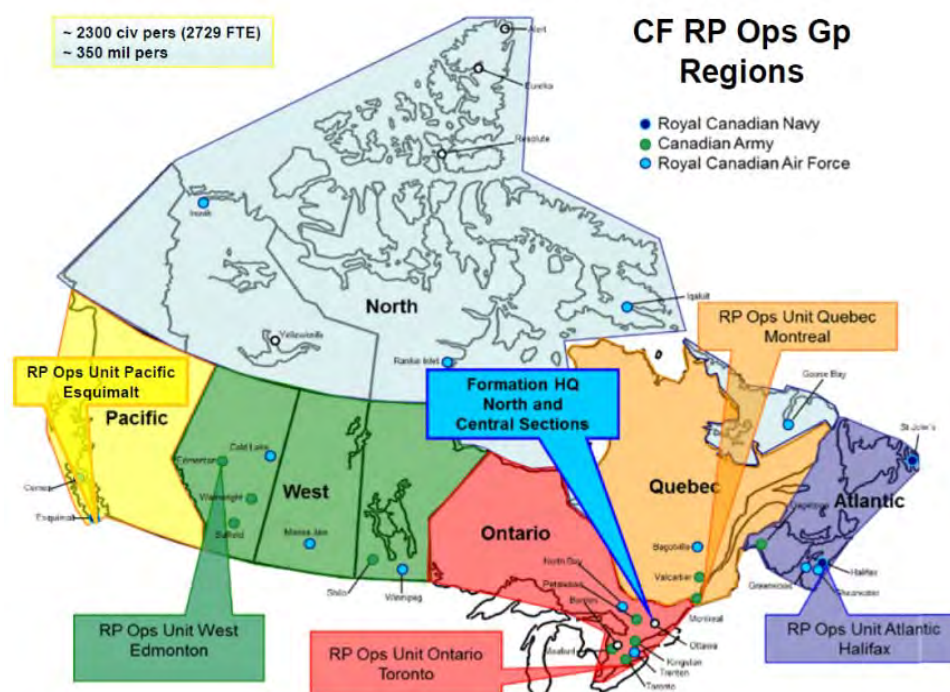[175] Email discussion, Col McKenna with the author, 8 February 2021.

Figure 4.5: A national overview of the ADM-IE regions for Real Property,

Source: Colonel Martin Gros-Jean, *CF Real Property Operations Group "101" Brief* (Powerpoint presentation), Canadian Forces Real Property Operations Group, December 2017, slide 6

Another perspective to consider is the actual day-to-day responsibilities of running either a geographical wing or a functional wing. According to a former Comd 1 CAD, LGen (retired) Alain Parent, running a base and developing an air force capability are two different tasks, which require other command and staff focuses. He mentioned that the functional wing is the air force's manoeuvre element or its fighting entity. A functional commander focuses on organizing, equipping, sustaining and training to generate the force. At the same time, the base function is the care, housing and feeding of that force.[176] He also believed that a wing developing a capability should have a staff aligned using the continental system (i.e., A-staff). This requirement was initially mandated that wings were to adapt in 1997 following the AFCCRT in *Flight Plan 97* but

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[176] Email discussion, LGen (ret'd) Parent, with the author, 2 February 2021.

was never actioned.[177] One specific reason proposed by LGen Parent for not adopting it was since continental staff systems do not work well to run air bases.[178] In fact, in discussions with many senior RCAF leaders, the OSS/MSS concept is very well aligned to running a base, but on the other hand, it is not structured to run a capability. As an example, Col (ret'd) Jim Irvine, former Comd of 14 Wing would have preferred to have the 1 Wing alignment model to manage his LRP capability and found that "on the side of the command structure that dealt with air power issues, staff capability was limited and often double or triple hatted [while] the management of base issues were entirely separate from tactical employment of airpower, and there was little flexibility to shift [those people] to higher priority […] requirements."[179]

A final aspect to consider concerning geographic wings is the recent rise of the Associate Deputy Minister (ADM) Infrastructure and Environment (IE). This organization has been given the task throughout the Department of National Defence (DND) to "build, maintain, develop and protect real properties and training areas."[180] It is a regionally aligned organization that is fundamentally joint. This task is delegated to the Real Property (RP) Operations Group (Ops Gp), which has representatives at many of the bases across the country (see figure 4.5). The difficulty for wing commanders of geographical wings is that their authorities concerning base issues are eroding, consuming a large amount of their bandwidth while still left with the responsibility for the base and developing an assigned capability with minimal staff to do either.[181]

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[177] Air Command. *Flight Plan 97 Executive Summary: Where's the Beef and What's the Future?"* Prepared by Col Mould, Director Flight Plan 97, 23 May 1997, 6.

[178] Email discussion, LGen (ret'd) Parent, with the author, 2 February 2021.

[179] Email discussion, Col (ret'd) Irvine with the author, 19 January 2021.

[180] Colonel Martin Gros-Jean, *CF Real Property Operations Group "101" Brief* (Powerpoint presentation), Canadian Forces Real Property Operations Group, December 2017., slide 3.

[181] Email discussion, Col Cook, with the author, 26 January 2021.

As a contrast, the CA at one time had aligned their bases under their functional commanders. At one time, Brigade Commanders, who are the Army L3s, also held the responsibility of base command. Much like their current Air Force counterparts, they were responsible to force generate a land component while also managing base tasks. The CA is now aligned regionally, mirroring the CAF's Joint Task Force Concept, which also follows the same divisions as the RP Ops. In so doing, they coordinate all regional support functions in the Division Support Group. Base commanders are divorced from force generators, providing support to the functional commander. In addition, because they are regionally aligned, they have additional horsepower and priorities for their entire region where they can speak directly to the regional RP Ops as a unified voice, furthering their projects. The RCAF does not have a similar structure, resulting in wing commanders within a region working directly with RP Ops and competing with other air bases in their area. There is no overarching Air Force support organization setting priorities or championing regional infrastructure issues.[182]

Looking at the issues identified between geographical and functional wings within the RCAF, it could be argued that there is a case for returning to the capability alignment that served the organization during the latter half of the 20th century. A service that found itself in a similar situation was the Royal Australian Air Force (RAAF) in the 1980s. Its structure post-Second World War maintained a geographical alignment, which looked similar to the RCAF Wing Concept. One of the drawbacks the Australians observed was that the "command arrangement was inefficient as non-specialist commanders were expected to control highly technical and unfamiliar

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[182] Email discussion, Col Cook, with the author, 26 January 2021.

capabilities without managing nor standardizing like capabilities operating from different locations."[183] In the late 1970s, the then Deputy Chief of the Air Staff (DCAS), Air Vice-Marshal Neville McNamara, identified a key recommendation to remove the relationship between bases and wings, which in his viewpoint "meant that our operational elements could go off at any time they wanted and it would not affect the day-to-to-running of the base."[184]

By the 1990s, the RAAF was reorganized with Force Employment Groups (FEGs) focusing on the force generation of capabilities and the bases arranged within the Combat Support Group (CSG), which consolidated all of its support services.[185] This structure has served the RAAF well over the last 20 years, as demonstrated by another former DCAS, Air Vice-Marshal (AVM) Turnbull, in his comments in 2018:

> For years [the RAAF] has been developed in stovepipes we call Force
> Element Groups […] where we manage like capabilities, free of
> geography, to raise, train and sustain air operations. Through the FEG's
> we are really good at the individual tactical air power capabilities. They
> have served us well, but perhaps we need to think harder about the
> enterprise structure we need to generate and sustain an integrated
> force.[186]

The current struggle of geographical wing commanders, the focus of the Air Force's functional wings, and the successful transition of the RAAF to embrace the functional alignment model are demonstrations that the Air Force's horizontal structure

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[183] Wing Commander Travis Hallen, "Designing for the Future Force: Informing the Debate on the Future Structure of the Royal Australian Air Force" (Royal Australian Air Force Air Power Development Centre, Working Paper 46, July 2019), 10.

[184] Neville McNamara, The Quiet Man: The Autobiography of Air Chief Marshal Sir Neville McNamara. (Tuggeranong, A.C.T.:Air Power Development Centre, 2005), 182, **quoted in** Hallen "Designing for the Future Force"…, 11.

[185] Hallen "Designing for the Future Force"…, 13.

[186] Air Marshal Geoff Brown, 'Keynote Address', *90 Years of the RAAF: Proceedings of the 2011 RAAF History Conferenc*e, Canberra, Air Power Development Centre, 2012, p.9, **quoted in** Hallen "Designing for the Future Force"…, 2.

is not as efficient as it could be. These are all indicators that perhaps the 1993 Wing

Concept is not working. This should be a sign that instead of making the alignment seem

more "air force," structural change needs to be sought along the lines of a strong

strategic vision that creates a more effective and efficient organization.

Managing Spans of Control

The final organizational theory discussed in Chapter 3 was the span of control

and the impact that the number of direct reports has on a line manager. One of the

observations from the previous chapter was the debate about how many direct reports an

individual can handle. Is it like Gracious proposes and the maximum is six or is it as

others propose that it becomes a product of trust of subordinates and competence of the

leader that allows for more?[187] The honest answer is likely a combination of both

schools of thought. Based on that assessment, the RCAF structure will now be analyzed

through the lens of a span of control.

Overall, much like wing structures discussed earlier in this chapter, spans of

control throughout the RCAF vary. For example, as mentioned earlier, Comd 1 CAD has

12 direct reports. However, the Comd is also the Joint Force Air Component

Commander (JFACC), responsible for domestic operations and deployed RCAF assets

throughout the world, as well as the Canadian Region (CANR) Commander for the

North American Aerospace Defence (NORAD) Command and the central SAR Joint

Rescue Coordination Centre (JRCC). While it could be expected that such a large span

of subordinates coupled with four significant roles to be responsible for would be

difficult, former commanders have argued the opposite. LGen (ret'd) Pierre St-Amand,

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[187] Urwick, "V.A Graicunas and the Span of Control"…, 351.

former Comd 1 CAD from 2012-2014, stated that "span of control was not an issue as the Comd 1 CAD because I was able to trust my subordinate [wing] commanders. However, if someone wasn't strong, there is the potential risk that thing might have gone poorly."[188] This is validated by Col (Ret'd) Jim Irvine, former Comd 14 Wing, who stated that "if you have trust both up and down the chain, a large span can be manageable; however, it is all personality-based and can quickly become overwhelming and micromanaging if not managed correctly."[189]

There are other portions of the RCAF which are struggling with span of control issues. Col Moar gives evidence from his experience at 4 Wing in Cold Lake that span of control is not just a number of direct reports to an individual, but it can also be considered a span of responsibility for a given position. As the Comd 4 Wing, he is tripled-hatted at a Wing Comd, a Base Comd and a FCAG co-chair, each a significant responsibility in their own rights. But his staff also must share the same burden. As an example, his CO OSS "should be focusing on NORAD and training, but spends the majority their time dealing with [...] concerns due to the Cold Lake Ranges, let alone other basing issues or the development of the future fighter project."[190] Therefore, while commanders may be able to manage larger spans of control, the ability of their staffs to do so may not be a direct correlation and likely will be less capable in doing so.

Part of this problem can be seen within the education and training system of the Air Force.[191] Those selected to become commanders in the RCAF have demonstrated an

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[188] Email discussion, LGen (ret'd) St-Amand, with the author, 1 March 2021.

[189] Email discussion, Col (ret'd) Irvine with the author, 19 January 2021.

[190] Email discussion, Col Moar with the author, 2 March 2021.

[191] There is a difference between training and education: while "training teaches mechanical reactions to predictable situations, education impacts the analytical skills that enable personnel to reason through unpredictable and complex situations." From Dr. Richard Goette, *Preparing the RCAF for the Future:*

ability to work at the next rank level and likely will have learned to manage complex tasks. However, the primary military education (PME) for Air Force officers, specifically for understanding staff duties, is lacking.[192] The RCAF is making progress with increasing its PME offerings to junior aircrew, with the recent introduction of the Air and Space Operations Course (ASPOC) at the RAWC. Nevertheless, this PME opportunity comes late in the career of captains. Much of the initial training outside of the primary technical skills of RCAF officers in topics such as staff duties, specifically aircrew, comes from the mentorship of their leaders. In fact, in accordance with the CAF publication *Leadership in the Canadian Forces – Conceptual Foundations*, a major leadership function is to "mentor, educate and develop subordinates."[193] Unfortunately, as spans of control and responsibility become ever larger for leaders, the reality is that the priority of completing tasks to ensure operations will eventually result in having less time to develop and mentor junior members. In the words of LCol Chris Morrison, former CO of 408 Squadron,

> Mentorship is difficult in the current RCAF environment, our structure is such that people are double hatted with large spans of control, and operations are always the priority, so leaders often regrettably become too busy to mentor. Effective mentoring requires a leader to be intentional about it, and it isn't just a once and done process but a feedback loop to ensure the mentee is understanding and growing in their new knowledge.[194]

Defining Potential Niches for Expeditionary Operations (Trenton, ON: Royal Canadian Air Force Aerospace Warfare Centre Production Section, 2020), 65.

[192] Dr. Brad Gladman, Dr Richard Goette, Dr Richard Mayne, Colonel Shane Elder, Colonel Kelvin Truss, Lieutenant-Colonel Pux Barnes, and Major Bill March. "Professional Airpower Mastery and the Royal Canadian Air Force: Rethinking Airpower Education and Professional Development." *Royal Canadian Air Force Journal* (Vol 5, No 1. 8-23), 15.

[193] Department of National Defence, *A-PA-005-000/AP-004 Leadership in the Canadian Forces – Conceptual Foundations*, 2005, 48.

[194] Email discussion, LCol Morrison with the author, 19 March 2021.

With a lack of PME, publications and diminishing mentorship on staff duties due to increasing spans of control, the horsepower of the RCAF's cognitive processes of its HQs will continue to slow down. People moving up into these positions will have a less understanding of their roles, increasing the overall inefficiencies in the process. It must be remembered, "one of the […] staff's core roles is to reduce the cognitive burden on commanders such that they can focus their energies and creativity on higher priority issues."[195] General Jean Victor Allard (Chief of Defence Staff, 1966-1969) provided a telling viewpoint of the situation: "without a properly educated, effectively trained professional officer corps the [RCAF] would, in the future, be doomed at best to mediocrity; and at worst, to disaster."[196] Commanders at all levels are required to develop their subordinates, including their staff. But the sooner in the process that junior officers can learn these standardized skills that are essential to run an air force, the better the product will be available to help guide the force.

A final consideration of large spans of control is the impact on people managing them. Chapter 3 highlighted that while managers can handle large spans over a short period, over the long term, these can create long days and ultimately lead to burn-out by people. Personnel can only take so much stress before they break and say enough. LCol Neil Cameron, the A1 Pers at 1 CAD HQ, summed it up by saying, "the structure of the RCAF is what is causing burnout in our personnel. People are turning down unit and even sub-unit command. A lack of resources and the inability to say no is also an issue, we always 'make it work' but it is done on the backs of our people."[197] This is amplified

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[195] Hallen "Designing for the Future Force"…, 25.
[196] Gladman et al "Professional Airpower Mastery"…, 16.
[197] Email discussion, LCol Cameron, with the author, 11 March 2021.

by LCol Amanda Aldous, CO 17 MSS, saying "people are burning out, with 12 hour days tending to become the norm. We are structured inefficiently, it is our military psyche that doesn't let us fail. You can only get blood from a stone so often."[198] The caution about sustaining large spans of control and responsibility is that it can likely become a retention issue. This aspect has not been mentioned in so far in the products for OP TALENT and OP EXPERIENCE in the RCAF.[199]

Conclusion

Looking at the RCAF through the lens of organizational theory has brought about several critical issues about how it is currently structured. It is a confusing structure that people, both inside and external to the force struggle to understand. HQs, the force's cognitive centres, are not prioritized, limiting the amount of future planning and focusing solely on the here and now. The division of labour is such that it makes commanders of geographical wings overwhelmed with key duties, which are separate functions and limit them from focusing on effectively ensuring the tactical flying capabilities are properly developing. Finally, spans of control and responsibility are increasing. They are resulting in a decrease in overall mentorship and development of future leaders, a further reduction in cognitive ability in HQs, and potentially a reason why individuals may not be choosing to sustain longer careers in the RCAF.

This chapter has laid out many reasons that leave little doubt that the Air Force structure is inefficient and needs adjustment and reorganization. In the final chapter, this paper will propose recommendations on these issues that can be addressed to create a

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[198] Email discussion, LCol Aldous, with the author, 30 March 2021.
[199] Brigadier-General Iain Huddleston and Brigadier-General Mark Goulden, *Op TALENT & Op EXPERIENCE Info Brief*, (Powerpoint presentation), February 2021.

much more efficient and productive organization. These proposals will not be easy to undertake, but when left with the reality of the force presented in this chapter, the question will be left to answer is "can the Air Force afford not to change?"

CHAPTER 5: RECOMMENDATIONS AND CONCLUSION

This paper has provided an insight into the present state of the organizational structure of the RCAF. The research intended to determine if the current structure of the Air Force is creating inefficiencies that have resulted in confusion, increased workloads, and burnout for its people. This paper has addressed the history of how the organizational structure has come to exist in 2021, the prevailing organizational thoughts from the academic and business worlds, and finally examined the current structure through the lens of these ideas to see how the RCAF performs.

As very little literature exists about the RCAF's organization, many arguments are informed by input graciously provided by former and current senior air force officers. This helps to frame the perceived lack of interest that the existing organization places on its structure. This final chapter will first briefly outline the rest of the chapter before proposing several recommendations.

Chapter Summary

The preceding chapters illustrate and support the overall argument that the RCAF's current structure is truly inefficient. Chapter 2 examined the history of the structure. Following the Second World War, aviation personnel returned with the idea that following the RAF's functional alignment for capabilities would be the best structure to follow. This practice survived 40 years, which included the disbandment of the RCAF and its ultimate rebirth as Air Command. It was restructured through a desire to change the organization, not to become more efficient, but to make it more "Air Force."[200] The elimination of the groups due to the AFCCRT diminished the overall

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[200] Air Command, *The Formation of Wings…*, 2.

cognitive function, which led to the loss of ability to conduct long-term planning and the development of doctrine.

Chapter 3 moved the paper forward into the realm of organizational theory. While it focused on primarily civilian sources, the reality is that the structures of military forces are not that dissimilar as the focus is on how best to organize humans. The chapter focused on three key themes. First was the span of control and how many direct reports a supervisor can realistically manage before losing overall effectiveness and is dependent on the training and trust between supervisors and subordinates. The second was examining an effective division of labour, both horizontally and vertically, realizing that there is no cookie-cutter or straightforward answer. This chapter also demonstrated that it is vital that organizations approach their overall design understanding their strategic vision and their intended effects when deciding to use either a functional (product), client or geographical alignment of its various divisions. Finally, the need for headquarters was examined, and the chapter demonstrated that successful companies in the business world generally had 20% bigger HQs than their less-successful counterparts. Most importantly, any organization with two or more horizontal division requires engaged HQs to coordinate and prioritize their subordinates' actions and resources to reduce stovepipes in the organization

Chapter 4 examined the current RCAF structure through the lens of the theories explored in the previous chapter. It demonstrated that the structure is bewildering, confusing both within and outside the force. Headquarters have been regularly understaffed, increasing the burden on those that remain trying to conduct their jobs within the complex structures with dwindling resources. The division of labour within

geographical alignments results in wing commanders spending much of their time on support issues instead of focusing on the future of their overall force generation. Finally, large spans of control and responsibility on leaders plus the primacy of operations result in a reduction of mentorship. With a lack of primary military education for the next generation of leaders coupled with the lack of mentorship, there is potential for the overall capacity of the RCAF to flounder in the future.

Recommendations

This paper paints a rather gloomy view of the current RCAF structure. Sometimes the negative aspects need to be brought to the surface to make the organization better. This is not an area widely discussed, debated or taught within the Air Force. However, the many conversations with senior leaders who offered their guidance and thoughts for this paper mentioned that structure needs to be looked at more by the institution. The following are key recommendations based on the findings in this paper that need to be considered by the RCAF to decrease its organizational structure's inefficiencies.

Understandable Structures

First, the RCAF needs a more straightforward, more logical structure. It is helpful to reiterate Sir Charles Haddon-Cave's comment in Chapter 4: "structures, processes and rules must be as simple and straightforward as possible so that everyone can understand them. A safe system is generally a simple and stable system."[201] To achieve this goal, six recommendations are proposed.

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[201] Haddon-Cave, *Leadership & Culture…*, 8.

Examine the RCAF Structure. One of the notable aspects in the research of this paper was the lack of any examination or discussion about the RCAF's structure. This is a point that many of the senior officers who provided their time noted that it is an area that Canadian aviators need to discuss. The RCAF needs to start having a conversation about achieving an effective structure and doing so from a clean slate. It should look to design an overall structure based on its required tasks, capabilities and strategic direction. It is recommended that an outside agency be used to take the emotion and institutional culture out of such a review while utilizing the remaining personnel within the force for the day-to-day running of the organization.

Cross-Domain Integration. The 21st Century is becoming defined by pan-domain operations, where the addition of cyber and information operations will cross the traditional boundaries.[202] Integration and interoperability is nothing new and is already provided as the direction in the *RCAF Vectors* from the Commander of the RCAF.[203] To operate in this new environment, the RCAF will benefit from using similar structures, terminology, and processes used by its allies and by the other environments in the CAF. Examples include the need to embrace the continental staff system and place the personnel tasking system into the A3 branch.

Create Strategic Alignment through Standardization. Chapter 4 illustrated the confusion in the existing vertical structure, using different terms at the L1, L2 and L3 of the Air Force. Aligning to similar processes as seen in the Cross-Domain Integration recommendation, the move to a similar system at all levels, such as the use of the

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[202] Lieutenant-General Michael Rouleau, "'How we fight:' Commander CJOC Thoughts," Internal Correspondence, Canadian Joint Operations Command, Ottawa, ON, 10 February 2019.
[203] Royal Canadian Air Force, R*CAF Vectors...*, 51.

continental staff system, will increase overall organizational understanding, both internally and externally. Next, there is a need to determine commonalities between the various RCAF capabilities and use this as a unifying function across the force. While the 2019 RAWC doctrine note on domestic organizational structures states that "there is a degree of uniqueness to each RCAF wing,"[204] this does not help build a cohesive force. Allowing wing commanders the ability to modify their structures does not allow for input from higher or flanking formations which will likely feel the most significant impact of the changes. By focusing on the similarities of all air power capability, building a more efficient organization as a start state is possible. In the words of air power academic Richard Goette, "before the RCAF can integrate with its joint and combined partners, it must first integrate with itself: it needs air-to-air integration."[205] A final consideration of this recommendation is to require commanders to seek permission from their higher HQ before implementing change, much like what is seen in the USAF. Not only would this ensure that organizations remain similar and easier to understand, but it also allows a feedback loop that could be applied to other organizations to pass along better practices.

Build Doctrine in Support of RCAF Organizational Structures. Publications from the USAF (*AFI 38-1*) or the Canadian Army (*BGL 300 – Command in Land Operations*) provide a glimpse at what other organizations bring to help the entire workforce understand their specific unit or HQ role and how they fit into the whole structure. A similar endeavour is required for the RCAF to provide leaders with a better

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[204] Royal Canadian Air Force, RCAF Doctrine Note 19/01…, 4.
[205] Richard Goette, *Preparing the RCAF for the Future: Defining Potential Niches for Expeditionary Operations* (Trenton, ON: Royal Canadian Air Force Aerospace Warfare Centre Production Section, 2020), 81.

understanding of why air forces should be organized in a particular manner and interact with higher, lower and flanking formations. In addition, much like the CA's publication on Staff Duties (BGL-331), the RCAF must look to create a similar document that explains the various roles and duties of the multiple positions on air force staff. This needs to apply to both the domestic and expeditionary environments, with the goal that there should be no noticeable difference in generic roles of positions.

Educate Air Force Personnel in its Structure and Staff Duties. There is ample evidence that the RCAF is not doing a very good job preparing personnel to work in or with HQs. The development of a RCAF Staff Duties document, mentioned in the previous recommendation about doctrine, would be an ideal start to address this problem. This needs to be reinforced with actual training classes, where junior officers and senior NCOs of all air force trades can learn about the organization's structural arrangements and how their various interactions impact others. Such measures should help reduce the confusion and friction caused within the force by providing a baseline to all members early in their careers. It is worth noting that while this is something that should be added to the Air and Space Power Operations Course (ASPOC), it should be delivered much earlier in an individual's career.

Use Technology, such as Email Addresses, to reinforce the Structure. This recommendation is based on the United Kingdom's Ministry of Defence email approach. The majority of personnel there are assigned two email accounts: one tied to their position and one for personal matters.[206] The positional email address is laid out so that an individual no longer needs to know who they need to email, but the position. For

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[206] Based on the authors experience on exchange with the British Army Air Corps from 2011-2014.

example, the 1 Wing Operations Planner (1 Wing A35) could have an email address

such as 1Wing-HQ-A3-A35@forces.gc.ca. Suppose every wing was structured in the

same way. In that case, their emails could also be set up in the same manner (i.e.,

14Wing-HQ-A3-A35), making it much easier to move and coordinate information and

activities and potentially allowing better management of larger spans of control. The

majority of personnel would have access to two email accounts: one defining their

position and one for their personnel issues (i.e., mess bills, medical appointments, etc.).

In addition, when people transition between jobs, the positional accounts would be

transferred to the incoming individual, allowing all the historical information of the

position to remain with the position. Creating such a transition would undoubtedly

disrupt the force in the short-term and potentially need to be pushed to reach pan-CAF.

There is likely the need for communication policy updates and an engagement with

Shared Services Canada (SSC) that would be required to enable this migration of

accounts. This is no easy change; however, the long-term benefits of this approach will

outweigh any of the short-term work.

Horizontal Division of Labour (Wings versus Bases)

Secondly, Chapter 4 demonstrated the difficulty that the RCAF has with different

horizontal alignments at the L3 level. While this could be considered in the previous

recommendation concerning strategic alignment, it does need to be noted that according

to the theories seen in Chapter 3 that is not necessary for all divisions at a specific level

to have the same division of labour. However, in the case of the RCAF, it is hard to

justify why certain formations should be geographical, and some can be functional. It is

proposed that the following two recommendations be investigated further to determine

its suitability, given previous discussions,[207] and the current successes other allied Air

Forces (i.e., RNLAF and RAAF) are having.

Create Functional Wings. This proposal would see Wings realigned to focus

solely on the force generation of their assigned Air Force capabilities and the title of

Wing reserved for an Air Force manoeuvre unit (i.e., one that is not constrained to base

support). The functional wings would use the current 1 Wing model, where the base

infrastructure is removed from the responsibility of the wing commander, and that the

HQ could be aligned with the continental staff system. This would be similar to the

arrangement of the previous group construct from the 1950s to the 1990s. The current

size of the RCAF in 2021 does not lend itself to a return to groups led by Brigadier-

Generals. However, having evident unity of efforts within these new wings would help

wing commanders find new efficiencies while having command of all assigned assets.

One counter-argument with this recommendation is the need for additional personnel

and positions to make this change and the considerable disruption that will occur. There

might be additional positions required, but many of these jobs are not being

accomplished when examining the outputs of wings today. Also, this course of action

should not be followed unless there is a firm commitment to look at the other

recommendations in this paper, as there is a good chance that should the structure of the

RCAF become more efficient, there may be an overall need for fewer people in the long

run.

Remove Bases and Support from Force Generation. Unlike standing up

functional wings, removing bases from the current structure will require much more

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[207] Webb, "Addressing the Need for a Functional Wing Concept" and Lee Smith "The Wing Concept Revisited"

thought. There may be opposition to this idea: domestically, many Air Force units fight from their bases, and commanders should control everything. To counter this, it can be seen through examples such as the RAAF, 1 Wing, or even Canadian airlines that it is unnecessary to own an airport to achieve success.[208]

Some proposals have suggested following the RAAF structure of creating a Support Division as a new L2 responsible for all Air Force base and support requirements. Others have proposed the idea of the bases being accountable to the closest functional wing commander. A third option could be embracing the Real Property aspect and making all Canadian military bases truly joint endeavours. All of these have different pros and cons. For example, standing up a support division allows more opportunities for support trades to reach higher ranks, with the command position of such a division being a support officer. In addition, this allows the support division to focus on the provision of the best possible service to its clients -- the functional wings. The downside would be the addition of more positions for the new Division HQ and a perceived loss of control of the airbase by the functional wing commander. However, should organizational theories be applied correctly, there is the potential for using fewer people in the future while increasing the level of service provided to wings. It is recommended that a detailed analysis of the best practices for delivering base support be undertaken by the RCAF.

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[208] The civilian example specifically refers to Air Canada and WestJet. Both airlines have Toronto's Pearson Airport as a key hub location for their operations, and a failure at this location will have large impacts throughout their networks. But neither airline owns the airport; they trust the Greater Toronto Airports Authority (GTAA) to run the airport, which includes plowing the runways, providing air traffic control, running the infrastructure and providing security among many other services. (See *GTAA Annual Report 2019:Pearson Partners*, 2020).

The Importance of Headquarters

Third, Chapters 3 and 4 emphasized the importance that HQs play within an organization, focusing on providing a cognitive function. This gives the strategic oversight and direction while helping to coordinate resources and priorities between the various horizontal divisions. Chapter 4 demonstrated that the RCAF has struggled with its HQ function. The following recommendations are proposed to reverse this trend and improve this aspect.

RCAF HQs require investment and prioritization to be staffed effectively. In 2021, the RCAF is short on experienced personnel, and available personnel are prioritized to be sent to operational units to perform critical flying tasks. It is also a fact that many people perceive that working at a HQ is not as exciting and try to avoid these functions at all costs. The reality is that HQs are essential to the effective running of the force. Failures at this level can result in greater stove piping, increased workloads at the lower levels, and confusion about where the force is headed. HQs should be staffed to 100% of their required strength with individuals who are trained in the required staff duties.

Better Integration of the RCAF Aerospace Warfare Centre (RAWC) with the entire RCAF. The standup of the RAWC was an essential step in correcting the downward trend of doctrine generation within the RCAF. Should the recommendation align to functional wings be actioned, the A7 (doctrine and training) positions for each wing could be aligned to a matrix model proposed in Chapter 4. The A7s at the L3 (Wing) level would be Lieutenant Colonels with their staff and direct their report to their Wing Commander. A secondary report would go to the RAWC in terms of doctrine

development, allowing the Warfare Centre direct access to the tactical level of operations. This arrangement would not allow the RAWC to task functional wings directly but offer another ability to help break down the stovepipes using a HQ to coordinate doctrinal efforts between the various capabilities.

Additionally, spans of control and responsibility need to be reduced, and these need to be identified in the recommended external review. While there is evidence stating that supervisors can have large spans of control, there is a lack of overall staff training, which would help to allow larger spans. It is recommended that Graicunas' proposal of a maximum of six direct reports[209] for middle to upper managers should be the desired start state for a future reorganization. Until education on staffing processes begins to generate results and an efficient structure begins to form, it will remain difficult for RCAF supervisors to continue to manage large spans of control. A second recommendation from this aspect is the need to train officers and senior NCMs on how to effectively mentor the next generation, something that is not included in Air Force training.

These twelve recommendations vary in complexity, but all will require effort to change. Changing an organizational structure is not an easy undertaking, and implementing any of these proposals will cause upheaval. The current structure has been in place for nearly 30 years. Many people will be frustrated by the work and effort required, considering that the force appears to be operationally effective for many people and will have become part of its culture. In his book, *Understanding Military Culture,* English states that "culture is hard to change [because] it is often deeply ingrained and

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[209] Urwick, "V.A Graicunas and the Span of Control"…, 350.

behavioural norms are well learned; therefore, members must unlearn the old norms before they can learn new ones."[210] There are many challenges and barriers to change that impact the military, some of which can be seen in the CAF's slow cultural shift away from harmful sexualized behaviour.[211] Education will form part of the approach to tackle cultural change, and full buy-in from the organization's leadership will ensure that modifying the structure remains a priority. In an already under-staffed and extremely busy organization, is it realistic that it can invest in such a reorganization?

On the other side of that argument, can the RCAF afford not to make these changes? With burnout and frustration plaguing the air force while struggling to retain experience within its ranks[212], this paper affirms that these steps need to be considered for the continued health and success of the RCAF. Committed leadership and positive messaging from its commanders will help guide the RCAF through a transition. It has done so four times in the past 70 years, and the air force has the resiliency to do so again, especially when the end-state is a more efficient and understandable organization.

Conclusion

The RCAF is competing for people in a very competitive environment. OP TALENT and OP EXPERIENCE both indicate that work-life balance is a critical facet that needs to be addressed. This paper demonstrates that a significant way to improve the work environment where people want to work is to take a deliberate look at its structure. Eliminating the frictions and burnout caused by the confusion of structure will

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[210] Dr. Al English, *Understanding Military Culture*, Kingston: McGill-Queen's University Press, 2004, 23. The intent of this paper was not to focus on determining how to influence the change, but determine why change should occur. For additional reading on cultural change in the RCAF, see Matthew Kuhn's "Project Optimize Air Force: The Strategic Awakening of the RCAF," Canadian Forces College, 2020.

[211] Maj S.J Gilis, "No Sexualized Jokes, No Winks, No Nods: Elimination of Harmful Sexual Behaviour Through Culture Change in the Canadian Armed Forces." Canadian Forces College, May 2016, 2.

[212] Royal Canadian Air Force, *OP TALENT and OP EXERIENCE Info Brief…*, 6.

go a long way to encouraging Canadians to join and remain in Canada's air force. The RCAF promises the excitement of a fulfilling career; what it needs is an overall structure that people can understand and in which they can thrive.

In a speech that he gave on the Nimrod disaster, Sir Charles Haddon-Cave provided an insightful quote from E.F Schumacher's book, *Small is Beautiful*: "any intelligent fool can make things bigger, more complex, and more violent. It takes a touch of genius – and a lot of courage – to move in the opposite direction."[213] Members of the RCAF are courageous, as demonstrated every day by the people in its ranks in their roles to defend Canada and Canadians. Using the resources that currently exist, there are ways available to find the efficiencies that have been lost, creating a more straightforward and understandable system for the betterment of the Air Force and its people. Those who can need to lead the force on the quest to find these solutions and should not be afraid to roll up their sleeves and get right into the fray.

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[213] E.F Schumacher, *Small is Beautiful: Economics as if people mattered*, (1973) **quoted in** Haddon-Cave, *Leadership & Culture…*, 8.

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