Space Oddity: Strategic Communications as a Space Operations Enabler

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ABSTRACT

The importance of strategic communications as an effective weapon in today's complex and chaotic information domain cannot be understated. The public is bombarded with vast quantities of information at an incredible speed. Although on the surface it may seem like a function of the signal to noise ratio, it is the narrative that will decide the victor in this new battlespace. Currently, communications on space activities and operations are generally conducted in a stovepiped manner. Bringing together the primary stakeholders involved in space communications and concentrating their communications activities with a common, compelling narrative could give space a presence in the information domain while improving the ability to coordinate communications activities with international partners in a more harmonious fashion. In order to enhance joint space communications effectiveness, Royal Canadian Air Force Public Affairs should lead the development and execution of a pan-government strategic communications framework for space operations.

ACKNOWLEDGEMENTS

My original acknowledgements page was four sentences. For anyone who has done the DRP – in under four months and during a global pandemic, no less – you will know that there aren't many words left in you by the end. Acknowledgements, however, aren't about the author. They're about recognizing the people who contributed to this process, and the people who supported mine certainly deserve more than four sentences.

Richard, when I learned that I would be writing the full DRP, I was given a short-list of Banger-approved academics to approach to be my advisor. It was such a short list, in fact, that it consisted of only three letters: CAG. Your unbridled enthusiasm for air and space power was the driving force behind this paper. It is clear to staff and students alike that you are genuinely invested in our professional development, and that sincerity cannot be understated. I am so grateful to have had your guidance over these past months. Thank you for sharing your knowledge, your expertise, and your passion with me.

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Georgia, you were my little moments of joy this year. I love you 100.

exploration have value, and if people think 'space stuff' is worth doing, then the space program must be worth funding.[3] Chris Hadfield had figured out the power of strategic communications.

While there is no singular definition of strategic communications, a common theme among its various designations is 'coordination.'[4] The Canadian Armed Forces (CAF) has neither a formal definition of strategic communications nor the doctrine to establish how defence strategic communications would function. One of three definitions taught at its Defence Public Affairs Learning Centre comes from the NATO Strategic Communications Centre of Excellence. It defines strategic communications as "the coordinated and appropriate use of NATO communications activities and capabilities in support of Alliance policies, operations and activities, and in order to advance NATO's aims."[5] These activities and capabilities include public diplomacy, public affairs (PA), military PA, information operations, and psychological operations.[6] In short, NATO synchronizes and focuses the efforts of its information specialists, both military and civilian, in order to maximize the achievement of strategic effects.

Strategic communications is a significant operations enabler because when executed correctly and effectively, it influences. More specifically, it has the potential to develop or modify public opinion. In the context of space operations, for example, strategic communications could be employed to aid in the development of public interest

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[3] Janet Davidson, "How Chris Hadfield turned earthlings on to space," CBC, 13 May 2013.

[4] Diane Larose, "Describe strategic communications," (lecture, Defence Public Affairs Learning Centre, Hull, QC, 23 February 2020), with permission. The Defence Public Affairs Learning Centre (DPALC) teaches three different definitions in their strategic communications coursework: the NATO definition used in this paper, a definition from notable communications expert Christopher Paul, and a definition from a RAND study on NATO's strategic communications concept.

[5] NATO, "About Strategic Communications," last accessed 15 January 2021, https://www.stratcomcoe.org/about-strategic-communications

[6] *Ibid.*

in space activities, which in turn could indicate and reinforce to the political level that space operations are a matter of national interest. If there is sustained national interest, space operations could become a government priority and, subsequently, a priority in the government's budget. Funding translates into the development or acquisition of space-based capabilities, which would enable Canada to maintain interoperability and keep pace with its international partners.

Additionally, the importance of strategic communications as an effective weapon in today's complex and chaotic information domain cannot be understated. The public is bombarded with vast quantities of information at an incredible speed. Although on the surface it may seem like a function of the signal to noise ratio, it is the narrative that will decide the victor in this new battlespace. As John Arquilla and David Ronfeldt famously noted decades ago, triumph depends on "whose story wins."[7] The winning narrative, the one that resonates with the greatest number of people and permeates the information domain, will become truth.

Strategic communications is most effective when it coordinates and concentrates multiple lines of effort toward a common objective, which is why a comprehensive approach to strategic communication in support of space is crucial. Currently, communications on space activities and operations are generally conducted in a stovepiped manner with departments and agencies executing their own communications plans, if they have a space communications plan at all. Bringing together the primary stakeholders involved in space communications and concentrating their communications activities with a common, compelling narrative could give space a presence in the

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[7] John Arquilla and David Ronfeldt, Networks and Netwars, Santa Monica: RAND Corporation, 1999, 328.

information domain while improving the ability to coordinate communications activities with international partners in a more harmonious fashion.

This paper argues that in order to enhance Canada's joint space communications effectiveness, the Royal Canadian Air Force (RCAF) should lead the development and execution of a pan-government strategic communications framework for space operations. The establishment of a 3 Canadian Space Division reinforces the RCAF's leadership in space, and its newly-established Public Affairs Officer (PAO) position will provide a dedicated, singularly-focused effort lead for the coordination of this framework, which will draw on all key space stakeholders to ensure a unified narrative and cohesive unity of effort.

This argument is built in four chapters, beginning with an overview of the space domain as defined by the CAF in chapter one and comparing this definition to that of Canada's international partners. This chapter also identifies the other primary players responsible for space communications in Canada and discusses the importance of partnerships within the space domain, including the challenges and opportunities these relationships present. Finally, it touches on the use of different terms and definitions within the space domain among allies which can affect the effectiveness of joint communications. Canada requires a tailored approach that bridges this language gap while respecting national strategic objectives.

The importance of narrative in a congested and contested information domain is introduced in chapter two. This chapter explores the comprehensive approach and its application in successfully resonating in the information domain. This concept sets the stage for chapter three, which identifies key areas of future study that should be

undertaken to develop an effective pan-government strategic communications framework for space.

Chapter four presents a detailed discussion about a new direction for the CAF PA trade and suggests why a pan-government strategic communications framework for space might be led by the RCAF's 3 Canadian Space Division. This option will be further refined in the conclusion, which offers recommendations moving forward to close out the paper.

Literature Review

While there is no shortage of literature available about military strategic communications, there is a gap in the literature available within the Canadian military context. Much of the existing literature comes from Europe and the United States, specifically from military institutions and NATO. Those publications specifically address how traditional information-related capabilities, such as Information Operations, Psychological Operations, and PA, should work together to achieve strategic defence goals with a heavier focus on Information Operations.[8] This debate, which also occurs within the CAF, demonstrates the relative infancy of strategic communications in Canada compared to its closest ally, the United States, as well as to its adversaries, specifically Russia and China. In fact, much of the available literature regarding the information

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[8] Curtis Boyd, "Army IO is PSYOP: Influencing more with less," *Military Review*, 87(3), May-June 2007; see also Sara King, "Military Social Influence in the Global Information Environment: A Civilian Primer," *Analyses of Social Issues and Public Policy* 11, no. 1, 2011; see also Anais Reding, Kristin Weed, and Jeremy J. Ghez, *NATO's Strategic Communications Concept and its Relevance for France* (RAND Corporation: 2010); see also NATO, SH/COMS/SAG STC/DC/17-318235, *NATO Strategic Communication Handbook V1.0*, (Belgium: NATO Headquarters, 2017.)

domain exists around the misinformation campaigns being run by these adversaries, and what Western nations should consider in trying to counter them.[9]

Much of this literature ties in the concept of narrative, for which there are ample resources spanning across several fields such as communications, psychology, sociology, and the military. The available information is incredibly consistent, demonstrating decades of research that has established a widely accepted definition of narrative. This research has also identified that narratives define individuals and that societies are built upon historical narratives, which is what makes them such an effective tool in influence activities.[10]

Perhaps the widest gap in literature this paper found was in identifying and detailing fundamental pillars of any strategic communications effort as a whole. While there was a broad range of literature touching on some of the pillars as an individual subject, the author's professional experience was relied upon heavily to tie this research into the broader concept of strategic communications within a military context, and to fill in the

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[9] Barbora Maronkova, "NATO Amidst Hybrid Warfare Threats: Effective Strategic Communications as a Tool Against Disinformation and Propaganda," in *Disinformation and Fake News* (Singapore: Springer, 2021); see also Marcus Kolga, *Stemming the Virus: Understanding and responding to the threat of Russian disinformation* (Ottawa: Macdonald-Laurier Institute for Public Policy, 2019)

[10] Brad Allenby, and Joel Garreau, "Weaponized Narrative Is the New Battlespace: And the U.S. is Behind its Adversaries," in *Weaponized Narrative: The New Battlespace*, The Weaponized Narrative Initiative White Paper, (Phoenix: Arizona State University, 2017); see also Qi Wang, Jessie Bee Kim Koh, and Qingfang Song, "Meaning Making through Personal Storytelling: Narrative Research in the Asian American Context," *Asian American Journal of Psychology* 6, no. 1 (2015); see also Jerome Bruner, "The Narrative Construction of Reality," *Critical Inquiry* 18, no. 1 (1991); see also, Patrick Weber, and Yannick Grauer, "The Effectiveness of Social Media Storytelling in Strategic Innovation Communication: Narrative Form Matters," *International Journal of Strategic Communication* 13, no. 2 (2019); see also Mark A. Finlayson, and Steven R. Corman, *The Military's Interest in Narrative*, 2015; see also Braden Allenby, "The Age of Weaponized Narrative Or, Where have You Gone, Walter Cronkite?" *Issues in Science and Technology* 33, no. 4 (2017); see also Jeff Kubiak, "Strategy: Thinking Forward," in *Weaponized Narrative: The New Battlespace*, The Weaponized Narrative Initiative White Paper, (Phoenix: Arizona State University, 2017); see also Jerome Bruner, "The Narrative Construction of Reality," *Critical Inquiry* 18, no. 1 (1991); see also Miranda Holmstrom, "The Narrative and Social Media," *Defence Strategic Communications* 1:1 (2015.)

gaps in other areas. For example, almost nothing exists regarding setting communications objectives yet there is an abundant amount of literature that identifies communications practitioners as historically weak in measuring and evaluating the effectiveness of their efforts.[11] This creates an obvious link: if one has not set clear and meaningful objectives, and communicated those to the institution, it would be impossible to understand if and how effectively those objectives have been achieved.

A similar gap exists in literature addressing strategic communications within the CAF context, and specifically CAF PA. This is entirely due to the fact that the CAF does not have a formal definition for defence strategic communications, and it lacks doctrine to support this concept. Therefore, there are only a handful of works written by retired and current PAOs that stand as the only reasoned literature on this subject.[12]

The author's professional experience, comprised of nearly 20 years of communications experience, will therefore be leveraged throughout this paper. This includes 14 years as a military PAO with a variety of experience ranging in tactical, operational, and strategic-level positions across the CAF. The most recent position included the Director General Space file, which provides insight into the working relationships between primary space stakeholders and allied militaries, as well as key

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[11] David Michaelson, and Don W. Stacks, "Standardization in Public Relations Measurement and Evaluation," *Public Relations Journal* 5, no. 2 (2011); see also Rebecca Swenson, *et al.*, "Insights from Industry Leaders: A Maturity Model for Strengthening Communication Measurement and Evaluation," *International Journal of Strategic Communication* 13:1 (2019); see also Jim Macnamara, "A Review of New Evaluation Models for Strategic Communication: Progress and Gaps," *International Journal of Strategic Communication* 12:2 (2018); see also Jim Macnamara, and Anne Gregory, "Expanding Evaluation to Progress Strategic Communication: Beyond Message Tracking to Open Listening," *International Journal of Strategic Communication* 12:4 (2018); see also Christopher Paul and Elizabeth L.Petrun Sayers, "Assessing Against and Moving Past the 'Funnel' Model of Counterterrrorism Communication," *Defence Strategic Communications* 1:1 (2015.)

[12] Jay Janzen, "What if the Pen is a Sword? Communicating in a Chaotic, Sensational, and Weaponized Information Environment," *Canadian Military Journal* 19, 4 (August 2019); see also Department of National Defence and the Canadian Armed Forces, Military Public Affairs Enhancement and Employment Concept (Ottawa: DND Canada, 2020.)

gaps and issues for 3 Canadian Space Division. This professional experience is essential to the paper because of the lack of literature available for Canadian communications efforts in the space domain.

This paper will thus begin filling some of the holes in literature available for Canadian military strategic communications by offering an overview of Canada's current communications approach to space activities and operations. It will provide a more robust examination of the CAF PA capability, and show how it can work in concert with other government departments and agencies to support strategic objectives. This paper will also identify key focus areas of strategic communications and how these can be used to build an effective strategic communications approach for Canada's space activities and operations. First, however, one must understand Canada's history with space and its key players, which will be discussed next.

CHAPTER 1 – STATION TO STATION: THE SPACE DOMAIN AS A JOINT VENTURE

Canada has a long and storied relationship with space. As only the third country to build and launch its first satellite, to the development of the Shuttle Remote Manipulator System, Canadarm, to sending the first Canadian, Marc Garneau, to space, Canada has demonstrated a legacy of excellence in space technology and exploration.[13] Yet the nation cannot let its early history be the only story told about Canada and space. The space environment has changed dramatically since Alouette 1 was launched in 1962, and it will continue to change in the years to come as this domain becomes more accessible. Canada must change too. This chapter will focus on defining the space domain in a Canadian context and understanding why partnerships are the foundation of Canada's approach to space. It will explore the responsibilities of key space stakeholders, in Canada as well as internationally, while acknowledging the challenges – and the opportunities – true partnerships present.

While space may seem limitless, today's reality is that it is a domain that is competitive, congested, and contested.[14] Once a place of exploration only open to a few countries, technological advancement and globalization have seen commercial entities push the boundaries of space exploration, increasing traffic – and the risk of collisions – in space. For example, the CAF monitors roughly 1,700 active satellites in addition to more than 18,000 space objects such as debris and rocket bodies orbiting the earth. Additionally, adversarial nations have recognized the vulnerabilities of Canada's

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[13] Canadian Space Agency, "Canadian Space Milestones," last accessed 21 January 2021, https://www.asc-csa.gc.ca/eng/about/milestones.asp

[14] Charity Wheedon, "*Strong, Secure, Engaged* in a Threatened Space Domain," Canadian Global Affairs Institute, 2018, 1.

dependence on space for both security and quality of life, and are exercising offensive actions in space and developing anti-satellite weapons. This demonstrates a threat to access and freedom of manoeuvre within the space domain.[15] All of these factors point towards a requirement for Canada to protect its space interests and to deter and counter adversarial provocation in order to ensure a continued ability to freely access and operate in space.[16]

The CAF has a significant role to play. Not only is it a consumer of space capability, it is also the institution charged with the defence of Canada and North America, and Canadian interests – including those in space. Space capabilities are a critical component of the CAF's ability to conduct modern, full-spectrum, pan-domain operations. In particular, they provide the CAF with terrestrial and space weather information, precision navigation and timing, beyond line-of-sight communications, multi-spectral mapping, and search and rescue information required to conduct both domestic and international operations.[17] As an example, surveillance and reconnaissance satellites provide invaluable, time-sensitive data that builds the operational picture in complex operating environments. Satellite communications provide the CAF secure voice and data connectivity which enables global command and control while simultaneously enhancing situational awareness.[18]

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[15] Department of National Defence, Royal Canadian Air Force Concept of Operations for the CAF Joint Space Program (Ottawa: DND Canada, 2020), 4-5.

[16] Department of National Defence, *Strong, Secure, Engaged: Canada's Defence Policy* (Ottawa: DND Canada, 2017), 50.

[17] Department of National Defence, media lines for Summit for Space Sustainability, "Panel 3: Everybody Wants a Space Force," 3 September 2020.

[18] Department of National Defence, DM/CDS Initiating Directive for Space Operations (Ottawa: DND Canada, 2020), 3.

It is understandably difficult for Canadians to make the connection between often classified military space operations and the services that enhance their business and the quality of their own daily lives. The threats to Canada's access to space and its space-based capabilities can be generally grouped into three categories: natural threats, which includes solar activity, radiation belts, and natural orbital debris; human-made, the result of congestion in space, which includes things like satellite debris and electromagnetic interference; and adversarial, which comprises cyber, electronic, directed-energy, and anti-satellite weapons.[19]

Space has a larger impact on daily life than one might be aware. One does not have to look further than one's own mobile devices to understand what would be lost if any of the threats to satellites or space access became a reality. Telecommunications are the most popular use of satellites, which enable connectivity through phones, the internet, radios, and television. Many components of the average smartphone, such as the camera, come from technologies developed by engineers in the space sector, while navigation satellites allow one to use Google Maps to plan one's driving routes for road trips or to avoid traffic congestion during daily commutes. More broadly speaking, space also contributes to the improvement of healthcare through experiments conducted on astronauts in space that inform medical treatments on earth, as well as technologies that improve surgical instruments. Satellite data can also show how the Earth is changing, which contributes to improved climate change solutions, more effective agricultural practices, and more accurate models which forecast natural disasters, thereby improving one's ability to prepare for them. Satellites are also used to locate aircraft, ship, or

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[19] Department of National Defence, DM/CDS Initiating Directive for Space Operations (Ottawa: DND Canada, 2020), 8-9.

personal emergency beacons during search and rescue efforts.[20] For example, the

COSPAS-SARSAT system enables almost instantaneous notification to the appropriate

authorities when distressed persons or vehicles activate their emergency locator

beacons.[21] Space offers Canadians unique solutions to unique problems.

Space itself is a unique operating environment, and its lack of geographical

borders makes it challenging to define. The CAF is finalizing a working definition of the

space domain:

> All areas, entities and activities related to or affecting the space
> environment. Note: The space domain includes infrastructure, people,
> cargo, spacecraft and other conveyances. Therefore the space domain
> includes not only the physical environment but further incorporates all
> space objects, plus the remainder of the space architecture (i.e. link and
> ground segments). It is important to recognize that portions of the space
> domain reside in other environments and thus there is significant
> interdependencies between the space domain and cyber, electromagnetic,
> as well as other physical domains. This relationship demonstrates the very
> essence of pan-domain operations (PDO) which demands an integrated
> operational approach.[22]

The CAF has loosely classified space as "the physical universe beyond the Earth's

atmosphere, in which a nation operates."[23] The United States is similar in its definition,

which defines space as "the area above the altitude where atmospheric effects on airborne

objects becomes negligible."[24] The United States, however, is more prescriptive in

expanding that definition to note that space is the domain of orbital flight. Orbital flight is

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[20] Canadian Space Agency, "Everyday benefits of space exploration," last accessed 20 January 2021, https://www.asc-csa.gc.ca/eng/about/everyday-benefits-of-space-exploration/default.asp

[21] COSPAS-SARSAT, "What is a Cospas-Sarsat Beacon?" last accessed 21 January 2021, https://cospas-sarsat.int/en/18-frontpage-articles/603-what-is-a-cospas-sarsat-beacon

[22] Department of National Defence, B-GA-400-000/FP-001, *Royal Canadian Air Force Doctrine Vol 3 Space Power* (Ottawa: DND Canada, 2021.)

[23] Department of National Defence, Royal Canadian Air Force Doctrine Note 17/01 Space Power, Ottawa: DND Canada, 2017, 1-5. This doctrine is currently being rewritten, which will include a new definition for space.

[24] Department of Defense, United States Space Force *Spacepower: Doctrine for Space Forces* (Colorado Springs: United States Space Force, 2020), vi.

characterized by its physical environment and perspective, which is where the value of space power can be found. The physical environment sees space as a vacuum, characterized by minimal drag, extreme temperature ranges, and varying degrees of solar weather. Perspective considers the legal, unobstructed, broad view of Earth from a fixed point in space.[25] In short, space allows a nation unparalleled access to view any location around the world. This advantage is open to all, meaning adversarial nations like North Korea, China, and Russia also have the same access and benefits as those of Western nations.

The Government of Canada has addressed these threats to Canadian space interests in its defence policy, *Strong, Secure, Engaged.* It has tasked the Department of National Defence (DND) and the CAF to work with allies to deter threats or attacks in the space domain, defend military space capabilities, promote the peaceful use of space, and invest in and development a span of space-based capabilities.[26] As the authority for the DND / CAF Joint and Combined Space Program, the RCAF is restructuring its space force in response to these tasks. The RCAF's Director General of Space, which is responsible for the delivery and use of space capabilities,[27] will transition to 3 Canadian Space Division in order to efficiently and effectively deliver the space power required to support ever-evolving CAF operations.[28] As such, the RCAF's *Concept of Operations for the CAF Joint Space Program* promises 3 Canadian Space Division will "maintain Space

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[25] *Ibid.*, 3-4.

[26] Department of National Defence, *Strong, Secure, Engaged: Canada's Defence Policy* (Ottawa: DND Canada, 2017), 57.

[27] Royal Canadian Air Force and Space, "Roles and leadership," last accessed 15 March 2021, http://www.rcaf-arc.forces.gc.ca/en/space/roles-leadership.page

[28] Department of National Defence, The CAF Joint Space Force Restructure Master Implementation Plan (Ottawa: DND Canada, 2020), 16.

Domain Awareness and will develop, deliver and assure space-based capabilities in order to enable the joint warfighter at home and abroad."[29]

At the core of this concept is partnerships. The CAF has maintained that domestic and international collaboration is essential to promoting responsible behaviour in space and defending Canada's space capabilities.[30] In fact, of the five identified objectives, four of them are centred on relationships with allies, other government departments and agencies, academia, and industry:

- In collaboration with allies, deter against threats to or attacks on Canadian interests, which is increasingly relevant to the space and cyber domains;
- Defend and protect military space capabilities, including by working closely with allies and partners to ensure a coordinated approach to assuring continuous access to the space domain and space assets;
- Work with partners to promote Canada's national interests on space issues, promote the peaceful use of space and provide leadership in shaping international norms for responsible behaviour in space; and
- Conduct cutting-edge research and development on new space technologies in close collaboration with allies, industry and academia to enhance the resilience of space capabilities and support the Canadian Armed Forces' space capability requirements and missions.[31]

Partnerships in space must begin at home. In addition to the CAF, there are other government departments and agencies responsible for different elements of space. Key space stakeholders are Global Affairs Canada (GAC), Assistant Deputy Minister (Policy) (ADM(POL)), the Canadian Space Agency (CSA), and Assistant Deputy Minister

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[29] Department of National Defence, Royal Canadian Air Force Concept of Operations for the CAF Joint Space Program (Ottawa: DND Canada, 2020), 6.

[30] Royal Canadian Air Force and Space, "Partnerships," last accessed 15 March 2021, http://www.rcaf-arc.forces.gc.ca/en/space/partnerships.page

[31] Department of National Defence, Royal Canadian Air Force Concept of Operations for the CAF Joint Space Program (Ottawa: DND Canada, 2020), 5-6.

(Information Management) (ADM(IM)).[32] Understanding the role each has in regards to space is important in understanding where the line is drawn for communication responsibility and, possibly, where these responsibilities overlap. This presents an opportunity for the stakeholders to strengthen Canada's space narrative through partnership.

GAC is Canada's diplomatic arm regarding space issues, and the lead department for space security. As such, it engages in multilateral discussions through the United Nations' Conference on Disarmament and First Committee, which focus on solutions to space security issues. It also engages with the United Nations Committee on the Peaceful Uses of Outerspace, which focuses on international partnerships to maintain the peaceful use of space.[33] GAC guides international affairs and engages accordingly with other nations. When it comes to communications, for example, GAC must be involved in the decision for any Canadian government entity to publicly reprimand another nation's actions in relation to space. This effort is coordinated with ADM(POL), which is responsible for providing advice and managing the international defence and security relations for the Minister of National Defence.[34]

As the lead agency for civil space programs, CSA is focused on developing and advancing space knowledge through science for the benefit of Canadians.[35] It focuses its work on three main areas: space exploration, space utilization, and space science and

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[32] Royal Canadian Air Force and Space, "Partnerships," last accessed 15 March 2021, http://www.rcaf-arc.forces.gc.ca/en/space/partnerships.page

[33] Canadian Space Agency, "Book 4: CSA Partners" last accessed 15 March 2021, https://www.asc-csa.gc.ca/eng/transparency/briefing-materials/2020-book-4-csa-partners.asp#2.1.6

[34] Department of National Defence, "Assistant Deputy Minister (Policy) - Peter Hammerschmidt," last accessed 15 March 2021, https://www.canada.ca/en/department-national-defence/corporate/reports-publications/transition-materials/defence-101/2020/03/defence-101-adm-pol.html

[35] Canadian Space Agency, "Mission and mandate," last accessed 15 March 2021, https://www.asc-csa.gc.ca/eng/about/mission.asp

technology. Through space exploration and space science and technology, CSA participates in the astronaut program and conducts experiments in space in order to enhance life on Earth. CSA also uses space, specifically observing Earth through satellites, to collect important data to support activities like weather predictions, preventing natural disasters, and improving agricultural practices.[36] CSA has a fulsome media relations team that regularly communicates its initiatives and news primarily through social media and its website.

Finally, ADM(IM) plays a key role in equipping the CAF with appropriate space-based capabilities and sustainment to ensure Canada has the capabilities it needs to strengthen its partnerships and protect against threats in space. Communication about these projects is closely coordinated between the RCAF and Director General Space, and ADM(IM).

With such varied areas of responsibility for space, one cannot simply assume that a single department or agency can effectively communicate alone. While the challenge rests in aligning the interests of each department and agency, it also presents an opportunity to bring together all space stakeholders to communicate as one by developing and amplifying an essential space narrative. This collaboration should be solidified through a pan-government strategic communications framework that can then be aligned with international partners. It will be critical for Canada to work closely with its allies, particularly the United States, to protect the stability, security, and sustainability of space.

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[36] Canadian Space Agency, "Organization," last accessed 15 March 2021, https://www.asc-csa.gc.ca/eng/about/csa-organization.asp

The United States, Canada's closest space ally,[37] captures the nature of its

domestic relationships in its Space Capstone Publication, *Spacepower: Doctrine for

Space Forces*. It describes these partnerships as "unified space action" in which all

instruments of national power are synchronized to ensure that each element is reinforcing

the others. For example, the United States' military space power is enhanced by

commercial space technology, but it also serves to protect these economic developments

within its nation.[38] In this case, the instruments of America's military and economic

power reinforce each other. The United States recognizes that this requires a whole-of-

government approach to space, a concept that will be discussed in more detail in chapter

three. The United States also recognizes the need for international partnerships, albeit

from a perspective of advancing its own space objectives.[39] As is often a challenge for

Canada, in particular when contrasted against the United States, any collaboration should

not come at the sacrifice of Canadian identity, norms, and values.

This is particularly important in communications where words matter. While

Canadians and Americans share a similar definition to what the space domain is, there is

significant deviation in the language used to talk about the space domain. As detailed in

"Spacepower: Doctrine for Space Forces" and echoed in its external communications

products, the United States labels space as a warfighting domain alongside its air, land,

maritime, and cyber domains. This recognizes both the role space power plays in

supporting other military services and operations, as well as the increasingly more

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[37] Department of National Defence, DM/CDS Initiating Directive for Space Operations (Ottawa: DND Canada, 2020), 13-14.

[38] Department of Defense, United States Space Force *Spacepower: Doctrine for Space Forces*, Colorado Springs: United States Space Force, 2020, 13-14.

[39] *Ibid*., 32.

competitive and adversarial nature of the space domain itself. The United States does not shy away from aggressive language in service-level space publications and external communications. Its doctrine communicates the understanding that space power is – and must be – more than an information enabler or a deterrent: it must also inflict lethal violence against an adversary when deterrence efforts fail. Notably, the United States recognizes its military space force as "warfighters" who will take the means necessary to protect American interests in space. Naming the space domain as a warfighting domain is part of the United States Space Force's development over recent years,[40] which arguably reflects the current threat level to and within the space domain, and how committed the United States is to protecting its assets. As its doctrine states, America's "military space forces are prepared to fight and win."[41]

This is in stark contrast to the language used by Canada, which favours a more neutral tone and specifically avoids referring to space as a warfighting domain. Rather, Canada imparts a message that promotes the "peaceful use of space and developing international norms for responsible behaviour."[42] While Canada acknowledges that it must protect its space capabilities, it focuses on deterrence as the primary means of doing so.[43] This language is guided primarily by the Assistant Deputy Minister (Policy), whose office considers political sensitivities surrounding Government of Canada defence

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[40] Bryan Boyce, "Twenty-First Century Deterrence in the Space War-Fighting Domain: Not Your Father's Century, Deterrence, Or Domain," *Air & Space Power Journal* 33, no. 1, 2019, 35.

[41] Department of Defense, United States Space Force *Spacepower: Doctrine for Space Forces*, Colorado Springs: United States Space Force, 2020, 21, 48.

[42] Department of National Defence, media lines for Summit for Space Sustainability, "Panel 3: Everybody Wants a Space Force," 3 September 2020.

[43] *Ibid.*

issues.[44] Its language, which characterizes Canada's approach to the space domain, is used by other stakeholder government departments.

DND and the CAF develop its own communications products around this language for public engagements, media interviews, and social media. However, words matter and the type of language each department needs to communicate effectively differs. Communication should therefore be driven by a department's role, its activities, and its target audience.[45] That is not to say that the message each stakeholders delivers should be wildly different; rather, this paper argues for consistency of the core narrative that serves as the backbone of any communications strategy, which will be detailed in chapter three. It is the manner of communication that should vary, and the generic neutrality of Canada's current approved language for space arguably narrows the ability for each stakeholder to communicate effectively. For example, while terms like "warfighting" and "lethal violence" in relation to space are not palatable to Canada, they are fundamental to American communications. As Canada's closest space ally, the variances in Canadian and American space language create challenges when the military arms of each nation are working together on joint statements or other communications activities.

At the same time, the differences in language between the two allies demonstrates a need for a Canadian-tailored approach to communications that reflects the Canadian understanding of the space domain. So how does Canada blend the needs of public

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[44] Department of National Defence, "Assistant Deputy Minister (Policy) - Peter Hammerschmidt," last accessed 15 March 2021, https://www.canada.ca/en/department-national-defence/corporate/reports-publications/transition-materials/defence-101/2020/03/defence-101-adm-pol.html

[45] James P. Farwell, Persuasion and Power: The Art of Strategic Communication, Washington, DC: Georgetown University Press, 2012, 57.

diplomacy with the needs of the CAF as it conducts space operations and activities? The

answer can be found in a pan-government strategic communications framework for

space. Strategic communications is a process that brings together key stakeholders to

maximize the capabilities of national power, and it recognizes the power in harnessing

the efforts of each applicable instrument of power – diplomacy, information, military,

and economic – toward a common objective.[46] This process is essential in establishing a

unified, consistent narrative for communicating in cooperation with each other, as well as

with consideration to allies as well. A pan-government strategic communications

framework for space will allow each stakeholder agency or department the flexibility of a

reasonable range of language to optimized effectiveness. The scope of language remains

firmly rooted in the established narrative that serves as the consistency and foundation to

all communication efforts. This will be discussed in greater detail in chapter three.

This chapter established Canada's reliance on space-based capabilities, which

ranges from operational use by the CAF to everyday use by most Canadians whether they

realize it or not. Dependence, however, is a vulnerability and Canada's adversaries are

not blind to the nation's need for uninterrupted access to space and its space-based

capabilities. In order to ensure this continued access, Canada has built its defence policy

for space around partnerships: with other government departments and agencies, as well

as allied nations. These relationships present both challenges and opportunities. While

there is strength in collaboration and cooperation, each space stakeholder has its own

priorities and responsibilities regarding space. This can be particularly challenging in

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[46] Nicholas Michelsen, and Thomas Colley, "The Field of Strategic Communications Professionals: A New Research Agenda for International Security," *European Journal of International Security* 4, no. 1, 2019, 62, 78.

communications, when who says what matters. Canada is charged with the task of

finding commonalities among partners to develop a shared narrative for space. The

importance of this endeavour will be discussed in the next chapter.

CHAPTER 2 – UNDER PRESSURE: WEAPONIZED NARRATIVE

Modern warfare has developed in the information domain. Where adversaries have struggled to match the conventional power of Western nations, they have found strength in the information domain. The volume, availability, speed, low cost, and pervasiveness of information have exposed a new vulnerability, ripe for adversarial exploitation. This chapter will demonstrate that the information domain is the new battleground of modern-day, hybrid warfare and narrative, which represents the identity of societies, the new weapon of choice.

This chapter will also introduce the concept of a comprehensive approach as the most effective method to address this asymmetrical threat. As Canada's space stakeholders look to establish a meaningful voice in the information domain, they must do so in a deliberate, unified manner. This close collaboration will enable the development of the most effective space narrative possible, which will serve both as Canada's best defence and best offence in the information domain.

Technology has had an unparalleled impact on the way humans access, process, and distribute information. The advent and adoption of the internet as an integral part of daily life has created an overwhelming volume and availability of information, and smartphones have put the internet into 3.5 billion pockets around the world.[47] Mass quantities of information are literally at the fingertips of more than half of the world's population. The quantity and speed at which the world can access information have created an information domain characterized by overcrowding and competition. Actors in

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[47] Statista, "Number of smartphone users worldwide from 2016 to 2021," last accessed 15 January 2021, https://www.statista.com/statistics/330695/number-of-smartphone-users-worldwide/

the information domain, including media, politicians, and adversaries, are vying to be heard.

This competition has resulted in information gathering and sharing that is driven by sensational, polarizing, and fractured communication that has eroded the credibility and the quality of intellectual debate around how information is sourced and distributed. Social media algorithms filter content in such a way that users only see information that is already in line with their beliefs, impeding critical thought.[48] Information consumers have become accustomed to 'surfing' for information, spending little time on one topic before bouncing to the next, only ever skimming the superficial level.[49] There is simply so much information available all of the time that one is not capable of keeping up. The human brain can only process information at a limited speed and only a fraction of that information is processed at a level where it can be acted upon.[50] The virtual deluge of data in today's information domain has overwhelmed the brain's information processing capabilities, sending individuals searching for something simpler: storytelling.[51]

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[48] Neil Johnson, *et al*, "Emergent Dynamics of Extremes in a Population Driven by Common Information Sources and New Social Media Algorithms," *Scientific Reports* 9, 2019, 6; see also Natascha Just, and Michael Latzer, "Governance by Algorithms: Reality Construction by Algorithmic Selection on the Internet," *Media, Culture & Society* 39, 2017, 248-249; see also Marc Zao-Sanders, "How to Think for Yourself When Algorithms Control What you Read," *Harvard Business Review*, 8 March 2018, https://hbr.org/2018/03/how-to-think-for-yourself-when-algorithms-control-what-you-read

[49] Jay Janzen, "What if the Pen is a Sword? Communicating in a Chaotic, Sensational, and Weaponized Information Environment," *Canadian Military Journal* 19, 4 (August 2019), 5.

[50] Tingting Wu, et al, "The Capacity of Cognitive Control Estimated from a Perceptual Decision Making Task." Scientific Reports 6, no. 1, 2016, 1.

[51] Brad Allenby, and Joel Garreau, "Weaponized Narrative Is the New Battlespace: And the U.S. is Behind its Adversaries," in *Weaponized Narrative: The New Battlespace*, The Weaponized Narrative Initiative White Paper, (Phoenix: Arizona State University, 2017), 6.

By nature, humans are storytellers and narrative is what one says and how one says it.[52] At its most basic, narrative is the description of an event that has occurred;[53] however, what makes narrative more complex, but also so powerful, is its intrinsic link to culture.[54] Humans are constantly assessing and processing the events occurring around them, and connecting them to personal beliefs and experiences to make sense of these events. These interpretations build an individual's social identity – who they are and where they think they fit in the world – and connect them to others with a shared perspective, thus building the culture of a particular group. Narrative is the instrument that enables this process, and narratives that pervade a particular group reflect its norms and beliefs, providing incredible insight into what matters to the group and the individuals within them.[55] In doing so, narrative gives one the comfort of not only understanding the complexities that surround them, but also the emotional safety of belonging to something.

The strategic importance of narrative has emerged as the world's militaries contend with the challenges of a new battlespace: the information domain. Historians recognize that the momentum of intensifying factors shape war, and technology in the communications space has shifted the mindset from conventional warfare to asymmetrical warfare, and from battles over territory, materiel and resources to

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[52] Qi Wang, Jessie Bee Kim Koh, and Qingfang Song, "Meaning Making through Personal Storytelling: Narrative Research in the Asian American Context," *Asian American Journal of Psychology* 6, no. 1, 2015, 88.

[53] Jerome Bruner, "The Narrative Construction of Reality," *Critical Inquiry* 18, no. 1, 1991, 6; see also, Patrick Weber, and Yannick Grauer, "The Effectiveness of Social Media Storytelling in Strategic Innovation Communication: Narrative Form Matters," *International Journal of Strategic Communication* 13, no. 2, 2019, 154.

[54] Mark A. Finlayson, and Steven R. Corman, *The Military's Interest in Narrative*, 2015, 175.

[55] Charles L. Moore, Jr., *et al.*, Maneuver and Engagement in the Narrative Space, SMA White Paper, 2016, 5.

campaigns over ideas, public sentiment, and truth.[56] Adversaries have recognized that while they do not necessarily have the military might to compete with the dominance of Western conventional forces, they do not need kinetic firepower to achieve many of the same effects. Subversive activities, which seek to erode the established institutions and power structures of a nation, are understandably attractive to enemies, even those with military capability.

As Allenby explains, this development is for a number of reasons. First, subversion allows an adversary to project power without triggering a conventional kinetic response. Tracing subversion efforts back to its source is extremely difficult, as well as proving that there ever existed such an organized effort. This tends to limit aggressive and overt responses as targeted nations struggle to respond in a meaningful manner. Thus, employers of subversion enjoy the benefit of operating in this grey space while those who are targeted suffer a natural disadvantage. Second, subversive activities are inexpensive. For a fraction of the cost of conventional warfare, adversaries can run relatively sophisticated networks that coordinate subversive activities across various lines of efforts. Third, the subversion activities do not need to be perfect to still be effective. Boiled down, if one throws enough spaghetti at a wall, eventually some of it is going to stick.[57]

Subversive activities are enabled by technological advancements in the information domain. The internet has removed territorial borders, and has provided adversaries access to target audiences in any country around the world. If an enemy

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[56] Sara King, "Military Social Influence in the Global Information Environment: A Civilian Primer," *Analyses of Social Issues and Public Policy* 11, no. 1, 2011, 1-2.

[57] Braden Allenby, "The Age of Weaponized Narrative Or, Where have You Gone, Walter Cronkite?" *Issues in Science and Technology* 33, no. 4, 2017, 67.

wants to undermine the social cohesion such that political and social groups are no longer able to function effectively, then it should come as no surprise that the internet would be leveraged in such a manner. In terms of allowing both the access as well as the time and space required to build a pervasive subversive narrative, the internet has opened a new realm of possibilities for subversive activities.[58]

Herein lies the true power of narrative. While it has served as a means of organizing large groups of people into a collective, cooperative society where individual behavioural patterns are more or less agreed upon, thus predictable, narrative has also opened the door for adversarial exploitation. An incredibly effective way to degrade national unity is by attacking a country's core narratives. This concept is what Allenby defines as "weaponized narrative" which is how an adversary uses information and communication technology to target the institutions, identity, and will of a population by promulgating propaganda and exacerbating political and social division. To put a finer point on it, Allenby exacts, "it is an emerging domain of asymmetric warfare that attacks the shared beliefs and values that support an adversary's culture and resiliency."[59]

In a crowded and competitive information domain, where even the most intelligent individuals are unable to cope with processing the relentless onslaught of information, the power lies with those who understand and can effectively craft and

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[58] Thomas Paterson, and Lauren Hanley, "Political Warfare in the Digital Age: Cyber Subversion, Information Operations and 'Deep Fakes'," *Australian Journal of International Affairs* 74, no. 4, 2020, 444; see also Blaise Cronin, and Holly Crawford, "Information Warfare: Its Application in Military and Civilian Contexts: Identity, Voice, and Community Formation Via the Internet," *The Information Society* 15, no. 4, 1999, 258-259; see also Kathy Crilley, "Information Warfare: New Battlefields Terrorists, Propaganda and the Internet," *Aslib Proceedings* 53, no. 7, 2001, 252-253.

[59] Braden Allenby, "The Age of Weaponized Narrative Or, Where have You Gone, Walter Cronkite?" *Issues in Science and Technology* 33, no. 4, 2017, 66.

control narrative.[60] When the human brain is overwhelmed, its ability to apply logic or

critical thinking is also diminished,[61] and the more one leans on emotions to guide

decision-making.[62] Thus, a compelling narrative does not necessarily have to be one that

is true. Narrative appeals to emotion and as such, its rationality is defined not by validity

but by believability.[63] This tends to be at odds with how people like to think they arrive at

their conclusions, which is through empirical evidence-based processes, scientific

methods, and historical knowledge.[64] The truth, therefore, may not be as significant as

traditionally thought if it can be hidden, spun, and shaped by a gifted storyteller, or

suppressed under a torrent of alternative perspectives that prey on and amplify feelings of

anger or fear.[65] Narrative, in this environment, becomes an effective way to wield

influence.

Nations, and adversaries, around the world have recognized that narrative can be

used as a foreign policy tool to destabilize a targeted nation. One only has to look at the

"Great Firewall of China" to see how seriously some nations are taking this threat. Under

President Xi Jinping, the Chinese Communist Party (CCP) has legislated and tightened

censorship of the internet within its country, actively monitoring and managing the

content available to its population to ensure the primacy of the CCP's messaging.[66] The

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[60] Brad Allenby, and Joel Garreau, "Weaponized Narrative Is the New Battlespace: And the U.S. is Behind its Adversaries," in *Weaponized Narrative: The New Battlespace*, The Weaponized Narrative Initiative White Paper, (Phoenix: Arizona State University, 2017), 9.

[61] *Ibid*., 7.

[62] Jeff Kubiak, "Strategy: Thinking Forward," in *Weaponized Narrative: The New Battlespace*, The Weaponized Narrative Initiative White Paper, (Phoenix: Arizona State University, 2017), 32.

[63] Jerome Bruner, "The Narrative Construction of Reality," *Critical Inquiry* 18, no. 1, 1991, 13.

[64] Daniel J. Power, Dale Cyphert, and Roberta M. Roth, "Analytics, Bias, and Evidence: The Quest for Rational Decision Making," *Journal of Decision Systems* 28, no. 2, 2019, 120-121.

[65] Brad Allenby, and Joel Garreau, "Weaponized Narrative Is the New Battlespace: And the U.S. is Behind its Adversaries," in *Weaponized Narrative: The New Battlespace*, The Weaponized Narrative Initiative White Paper, (Phoenix: Arizona State University, 2017), 7.

[66] Elizabeth Economy, "The great firewall of China: Xi Jinping's internet shutdown," The Guardian, 29 June, 2018.

CCP takes a three-prong approach to internet censorship: restricting access to foreign websites, blocking key search terms, and constant surveillance of internet activity to sanitize or remove offending content.[67] This means that the Chinese population does not have access to social media platforms like Facebook, Twitter, or YouTube, or traditional Western or European news agency websites. This concentrated censorship effort also means the same outside influences cannot access the Chinese population, eliminating the possibility of an adversary from presenting an alternate narrative about the governing Communist party to that of the CCP themselves. As Xi correctly asserted in a leaked speech, "The internet has become the main battlefield for the public opinion struggle."[68]

Canada, too, has taken note. In its defence policy, *Strong, Secure, Engaged*, the Government of Canada explicitly addresses adversarial use of weaponized narrative. Specifically, it identifies the challenge of countering subversive activities, which are difficult to attribute, that cast doubt upon the credibility and legitimacy of a national government or international alliance. These activities in the information domain are the asymmetrical component of what Canada defines as hybrid warfare: the coordinated use of diplomatic, informational, cyber, military, and economic means to upset the international rules-based order.[69]

Hybrid warfare, which gained popularity after Russia's annexation of Crimea in 2014, has been cast as a new style of conflict.[70] This is a mischaracterization that

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[67] Zainuddin Muda Monggilo, "Internet Freedom in Asia: Case of Internet Censorship in China," *Jurnal Studi Pemerintahan (Journal of Government and Politics)* 7, no. 1, 2016, 162-164.

[68] Elizabeth Economy, "The great firewall of China: Xi Jinping's internet shutdown," The Guardian, 29 June, 2018.

[69] Department of National Defence, *Strong, Secure, Engaged: Canada's Defence Policy* (Ottawa: DND Canada, 2017), 53.

[70] Bettina Renz, "Russia and 'hybrid warfare'," *Contemporary Politics* 22, no. 3, 2016, 284.

developed as analysts struggled to explain Russia's unexpected, blended use of covert

conventional forces, militia, economic intimidation, and robust disinformation

campaigns.[71] However, the use of both conventional and non-conventional means to gain

a psychological and physical advantage over the adversary is not new; Russia simply

modernized old tactics.[72] Its subversive activity in the information domain, particularly,

has become a defining element of modern hybrid warfare.[73]

These points are echoed in the Canadian Joint Operation Command's (CJOC)

Pan-Domain Force Employment Concept (PFEC) *Prevailing in an Uncertain World*. The

Canadian military formally identifies the information domain as a key area of operations

moving forward, positioning it alongside the traditional domains of land, air, and

maritime. Even more telling, the PFEC recognizes the information domain as "the

decisive domain" in modern-day operations because of how actions in the other domains

either impact, or are impacted by, actions in the information domain.[74] The identification

of information as its own specific warfighting domain is evidence that the effects one can

achieve from influence can be significant and long-lasting, and cannot be ignored. The

CAF is preparing for war on this new battleground, and it acknowledges that it cannot

undertake this fight alone. The PFEC clearly identifies that a whole of government

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[71] James K. Wither, "Making Sense of Hybrid Warfare," *Connections: The Quarterly Journal* 15, no. 2, 2016, 76.

[72] Sean Monaghan, "Countering Hybrid Warfare: So What for the Future Joint Force?" *Prism* 8, no. 2, 4 October 2019, 84.

[73] James K. Wither, "Making Sense of Hybrid Warfare," *Connections: The Quarterly Journal* 15, no. 2, 2016, 76; see also Bettina Renz, "Russia and 'hybrid warfare'," *Contemporary Politics* 22, no. 3, 2016, 285.

[74] Department of National Defence, *Pan-Domain Force Employment Concept: Prevailing in an Uncertain World* (Ottawa: DND Canada, 2020), 50, 16. The PFEC defines domain as "a major division within the military environment where specific activities, influence, and knowledge are applied. Domains are delineated by both physical and non-physical characteristics" and defines the information domain as "the domain where information is created, transformed and shared; where intent is conveyed and where communication for consultation, command and control takes place."

approach is needed to harmonize all instruments of national power in order to meet the challenges of adversarial activity in the information domain.[75] However, it is not enough: employing a comprehensive approach will also be required. If the whole of government approach is government departments and agencies working together toward a common goal and a unified response to an issue,[76] then the comprehensive approach is the framework to enable this collaboration and will form the foundation of a Canadian response in the information domain.

The CAF defines the comprehensive approach as "a philosophy according to which military and non-military actors collaborate to enhance the likelihood of favourable and enduring outcomes within a particular situation."[77] This approach recognizes that the complexities of the global security environment require complex solutions that will require a range and diversity of skills, expertise, personnel, and resources cannot be achieved by the military alone.[78] The military will be simply one element of a broader national solution that will see a cooperative effort across the diplomatic, informational, military, and economic plains,[79] which may see the military's role evolve from conducting security missions to one that also includes governance and development activities.[80] If this sounds eerily similar to the definition of hybrid threat just

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[75] Department of National Defence, *Pan-Domain Force Employment Concept: Prevailing in an Uncertain World* (Ottawa: DND Canada, 2020), 50.

[76] Karen Everett, and Emily Yamashita, "Whole of Government in the Canadian Arctic," in *Whole of Government through an Arctic Lens* (Antigonish: St. Francis Xavier University, 2017), 296.

[77] Termium Plus, "Comprehensive Approach," last accessed on 15 January 2021, https://www.btb.termiumplus.gc.ca/tpv2alpha/alpha-eng.html?lang=eng&i=1&srchtxt=comprehensive+approach&index=alt&codom2nd_wet=1#resultrecs

[78] Peter Gizewki, "Discovering the Comprehensive Approach," in *Security Operations in the 21st Century: Canadian Perspectives on the Comprehensive Approach* (Montreal: McGill-Queen's University Press, 2011), 20.

[79] Department of National Defence, *Pan-Domain Force Employment Concept: Prevailing in an Uncertain World* (Ottawa: DND Canada, 2020), 19.

[80] Andrew Leslie, Peter Gizewski, and Michael Rostek, "Developing a Comprehensive Approach to Canadian Forces Operations," *Canadian Military Journal* 9, no. 1, 2008, 19.

discussed, that is because it is. Both hybrid warfare and the comprehensive approach share the same framework for achieving very different goals. In fact, Giegerich calls hybrid warfare the "evil twin" of the comprehensive approach.[81]

There are two important lessons that can learned from hybrid warfare that can aid in the successful application of the comprehensive approach in addressing these threats. The first is that hybrid warfare's objectives tend to be long-term and campaigns are destined to drag on for a long time, so one will need to maintain the will and resources to endure.[82] While many conventional adversaries are motivated by ideological beliefs, Canada will need to build, unify, and sustain the will of its nation to counter the often-subtle effects of hybrid warfare over what is likely going to be a very long time. An important component of this effort will be unified, consistent, and recurring communications from all of the involved departments and agencies to highlight the deceitful efforts of the adversary, mark national power successes, and constantly reinforce the importance of national efforts to a public that is bombarded by counter-narratives.

Second, hybrid warfare depends on the strength of the bond between civil-military leadership.[83] It is the strategic level of the government and military that establish the plan and organizational framework that identify and outline how objectives will be achieved.[84] Most interestingly, in the context of this paper, the strategic level also develops and

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[81] Bastian Giegerich, "Hybrid Warfare and the Changing Character of Conflict," *Connections: The Quarterly Journal* 15, no. 2, 2016, 69.

[82] Neil Chuka, and Heather Hrychuk. "CAF Operations: A Comprehensive Approach to Enable Future Operations," in *Canadian Defence Policy in Theory and Practice* (New York: Palgrave MacMillan, 2020), 317.

[83] *Ibid.*

[84] START Secretariat, "Comprehensive Approach: Towards a Strategic Doctrine," in *Security Operations in the 21st Century: Canadian Perspectives on the Comprehensive Approach* (Montreal: McGill-Queen's University Press, 2011), 94.

disseminates its core narratives. This element will be discussed in more detail later, however, one can deduce from this lesson of hybrid warfare that any efforts to counter our adversaries has to be done with the total might of both political and military entities. In the information domain, one simply does not have the option of going it alone. The relationship and cohesion between the two parties serve as the backbone of the comprehensive approach and underpins the success or failure of its efforts.

Establishing the foundational core of a successful comprehensive response to today's threat will require deliberate actions, and comes with both internal and external implications and considerations for the CAF. Internally, the military arm must integrate more closely with other government departments and agencies while recognizing that its own role and necessary degree of involvement will depend on what is trying to be achieved.[85] Breaking down stovepipes and insulated processes, overcoming departmental agendas or mindsets, and forming synergies will be challenges that must be surmounted with integrated planning and a clear statement of the common objectives.[86] If all involved instruments of national power embrace the 'team' concept and work together toward achieving the identified goals, the comprehensive approach becomes a much stronger entity than several departments working in isolation of one another.

How information, and subsequent intelligence, is collected and shared will be another factor in implementing the comprehensive approach. As discussed earlier in this

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[85] Andrew Leslie, Peter Gizewski, and Michael Rostek, "Developing a Comprehensive Approach to Canadian Forces Operations," *Canadian Military Journal* 9, no. 1, 2008, 13.

[86] Megan Thompson, Angela Febbraro, and Anne-Renee Blais, "Interagency Training," in *Security Operations in the 21st Century: Canadian Perspectives on the Comprehensive Approach* (Montreal: McGill-Queen's University Press, 204; see also Peter Gizewki, "Discovering the Comprehensive Approach," in *Security Operations in the 21st Century: Canadian Perspectives on the Comprehensive Approach* (Montreal: McGill-Queen's University Press, 2011), 21.

chapter, an effective subversive narrative is one that can effectively strike at a target's

core beliefs, often masquerading behind another ostensible narrative. This stalking-horse

narrative is one that resonates with a section of the target audience and exacerbates

existing cultural fault lines. The enemy must have a deep understanding of its targeted

population to be able to do this, and the comprehensive approach is no different. In order

to counter or attack an adversary in the information domain, Canada must draw on inter-

agency and inter-departmental resources to fully understand the culture, history, and

values that motivate its adversary.[87] This, in turn, can expose an adversary's

vulnerabilities and help identify the appropriate tools to craft a more effective strategy to

address and counter an opponent's actions.

Another significant implication of the comprehensive approach is the

development of Canada's own fundamental space narrative that communicates its

strategic goals, actions, and benefits to both internal and external audiences.[88] As Neil

Chuka and Heather Hrychuk discussed in their chapter, this narrative will be used

internally to motivate and guide stakeholders, while externally sustaining the will of the

population and overtly delegitimizing the adversary. Not only does Canada's narrative

have to be right, it must speak to what is important to Canadians. It also needs to connect

their self-interests to the required activities of its military and its government.[89] In this

way, the comprehensive approach most effectively builds a compelling narrative that

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[87] Jim Simms, "The JIMP Environment," in in *Security Operations in the 21st Century: Canadian Perspectives on the Comprehensive Approach* (Montreal: McGill-Queen's University Press, 2011), 79-80.

[88] Andrew Leslie, Peter Gizewski, and Michael Rostek, "Developing a Comprehensive Approach to Canadian Forces Operations," *Canadian Military Journal* 9, no. 1, 2008, 13; see also Neil Chuka, and Heather Hrychuk. "CAF Operations: A Comprehensive Approach to Enable Future Operations," in *Canadian Defence Policy in Theory and Practice* (New York: Palgrave MacMillan, 2020), 320-321.

[89] Neil Chuka, and Heather Hrychuk. "CAF Operations: A Comprehensive Approach to Enable Future Operations," in *Canadian Defence Policy in Theory and Practice* (New York: Palgrave MacMillan, 2020), 320-321.

Canadians can rally around because it draws in all legitimate elements of national power and allows them to use their collective voice to share a unified message.

Effective communications is a central challenge for space operations and activities. As outlined in chapter one, space is a critical enabler of CAF operations that also provides essential services that support the day-to-day business and enhance the lives of Canadians. Canada must therefore be prepared to act in the information domain with a compelling narrative about the space operations and activities of its country, its allies, and its adversaries. This narrative will give a consistent and amplified voice to space operations and activities in a congested information domain, thus achieving two critical goals: attracting and maintaining national and political support for space-based capability development or acquisition, and establishing and maintaining credibility on the international stage to contribute to space deterrence efforts.

National support is critical in shaping government priorities. Governments are charged with making decisions based on what best benefits the nation. These national interests typically focus on three areas: security, economy, and the dominant values or beliefs of the nation.[90] National interests are not constant, and influential events both within the country and around the world can change a nation's interests and its priorities.[91] For example, in the years following the moon landing by Apollo 11, space enthusiasts envisioned their space program following up this historical achievement by putting Americans on Mars but instead, they were handed a very opposite reality. The

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[90] Charles Chong-Han Wu, "Understanding the Structures and Contents of National Interests: An Analysis of Structural Equation Modeling," *The Korean Journal of International Studies* vol.15, no.3 (December 2017): 398-399.

[91] Miroslav Nincic, "The National Interest and its Interpretation," *The Review of Politics* 61, no. 1, 1999, 31.

United States Congress cut the budget of the National Aeronautics and Space

Administration (NASA), which resulted in the cancellation of subsequent Apollo

missions and thousands of layoffs at the Kennedy Space Center.[92] American interest had

peaked with the moon landing, and public opinion had shifted its focus to civil

disobedience at home, the Vietnam war, and inflation, among other issues.[93] There is a

lesson here for Canada's own space operations and activities. Public opinion is fickle,

and the priorities within each of the three spheres of national interest can shift very

quickly. Without sufficient national interest, space operations and activities become less

of a political priority and suffer when it comes to governmental funding. In 2020, the

United States Department of Defense released its new Defense Strategy for Space. This

strategy, which calls for space dominance, puts space as a priority within the security

sphere of national interest.[94] It also comes with a $15.2 billion budget for the recently

established U.S. Space Force to conduct operations and maintenance, procurement, and

research and development.[95] This is separate from the nearly $23 billion budget of

NASA[96]. By comparison, the Canadian Space Agency had a 2019 annual departmental

budget of under $400 million.[97] Without funding, Canada cannot stay current in research,

development, or acquisition of the space-based capabilities that serve Canadians and are

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[92] Charles D. Benson, and William Barnaby Faherty, "A Slower Pace: Apollo 12 – 14," in *Moonport: A History of Apollo Launch Facilities and Operations*, NASA SP-4204. NASA History Series, 1978, last accessed 17 January 2021, https://www.hq.nasa.gov/office/pao/History/SP-4204/ch22-8.html
[93] *Ibid.*
[94] Department of Defense, *Defense Space Strategy Summary* (Virginia: DoD United States, 2020), 1.
[95] Space News, "Omnibus spending bill gives Space Force its first separate budget," 22 December 2020, last accessed 20 January 2021, https://spacenews.com/omnibus-spending-bill-gives-space-force-its-first-separate-budget/
[96] National Aeronautics and Space Administration, Fiscal Year 2020 Agency Financial Report, 2020, 12.
[97] Canadian Space Agency, 2020-21 Departmental Plan, 2020, 12.

essential to maintaining operational advantage in military operations, including domestic natural disaster response.

This chapter has established that Canada is operating on a new battlefield in the information domain where adversaries are effectively creating division and conflict within societies. They are weaponizing core narratives in order to attack the institutions and social fabric of a nation, and have remained generally unchallenged in their efforts. Canada will need to apply the comprehensive approach to engage all instruments of national power in countering these attacks. This is particularly pertinent for space due to the ambiguous nature of space activities and operations, and the need to build an effective space narrative that holds national interest and enables advancement in space-based capabilities that contribute to Canadian security and way-of-life.

The way forward is through a pan-government strategic communications framework for space that achieves these goals. The comprehensive approach is the method through which space stakeholders will work collaboratively to identify and develop a common narrative that drives their communications activities with a unified voice. This chorus of effort will give Canada's space activities and operations a place in the information domain. The core elements of this framework will be discussed in the next chapter.

CHAPTER 3 – SOUND AND VISION: STRATEGIC COMMUNICATIONS AREAS OF FUTURE STUDY AND CONSIDERATION

In order to effectively combat hybrid threats, particularly in the information domain, the coordination of strategic communications among government agencies and international partners is paramount. This coordination ensures communication efforts are rooted in national political decisions and government policy, while reflecting each nation's priorities with consideration to allies.[98] Developing a detailed pan-government strategic communications framework for space activities and operations is beyond the scope of this paper. However, some initial analysis has been completed and this chapter will propose key areas of focus for future research and consideration in the development of such a framework. The research should be conducted by each space stakeholder, and the collected data used to build common objectives and narratives.

As mentioned in the introduction of this study, neither the Government of Canada nor the CAF have a doctrinal definition of strategic communications. As one interpretation posits that strategic communications provides the process and methods for coordination of effort,[99] it is important for the CAF to develop strategic communications doctrine that will serve as the foundation for future capability development and activity in the information domain. For the purpose of the discussion in this chapter, this paper will use the Defence Public Affairs Learning Centre proposed definition identified previously:

> The coordination and transmission of integrated Government of Canada
> themes and messages that advance Canadian interests and policies through
> a synchronized inter-agency effort supported by public diplomacy, public

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[98] Barbora Maronkova, "NATO Amidst Hybrid Warfare Threats: Effective Strategic Communications as a Tool Against Disinformation and Propaganda," in *Disinformation and Fake News* (Singapore: Springer, 2021), 124.

[99] Nicholas Michelsen, and Thomas Colley, "The Field of Strategic Communications Professionals: A New Research Agenda for International Security," *European Journal of International Security* 4, no. 1, 2019, 62, 78.

affairs, and military information (influence) activities, in concert with other political, economic, information, and military actions.[100]

With a focus on collaboration, this paper suggests a pan-government strategic communications framework for space. It is essential that this framework draw together key stakeholders: Global Affairs Canada, the Canadian Space Agency, Assistant Deputy Minister (Policy), and the RCAF through 3 Canadian Space Division, and prioritizes alignment with the strategic communications efforts of international space partners, especially with the United States. The framework should be anchored on four central components: communications objectives, target audience and information domain analysis, strategic narrative, and evaluation. These central elements of strategic communications should form a cyclical process[101] that informs the development and execution of synchronized communications activities that elevate Canada's space narrative in today's information domain.

This chapter will discuss each core element, interweaving an existing example of a pan-government strategic communications approach to demonstrate how this framework can be applied successfully. The example used will be the United Kingdom's pan-government strategic communications approach to countering Daesh in Iraq and Syria. Communication campaigns around space activities and operations are still immature, and historical examples do not yet exist. Therefore, this example was selected because parallels can be drawn between the complexity of the problem set the United Kingdom faced and the challenges Canada will similarly confront in communicating

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[100] Diane Larose, "Describe strategic communications," (lecture, Defence Public Affairs Learning Centre, Hull, QC, 23 February 2020), with permission.

[101] Jackie Hartman and Margarita Maria Lenk, "Strategic communication capital as an intangible asset," *International Journal on Media Management* 3:3, 2001, 147-148.

about its space priorities. As will be discussed, the United Kingdom entered the information domain well behind its adversary, who had already established a persuasive and effective narrative. They had no presence, and had to quickly establish goals and identify a way to create their own voice in this domain. The United Kingdom was also trying to influence an incredibly diverse target audience in a way to would elicit a collective response to their communications efforts. Canada can anticipate these same obstacles as it develops a communications strategy for space activities and operations.

The United Kingdom has been at the forefront of the effort to counter Daesh. Since declaring caliphate in 2014, Daesh has used a sophisticated strategic communications approach to recruitment and fundraising.[102] It quickly learned to weaponize media by creating disturbing but slickly produced propaganda that dominated western headlines that served to further its message and inspire supporters outside of the Middle East.[103] Daesh is particularly adept at using social media, and its efforts have been responsible for attracting foreign fighters to Iraq and Syria and for inspiring lone-wolf attacks in other parts of the world.[104]

Like Canada and its fledgling efforts to communicate about space, the United Kingdom was entering the information domain well behind its adversary, who had already developed an effective narrative that permeated the domain. The United Kingdom had the difficult task of countering the existing adversarial messaging to reach its target

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[102] Marcellino, William M., *et al*, "Measuring the Popular Resonance of Daesh's Propaganda," *Journal of Strategic Security* 10, no. 1, 2017, 37-38.

[103] Dan Chugg, "How we're winning the strategic communications war with Daesh," Civil Service World, 22 January 2018, last accessed 3 March 2021. https://www.civilserviceworld.com/in-depth/article/how-were-winning-the-strategic-communications-war-with-daesh

[104] Marcellino, William M., *et al*, "Measuring the Popular Resonance of Daesh's Propaganda," *Journal of Strategic Security* 10, no. 1, 2017, 37-38.

audience with its own narrative. In response, the United Kingdom helped establish the

Global Coalition to Defeat Daesh, which is made up of 83 partners, including Canada.[105]

The Global Coalition aims to denigrate the terrorist group through a five-pronged

approach: military, finance, foreign terrorist fighters, stabilization, and strategic

communications.[106] The United Kingdom took the lead on the strategic communications

line and quickly recognized that the only way to be successful would be through a "full-

spectrum approach across government."[107] Thus, it employed a pan-government approach

that involved multiple government departments and put communications at the heart of

British government policy to degrade Daesh.[108]

If Canada wants to establish a voice for space in the information domain, it, too

will need to put communications at the centre of its efforts. The first order of business

would be establishing communication objectives, the first pillar of a strategic

communications framework. These objectives are the why behind any communications

activities, and should look beyond information sharing[109] to identify the effects the

organization wants to achieve within the targeted audience.[110] These objectives must

originate from a nation's policy and strategy, and they should link words to actions,[111]

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[105] Global Coalition to Defeat Daesh, "83 Partners United in Ensuring Daesh's Enduring Defeat," last accessed 3 March 2021, https://theglobalcoalition.org/en/partners/

[106] Government of the United Kingdom, "UK action to combat Daesh," last accessed 3 March 2021, https://www.gov.uk/government/topical-events/daesh/about

[107] *Ibid*.

[108] Dan Chugg, "How we're winning the strategic communications war with Daesh," Civil Service World, 22 January 2018, last accessed 3 March 2021. https://www.civilserviceworld.com/in-depth/article/how-were-winning-the-strategic-communications-war-with-daesh

[109] M. Harwell *et al*, "Establishing a Common Framework for Strategic Communications in Ecosystem-Based Management and the Natural Sciences," in *Ecosystem-Based Management, Ecosystem Services and Aquatic Biodiversity: Theory, Tools and Applications* (Cham: Springer International Publishing, 2020), 166.

[110] NATO, SH/COMS/SAG STC/DC/17-318235, *NATO Strategic Communication Handbook V1.0*, (Belgium: NATO Headquarters, 2017), 66.

[111] *Ibid*., C-1.

bridging the instruments of national power. All subsequent narrative, messaging, activities, and evaluation should tie directly back to these objectives. Dan Chugg, the former director of the Coalition Strategy Communications Cell based in London, has stated on numerous occasions the objectives of his team: contest the information domain, undermine the Daesh narrative, and damage the Daesh brand.[112] All of the team's subsequent activities linked directly to these objectives, including establishing a counter-narrative, disputing Daesh's claims, and developing a social media presence for disseminating Global Coalition content. These activities will be discussed in greater depth later in this chapter.

For Canada and space, establishing communications objectives hinges on Canada's current space policy, *Exploration, Imagination, Innovation: A New Space Strategy for Canada*, which sets forward a whole-of-government approach to the advancement of Canadian space exploration, research, science, and technology.[113] The government provides further direction for the CAF to protect against space threats, as discussed in chapter 1, in its defence policy *Strong Secure Engaged*. Together, these documents should be carefully examined to identify national space objectives and from those, develop complementary communication objectives for a pan-government strategic communications framework. All objectives should further the nation's interests in space.

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[112] Dan Chugg, "How we're winning the strategic communications war with Daesh," Civil Service World, 22 January 2018, last accessed 3 March 2021. https://www.civilserviceworld.com/in-depth/article/how-were-winning-the-strategic-communications-war-with-daesh; see also Jonathan Owen, "'Comms helped defeat ISIS in Iraq', claims government counter-propaganda unit," PR Week, 17 January 2018, last accessed 5 March 2021, https://www.prweek.com/article/1454653/comms-helped-defeat-isis-iraq-claims-government-counter-propaganda-unit

[113] Canadian Space Agency, *Explore, Imagination, Innovation*: A New Space Strategy for Canada (Ottawa: Canada, 2019), 9.

By establishing well-defined goals, the general target audience should begin to emerge. It is worth noting here that 'target audience' is a common term used by communications practitioners. This is not to be confused with the military term 'target' which the CAF defines as a person, place, or thing that will be engaged kinetically or non-kinetically in order to neutralize or affect how it supports the adversary.[114] As the target audience is identified, conducting a target audience analysis (TAA) is a critical next step. If the intent of strategic communications is to influence the thinking and behaviour of a particular audience, then understanding all of the factors that affect that audience's thought processes and decision making is essential to determining the best method to achieve this behaviour change.[115] Recognizing that there is not one universal communication model for all populations, the TAA process seeks to understand who to influence, why, how, and when.[116] This means identifying the exact groupings within a target audience and the degree to which they can be influenced. This will enable a tailored communications approach to both the audience as well as the specific behaviour one desires to change.[117] While this process will reveal groups who may respond favourably or neutrally to one's communications efforts, it should also uncover groups who could respond negatively. This is still important information as it may dictate the need for a different approach or a separate effort to negate this group's response.[118]

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[114] Department of National Defence, CFJP 3-9 Targeting, 3rd ed. (Ottawa: Joint Doctrine Branch, Canadian Forces warfare Centre, 2014), 1-2.

[115] Anais Reding, Kristin Weed, and Jeremy J. Ghez, *NATO's Strategic Communications Concept and its Relevance for France* (RAND Corporation: 2010), 10-11.

[116] Steve Tatham, "Using Target Audience Analysis to Aid Strategic Leve1 5 Decisionmaking," (Carlisle: U.S. Army War College, 2015), 25.

[117] Steve Tatham, "Target Audience Analysis," *The Three Swords Magazine*, 2015, 51.

[118] *Ibid*.

In the Daesh example, the target audience of the Global Coalition communications effort must mirror that of the terrorist group if they are to be successful in countering Daesh propaganda. In fact, Daesh is not targeting the West, but instead the 'ummah': a global community that shares an understanding and practice of Islam.[119] At first blush, that seems like a simple audience; however, the ummah is comprised of different religious sects, cultural and ethnic populations, and geopolitical realities.[120] Herfroy-Mischler and Barr break these groups down even further, suggesting the ummah include radicalized jihadists and supporters, Muslim sympathizers, neutral Muslims, and Christians who have accepted 'dhimmah,' a contract that grants them inclusion in the ummah and, by extension, protection of the Islamic state.[121] One can now see that the ummah audience is anything but simple and any effort to influence the broader group must consider the factors that affect all of the sub-groups existing within.

The Global Coalition website notes that they seek to support "the aspirations of people across the region who seek a moderate and modern future of stability, dignity and opportunity."[122] This has meant focusing on amplifying regional voices[123] and highlighting local success stories of affected regions throughout the Middle East on the Global Coalition website and social media platforms.[124] By rooting their efforts in a

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[119] Spencer Meredith, "Daesh and the Gray Zone: More Black and White than they Appear?" *Special Warfare* 29, no. 1, 2016, 5-6; see also Alexandra Herfroy-Mischler and Andrew Barr, "Jihadist Visual Communication Strategy: ISIL's Hostage Executions Video Production," *Visual Communication* 18, no. 4, 2019, 522-523.

[120] Meredith, Spencer, "Daesh and the Gray Zone: More Black and White than they Appear?" *Special Warfare* 29, no. 1, 2016, 5-6.

[121] Alexandra Herfroy-Mischler and Andrew Barr, "Jihadist Visual Communication Strategy: ISIL's Hostage Executions Video Production," *Visual Communication* 18, no. 4, 2019, 523, 534.

[122] Global Coalition to Defeat Daesh, "Countering Daesh's Propaganda," last accessed 3 March 2021, https://theglobalcoalition.org/en/mission/#countering-daeshs-propaganda

[123] *Ibid*.

[124] Global Coalition to Defeat Daesh, "News and Analysis," last accessed 3 March 2021, https://theglobalcoalition.org/en/news-analysis/

regional context, the Global Coalition is better able to address the sub-groups of their target audience. Similar attention must be paid in developing a Canadian framework for space communications which should prioritize Canadians as one of its intended audiences.

A common mistake made by communicators is leaving it simply at that, "Canadians." However, the complexity and diversity of the Canadian population is not insignificant. Over 20 percent of the Canadian population is foreign-born, representing more than 200 countries[125] while Aboriginals make up 5 percent of the Canadian population.[126] Francophones account for 22.8 percent of Canadians[127] with another 20 percent of the nation's population classified as Allophones, residents who do not speak English or French as their first language.[128] When one layers on geographical considerations, recognizing that values, beliefs, and politics vary between provinces and territories,[129] it is easy to see that like the ummah, Canada is made up of many sub-groups. The pan-government strategic communications framework for space must consider an in-depth TAA in order to understand the implications those differences will have on communication efforts.

[125] Statistics Canada, "Immigrant population in Canada, 2016 Census of Population," last accessed 4 March 2021, https://www150.statcan.gc.ca/n1/pub/11-627-m/11-627-m2017028-eng.htm

[126] Statistics Canada, "Focus on Geography Series, 2016 Census," last accessed 4 March 2021, https://www12.statcan.gc.ca/census-recensement/2016/as-sa/fogs-spg/Facts-PR-Eng.cfm?TOPIC=9&LANG=Eng&GK=PR&GC=01#:~:text=Total%20population%20by%20Aboriginal%20identity,Treaty%20Indian%20status%2C%20Canada%2C%202016&text=In%202016%2C%20there%20were%201%2C673%2C780,up%204.9%25%20of%20the%20population.

[127] Canadian Heritage, "Some facts on the Canadian Francophonie," last accessed 4 March 2021, https://www.canada.ca/en/canadian-heritage/services/official-languages-bilingualism/publications/facts-canadian-francophonie.html

[128] Statistics Canada, "Languages," last accessed 4 March 2021, https://www150.statcan.gc.ca/n1/pub/11-402-x/2011000/chap/lang/lang-eng.htm

[129] Ailsa Henderson, "Regional Political Cultures in Canada," *Canadian Journal of Political Science / Revue Canadienne De Science Politique* 37, no. 3, 2004, 595; see also Angus Reid, *What makes us Canadian? A study of values, beliefs, priorities and identity*, last accessed 4 March 2021, https://angusreid.org/canada-values/#part-3

The effect of the information domain itself on the target audience cannot be ignored.[130] The global information domain is congested, technologically advanced, accessible, fast-moving, transparent, and flooded with persuasion campaigns.[131] This inevitably will shape which method and means one uses to engage with the target audience. The United Kingdom quickly realized that Daesh had mastered the use of social media, and the Global Coalition was not keeping up. Then-British Prime Minister, David Cameron, announced in 2015 that the United Kingdom was establishing the Coalition Strategy Communications Cell in London, which would focus solely on countering Daesh propaganda on social media.[132] To do so, the cell developed a website and social media platforms for coalitions to disseminate their messages. They also engaged more than 1,000 officials in 60 different countries, and provided news updates as well as suggested digital content that regional leaders could share from their own platforms.[133]

Essentially, the British recognized that they could not concede the information domain to Daesh, and made a concentrated effort to establish their own voice, above the adversary's, in this congested, contested, and competitive space in order to reach their target audience. Canada will need to give careful thought to how it will engage its target audiences in a domain that has only become more crowded and noisy. As part of its information domain analysis, Canada should consider: the political, military, economic,

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[130] Marius-Aurelian Topolniski, *From Target Audience Analysis to Influence Messages In Multinational Operations* vol. 2 (Bucharest: National Defence University, 2013), 396.

[131] Sara King, "Military Social Influence in the Global Information Environment: A Civilian Primer," *Analyses of Social Issues and Public Policy* 11, no. 1, 2011, 3-5.

[132] David Cameron, speech, "Prime Minister on ISIL at UN General Assembly," New York, United States of America, 29 September 2015.

[133] Dan Chugg, "How we're winning the strategic communications war with Daesh," Civil Service World, 22 January 2018, last accessed 3 March 2021, https://www.civilserviceworld.com/in-depth/article/how-were-winning-the-strategic-communications-war-with-daesh

and diplomatic activities related to space; media, stakeholder, and social networks; cultural, regional, and sociological aspects to communications; and the narratives and communication activities of other actors.[134]

Narratives are a fundamental component of the information domain, but they are also a device for aligning words and actions.[135] To achieve successful engagement with the target audience, significant consideration must be given to this third pillar of strategic communications. As discussed at length in chapter two, building a narrative that will resonate with the target audience is critical to successfully establishing a voice in the information domain. This task is further complicated by the understanding that due to the number of sub-groups within a target audience, there is no one-size-fits-all narrative.[136] Through a TAA and an information domain analysis, one can begin to understand the narrative landscape. It will reveal which actors, audiences, and storylines are prevalent and how audiences respond to these narratives.[137] This analysis may also identify the ideological narratives of a particular audience. Haidt, Graham, and Joseph note that ideological narratives are rooted in history, and account for past events while imagining the future. These narratives are told through story, typically featuring a problem, a protagonist, a villain, an ensuing battle, and a conclusion. Through these stories, one can understand the ideological underpinnings of a particular audience[138] and its collective

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[134] NATO, SH/COMS/SAG STC/DC/17-318235, NATO Strategic Communication Handbook V1.0. (Belgium: NATO Headquarters, 2017), 16-17.

[135] *Ibid*., 18-19.

[136] Spencer Meredith, "Daesh and the Gray Zone: More Black and White than they Appear?" *Special Warfare* 29, no. 1, 2016, 5-6.

[137] *Ibid*., 19.

[138] Jonathan Haidt, Jesse Graham, and Craig Joseph, "Above and Below Left–Right: Ideological Narratives and Moral Foundations," *Psychological Inquiry* 20:2-3, 2009, 115.

identity.[139] This should inform key characteristics, themes, and language to be used in developing one's own narratives or counter-narratives that describe an ideological future.[140] Key messages, which can be adapted to better target certain sub-groups within an audience, should flow from these overarching strategic narratives.

Examining the Daesh example, the United Kingdom and the Global Coalition focused on a counter-narrative that identified Daesh as a failure and not the success that it claimed to be. This counter-narrative revealed that Daesh's ideology is actually quite different from that of the ummah.[141] This overarching narrative drove messaging that focused on Daesh's failures to win battles, to provide basic care and services to the people in the areas it controlled, and to deliver on the promises it had made.[142] The Coalition's efforts were successful, with Daesh producing 85 percent less propaganda by 2017 than it had before the Coalition Strategy Communications Cell stepped up its efforts in 2015.[143] It is worth noting that around the same timeframe, social media platforms were actively shutting down accounts linked to terrorism and terrorist activity, although Twitter has been criticized for an underwhelming effort.[144] Canada's key space stakeholders must not underestimate the feat of developing a set of central narratives that apply to the most diverse target audiences while also representing each of their own

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[139] NATO, SH/COMS/SAG STC/DC/17-318235, NATO Strategic Communication Handbook V1.0. (Belgium: NATO Headquarters, 2017), 18.

[140] Miranda Holmstrom, "The Narrative and Social Media," *Defence Strategic Communications* 1:1, 2015, 128.

[141] Theron Verdon, "The Return of Khilafah: The Constitutive Narratives of Daesh," *Defence Strategic Communications* 1:1, 2015, 98.

[142] Dan Chugg, "How we're winning the strategic communications war with Daesh," Civil Service World, 22 January 2018, last accessed 3 March 2021, https://www.civilserviceworld.com/in-depth/article/how-were-winning-the-strategic-communications-war-with-daesh

[143] Global Coalition to Defeat Daesh, "Countering Daesh's Propaganda," last accessed 3 March 2021, https://theglobalcoalition.org/en/mission/#countering-daeshs-propaganda

[144] Maura Conway, *et al*., "Disrupting Daesh: Measuring Takedown of Online Terrorist Material and its Impacts," *Studies in Conflict and Terrorism* 42 (1-2), 2019, 142.

interests in the space domain. This task will require close collaboration and a willingness to prioritize the nation's space activities and operations ahead of the departmental or agency agendas of key space stakeholders. All subsequent communication efforts should embody these established narratives to ensure consistency, synchronization, and unity of effort for space communications as a whole.

Finally, a pan-government strategic communications framework for space must include a means for ongoing assessment and evaluation of efforts. This will enable the space stakeholder collective not just to verify what is effective, but to determine if there is a problem, what is causing the problem, and ways to address the problem. Communications practitioners are notorious for having no basic standard for measurement and evaluation while also lacking the knowledge of how to conduct research to develop these processes.[145] Swenson *et al.* note that over the past 40 years, measurement and evaluation of communications activities have remained static, and limited in both scope and sophistication.[146] Communications practitioners have consequently focused their evaluation on the volume of output, measuring statistics like social media engagements, which includes likes and comments, instead of evaluating the effect their activities have had on the organization's goals.[147]

The Global Coalition as a whole has been criticized for their inability to properly measure and evaluate the success of their strategic communications, noting that they have

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[145] David Michaelson, and Don W. Stacks, "Standardization in Public Relations Measurement and Evaluation," *Public Relations Journal* 5, no. 2, 2011, 2.

[146] Rebecca Swenson, *et al.*, "Insights from Industry Leaders: A Maturity Model for Strengthening Communication Measurement and Evaluation," *International Journal of Strategic Communication* 13:1, 2019, 4-5.

[147] *Ibid.*; see also Jim Macnamara, "A Review of New Evaluation Models for Strategic Communication: Progress and Gaps," *International Journal of Strategic Communication* 12:2, 2018, 180-181.

not identified a clear end state to which to tie objectives.[148] However, this paper already

identified that the strategic communications team did set objectives. It can be argued that

the United Kingdom did have some measurement and evaluation standards in place for

strategic communications, as evidenced by its decision to stand up the Coalition Strategy

Communications Cell. This was directly due to their acknowledgement that Daesh was

beating them in the information domain, and a more concentrated effort to counter their

narrative was required.[149] While detailed evaluation information is not publicly available,

this example, and various research, illustrates that communication practitioners can

always improve in their measurement and evaluation methods.

Canada, therefore, should take into account how it will tie measures of

effectiveness to its stated objectives for space communications. While there are many

evaluation models worthy of further study, at a minimum, Canada should consider a

model that assesses objectives through formative, process, and summative evaluations

which aim to better planning, improve effectiveness, and enforce accountability.[150]

Formative evaluation occurs during the planning stage to identify existing conditions:

prominent values and beliefs, audience awareness and attitudes, networks, and preferred

methods of communicating.[151] Formative evaluation guides activities planning and sets

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[148] Ben Connable, Natasha Lander, and Kimberly Jackson, "Beating the Islamic State: Selecting a New Strategy for Iraq and Syria," Rand Corporation for the Office of the Secretary of Defense, 2017, 23-24.

[149] Dan Chugg, "Winning the strategic communications war with Daesh," *Civil Service Quarterly*, last accessed 5 March 2021, https://quarterly.blog.gov.uk/2017/12/20/winning-the-strategic-communications-war-with-daesh/

[150] Christopher Paul and Elizabeth L.Petrun Sayers, "Assessing Against and Moving Past the 'Funnel' Model of Counterterrrorism Communication," *Defence Strategic Communications* 1:1, 2015, 34.

[151] *Ibid*., 35; see also Jim Macnamara, "A Review of New Evaluation Models for Strategic Communication: Progress and Gaps," *International Journal of Strategic Communication* 12:2, 2018: 185; see also Jim Macnamara, and Anne Gregory, "Expanding Evaluation to Progress Strategic Communication: Beyond Message Tracking to Open Listening," *International Journal of Strategic Communication* 12:4, 2018, 475.

measurement benchmarks for future evaluation.[152] Process evaluation occurs while

activities are ongoing to assess if the activities are achieving objectives, allowing for

course correction as required.[153] Summative evaluation determines outcomes and

impact[154] by comparing data collected through formative and process evaluation to the

data collected post-activity.[155] If done properly, it can provide the greatest insight into

behavioural change as a result of communication activities.[156]

      Behavioural change, through influence, is at the heart of strategic

communications. Therefore, one must consider the consequences in failing to develop an

appropriate communications strategy, which can vary in severity. For example, just in

advance of the formation of the Global Coalition to Defeat Daesh, the number of

homegrown terrorist attacks in Europe was mounting. In the United Kingdom

specifically, a series of attacks in the London subway in 2005 and the murder of a British

fusilier in 2013, shone the spotlight on radicalization as a valid threat to national

security.[157] It is unsurprising, then, that the United Kingdom took a lead role in efforts to

defeat Daesh, as degrading the terrorist group would have beneficial implications within

its own borders. While this may seem like an extreme example, one might wish to

consider what would happen if Canada lost its space-based capabilities. Previous chapters

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[152] Jim Macnamara, and Anne Gregory, "Expanding Evaluation to Progress Strategic Communication: Beyond Message Tracking to Open Listening," *International Journal of Strategic Communication* 12:4, 2018, 475.

[153] Christopher Paul and Elizabeth L.Petrun Sayers, "Assessing Against and Moving Past the 'Funnel' Model of Counterterrrorism Communication," *Defence Strategic Communications* 1:1, 2015, 35.

[154] Jim Macnamara, and Anne Gregory, "Expanding Evaluation to Progress Strategic Communication: Beyond Message Tracking to Open Listening," *International Journal of Strategic Communication* 12:4, 2018, 475.

[155] Christopher Paul and Elizabeth L.Petrun Sayers, "Assessing Against and Moving Past the 'Funnel' Model of Counterterrrorism Communication," *Defence Strategic Communications* 1:1, 2015, 36.

[156] *Ibid*.

[157] Edoardo Tolis, "Investigating the influence of ISIS radicalisation on the recruitment process: a critical analysis," *Journal of Policing, Intelligence and Counter Terrorism* 14:2, 2019, 129-130.

have established the nation's reliance on this capability, as well as real threats in this domain. How would a loss to its space capabilities affect the CAF's ability to maintain situational awareness around the world and to conduct operations, including domestic search and rescue, effectively? What impact would a degraded military have to national security? If one considers the daily use of space-based capabilities by many Canadians, what would happen to the population without access to the services it takes for granted now? What would a Canada without cell phones look like, and how would it cause the population to behave?

Recognizing that developing a fulsome strategic communications framework for space is beyond the scope of this paper, this chapter has identified key focus areas for future study and consideration in developing such a framework. Canada's space stakeholders should pay particular attention to four core elements of strategic communications: objectives, target audience and information domain analysis, narrative, and measurement and evaluation. With additional time and care invested in these core elements, Canada's communications approach to space should reflect national priorities, connect with the target audience, and contribute to achieving organizational goals.

This chapter also touched on possible consequences should a pan-government strategic communications framework not be developed. As demonstrated in chapter 2, and as highlighted in the Daesh example from this chapter, strategic communications can be a force multiplier for space operations. Before the concept of a Canadian pan-government strategic communications framework is dismissed, it is worth contemplating what could happen without one.

CHAPTER 4 – HEROES: PUBLIC AFFAIRS AS AN OPERATIONS ENABLER

As discussed in the previous two chapters, the most effective way to maximize communications about space operations and activities is the comprehensive approach: linking a team of communications specialists to develop a strategic communications framework to synchronize efforts and speak with a unified voice. This must be a collaborative effort for space communications, with each stakeholder identifying their own department or agency's objectives, audiences, and narratives. This will enable a lead agency to establish commonalities between stakeholders, and develop a framework that will be more deliberate, concerted, and effective in achieving space communication goals.

RCAF PA, supported directly by a 3 Canadian Space Division PAO, should lead this effort. Due to the ongoing transformation of CAF PA, military PAOs are uniquely trained to best understand and act effectively in today's information domain. Skilled in both corporate and operational PA, military PAOs can develop and execute communications efforts that further the strategic goals of all key space stakeholders. PAOs are more than spin and pretty pictures. They can be true operations enablers, particularly as a key supporter in the defence of Canadian space-based capabilities. By leveraging new training and a new focus, military PA can lead the charge in boosting space activities and operations for Canada.

The CAF PA branch has been undergoing a transformation to make it a more effective enabler in the new battlefield of the information domain. This process has been hampered by internal and external debate about the appropriate role for PA within this new operating environment. Regardless, PA has been set down an inevitable path of

evolution as the military institution looks to establish a fulsome capability to meet today's security threats and challenges. It is important to understand in which direction PA is headed and how this contributes to better supporting a pan-government strategic communications framework for space operations and activities.

In support of a broader whole-of-government effort to be able to effectively manoeuvre and act in the information domain, then-Director General Public Affairs, Brigadier-General (BGen) Marc Thériault, outlined the transformation of CAF PA with his 2017 initiative, *Conceptual Vision: From operationalizing Military Public Affairs to enabling the Canadian Armed Forces in the Information Domain*. Dubbed the 'operationalization' of Public Affairs, BGen Thériault proposed leveraging existing professional expertise within the CAF by simply cross-training PAOs and Imagery Technicians in other information-related specialties, such as Psychological Operations (PSYOPS) and Information Operations (IO).[158] This would enable the CAF to quickly build up an institutional capability that would optimize effects in the information domain in four key ways: supporting non-kinetic targeting; ensuring alignment between strategic narrative and messaging at the operational level; establishing deployable units of cross-trained personnel to turn strategic guidance into operational effects; and supporting collective CAF training and exercises.[159]

The transformation of PA required a shift in mindset, as traditionally PAOs have fulfilled the role of corporate communicators[160] and would now be trained with an

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[158] Director General Public Affairs, *A Conceptual Vision of the Operationalization of the Canadian Armed Forces Military Public Affairs Capability* (Ottawa: DND Canada, 2017), 7.

[159] *Ibid.*, 8.

[160] Department of National Defence and the Canadian Armed Forces, DAOD 2008-0, Public Affairs Policy, last accessed 12 February 2021, https://www.canada.ca/en/department-national-

operational intent and focus. This was particularly challenging within the PA branch because a public servant, the Assistant Deputy Minister (Public Affairs) (ADM(PA)), is the functional authority for PA. This means the civilian ADM(PA) is ultimately responsible for CAF/DND communications, which is formally recognized as media engagements, public announcements, issue management, crisis communications, marketing, advertising, public opinion research, PA training, and internal communications.[161] Notably absent from the list is PA on operations, which emphasizes the historical priority put on corporate PA over operational PA.

While military PAOs continue to act as advisors to commanders across the CAF, the requirement to stay relevant in the current information landscape demanded a deliberate movement away from the corporate culture of CAF/DND PA.[162] The training curriculum at the Defence Public Affairs Learning Centre (DPALC) shifted accordingly. PAOs still train in core PA functions: policy, media engagements, community relations, internal communications, PA planning, advising leadership, and managing the imagery capability.[163] However, since the publication of BGen Thériault's *Conceptual Vision*, new courses were added to include Strategic Communications Enabler, Target Audience Analysis, and Operational Social Media Practitioner. Additionally, PAOs began cross-

defence/corporate/policies-standards/defence-administrative-orders-directives/2000-series/2008/2008-0-public-affairs-policy.html#def

[161] Department of National Defence and the Canadian Armed Forces, DAOD 1000-10, Policy Framework for Corporate Administration Management, last accessed 12 February 2021, https://www.canada.ca/en/department-national-defence/corporate/policies-standards/defence-administrative-orders-directives/1000-series/1000/1000-10-policy-framework-corporate-administration-management.html

[162] *Ibid.,* 9.

[163] Defence Public Affairs Learning Centre, Public Affairs Occupational Qualification Standard, 2012, 1-6/1.

training in other information domain disciplines, such as IO, PSYOPS, and Strategic Joint Targeting.[164]

This approach to how PA can contribute in the information domain was refined by BGen Thériault's successor as Director General Public Affairs, BGen Jay Janzen, through his *Military Public Affairs Enhancement and Employment Concept* (MPAEEC.) BGen Janzen has candidly noted that corporate communications does not resonate with audiences and simply does not work in today's information domain.[165] Rather, military PAOs must be enabled to employ the use of persuasive narrative, grounded in truth, to deliver key information to intended audiences and combat adversarial efforts in the information domain.[166]

The MPAEEC concept is driven by the complexities of the information domain, which the CAF defines as "the domain where information is created, transformed and shared; where intent is conveyed and where communication for consultation, command and control takes place."[167] The MPAEEC, however, suggests there are actually two: the military information domain and the global information domain. The military information domain centres on CAF deployed operations and includes activities by information-related capabilities (IRCs) like IO, PSYOPS, Deception, Electronic Warfare, Civil-Military Cooperation, cyber, and space. The global information domain focuses on the domestic institutional priorities of the CAF/DND, such as recruitment, diversity,

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[164] Jay Janzen, "Message to the Public Affairs Branch members from BGen Janzen / Message aux membres de la Branche des affaires publiques de la part du Bgén Janzen," email, sent 5 November 2020.

[165] Jay Janzen, "Command and the Media," (lecture, Canadian Forces College, Toronto, ON, 26 November 2020), with permission.

[166] Jay Janzen, "What if the Pen is a Sword? Communicating in a Chaotic, Sensational, and Weaponized Information Environment," *Canadian Military Journal* 19, 4 (Autumn 2019), 9.

[167] Department of National Defence, *Pan-Domain Force Employment Concept: Prevailing in an Uncertain World* (Ottawa: DND Canada, 2020), 50.

procurements and the CAF's response to sexual misconduct. It also encompasses the

concepts and effects of hard and soft power, diplomacy, politics, religion, and culture.

While approaches will differ in each information domain, the MPAEEC emphasizes that

PAOs must be able to work fluently in both.[168] The MPAEEC proposed that in order to

do this, PA must be synchronized with the other IRCs under a Defence Strategic

Communications framework. This framework would bring together key CAF/DND

authorities to identify strategic objectives and the appropriate activities to achieve

them.[169]

  This paper suggests that dividing the information domain into two separate

domains is impossible as it ignores the reality that global connectivity has erased

international borders. CAF operations, activities, communications efforts, and even

inactions send a message around the world, regardless of where they originated.[170]

Therefore, it is not that PAOs must be able to operate in two separate information

domains; rather, they must understand the true size of the information domain and learn

to synchronize all IRC efforts to maximize communications effects. This, really, is

strategic communications. This division of the information domain was likely created in

order to address a significant internal and public criticism of the MPAEE, which is the

supposed risk to PA's credibility if it were to be integrated with other IRCs.[171] Influence

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[168] Department of National Defence and the Canadian Armed Forces, Military Public Affairs Enhancement and Employment Concept (Ottawa: DND Canada, 2020), 2.

[169] *Ibid*., 7.

[170] Department of National Defence, *Pan-Domain Force Employment Concept: Prevailing in an Uncertain World* (Ottawa: DND Canada, 2020), 16.

[171] Laurie-Anne Kempton, "Changes in ADM (PA) / Changements au sein du groups SMA (AP)," email, sent 5 November 2020; see also David Pugliese, "Canadian military wants to establish new organization to use propaganda, other techniques to influence Canadians," Ottawa Citizen, 2 November 2020, last accessed 28 January 2021, https://ottawacitizen.com/news/national/defence-watch/canadian-military-to-establish-new-organization-to-use-propaganda-other-techniques-to-influence-canadians

activities like Deception, IO, and PSYOPs are not always beholden to the truth, and there is fear of PA being guilty by association or worse, corrupted entirely.[172]

Additionally, a draft copy of the MPAEEC was leaked to a blog writer before being formally briefed to CAF senior leadership. The resulting media coverage emphasized the risk integration posed to PA's credibility and accused the CAF of establishing the Defence Strategic Communications framework to conduct influence activities against Canadians.[173] There are two fundamental problems with these allegations. First, they ignore the obligations of PAOs, as both CAF officers and PA professionals, to act ethically and in alignment with institutional core values as established in military orders.[174] Second, they disregard the institutional orders guiding the conduct of influence activities for all IRCs. Specifically, these activities are only conducted overseas as approved by the Minister of National Defence and the Chief of Defence Staff. These activities are not performed domestically unless requested explicitly by Cabinet, which would occur only under extraordinary circumstances.[175] In light of these facts, the real risk lies in PA being the only IRC left in the dark. This creates a situation in which uncoordinated activities become ineffective at best and conflicting at worst.[176]

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[172] Sara King, "Military Social Influence in the Global Information Environment: A Civilian Primer," *Analyses of Social Issues and Public Policy* 11, no. 1, 2011, 7.

[173] David Pugliese, "Canadian military wants to establish new organization to use propaganda, other techniques to influence Canadians," Ottawa Citizen, 2 November 2020, last accessed 28 January 2021, https://ottawacitizen.com/news/national/defence-watch/canadian-military-to-establish-new-organization-to-use-propaganda-other-techniques-to-influence-canadians

[174] Department of National Defence and the Canadian Armed Forces, DAOD 2008-0, Public Affairs Policy, last accessed 12 February 2021, https://www.canada.ca/en/department-national-defence/corporate/policies-standards/defence-administrative-orders-directives/2000-series/2008/2008-0-public-affairs-policy.html#def

[175] Department of National Defence, B-GG-005-004/AF-010, *CF Information Operations* (Ottawa: DND Canada, 1998), 1-13.

[176] Curtis Boyd, "Army IO is PSYOP: Influencing more with less," *Military Review*, 87(3), May-June 2007, 72.

Nonetheless, the political fallout from the proposed MPAEEC's media coverage was swift. The current ADM(PA) stood down the PA transformation group, and ended PA's work toward integration with other IRCs.[177] She recognized PA's efforts to "help prepare the CAF for future operations against foreign adversaries in the information domain" and stated that this work, however, is an operational role that "simply must reside elsewhere."[178] PA, meanwhile, has been refocused on its traditional corporate duty, and only informational – vice influential – activities.[179]

While the PA branch will not integrate with other IRCs, at least for now, the branch has still transformed. Although this transformation is not to the formalized extent envisioned in the above-mentioned initiatives, the understanding of military PA – how it trains and how it can be employed – has fundamentally altered. As discussed, PAOs are now trained in other IRC disciplines in addition to core corporate functions. Courses like Strategic Communications Enabler and Operational Social Media Practitioner will remain as part of the DPALC curriculum. Training in other IRC disciplines are considered official Professional Development opportunities for the PA branch, and are included in

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[177] Laurie-Anne Kempton, "Changes in ADM (PA) / Changements au sein du groups SMA (AP)," email, sent 5 November 2020.

[178] *Ibid.*

[179] *Ibid.* The idea that PAOs can influence remains a controversial subject, both within the institution and in some media discourse. Traditionally, influence has been associated with other IRCs, while doctrinally, PAOs simply inform. However, that doctrine is more than 20 years old and does not reflect the complexities of today's information domain. Accordingly, communications specialists have argued that it is very difficult to communicate at all without also influencing. Within the CAF, this is demonstrated by a deliberate and collaborative PA planning process that defines desired effects, as well as the means and methods to achieve those outcomes. This process identifies the targeted audiences and determines how to get an audience to perceive an issue in a particular way. PA planning builds key messages designed to reach the identified audiences, then determines the type of activity and the best timings for these activities, all with the intent of influencing. This is designed to build the credibility of the institution. Therefore, the CAF must disengage itself from this lexical argument, as it detracts from the organization's ability to develop an appropriate information domain capability. Based on author's experiences as a CAF Public Affairs Officer, 2009-present. See also J. Lawrence, "A Strategic Chorus: Integrating Public Affairs and Other Information Enablers" (Joint Command and Staff Programme Paper, Canadian Forces College, 2021.)

the Scoring Criteria used during merit boards to determine ranking for promotion.[180] This

training has altered the way PAOs learn and subsequently, the way they think about,

assess, and execute PA activities. The focus is now effects-based PA, which goes beyond

informational activities.

The transformation has also changed how PAOs approach the information

domain, an area in which the PA branch has decades of experience. Much of the new

focus for the branch revolved around understanding the evolution of this new battlespace,

which is aligned with the CJOC's new proposed approach to operations. The PFEC

acknowledges that adversaries are challenging the international rules-based order

primarily through the information, space, and cyber domains. To respond requires not

just an integrated military effort across all six domains – maritime, land, air, space, cyber,

and information – but also a comprehensive approach through close collaboration with

partner government departments and agencies.[181] As discussed in chapter 2, the adversary

is using these domains to attack the nation's identity, political institutions, and will. A

military response is not enough to protect national interests. Canada must employ all

diplomatic, informational, military, and economic elements in a collaborative and unified

response to its enemies.[182]

An example of this is Russia's disinformation campaigns, which have focused

more on Canada in the years following the annexation of Crimea.[183] As part of the NATO

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[180] Public Affairs Scoring Criteria, 2021 Scoring Guide. Strategic communications and Information Domain related courses, including but not limited to, IO, PSYOPS, targeting, and social media are worth up to three points out of five available points in the Professional Development section of the PA promotion Scoring Criteria.

[181] Department of National Defence, *Pan-Domain Force Employment Concept: Prevailing in an Uncertain World* (Ottawa: DND Canada, 2020), 4, 19.

[182] *Ibid*, 19.

[183] Sukhankin, Sergey, "The Western Alliance in the Face of the Russian (Dis)Information Machine: Where does Canada Stand?" *The School of Public Policy Publications* 12, no. 26, 2019, 2.

battlegroup in Latvia, CAF soldiers have been attacked in Latvian, Russian-speaking media with false accusations ranging from the luxurious living arrangements of Canadian soldiers at the expense of the Latvian taxpayers to suggestions that the contingent is unprofessional and unskilled.[184] In a more extreme example, some media used photos of convicted killer Russell Williams, a former senior officer in the CAF, wearing ladies underwear to accuse CAF soldiers of spreading homosexuality in Latvia.[185] In Russia, homosexuality is viewed as a trend born from Western influence that threatens Russian values and social morals,[186] so the narrative of Canadians encouraging homosexuality could resonate with the large Russian ethnic population in Latvia.

As recently as 2020, Russia also attacked the Canadian government, and the Canadian Ambassador to Russia personally, for interfering with the nation's recent constitutional vote on banning gay marriage. Along with the United States, Australia, New Zealand, and the United Kingdom, Canada issued a joint statement urging the Russian government to protect all of its people, including those from lesbian, gay, bisexual, transgender and intersex communities. The Canadian Ambassador echoed similar comments in a Facebook video. Both drew the ire of Putin allies.[187] This example demonstrates how the same narrative – in this case, Western-influenced homosexuality – can be directed at several elements of national power, thus requiring a response that is coordinated and unified between these national instruments. This comprehensive

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[184] *Ibid*., 14-15.

[185] Marcus Kolga, *Stemming the Virus: Understanding and responding to the threat of Russian disinformation* (Ottawa: Macdonald-Laurier Institute for Public Policy, 2019), 15.

[186] O.A. Gulevich, *et al*., "Attitudes to Homosexuals in Russia: Content, Structure, and Predictors," *Journal of the Higher School of Economics* vol 13, no. 1, 2016, 96.

[187] Chris Brown, "Putin allies accuse Canada of interfering with Russia's gay marriage vote," CBC, 30 June 2020, last accessed 18 February 2021, https://www.cbc.ca/news/world/russia-gay-marriage-referendum-canada-1.5631879

approach becomes even more important in the current information domain because the adversary is acting at a tempo that a single institution alone is incapable of responding to with the same speed.[188] The comprehensive approach presents one solution to this issue.

Even within the comprehensive approach, one department must lead the communications effort. Regardless of the transformation of PA's current status, the branch has seen a culture shift that has made it a more effective operations enabler now and into the future. This arguably best places RCAF PA, through the 3 Canadian Space Division PAO, to lead the development of a pan-government strategic communications framework for space operations and activities. Military PAOs have extensive experience in corporate communications and can understand the challenges and priorities of other government departments and agencies that have a key stake in space. Military PAOs also uniquely understand operations, representing the operational priorities of the CAF. In the example of the Russian disinformation campaign that targeted CAF soldiers in Latvia, military PAOs had to provide both an operational response from their area of operations, as well as a corporate response domestically when Canadian media began reporting on the false Russian reports.[189] Military PAOs are skilled at wearing operational and corporate hats, and practicing both styles of PA.

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[188] Jay Janzen, "Command and the Media," (lecture, Canadian Forces College, Toronto, ON, 26 November 2020), with permission.

[189] Tom Blackwell, "Russian fake-news campaign against Canadian troops in Latvia includes propaganda about litter, luxury apartments," *National Post*, 17 November 2017, last accessed 13 April 2021, https://nationalpost.com/news/canada/russian-fake-news-campaign-against-canadian-troops-in-latvia-includes-propaganda-about-litter-luxury-apartments; see also Rebecca Lindell, "Here's how the Canadian military is battling fake news in Latvia," Global News, 10 July 2018, last accessed 13 April 2021, https://globalnews.ca/news/4322965/canadian-soldiers-fake-news-latvia/; see also Murray Brewster, "Canadian-led NATO battlegroup in Latvia targeted by pandemic disinformation campaign," CBC, 24 May 2020, last accessed 13 April 2021, https://www.cbc.ca/news/politics/nato-latvia-battle-group-pandemic-covid-coronavirus-disinformation-russia-1.5581248

Coordinated by the 3 Canadian Space Division PAO, a team of space communicators with a common narrative can be essential enablers to space activities and operations. As discussed in the previous chapter, strategic communications is an effective way to gain public support for Canada's space program, translating into more budget dollars for advancing research, conducting space travel, and developing and acquiring space-based capabilities. Additionally, conflict in space does not benefit Canada, which, as discussed in Chapter 1, relies heavily on space-based capabilities for its economy, its military, its national security, and the quality of life of its residents. Therefore, Canada desires a stable space environment, and has historically opposed weaponization of the space domain.[190] Canada's first line of defence against threats to its space-based capabilities is deterrence,[191] and consistent and unified communications from all space stakeholders is critical for supporting this line of defence.

PA has spent decades helping to build and preserve CAF credibility with both domestic and international audiences, as well as with the adversaries of Canada and its allies. Through media, stakeholder, and public engagements, social media activities, and publications, PA has a critical role in exhibiting Canada's capability and credibility to protect its space-based capabilities and access to the space environment. Communications is a principle of deterrence, which will be discussed below, and military PA is uniquely suited to be effective in deterrence activities as corporate and operational communicators.

Deterrence theory defines deterrence as discouraging an adversary from an unwanted action by influencing their perception of the cost versus the benefit of the

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[190] Ryder McKeown, and Alex Wilner, "Deterrence in Space and Cyberspace," in *Canadian Defence Policy in Theory and Practice* (Cham: Springer International Publishing, 2020), 404.

[191] Government of Canada, *Strong, Secure, Engaged: Canada's Defence Policy* (Ottawa: DND Canada, 2017), 50, 72.

intended act.[192] Therefore, deterrence exists in the adversary's mind,[193] suggesting the goal of deterrence is to influence the adversary.[194] This is achieved through denial or punishment – or a combination of both. Deterrence by denial suggests an adversary simply will not be successful should they attempt to act, while deterrence by punishment threatens the adversary with real consequences should they act.[195]

Boyce states that effective deterrence is built on three pillars: capability, credibility, and communication, and all three must be achieved in order for deterrence to be successful. Capability must show that a deterrer could respond to an adversary's act, credibility must establish that a deterrer would respond to an adversary's act, and communication must demonstrate to an adversary that a deterrer is both capable and credible.[196] The United States has embraced communications as a critical component of deterrence: specifically, exposing information about actions in space that have typically been ambiguous or confusing to the public. The use of social media specifically enabled the dissemination of strategic messaging that identified objectionable adversarial behaviour.[197] United States Space Force has embraced this, and uses a mix of social media, traditional news releases, PA-generated articles, and statements from senior leadership to regularly denounce activities in space that it views as a threat to its own and

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[192] Forrest E. Morgan, "Deterrence and First-Strike Stability in Space: A Preliminary Assessment," Project Air Force paper MG-916 (Santa Monica: Rand Corporation for the United States Air Force, 2010), 24; see also Todd Harrison, *et al*., "Escalation and Deterrence in the Second Space Age," CSIS Reports (Washington, DC: Center for Strategic & International Studies, 2017), 20-21.

[193] Todd Harrison, *et al*., "Escalation and Deterrence in the Second Space Age," CSIS Reports (Washington, DC: Center for Strategic & International Studies, 2017), 21.

[194] Glenn Herald Snyder, *Deterrence and Defense* (Princeton: Princeton University Press, 1961), 11.

[195] Michael J. Mazarr, *Understanding Deterrence*, RAND Corporation, 2018, 2.

[196] Bryan Boyce, "Twenty-First Century Deterrence in the Space War-Fighting Domain: Not Your Father's Century, Deterrence, Or Domain," *Air & Space Power Journal* 33, no. 1, 2019, 35.

[197] *Ibid.*, 42.

allied space-based capabilities. For example, United States Space Force denounced alleged Russian anti-satellite tests three times in 2020.

The role of PA in achieving deterrence objectives cannot be understated. Due to the remote nature of space, space activities and operations remain unseen to the public and the adversary. PA activities are essential to communicating what is happening or what has already occurred. This includes publicly identifying and condemning adversarial actions, or highlighting allied successes and milestones.

Additionally, the classified details around space capabilities and operations can make it difficult for a nation to signal its true capabilities to an adversary.[198] As already mentioned, deterrence is understood entirely by the adversary's perception, making deterrence a matter of influence. As also discussed in the previous chapter, adversaries, too, are susceptible to an overload of information that causes them to search out the familiar. This can cause an adversary to focus on one piece of information and entirely disregard other data.[199]

Filippidou would suggest this indicates the need for an effective and consistent narrative about a nation's capability and credibility that targets the adversary specifically in order to be heard above all of the other noise. This requires a strategic narrative that is carefully built around existing beliefs and value systems that will resonate with the adversary.[200] PA, which analyzes target audiences and studies the information domain in-depth, can develop appropriate strategic space narratives and deliver them through

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[198] Todd Harrison, *et al.*, "Escalation and Deterrence in the Second Space Age," CSIS Reports (Washington, DC: Center for Strategic & International Studies, 2017), 22.

[199] Keren Yarhi-Milo, "In the Eye of the Beholder: How Leaders and Intelligence Communities Assess the Intentions of Adversaries," *International Security* 38, no. 1, 2013,

[200] Anastasia Filippidou, *Deterrence: Concepts and Approaches for Current and Emerging Threats* (Cham: Springer, 2020), 12.

influential PA activities without jeopardizing operational security. Yarhi-Milo found that even smaller and inexpensive statements and actions can impact the adversary's understanding of a deterrer's capability and credibility.[201] A statement by a nation's leader that warns an adversary of the consequences of an undesired action, for example, could be more effective than a costly show of force with troop mobilization.[202]

Canada's defence policy, *Strong, Secure, Engaged* notes that deterrence does not happen in a vacuum, and collaboration with allies and like-minded partners is fundamental to the deterrence narrative. The adversarial challenges in the space domain have reinforced deterrence as central to defence thinking, and Canada benefits from the deterrence effect created by its space alliances.[203] As discussed in chapter 1, of the five core objectives identified in the Royal Canadian Air Force Concept of Operations for the CAF Joint Space Program, partnerships are at the core of four of them.[204]

The meaning of partnerships is twofold for Canada, with a role for PA in each. First, it comprises alliances with the other nations in the international space community, as discussed in chapter 1. PA has a role in strengthening these relationships. As Klein noted, an emerging space power like Canada should exploit "long-term advocacy through public affairs and strategic communications" to improve its standing within the international space community. It can do so by highlighting advancement within the space domain through traditional media and on social media platforms. This, Klein

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[201] Keren Yarhi-Milo, "In the Eye of the Beholder: How Leaders and Intelligence Communities Assess the Intentions of Adversaries," *International Security* 38, no. 1, 2013, 11.

[202] Todd Harrison, *et al*., "Escalation and Deterrence in the Second Space Age," CSIS Reports (Washington, DC: Center for Strategic & International Studies, 2017), 22.

[203] Government of Canada, *Strong, Secure, Engaged: Canada's Defence Policy* (Ottawa: DND Canada, 2017), 50.

[204] Department of National Defence, Royal Canadian Air Force Concept of Operations for the CAF Joint Space Program (Ottawa: DND Canada, 2020), 5-6.

suggests, can affect what audiences begin to perceive as simply fact.[205] It could be assumed, then, that adversaries will also begin to take this narrative as truth which amplifies deterrence effects.

Second, partnerships also include those of Canadian stakeholders in space activities and operations such as the CAF, GAC, and CSA. Finch and Steen acknowledge some weaknesses with deterrence objectives for space; specifically, that space weapons, such as anti-satellite weapons, do not threaten the earth's population the way that nuclear weapons did during the Cold War. Without the threat of mutual destruction, maintaining stability in space is less appealing to adversaries when weighed against eliminating or disrupting the space-based capabilities upon which many nations rely. Finch and Steen also point out that if an adversary is able to affect, for example, the strength of its targeted nation's military power by denying access to critical capabilities, conflict in space becomes a feasible course of action. For these reasons, deterrence activities must be balanced across all instruments of national power to reduce the vulnerability in one area that could collapse the entire deterrence effort.[206]

Filippidou suggests deterrence, in fact, should be viewed as a mix of diplomatic, information, military, and economic approaches that vary depending on the situation and the context. It is not enough for policy makers to decide to use deterrence measures; decision-makers within all instruments of national power must determine the best means of implementing deterrence measures. Most important of all is how these deterrence

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[205] John J. Klein, *Understanding Space Strategy: The Art of War in Space* (Milton: Taylor & Francis Group, 2019), 150-152, 160-161.
[206] *Ibid.*, 12-13.

measures are communicated to ensure appropriate understanding by the adversary.[207] If the comprehensive approach is vital to successful deterrence, then Canada's space communications strategy should mirror this approach with a pan-government approach to strategic communications about space.

When transitioning from DG Space to its new structure, 3 Canadian Space Division specifically ensured it established its own PAO position, with the intent to add a civilian communications position at a later date.[208] This position recognizes the importance of 3 Canadian Space Division having a full-time communicator, vice its current arrangement in which the Directorate of Air Force Public Affairs provides support to space communications while also managing a myriad of complex issues for the RCAF.[209] This will position the 3 Canadian Space Division PAO to provide a dedicated focus on developing the best communications approach for space activities and operations moving forward. This will include deepening relationships with key space stakeholders, both within Canada and internationally, to ensure a comprehensive approach to communications. Traditionally, the military PAO has served as the link between allied military PA and other government departments and agencies, so it seems reasonable that 3 Canadian Space Division would lead the collaborative development of a pan-government strategic communications framework for space that is also complementary to allied efforts.

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[207] Anastasia Filippidou, *Deterrence: Concepts and Approaches for Current and Emerging Threats* (Cham: Springer, 2020), 9-10.

[208] Department of National Defence, The CAF Joint Space Force Restructure Master Implementation Plan (Ottawa: DND Canada, 2020), 45.

[209] *Ibid*, 13.

This chapter discussed the transformation of CAF PA from a corporate communicator to an operationally-focused strategist more capable of manouevering effectively in today's information domain. While the branch has recently been segregated from other IRCs, the current training in place for PAOs will ensure a continued emphasis on developing PA professionals capable of executing their activities in this new battlespace. PA can demonstrate its value to space operations as a key element of deterrence, Canada's first-line defence against threats to its space-based capabilities. Deterrence relies on capability, credibility, and communications to influence an adversary. The communications component is particularly important as both capability and credibility are based on the adversary's perception of those, and not necessarily reality. This requires a strategic narrative that resonates with the adversary, a task that resides with PAOs.

These strategic narratives should be developed in concert with other key space stakeholders in Canada and aligned with those of allied nations. This will be the only way to rise above the noise of a congested information domain and be heard. This effort should be led by 3 Canadian Space Division PAO, a dedicated professional with both corporate and operational PA experience. This position was recently established to ensure a devoted effort to improving the communications about space activities and operations, which makes the 3 Canadian Space Division PAO an ideal candidate to lead the collaborative development of a pan-government strategic communications framework for space.

CONCLUSION

While Chris Hadfield put Canada's space program on the map just eight years ago, little was done to effectively capitalize on the nation's favourite astronaut in the years following. Canada cannot afford to repeat a mistake like that, as modern warfare is being fought in the information domain.

As chapter one outlined, Canada has had a long history in space activity and operations, and the nation relies on space-based capabilities to contribute to national security and quality of life. This dependence has created a vulnerability for adversaries, and Canada has focused on building space partnerships to help defend against adversarial threats.

As adversaries have searched for a way to exert power against conventionally superior nations, they have found strength in conducting subversive activities in the information domain. Chapter two explains that by weaponizing narrative, the adversary has used the access granted by global connectivity to attack the core values and institutions that underpin Western societies. They have turned the information domain into the battlefield of modern warfare, creating a domain that is competitive, congested, and contested. It is a place where Canada has struggled to find a voice regarding its space activities and operations, leaving the nation vulnerable to adversarial interference.

In order to develop an influential voice in the information domain, space stakeholders must work cooperatively and collaboratively to build a pan-government strategic communications framework, as detailed in chapter three. The framework should focus on objectives, target audience and information domain analysis, narrative, and measurement and evaluation. This endeavour should be led by military PA, which is

discussed in chapter four. Military PA are trained in corporate and operational communications, have a deep understanding of the information domain, and can leverage existing relationships with all space stakeholders to move this planning forward collectively. This comprehensive approach ensures a unity of effort in space communications, which strengthens deterrence efforts and establishes an effective Canadian space voice in the information domain.

It can be expected that a military-lead for space pan-government strategic communications framework may not be palatable to other space stakeholders. Traditionally, the military has dominated the military-civil relationship during operations making the comprehensive approach feel imbalanced and not a genuine cooperative approach to addressing security issues.[210] In fact, the comprehensive approach itself is perceived to be a military initiative because of the military resources applied to studying this method as a means to becoming more effective in modern-day operations.[211] This domineering military flavour has understandably left a bad taste in the mouths of other government departments and agencies, and it will be on the shoulders of military members to overcome this bias. As Vavro and Roy astutely point out, the focus of the comprehensive approach should not be on who's in charge but rather on building trust between stakeholders and establishing unity of effort. They see trust as the means to overcome individual agendas and objectives, to discover different strategies to solve

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[210] Nipa Banerjee, "Comprehensive Approach and Fragile States," in *Security Operations in the 21st Century: Canadian Perspectives on the Comprehensive Approach* (Montreal: McGill-Queen's University Press, 2011), 54; see also Laura C. Ball and Angela Febbraro, "Discovering Effective Civil-Military Cooperation," in *Security Operations in the 21st Century: Canadian Perspectives on the Comprehensive Approach* (Montreal: McGill-Queen's University Press, 2011), 29-32.

[211] Caroline Vavro and Richard Roy, "International Development of the Comprehensive Approach," in *Security Operations in the 21st Century: Canadian Perspectives on the Comprehensive Approach* (Montreal: McGill-Queen's University Press, 2011), 43.

problems, and to avoid problems arising from competing authorities. Unity of effort will be the best expected outcome of these efforts.[212]

Considering this notion, the CAF is the common thread between all Canadian space stakeholders, as well as allied military partners. Due to the nature of space operations, the military continuously engages these stakeholders in their daily business, ranging from security and policy issues, to capability sustainment. From a communications standpoint, military PA also regularly engages with the respective stakeholder communications practitioners. These are existing relationships upon which to continue building trust towards a truly comprehensive approach to space communications.

Additionally, the military exercises a robust, established planning capability that does not exist in other government departments or agencies.[213] In fact, the CAF has an entire organization – CJOC – dedicated to conducting planning at the operational level. From an institutional perspective, this serves to both develop and produce practised planners while also maintaining the planning process as a unique military capability.[214] These planners then carry this planning experience and capability to their next posting, be it at the tactical or strategic level. Planning is a crucial skill for communicators, particularly in developing an understanding of 'operational art,' which is the ability for an individual to cut through the noise of a complex and chaotic situation to understand how

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[212] *Ibid*, 44; see also Nipa Banerjee, "Comprehensive Approach and Fragile States," in *Security Operations in the 21st Century: Canadian Perspectives on the Comprehensive Approach* (Montreal: McGill-Queen's University Press, 2011), 58.

[213] Department of National Defence, B-GJ-005-500/FP-000, CFJP 5.0 *The Canadian Forces Operational Planning Process* (Ottawa: DND Canada, 2008), 1-1 – 1-3.

[214] Canadian Joint Operations Command, "What CJOC does," last accessed 27 April 2021, https://www.canada.ca/en/department-national-defence/corporate/organizational-structure/canadian-joint-operations-command.html

all available capabilities can work together to achieve strategic goals.[215] CAF PAOs can

be trained in the military's planning process and can also be products of CJOC, building

this planning knowledge within the PA branch. This is a decisive skill that advocates for

RCAF PA to lead the development and execution of a pan-government strategic

communications plan for space operations in order to enhance joint space

communications effectiveness.

The notes of Hadfield's "Space Oddity" may have long since faded into the

history books, but the lessons he imparted about effective space strategic communications

remain. It is time for Canada to take action. *Commencing countdown, engines on…*

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[215] Department of National Defence, B-GJ-005-500/FP-000, CFJP 5.0 *The Canadian Forces Operational Planning Process* (Ottawa: DND Canada, 2008), 1-3 – 1-4; see also Wilson C. Blythe Jr., "A History of Operational Art," *Military Review* 98, no. 6, 2018, 37-38.

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