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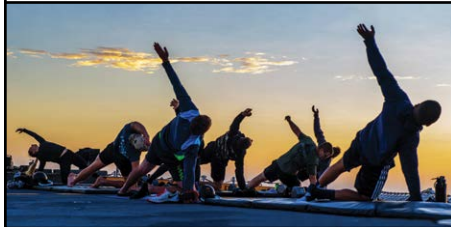
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**Cover****Noble Eagles**

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“A Truly Global Approach”: Opportunities for Increased Internationalization in Professional Military Education



Devil Copper: War and the Canadian Nickel Industry, 1883–1970



When Johnny (Canuck) Comes Marching Home Again: Canadians in the American Civil War, 1861–1865

CANADIAN MILITARY JOURNAL

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NOTE TO READERS

As a bilingual journal, readers should take note that where citations are translated from their original language, the abbreviation [TOQ] at the end of the note, which stands for “translation of original quote”, indicates to the readers that the original citation can be found in the published version of the Journal in the other official language.

Welcome to another frosty winter edition of the *Canadian Military Journal*, as we stand upon the threshold of entering our 20th year in print. Time certainly does fly by...

Taking point this time out, Brigadier-General Marc Bilodeau, the Canadian Armed Forces Deputy Surgeon General, laments the high release rate of well-trained Regular Force members, many of which are due to preventable illnesses or injuries. He maintains that health and wellness is a shared responsibility between the member, the Canadian Forces Health Services Group, and the military Chain of Command (CoC), with the leadership required of the CoC being the most critical part of the equation. To that end, his article addresses the following questions: “Are CAF military commanders given the appropriate tools to effectively achieve their responsibility for improving the health of their members? If not, how can the organization better support its leaders?”

Next, Major Mark Sandner, an air combat systems officer who has worked extensively with remotely piloted aircraft (RPAs), explores the ethics of responsibility with respect to the usage of unmanned combat air vehicles, and how much machine autonomy is both realistic and desired. Sandner posits that while there are significant advantages yielded by this new technology, “...current technology is still in its infancy in terms of machine learning, and there are still questions to be considered in terms of *responsibility* and *ethics* when a machine makes decisions to kill autonomously.” Then, with respect to Professional Military Education (PME), Dr. Steven Paget of the University of Portsmouth, argues the essentiality of the *scholarly* pursuit of the profession of arms in lockstep with the pursuit and mastering of the *warrior* skills for today’s fighting men and women. Further, Paget asserts that the *internationalization* of PME can generate highly-significant dividends. “The prevalence of multinational operations means that, although it may seem less pressing for militaries, internationalization is both necessary and beneficial.”

We have two very different articles offered in our military history section of this issue. First, historian and civil servant Scott Miller, a native of Sudbury, Ontario, often referred to as the ‘Nickel Capital,’ based upon its historical association with the metal, “...traces the evolution of the Canadian nickel industry from relative obscurity to an essential wartime enterprise [during the First World War. – Ed.]” He then highlights how this rise to prominence influenced both domestic and international affairs from the late-1800s until the mid-1950s. Next, logistics officer and American Civil War *aficionado* Major Geoff Tyrell chronicles the little-known history of Canadian participation in that war between 1861 and 1865. In Tyrell’s words, “Despite Anglo-American animosity, tens of thousands of Canadians crossed the border to fight

in the conflict. Exact numbers are impossible to determine, but conventional estimates suggest that somewhere between 35,000 and 50,000 Canadians bore arms in the American Civil War, the vast majority donning Union blue.”

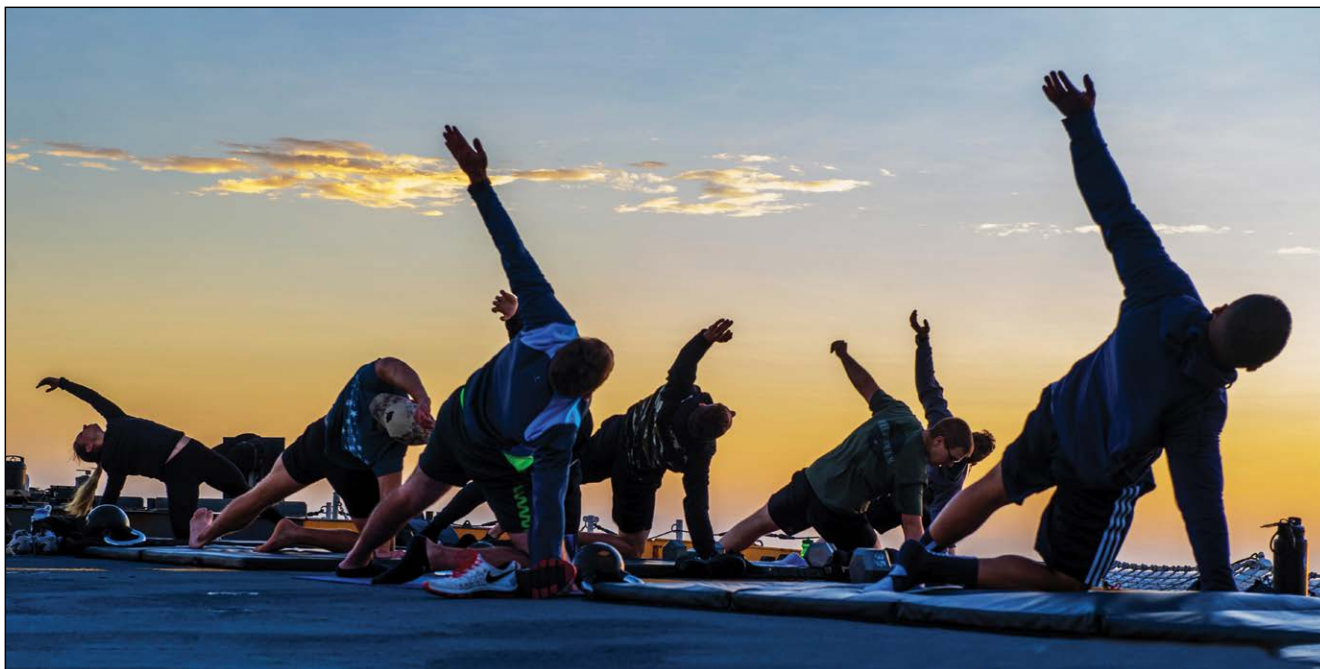
Just as the chosen subjects of our five major articles in this issue are quite eclectic, so are the topics addressed in our three opinion pieces. In the first, *Chinook* helicopter pilot Andrew McNaughton defines and discusses the concept of parallel warfare as it applies to conflicts with limited political aims. In his words: “After defining the theoretical concepts, this article will analyze the promise of parallel warfare and strategic paralysis against three limited operations that saw the decisive application of air power; *Desert Storm* in Iraq, *Allied Force* in Kosovo, and *Unified Protector* over Libya.” Next, former infantry officer and current lawyer Michael Wickson discusses the legal implications and possible consequences for Canadian Foreign Fighters who become involved in foreign wars. In so doing, Wickson specifically homes in on the case of Canadian Dillon Hillier’s experiences fighting ISIS in Kurdistan. Lastly in this section, Dr. Alan Okros, a former naval officer and currently a Professor in the Royal Military College Department of Defence Studies, discusses the recent establishment of the Dallaire Centre of Excellence for Peace and Security, and the impact it will hopefully have with respect to addressing the issue of child soldiers, upon children and soldiers generally, and upon global peace and security, writ large.

Then, our own Martin Shadwick examines our recent federal election in the Great White North, from the vantage point of both Canada’s foreign and defence policies. Martin spends the bulk of the column capsulizing the stated defence policy priorities of each of the contesting parties in the election. And while he applauds some relatively-recent initiatives, such as the Liberal’s 2017 policy statement, *Strong, Secure, Engaged*, Martin also cautions: “...[it] needs to be revisited, and where appropriate, modified or enhanced in light of an even more challenging and less predictable geo-strategic environment.” He also maintains that “... questions will surround the timely availability of adequate capital and other funding. The answers, as always, will reflect political will, competing fiscal priorities, and the health of the economy, but the minority government dynamic could raise new issues.”

Finally, we close with a pair of book reviews that hopefully will pique the interest of our readership during the cold winter months ahead, which appears to be a ‘lead pipe cinch,’ at least, according to the trusty Farmers’ Almanac...

Until the next time.

David L. Bashow
Editor-in-Chief
Canadian Military Journal



Military Commanders' Responsibility for Members' Health

by Marc Bilodeau

Brigadier-General Marc Bilodeau is a Medical Officer who currently serves as the Canadian Armed Forces' Deputy Surgeon General. He graduated from Université Laval in 1998 with a Doctorate in Medicine, and from RMC in 2019 with a Master of Public Administration. This manuscript is inspired by an academic paper submitted on 27 May 2019 as a required assignment for the Canadian Forces College's National Security Programme. The author would like to acknowledge Dr. Richard Goette, Dr. Robert Engen, Colonel Dave Abboud, Commander Rob Briggs, and Major-General (ret'd) Daniel Gosselin for their generous contributions in reviewing this manuscript and providing meaningful suggestions with respect to its content.

“In addition to genetics and social habits, health is also influenced by the social determinants of health.”

Introduction

The recent Canadian Armed Forces (CAF) refocus upon people highlights the importance of human resources as the most crucial asset of a military organization. Yet, more than a thousand well-trained CAF Regular Force members are released from the military in any given year, many of them due to preventable illnesses or injuries. We have more opportunities than we are taking advantage of to optimize the health and resiliency of CAF members and preserve this precious asset. The health and wellness of CAF members is a shared responsibility between the member, the Canadian Forces Health Services Group (CF H Svcs Gp), and the military chain of command (CoC). The CoC is the most critical part of the health and wellness equation.

Leadership, beginning at the highest levels of the organization, is a vital force in influencing the health of CAF members. This article addresses the following questions: *Are CAF military commanders given the appropriate tools to effectively achieve their responsibility for improving the health of their members? If not, how can the organization better support its leaders?*

The article argues that the health and the operational readiness of CAF members could be enhanced if the CoC would be enabled with the appropriate tools to do so. It will first describe the concepts of individual health and institutional military readiness, exposing how both concepts are inexorably linked to each other. The shared responsibilities of the individual, the CF H Svcs Gp, and the CoC for health in the CAF will then be presented. Using the institutional analysis model,¹ I will then establish the institutional gaps in the existing CAF health governance structure that could explain the sub-optimal health trends within the CAF. Finally, I will propose a realistic and comprehensive way ahead that could reverse those trends, and improve the overall health and operational readiness of the CAF.

Health and Readiness

Defining health and readiness will expose the linkages between the two concepts while explaining their importance in CAF's recent increased focus on its people.

Dahlgren, G. and Whitehead, M. (1991). *Policies and Strategies to Promote Social Equity in Health*. Stockholm: Institute for Futures Studies.

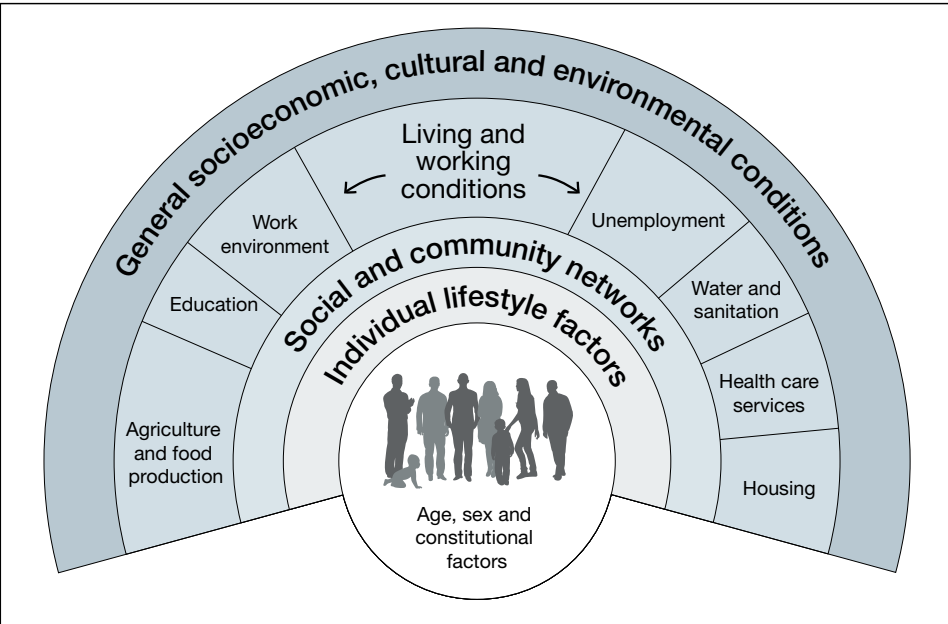


Figure 1: The Main Determinants of Health⁷

stating that to be healthy, "...an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment."³

In addition to genetics and *social habits*, health is also influenced by the social determinants of health. These determinants have been adopted by the Public Health Agency of Canada, and are illustrated in Figure 1.⁴ The concept of *total health*, described as "a dynamic state of wellbeing characterized by a physical, mental and social potential,"⁵ has also emerged over the last decades. In the Canadian military context, health goes beyond the period of service, and it is approached from a lifelong perspective.⁶

Surgeon General's Integrated Health Strategy - 2017 Integration for Better Health, National Defence, p. 14

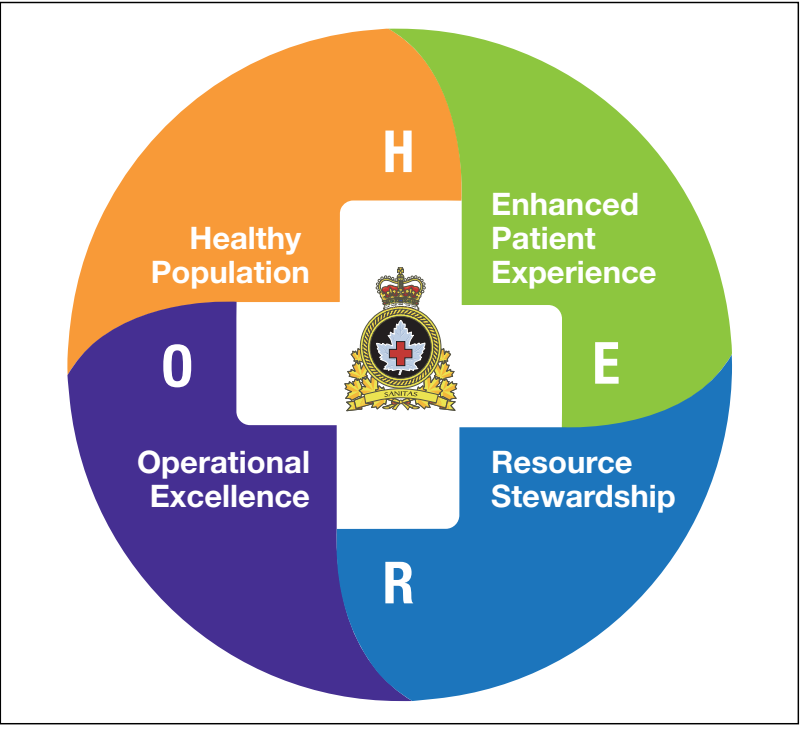


Figure 2: CF H Svcs Gp's Quadruple Aim.¹⁴

The concept of resilience has also gained traction lately. It is defined as "the capacity to recover quickly from difficulties."⁸ Resilience is closely linked to fitness, which itself is defined as "a state of adaptation in balance with the conditions at hand."⁹ These two concepts are influenced by many domains: medical, nutritional, environmental, physical, social, spiritual, behavioural, and psychological, and are interdependent with the notion of health.¹⁰ Someone can be fit to achieve a task but still be unhealthy, which could negatively impact their resilience. Conversely, a disability for which an individual has been compensated does not mean that this person is unhealthy or even unfit; many amputees are fully functional and highly resilient.

Defining Readiness

In a military setting, collective readiness means having "...enough of the right types of skilled and adequately trained personnel, and [...] adequate stocks of equipment in good working order."¹¹ This definition does not, however, capture the qualitative component of individual readiness. A more useful definition incorporating this component would be: "a combination of a soldier's willingness and ability to do his job and cope in peacetime and during combat."¹²

Defining Health

As per the World Health Organization (WHO) constitution, health is defined as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."¹² The WHO considers health as a fundamental human right, and its constitution highlights governments' responsibility for the health of their people. The 1986 Ottawa Charter re-emphasized the importance of social well-being as a component of health,

The United States Military Health System was first to adopt a framework, called the *Quadruple Aim* that identifies *population health* as a critical component of medical readiness. This concept is defined as "ensuring that the total military force is medically ready to deploy."¹³ The CF H Svcs Gp has recently adapted the *Quadruple Aim* framework, conveying readiness as *Operational Excellence* (Figure 2).

Linking Health to Military Readiness

Based upon the definitions of health, resilience and fitness proposed above and the introduction of the *Quadruple Aim* framework, one can draw obvious parallels between these concepts and military readiness. As stated by Physical Medicine and Rehabilitation specialist Dr. Gregory D. Powell, “combat readiness and levels of fitness are intimately related.”¹⁵ It can be argued that the social determinants of health, as much as the resiliency and fitness domains, are also factors of readiness.

There is historical evidence that readiness is negatively impacted by sub-optimal health. Observations from recent conflicts indicate that about 80% of hospital admissions are the consequence of disease and non-battle injuries, many of them preventable.¹⁶ Therefore, the better the total health of its serving members, the higher the readiness of a military organization. The healthier the soldiers of a nation are, the more likely its military will have a competitive advantage over an adversary.

Furthermore, the cost of poor health cannot be ignored. For example, obesity, which is associated with personal life habits, is a predisposing condition for many diseases, such as high blood pressure, diabetes, heart disease, and osteoarthritis. An individual’s medical readiness is not the only aspect impacted by obesity. The costs associated with treating obesity, and the medical consequences of this condition, have a significant financial impact upon the CAF, preventing the organization from using these funds somewhere else, thus, indirectly impacting readiness.¹⁷ There is also evidence, according to a study done by Dr. Anthony Tvaryanas, an American aerospace medicine specialist, that “...the cost of lost productivity secondary to health-related conditions (presenteeism) exceeds the costs of direct medical care.”¹⁸ In addition to *absenteeism*, this notion is not insignificant for such issues as mental illnesses.

Responsibility for Health

Health is a complex notion influenced by many interrelated domains. Such a level of complexity justifies a partnership to obtain better health results. The importance of integration and partnership to improve health has long been recognized within the CAF. This integration is captured in the *Triad of Responsibility*, illustrated in Figure 3. This section will describe the role played by each of these stakeholders to achieve better health.

Individual Responsibility

As described in the *Surgeon General Integrated Health Strategy*, “CAF members and their families must be fully engaged as a partner in their health, [...] so that they can improve their quality of life, long-term wellbeing and resilience, as well as their operational readiness.”²⁰ Member engagement is

critical in achieving better health, and this is independent of the health services offered by the CAF. The military code of conduct as described in *Duty with Honour* expects each CAF member “... to be held accountable for his or her performance, always acting in compliance with the law and maintaining the highest standards with respect to all the professional attributes.”²¹ One of these attributes is physical fitness.²² The expectation towards greater engagement of members is also part of a novel health care approach associated with better health outcomes that the CF H Svcs Gp has adopted under its Patient-Partnered Care Framework.²³

“CAF leaders who exercise authority for their members are responsible and accountable for the implementation and enforcement of the CAF General Safety Standards.”

Health Services Group Responsibility

The role of the CF H Svcs Gp in improving health is challenging for many reasons. First, the Canada Health Act excludes CAF members from the provincial responsibility to provide health services to their citizens, creating the requirement for the CAF to build its own health care system.²⁴ The National Defence Act itself is, however, silent regarding health care.²⁵

The CF H Svcs Gp is, therefore, *de facto*, mandated to provide health services, including deployable capabilities in support of CAF operations.²⁶ Its mandate is similar to the Canadian provinces and territories’ responsibility to provide care to their citizens. Based upon Canadian Medical Association statistics, the lack of access to health services represents only 25% of what makes Canadians sick (Figure 4). There are several other ways to improve health that do not involve the provision of health care at all.

Secondly, instead of being a reactive system which provides acute or episodic care to ill and injured personnel, the



Figure 3: Triad of Responsibility.¹⁹

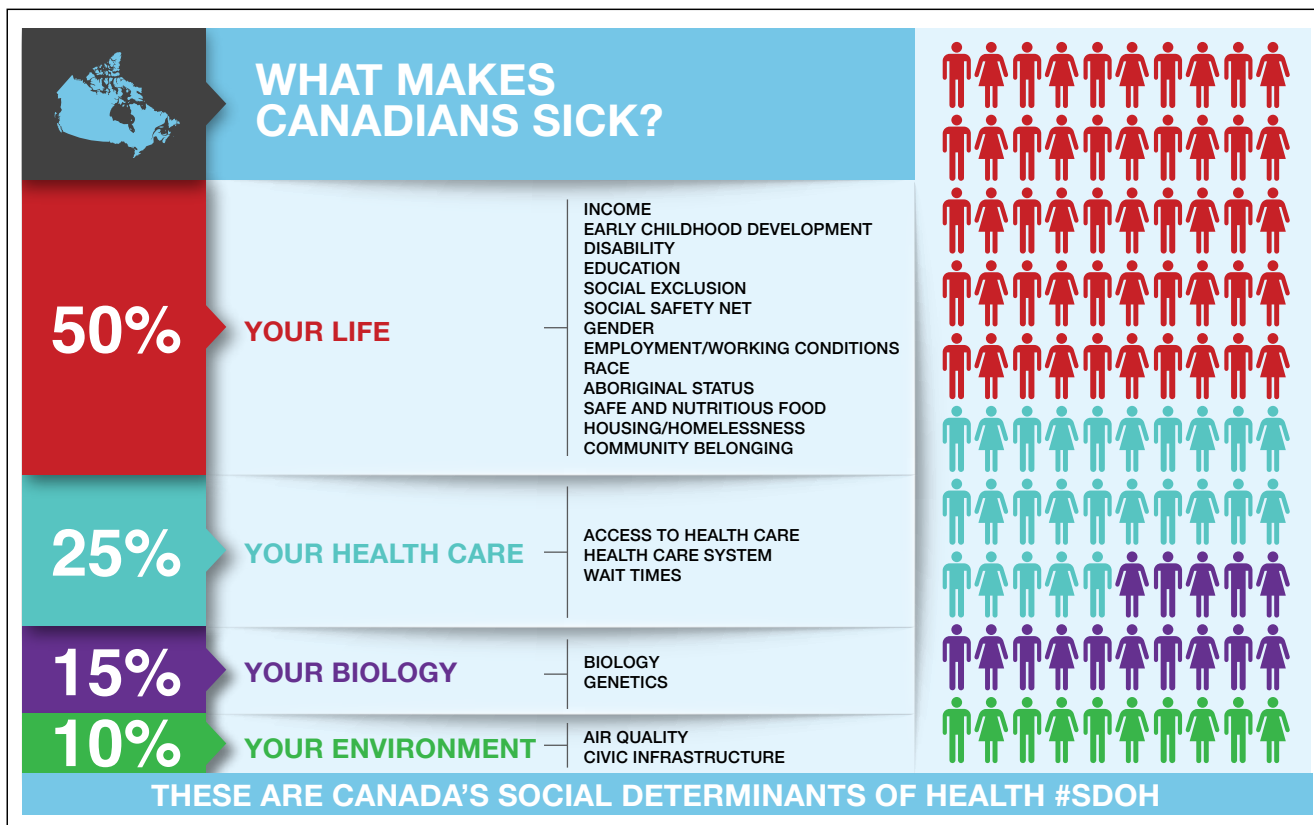


Figure 4: Canada's Social Determinants of Health.²⁷

CF H Svcs Gp has favoured programs which prevent illness and injuries and promote healthy lifestyles.²⁸ *Strengthening the Forces* (StF) is a voluntary health promotion program delivered on CAF bases and wings, focusing upon addiction, injury prevention, inactivity, and social wellness.²⁹ This program is aligned with the principle that *preventive* health care is significantly more efficient than *curative* health care.

Finally, the CAF has a legal obligation under the Canada Labour Code (CLC) and the Canada Occupational Health and Safety Regulations "...to ensure that the health and safety at work of every person employed by the employer is [sic] protected."³⁰ CAF leaders who exercise authority for their members are responsible and accountable for the implementation and enforcement of the CAF General Safety Standards.³¹ Chapter 34 of the Queen's Regulations and Orders (QR&O) states that "...the senior medical officer at all levels of command is the responsible adviser [sic] to the senior officer exercising the function of command or executive authority on all matters pertaining to the health and physical efficiency of all personnel under his jurisdiction."³² By extension, the Surgeon General, the top CAF physician, is, therefore, the health advisor to the Chief of the Defence Staff (CDS). The QR&O also explicitly state that "...a commanding officer is responsible for the whole of the organization and the safety of the commanding officer's base, unit or element."³³ The CF H Svcs Gp supports CAF leadership in meeting these critical Force Health Protection functions, as a sub-component of Force Protection which is "essential to operations—and, therefore, a clear responsibility of command."³⁴

Command Responsibility

In his *Guidance to Commanding Officers (CO) and their Leadership Teams*, the CDS expressed: "The CAF must be fit to fight. COs and their leadership teams are responsible for the promotion of health and fitness within their units."³⁵ He also expects his leadership teams to be "...working closely with our medical professionals to develop and maintain the climate of trust and understanding required to support healthy lifestyles."³⁶ Command responsibility is central to ensuring fitness to fight, which depends highly upon health and fitness.

The *Guidance's* chapter on physical fitness explains that "... it is about cultivating and promoting a culture that values health and wellness, and recognizes how this contributes to operational readiness, resilience and the long-term health of our personnel and their families."³⁷ It similarly addresses the mental health aspect of command responsibility.³⁸ Finally, the document highlights the importance of creating a climate of trust and confidence in facilitating access to health services.

The leadership team's obligation regarding members' health is also mentioned in several other doctrinal documents. The QR&O define a specific role for the non-commissioned members in promoting "...the welfare, efficiency and good discipline of all who are subordinate to the member."³⁹ *Duty with Honour* assigns to the profession of arms the responsibility to "...ensure the care and well-being of subordinates."⁴⁰ The *Conceptual Foundations of Leadership in the Canadian Forces* identifies member well-being



the needs of Canada and Canadians before their own. In turn, CAF members expect to be given appropriate benefits and support for themselves and their families. As the doctrine states, “This social contract is an unbreakable common bond of identity, loyalty and responsibility which has sustained the military forces of Canada throughout their already significant involvements on the world stage.”⁴⁶

There is, however, a tension between mission requirements and the well-being of members.⁴⁷ This tension, defined as the concept of *unlimited liability*, will sometimes force commanders to place their subordinates in harm’s way, therefore putting their health at risk. It also drives the constant requirement of

and commitment as one of three value dimensions critical to effectiveness and mission success.⁴¹ This notion is expanded further in *Leading the Institution* by calling for a transformation to a culture of understanding where “...leaders emphasize proactive influence behaviours such as facilitation, support, participation and delegation.”⁴² Instead of a culture of rules-based compliance. The latter also links members’ quality of life with optimal performance.⁴³ Centuries of lessons learned have also shown that the conditions of the workplace are more important in motivating soldiers than many human resources programs. Dr. Alan Okros, a professor at the Canadian Forces College, states that loyalty and obligations to their peers are inspiring factors for employees, hence the importance of “...behavioural influences from leadership, institutional culture and team climate” to achieve sustained commitment.⁴⁴

According to the CAF, “...honouring the social contract is essential to maintaining legitimacy in the eyes of the public,” articulating the moral responsibility that CAF members have towards Canadians.⁴⁵ This societal framework between Canadians and their military stems from the CAF members’ willingness to put

“Members still need to spend a significant amount of time away from work.”

military leaders to “...balance mission accomplishment with members’ well-being.”⁴⁸ The primacy of operational effectiveness and mission accomplishment assigned by the Canadian government cannot be ignored, and, according to the CDS, “...is the fundamental criterion against which all personnel functions and supporting policies must be developed and evaluated.”⁴⁹ It requires the delicate balancing of the *individuals’* needs against the *collective* needs. This tension was reaffirmed when the CDS launched *Operation Honour* in 2015, declaring “People First, Mission Always.” This focus upon people was also confirmed in our Canadian defence policy, *Strong, Secure, Engaged* (SSE), with its first chapter dedicated to people.⁵⁰

Finally, the approach of making the COs and their teams responsible for the health of their members is not unique to the CAF, as shown in the *NATO Field Hygiene and Sanitation* standards that make unit commanders “...responsible for all aspects of health and sanitation.”⁵¹ Most contemporary military organizations proclaim a similar intent. While an essential component of command, this *responsibility* aspect of the Defence Scientists’ Ross Pigeau and Carol McCann *Competency, Authority,*

and Responsibility (CAR) model seems insufficient to make commanders effective in achieving the desired outcomes.⁵²

Improving Health to Enhance Readiness

Despite the conditions being in place to ensure optimal health and fitness levels for our members, the current health status of the CAF, and its trends over the last few decades are not encouraging. They will now be discussed.

Current CAF Health Status and Trends

The most recent *Health and Lifestyle Information Survey* (HLIS)⁵³ revealed that the overall perceived health status, health-related activity limitations, chronic conditions, and rate of acute injuries have not changed compared to previous surveys.⁵⁴

Members still spend a significant amount of time away from work. Indeed, 18.4% of Regular Force members had missed a minimum of a day of work as a result of illness or disability in the month before the questionnaire was answered. This number translates to about eight workdays per year, which is slightly above the Canadian population average of 7.7 days.⁵⁵

Stigmas related to mental health issues, while significantly reduced, still exist. Only 60% of personnel who contemplated suicide in the previous 12 months sought mental health support, and only 50.9% of those knew where to find help after hours. As well, about 20% of CAF members are still engaged in high risk or harmful drinking activities.⁵⁶

The survey further demonstrated an increase in repetitive strain injuries from 22.6% to about one-third. Two-thirds of members have engaged in unsafe physical training practices, resulting in an injury for 12.5% of them. Obesity and overweight rates (25% and 49% respectively) have also increased among CAF personnel in the last decade. The smoking rate is otherwise steadily decreasing, but 18.5% of current smokers started smoking after joining the CAF, 57.1% of them during basic training.⁵⁷

There seems to be a better awareness of *Strengthening the Forces* programs, mainly for the 40 to 60-year-old group. The 18 to 29-year-old group does not appear to be adopting healthy lifestyle changes. The number of hours spent on sedentary activities increased by more than three hours since the previous survey, and six hours from the one before that. Finally, only 28.7% of personnel consumed more than six servings of vegetables and fruits per day, and more than half underestimated Canada's Food Guide recommendations for this food group.⁵⁸ These negative

trends need to be analyzed to understand the underlying reasons for them in order to develop potential solutions.

Gap Analysis

Using American sociologist Dr. Richard Scott's *institutional analysis* model, a gap analysis was conducted to understand the reasons for the sub-optimal health trends of the CAF population.⁵⁹

Scott's *regulative* pillar refers to institutions' ability to establish rules, monitor conformity, and use sanctions and rewards to influence behaviour compliance.⁶⁰ Most CAF rules are clear, such as what is stated under the *Universality of Service* principles, stipulating that every member must "be physically fit, employable and deployable."⁶¹ A clearly-defined process also exists to describe the consequences of a failure to achieve the Physical Fitness Standards when it is determined to be within the member's control. Such failure, when recurrent, could ultimately result in a release from the CAF.⁶²

There is a requirement for a member to be assessed by a CAF health care provider whenever there are indications of a health problem on the screening questionnaire conducted before a fitness test. This evaluation could subsequently result in the assignment of Medical Employment Limitations, which may preclude the member from attempting the test. It could also, ultimately, result in a medical release from the CAF. A more extensive suite of benefits accompanies this type of release, compared to non-medical releases. This phenomenon could be a partial explanation of the proportion of members being released for medical reasons, and the difficulty in returning members to work after an illness or injury.⁶³ Finally, while medical and physical fitness is monitored individually for each member and reported to their commanding officer, there is currently no easy way to track the fitness level from a unit, formation, or service perspective. The HLIS is the only tool available that provides a snapshot every four-to-five years, which informs CAF leaders.⁶⁴

There is a pressing need for military leaders to have *better* and *timelier* access to information about the health status of their members at the population level. Also, there may be too many incentives to remain sick or disabled, in comparison to staying healthy or recovering actively from an illness or injury. U.S. Army General William Westmoreland stated in 1963: "...the effective platoon leader (1) clearly and consistently emphasized performance as the basis of reward and punishment; (2) used punishment instructively and for motivational failure and (3) communicated clearly about the standards he desired."⁶⁵ The absence of health information does not allow for the development

"It might be worth re-assessing the resonance of the military ethos in the context of today's society."

of evidence-informed policy to adequately influence health-related behaviours. The CAF narrative would also benefit from a more positive approach to health and wellness.

The *normative* pillar, based upon societal values and norms, refers to the roles given by society to people, and expected behaviours devolved from such responsibility.⁶⁶ The military mandate, duties and privileges relate to the social contract associated with the profession of arms described earlier. It also speaks to the CAF ethos of “duty, loyalty, integrity, and courage.”⁶⁷ The concept of *duty* relates to the performance expected from members, which is closely associated with *courage*, which requires both physical and moral capacity. The notion of *integrity* refers to the obligations *towards* responsibility and *being held* responsible, while *loyalty*, is directed both towards the CoC and peers.⁶⁸ The current version of *Duty with Honour* is ten years old. Younger CAF members do not seem as responsive to the recommendations to adopt healthier lifestyles as older members. Is this an indication that these generations do not connect with the way the military ethos is presented to them? It might be worth re-assessing the resonance of the military ethos in the context of today’s society. Its modernization might be required to reinforce these essential principles. This review could incorporate gender and diversity concepts in the post-*Operation Honour* era. It could underscore the importance of leadership in reducing stigma, as shown within the mental health domain. It could also expand further upon the crucial role of the NCMs as transformational leaders.⁶⁹ The next edition of *Duty with Honour* is in development.⁷⁰ This review would be an excellent opportunity to incorporate the value of health and fitness, ensuring it is being reinforced as a critical component of our military identity.

Finally, the *cultural-cognitive* pillar refers to the cultural systems that drive shared understanding and ideologies, creating collective meaning that results in actions. This pillar is attached

to a strong emotional reaction: “Actors who align themselves with prevailing cultural beliefs are likely to feel competent and connected; those who are at odds are regarded as, at best, *clueless* or, at worst, *crazy*.”⁷¹ In the military context, this pillar is powerful for influencing behaviours. The significant reduction of smoking in the military could be explained by the successful information campaigns related to the risk of smoking, combined with peer pressure resulting from smoking being no longer considered culturally acceptable.

The CAF, therefore, needs to capitalize upon the power of culture in creating peer pressure to influence behaviours. Inter-unit competitions need not be only related to elite performance, but can be applied to simple health habits related to physical activity, diet, stress management, smoking, and sleep. These would be instrumental in creating that new culture of health and fitness that would ultimately enhance the military organization. It might also be worth considering changing the lens through which the organization looks at health issues.

Consideration should be given to switching from a paternalistic, disease-centric, acute care model, to a partnership model, focusing upon *prevention* and *health optimization*. This new perspective would replace the emphasis upon sickness, with a focus upon wellness.

Scott’s model allows for a detailed assessment of the potential gaps in optimizing health in support of military readiness. The proposed tools, summarized in Table 1, could if implemented, offer a stronger alignment of the CAF institutional pillars, ultimately leading to better health outcomes. These tools would provide commanders with the *authority* component of the *Competency, Authority and Responsibility (CAR)* model to positively impact the health of their members, using their position of influence and assuming their assigned responsibility for health.⁷²

“This article has attempted to demonstrate that military commanders are currently not being provided with all the tools they need to influence the health of their members.”

	Regulative pillar	Normative pillar	Cultural-cognitive pillar
Currently in place	<ul style="list-style-type: none"> • Universality of Service and Physical Fitness Standards • Periodic Health and Lifestyle Information Survey 	<ul style="list-style-type: none"> • Social contract of the profession of arms • Military ethos 	<ul style="list-style-type: none"> • Strong culture of conformity • The importance of the team
What’s missing	<ul style="list-style-type: none"> • Incentives for health and recovery • Real-time health status monitoring 	<ul style="list-style-type: none"> • Modernization of the military ethos for the younger generations 	<ul style="list-style-type: none"> • Healthy inter-unit competitions • A more positive health narrative

Table 1: Gap Analysis using Scott’s Model.

Author

A Proposed Way Forward

Based upon previous successes, such as reducing the stigmas related to mental health issues or reducing smoking rates, the evidence available fully supports the possibility of behavioural change. Top leadership involvement and buy-in are critical to success; without them, no meaningful change is possible. Fortunately, CAF leadership buy-in should not be problematic. A few notable examples are the *Canadian Army Integrated Performance Strategy*, launched in 2015,⁷³ and the *Royal Canadian Navy Health and Wellness Strategy*, implemented around 2012, which have led to significant improvements.⁷⁴ Other promising improvements came with the release, on January 2017, of a strategic initiating directive by the CDS and the Deputy Minister of National Defence on total health and wellness.⁷⁵ This direction was subsequently reinforced in *Strong, Secure, and Engaged*,⁷⁶ wherein \$198.2 million was promised to “favour a more comprehensive approach to care—known as ‘Total Health and Wellness’—which will consider psychosocial well-being in the workplace, the physical environment, and the personal health of members.”⁷⁶ It will also “support health and resilience; promote a culture of healthy behaviour; and support military families.”⁷⁷ A strategic framework is currently being developed; the most recent draft consulted addresses the crucial role of leadership in such an endeavour.⁷⁸ The framework will ultimately lead to the release of a strategy and action plan.⁷⁹

Finally, *BALANCE*, the CAF Physical Performance Strategy was recently published, and it focuses upon critical elements, such as “...be trained and fit, properly fueled, well-rested, and free from injury” that drive performance and operational readiness.⁸⁰ Physical activity, nutrition, sleep and injury prevention constitute the *Performance 4* (P4) behaviours as the foundation of this strategy. It recognizes the importance of building a culture of fitness within appropriate policy, social and physical environments to support it.⁸¹ As well, it highlights the shared accountability between the institution, its leaders and its individuals for achieving the desired outcomes.⁸² Finally, it relies upon a decentralized execution by allowing each Level 1 command to provide their own implementing directions, thus enabling a more targeted approach to various sub-groups of the CAF.⁸³

The alignment of these initiatives creates a clear and explicit common intent, which is “key to co-ordinated military action,” as proposed by Pigeau and McCann.⁸⁴ The current conditions seem optimal to fill the gaps identified above by providing the CoC with the tools they require for success. Historically a topic rarely written about by military leaders, health is now becoming a key message with the potential to “...have a significant impact on the attitudes and behaviors of military personnel.”⁸⁵ *BALANCE* also provides a measurement framework that could monitor the total health and offer a transparent dashboard for all levels of command. This tool could be modelled on the US Army *Medical Readiness Assessment Tool*.⁸⁶ There is also a need to capitalize further upon positive incentives, such as the FORCE Rewards program, to remain fit or to recover from an illness or injury.⁸⁷

The culture change that could result from such initiatives in targeting healthy behaviours has the potential to become one of the most significant outcomes of this re-alignment. It might also result in the re-framing of the narrative from *disease and sickness* to *health and wellness*. A strong commander’s voice, such as the one expressed by General Westmoreland, is an essential aspect of stigma-reducing efforts.⁸⁸ The current refresh of the military ethos documentation to better align with younger generations will also be beneficial in capitalizing upon the changes described herein.

Finally, and perhaps *most importantly*, sustained leadership commitment and role modelling are crucial to affect change. This component feeds into the *competency* domain of the CAR model.⁸⁹ As stated by a United States Army Medical Corps colonel in 1951: “The greatest responsibilities of the commander is that once having initiated an action designed to maintain the health of his men, he himself must always be the shining example of compliance with that action. [...] The personal responsibility and self-discipline displayed by a commander in health measures cannot be overestimated because, if he himself fails, so will the measures.”⁹⁰ This quote reinforces the importance of role modelling and testimonials by senior military personnel sharing their own story of health struggles to further reduce stigma.

Conclusion

The recent CAF focus upon people has led to the release of several closely aligned strategic documents aimed at improving the health of the CAF population, and thus, CAF operational readiness. This re-alignment creates the ideal conditions to undertake coordinated actions. While health is a shared responsibility between members, the CF H Svcs Gp and the CoC, CAF leadership is the critical component of this equation.

This article has attempted to demonstrate that military commanders are currently not being provided with all the tools they need to influence the health of their members. It also argued that they would be in a stronger position to affect the overall health status of the CAF, and ultimately, its operational readiness if they were provided additional tools. Improving the collective CAF health requires a robust measurement framework that would allow real-time monitoring of population health status. It also calls for a cultural change towards *health and wellness* in contrast to *disease and sickness*, and the appropriate incentives to support such an approach. The refresh of our military ethos could better communicate its relevance for younger generations.

Finally, and perhaps *most importantly*, a strong and sustained leadership commitment will be the critical enabler in balancing the *command envelope* required for any effective command-driven change.⁹¹ The voices and actions of commanders need to be heard and felt to maintain the momentum established by the recent strategic documents. These actions will result in healthier behaviours and enhanced operational readiness for the CAF.





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The X-45 Unmanned Combat Air Vehicle technology demonstrator that is eventually intended to fly high-risk air combat missions.

Future Unmanned Combat Air Vehicles (UCAV) and the Ethics of Responsibility

by Mark A. Sandner

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Introduction

In the article “*The Swarm, The Cloud, and the Importance of Getting There First*,” Major Blair Helms and Captain Nick Helms of the United States Air Force (USAF) push for a manned-unmanned synergy of operations that allows technology and automation to amplify what is currently possible in the world of remotely piloted air power. They argue that the limiting factor for achieving true operational fusion is *cultural*, not *technological*. Once the cultural acceptance of remotely-piloted aircraft (RPAs) and unmanned combat aerial vehicles (UCAVs) catches up with the technology, then true breakthroughs in capability can be realized. Semi-contrasting this belief is

Captain Michael Byrnes, also of the USAF, who in his article “*Nightfall: Machine Autonomy in Air-to-Air Combat*,” argues that a fully- autonomous unmanned aircraft will bring new unparalleled lethality to the air-to-air combat world.¹

Although the authors of both articles agree that the future of air power lies in autonomous UCAVs taking centre stage, Byrnes goes slightly further in stating that the technical and performance aspects of UCAVs will inevitably lead to a UCAV-dominant air environment. Helms and Helms, by contrast, argue that manned supervision will most likely always be required, and the degree of autonomy that should be given to UCAVs will benefit greatly from having manned supervision. In a purely air-to-air combat scenario, where the UCAV will primarily be used, I argue that the realistic view of the future of air combat is unmanned, due to the rapidly-increasing developments in technology, as well as the pure economics of fielding an air force of unmanned aircraft. And yet, current technology is still in its infancy in terms of machine learning, and there are still questions to be considered in terms of *responsibility* and *ethics* when a machine makes decisions to kill autonomously.

Background

R PAs and UCAVs have evolved considerably over the past one hundred years. The first unmanned aircraft was flown in 1916, less than fifteen years after the Wright brother's historic flight.² The Hewitt-Sperry Airplane, named after the two inventors, was a project funded by the United States Navy (USN). Evolution from the Hewitt-Sperry Airplane has spawned a diverse range of modern RPAs, leading to the first trans-Pacific UAS flight that occurred in 2001,³ performed by a USAF *Global Hawk* from Edwards Air Force Base, USA to Royal Australian Air Force Base Edinburgh, Australia. The flight demonstrated an RPA capability to fly for an extended period at high altitude without ground radar coverage, autonomously. The *Global Hawk* flight was a milestone for unmanned aircraft, and was a precursor of what the future held for the unmanned aerial systems (UAS) industry. Since that flight, leaps in technology have allowed for greater autonomy for RPAs and UCAVs. However, true breakthroughs are not yet present with respect to UCAVs replacing manned fighter aircraft.

Current technologies for UCAVs, although greatly advanced in the last ten years, are still in their infancy in terms of full automation and machine learning. To date, there does not exist

“Current technologies for UCAVs, although greatly advanced in the last ten years, are still in their infancy in terms of full automation and machine learning.”

feasible and credible UCAVs optimized for air combat. The reason for this technology being as-of-yet undeveloped lies in the sheer complexity of the machine logic required to make combat decisions as well as a pilot with years of training and experience. USAF fighter pilot training is, according to Major Kreuzer of the USAF, “largely an algorithmic function.”⁴ Junior pilots learn the basics of

air combat first: manoeuvres straight from the textbook designed to instill a form of muscle memory in pilots when certain circumstances occur in the air. This gives junior pilots the intuition in the air that is such an advantage for an experienced air force. As pilots gain more experience and training, the wisdom of being in the aviation world comes into play, and pilots develop an advanced knowledge of air-to-air combat that one cannot truly learn in a book; the knowledge that comes from hundreds of hours of mastering a craft, when the basics of flight have become second-nature, and the

mind can concentrate on higher-order demands. The tactics and experience that a fighter pilot develops over the many years of scenarios in which one may find themselves would be something that any form of artificial intelligence (AI) would have to master in order to truly be considered more worthwhile than having a manned aircraft in the air.

In their current state, UCAVs are only now being certified for flight outside military controlled airspace, meaning autonomous flight where the aircraft itself is responsible for safety-of-flight



DVIDS/U.S. Air Force photo/6517624

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An RQ-4 *Global Hawk* unmanned surveillance and reconnaissance aircraft flying over Patuxent River, Maryland.

duties. These duties refer to the requirements of an aircraft to maintain level altitude, airspeed, on a flight path, and to be able to avoid traffic that is *either* emitting a GPS position *or not* doing so. The technology required for a UCAV to monitor its own flight path and make deviations based upon other air traffic is called a sense-and-avoid (SAA) system. The goal of an SAA system is to enable "...current and future UCAVs to be able to replicate the human see-and-avoid capability at a comparable or superior level upon replacing the onboard pilot."⁵ Accomplishing this goal means that UCAVs will be permitted to operate around the world in any airspace, provided it has the necessary equipment onboard, something that is also under development. The SAA system becomes the eyes of the UCAV. It is therefore vital for matters of flight safety and future combat operations for a UCAV to have a robust sensor suite to detect possible air traffic and enemy intruders, which will allow it to take corrective action while still operating within international flight rules.

The next step for UCAVs once SAA technology becomes commonplace is to develop a machine algorithm that is capable of *fighting* and *winning* in an air combat environment against manned aircraft. Byrnes outlines a hypothetical UCAV in his article which, due to its lack of reliance upon a human pilot, is able to outperform a manned aircraft. The exploitation of a smaller cross-section, lighter weight, and the ability to pull larger positive and negative "Gs," permit this hypothetical aircraft to close in and win a dogfight with 5th generation fighters.⁶ The decision-making process for an aircraft envisioned by Byrnes would be significantly more complex than current RPAs and UCAVs. The ability for a UCAV to learn and adapt to situations based upon the tactics of enemy aircraft is a major challenge for the future of UCAVs.

Discussion on Responsibility

The ability for a UCAV to differentiate between a civilian and a military target is easier said than done. Considering the altitudes at which an aircraft flies, it is a difficult and a time-consuming task for even a manned aircraft to discern whether a person on the ground is friend or foe. To ask a machine to do the same would require an incredibly-complex level of machine learning that currently does not exist. If something like that were to become available, however, the political and legal framework for governing it would need to be in place and ready to accept the technology. Again, easier said than done. Tactical autonomy, as Byrnes calls it, is the ability for a UCAV to make a decision to fire weapons or to perform a set of manoeuvres in response to an enemy's own manoeuvres and weapons. The ability to do so at a level of skill higher than that of a human requires an incredible amount of information coming from many different sources outside the aircraft.

Critics of tactical autonomy state that the information a UCAV would gather to make tactical decisions on its own is subject to spoofing and jamming by the enemy, and thus, the information gleaned and the resultant decision can never be trusted.⁷ Although this is a legitimate consideration, the same can be said for the information being received by a manned aircraft, and the subsequent decisions made by the pilot, based upon that information. In this age of connectivity and cyber-warfare in which the world presently exists, it is increasingly important to protect systems against such jamming or spoofing, and there is no doubt that any future UCAV would include protection from



DND photo BN2011-0028-54



DVIDS/U.S. Navy photo by Mass Communication Specialist Seaman Keenan Daniels/5402645

A Phalanx Close-In Weapon System being fired aboard USS Nimitz.

such attacks, given the direction of the evolving technology. No machine is completely jam-resistant, which can be a problem when that machine is expected to make decisions regarding life and death. If an enemy were to jam a friendly UCAV, that UCAV could begin to make erroneous decisions with respect to who is *friendly*, who is an *enemy*, and who is a *civilian*. The link between the UCAV and its human operator is also at risk, and the severing of such a link would cause the UCAV to operate on pre-programmed settings. Errors such as this could have vast repercussions, not just at the *tactical* level, but also *strategically* and *politically*. Strategically, UCAV assets could not be seen as reliable, and might be removed from the battlefield entirely until either the electronic warfare (EW) threat is removed, or the UCAV can be proven to be making the correct decisions. Until that point, friendly units would face a serious detriment in terms of air support. Politically, a country with easily-jammable UCAVs would be more of a liability than an asset. This could have repercussions in terms of where allies will want the country to operate, and which operations the country would not be allowed to mount, due to national security considerations.

Giving tactical autonomy to a UCAV brings about another set of questions regarding the ethics of permitting a machine to make a decision to kill or to cause harm. Autonomous machines being given the ability to kill is nothing new. From the

cheap-but-effective landmine, to the complex technology of a *Phalanx* close-in-weapon-system, humans have constantly been looking for ways to increase security by offloading some duties to machines and equipment. An automated weapon means that it is capable of acting independently of immediate human control, something of a fire-and-forget system. Weapons such as this have been used for many years and do not raise any ethical questions beyond that of traditional long range weapons.⁸ In 2012, Human Rights Watch, a group that “regularly addresses the issue of robotics and warfare,”⁹ examined the difference between an *automatic weapon*, and an *autonomous machine*, such as a UCAV. The group found there was an acceptable distinction between autonomous weapons that were human-supervised, and automated weapons. Given this finding, UCAV find themselves in less questionable territory in terms of ethics, as long as there is a certain level of human control in place. The human element becomes important, not only in terms of the ethics of machine killing, but of who is responsible for a UCAV taking a life.

Responsibility for a weapon lies with the officer or official in charge, be they the aircraft captain in relation to an aircraft, or a base commander if it is a stationary weapon. This responsibility is fed back to the state to which the individual belongs, and is tied to the laws that govern warfare for allied states. If states were to use UCAVs in a killing role, the responsibility for those weapons

“Responsibility for a weapon lies with the officer or official in charge, be they the aircraft captain in relation to an aircraft, or a base commander if it is a stationary weapon.”



Wreckage of a car destroyed by a US drone air strike that targeted al Qaeda militants in August 2012 in al-Qatn, Yemen.

and the decisions of the autonomous systems still needs to fall upon the parent state.¹⁰ This is an important specific requirement for state users of UCAVs, because it will stop states from shirking responsibility when a UCAV fires a weapon at the wrong target. An example of this would be if a UCAV fired a weapon at a target and unintended civilians were hit. It would be a legally grey area regarding the state responsibility, and thus, specificity in this area will become extremely important. Another example would be if a UCAV fired a weapon when it was not supposed to do so, based upon an error in an algorithm, or upon its machine learning. This would present a difficult situation in deciding just who is responsible for the accidental deaths, since the officer in charge did not intend upon firing the weapon, and the UCAV did it autonomously.

Robert Sparrow is an Adjunct Professor in the Centre for Human Bioethics at Australia's Monash University, where he works on ethical issues raised by new technologies. A leading authority in the field, his book, "*Killer Robots*," provides some interesting discussion regarding who should be held responsible for possible war crimes in a situation that involves a UCAV making incorrect decisions with respect to taking lives.

The Programmer

Sparrow posits that it could be easy to blame the person who designed or programmed the UCAV's decision-making algorithm, since they are the ones that incorrectly *designed* the system. He then argues that this is not the case for two reasons: the possibility that the UCAV may attack wrong targets could be a known limitation of the UCAV (it was designed with these limitations, and they were not an oversight), or the possibility that the UCAV made a choice other than that programmed or predicted, due to its autonomous, machine learning nature.¹¹ The fact that in this case, the UCAV made a choice autonomously proves that the choice was not an original design, which would prove that it is truly autonomous. It would not be feasible that the programmer would be at fault for designing a system that makes its own decisions, even if sometimes those decisions are erroneous, for that was the stated requirement at the outset.

The Commanding Officer

Sparrow states that the argument for the commanding officer to have responsibility for UCAV decisions lies in the fact that traditionally, "...the officer who ordered the deployment

of the weapons system should instead be held responsible for the consequences of its use.”¹² This seems to be preferred for states utilizing UCAVs, since it fits in with the traditional rules that govern conflict of modern militaries, and it makes the most sense. The officers that use these weapons should be the ones held responsible for their misuse. However, this argument’s flaw is that it does not take into account the autonomous, ‘smart’ natures of *future* UCAVs. The prime advantage of future UCAVs will be that they can make their own decisions, sometimes with better information than the commander. If future UCAVs are treated in the same way as ‘dumb bombs,’ then there is no real difference between the two, and the advantage of using such weapons is gone. In order to have effective autonomous UCAVs, with the ability to make their own decisions with respect to where to drop weapons, the military must accept that sometimes it will make mistakes, just as with any manned weapon. The more autonomous a UCAV becomes, the more risk the military must accept regarding its independent decisions being right or wrong. However, the smarter these UCAVs become, the higher the probability that the decision they make will eventually be the correct one. And at some point, it will likely not be fair to hold the commanding officer responsible for the UCAV’s decisions.¹³

The Machine

Sparrow’s third discussion point regarding responsibility submits that the UCAV itself should be responsible for its own decisions. The idea that a machine could be held morally responsible for causing a death is an odd one, for machines do not (presently) understand the difference between right and wrong, good or bad. They merely understand what they are taught or programmed. The

human ideals of good and evil are too complex for a machine, and thus, we cannot hold a machine guilty for something of which it has no understanding. Sparrow raises the point that to hold a machine morally responsible for an action, there must exist a possibility that it can be rewarded or punished for good or bad behaviour. This is another difficult concept to consider, for punishment and reward stem from being satisfied with an outcome, or from feeling a sense of suffering. How to ensure a machine is punished or rewarded for right or wrong actions is an entirely different discussion that borders upon the futuristic, or the realm of science fiction, and it introduces further complexities to the discussion at hand. It may be possible at some point in the future that machine AI could be held responsible for its actions, based upon the moral beliefs of the machine, and the human operators/supervisors would then be absolved of responsibility. However, UCAV technology is nowhere close to being evolved to that point.

The three arguments that Sparrow advances all lead to issues regarding the technology used, and they do not offer a clear-cut solution to the issue of responsibility. The programmer is one that can be ruled out; just as a tradesman does not blame the manufacturer of his tools for the tradesman’s improper use of them, one cannot blame the programmer for designing a UCAV with an AI that makes its own decisions. An AI making mistakes proves that it is truly autonomous. Placing responsibility on the UCAV is also not a solution that would work, given present technology. The idea of a morally-responsible machine simply is not possible just yet. Machines are not at a point where the ideals of good and bad can be taught to them. Thus, the only practical, responsible solution at this point in time is for UCAVs to have a human being be responsible for its actions, and then to be held



DVIDS/U.S. Air Force/Airman 1st Class William Rio Rosado/5625960

An MQ-9 *Reaper* flies a training mission over the Nevada Test and Training Range, 15 July 2019.



Major Bishane, a 432nd Aircraft Maintenance Squadron MQ-9 Reaper pilot, controls an aircraft from Creech Air Force Base, Nevada, 6 May 2015.

accountable or rewarded as appropriate.¹⁴ This is a requirement, not just in accordance with the laws of armed conflict, but for the public to provide support for the use of such weapons. Admittedly, this is not the perfect solution. The fact that a human being could be responsible for the actions of a UCAV that he or she did not personally order is unjust, and it sparks other moral discussions. However, in comparison to the other options, it presents the most feasible alternative until technology provides more effective options.

Requiring human operators and officers to be responsible, and to approve all decisions made by UCAVs, will appease most critics of current UCAV operations. The problem in the future, however, is when technology reaches a point where machines are able to make decisions on life and death, due to the fact that they simply have more information than the human supervisor. The advantage of having a fully-autonomous UCAV will not be fully realized if that capability cannot be fully exercised. There would be no point to developing the technology if a military did not intend to use it to its full potential. If resources were heavily invested in developing fully-autonomous UCAVs, there would be immense political and military pressures to use them as intended. The advantages of having autonomous UCAVs would be clear upon first use; quicker decision making, possible savings in human life, less supervision for automated

“Requiring human operators and officers to be responsible, and to approve all decisions made by UCAVs, will appease most critics of current UCAV operations.”

systems leading to less human labour requirements, and the ability to field more assets simultaneously. If autonomous UCAVs develop past a certain technological milestone, manned operators or supervisors could very well be either the weak-point, or simply serve as a disadvantage in conflict.¹⁵ If enemy states develop the same technology, the ability to have autonomous machines make split-second decisions would be of even more importance, and

the ‘human behind the screen’ would be even more of a liability. Requiring a communication link with a manned operator would also continue to serve as a weakness or challenge in future autonomous UCAV operations. The ideal situation would be to leave the UCAV to make its own decisions, regardless of whether a human is supervising it or not. This would negate the need for a constant satellite link, and it would shore up a known weakness or limitations of UCAVs.

To keep a human in a future unmanned system is also a weakness for other, less-visible reasons. While the psychological stressors on

operators of UCAVs and other unmanned systems has become a talking point with various users of the technology throughout the world, the main research on this subject has been in the USA. Studies conducted by the United States Air Force School of Aerospace Medicine (USAFSAM) have produced interesting results regarding the mental health of prolonged operations

be diminished if the person understands that they did not give the order to kill.¹⁷

It is unknown at this time whether taking the human completely out of UCAV operations is the best course of action for future autonomous flight. Filtering war down to reports of confirmed kills and data being read back from a UCAV seems like a dark moral and ethical path for humans to take, and it may make states more likely to wage war if they know that they would not have to experience it first hand, or risk the lives of their own soldiers on the front lines. One of the items that receives the most public outcry when a state is waging war or conflict is when the public sees sol-

diers returning home in coffins. This is a stark reminder that war is real, and it can have repercussions affecting all the citizens of a nation, not just those personally involved in war. Although it cannot be denied that having less soldiers die in conflict is a good thing, the risk of de-sensitization to conflict through the use of fully autonomous UCAVs and other machines is something that may come to fruition in the future. At this time, it is difficult to predict the ramifications of such technology, and it would be an interesting point of research going into the future.

Conclusion

This article has briefly discussed the genesis of UCAV autonomous technology: from where it exists today in the form of sense-and-avoid technology where manned supervision of basic duties is still required, but is in the process of being phased out, to a future that would include fully-autonomous UCAVs being given the responsibility and the authority to make decisions with respect to the lives of humans. The technology that will enable UCAVs that can think for themselves remains a future prospect, but it can be said with certainty that this technology will be developed eventually. The issue, then, will not be *when* the technology is developed, but *how* it is used, given the current laws of armed conflict and the rules of a just war. Who or what will be given the responsibility for decisions regarding life and death is still a very grey area, and several options have been laid out this article. None of them have provided a concrete solution to the problem as it is perceived today. If a more viable solution cannot be argued with confidence, then most likely it would be best to leave the system in status quo for the time being and keep the responsibility for killing with commanding officers and operators of nation's militaries around the world. This is a system with which



A remotely piloted aircraft crew flies a simulated training mission on an MQ-9 Reaper, Creech Air Force Base, 8 May 2014.

of unmanned systems in conflict areas. The most recent study conducted in 2014 from USAFSAM reported that 10.72% of operators self-reported experiencing high levels of mental distress, partially from the shift work, long hours, and low unit manning that results from the high operational tempo of UCAV squadrons.¹⁶ Mental issues such as this cost the US Government millions of dollars a year in support expenditures, as well as lost man-hours. Increased support for these personnel at risk is an effective measure. However, this appears to be a 'band aid solution.' A more effective solution would probably be to address the operational tempo required of UCAVs.

With respect to this last point, autonomous UCAVs would be able to address the operational tempo as well as the mental distress of UCAV operators because of the minimal supervision and personnel required to operate them, compared to present day aircraft. UCAVs that are able to operate autonomously without human supervision, to make decisions for themselves, and then report back automatically regarding the results of remote operations would significantly reduce the workload of current unmanned aircraft personnel. Fully autonomous UCAVs would also require less analysts and intelligence personnel tasked with observing sometimes gruesome deaths or dismemberments of enemy forces. A smaller number of personnel exposed to such images would equate to less risk of mental disorders, such as post-traumatic-stress-disorder (PTSD). Taking the human out of the decision to kill reduces stress in response to such traumatic events. Since stressors related to being either a witness or a participant in traumatic events varies greatly, the preference would be to involve personnel where the risk of mental stress is less. Acting as a *witness* to killing, but not being a *participant* is suggested to evoke less stress from members. This is not to suggest that watching war-like images will not have some form of effect upon a person, but the effect would

states are familiar, and it is one that works. Until autonomous UCAVs reach a point of intelligence where they are able to make equal-or-better decisions than the human operators, the proven system in place should be the one that the world utilizes. The more autonomous a system becomes, the less that one can reasonably argue that the person who designed it or the human in charge could be responsible for its actions. Either militaries continue to hold officers responsible for deaths that were not their decision, or they accept the fact that there may be unwanted deaths on the battlefield where the only one to blame is a machine that processed information incorrectly.

Increasing the use of autonomous UCAVs will also bear witness to an equal increase in moral or ethical concerns. The desensitization of conflict to military and public alike could possibly make countries more likely to wage war, or be willing to enter into conflict. This could present completely unknown problems as the world forges into a future where machines and not humans become the decider of who lives and who dies. Militaries will need to carefully consider these trade-offs when the time comes for fleets of fully autonomous UCAVs to take flight.



DVIDS/U.S. Air Force/Staff Sergeant Ramon A. Adelan/4909286



1st Lieutenant Murphy, a 7th Reconnaissance Squadron RQ-4 *Global Hawk* pilot, reviews pre-flight checklists, 24 October 2018, at Naval Air Station Sigonella, Italy.

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Admiral James Stavridis, NATO Supreme Allied Commander Europe, speaks to a group of students, professors and guests at the Kellogg School of Management, Northwestern University, 18 May 2012.

“A Truly Global Approach”: Opportunities for Increased Internationalization in Professional Military Education

by Steven Paget

Dr. Steven Paget is a Principal Lecturer at the University of Portsmouth. Prior to that, he was a Lecturer in Strategy and Operations at the New Zealand Defence Force (NZDF) Command and Staff College, and an NZDF Teaching Fellow at the Centre for Defence and Security Studies, Massey University. He has also taught at the Australian National University, and the University of Canberra.

Background

Education is an essential aspect of the development of military personnel, alongside training and experience. The notion that militaries produce automatons that follow a formulaic approach is an anachronism at best. It has long been understood that the ability to think critically is a vital skill for military personnel. Lieutenant-General Sir William Francis Butler, the Irish 19th Century British Army officer, writer and adventurer wrote famously: “The nation that will insist on drawing a broad

line of demarcation between the fighting man and the thinking man is liable to find its fighting done by fools and its thinking done by cowards.”¹ More recently, and perhaps more generously, the American four-star Admiral James Stavridis, who was, until recently, Dean of the Fletcher School of Law and Diplomacy at Tufts University, argued: “As military men and women, ours is the profession of arms. But it’s also a scholarly pursuit...The scholar and the warrior are thus inseparable—one and the same.”² Professional military education (PME) is a vital aspect of the “conceptual component” of military power and its potential must be harnessed.³ The importance of PME prompted Lieutenant General Michael Hood, then-Commander Royal Canadian Air Force, to emphasize that there is “...a requirement to continually review the training and education we give to all ranks to ensure that it is configured to deliver what we need within the contemporary environment.”⁴ Indeed, all aspects of PM—both formal and informal—are worthy of review on a rolling basis.

Dr. Tammy Schultz, Director of National Security and Joint Warfare, and a Professor of Strategic Studies at the United States Marine Corps War College, has proposed that PME staff should “strive for the kind of nuance we demand from our students when confronting today’s and tomorrow’s wicked problems.”⁵ Analyses of PME have tended to focus on how much is required, who needs it and when, by whom it should be delivered and what material should be studied. While the debate about the relative merits of PME is contentious and continues to proliferate, its significance transcends the learning process.⁶ Internationalization scholars Hilary Kahn and Melanie Agnew have observed: “Knowledge is produced collectively in the 21st Century. Scholarship no longer emerges from singular and isolated sources of deep knowledge, but from international partnerships, communities of exchange, and interdisciplinary conversations.”⁷ The generation of knowledge—whether produced in a civilian or PME environment—is a collaborative activity. Globalization and internationalization have intersected to shape the development of contemporary education. Additional subject matter authorities Philip Altbach and Jane Knight pointed out that globalization and internationalization are “related but not the same thing,” noting: “Globalization is the context of economic and academic trends that are part of the reality of the 21st Century. Internationalization includes the policies and practices undertaken by academic systems and institutions—and even individuals—to cope with the global academic environment.”⁸

“The concept of internationalization has found favour amongst civilian universities, but it is also part of the stated mission of some PME institutions.”

Internationalization of civilian education has involved a range of endeavours, including opening international campuses, recruiting foreign students and staff, using international research as teaching aids and arranging overseas guest lectures.⁹ The concept of internationalization has found favour amongst civilian universities, but it is also part of the stated mission of some PME institutions. The U.S. Naval War College, for example, conducts “a series of initiatives undertaken in the spirit of...internationalization” to “promote ever-greater levels of cooperation and interoperability among the world’s navies and coast guards.”¹⁰ The prevalence of multinational operations means that, although it may seem less pressing for militaries, internationalization is both necessary and beneficial.

PME can serve as an important means to increase multinational interoperability if its potential is maximized. In advocating a “truly international exchange of ideas,” eminent maritime historian Frank Broeze opined:

“It is extremely useful and worthwhile comparing one’s own service with one’s allies and opponents, learning to view issues from their viewpoints.”¹¹ While defines diplomacy is often perceived as the principal driver for military educational exchanges, the advancement of interoperability should not be underestimated. Carol Atkinson has written that exchange programs “build understanding and trust necessary for effective cooperation and interoperability.”¹² Even though discussions of interoperability

U.S. Naval War College Public Affairs/180515N-FC129-082



U.S. Naval War College, Newport, Rhode Island.



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Harvard University, Boston.

have tended to focus on technological issues, the conceptual elements are at least as important.

This article will examine a number of potential options to further internationalize PME and, consequently, improve multinational interoperability, including an expansion of current international PME exchanges, using technology to create a networked international learning environment and the establishment of writing contests that accompany major exercises. Increasing internationalization within PME would be both feasible and beneficial. The civilian university sector offers a number of valuable precedents that could be embraced by the military, albeit in an amended fashion. Internationalization of both formal and informal PME has the potential, ultimately, to produce better informed personnel and improve multinational interoperability.

It's a Small World and Getting Smaller

The comedian Steven Wright once joked: "It's a small world, but I wouldn't want to have to paint it."¹³ The process of globalization and advancements in technology have ensured that the world is emblematically getting smaller by the day, but its physical magnitude remains and militaries are not able to shy away from it. Notably, universities are increasingly seeking to diversify and embrace internationalization. Perhaps one of the best examples is the emergence of massively open on-line courses (MOOCs), which attract students of diverse backgrounds from around the world. Universities have not only sought to reach out to a broader range of students, but they have also moved to collaborate with each other. By way of example, the joint initiative between Harvard University and the Massachusetts Institute of Technology, known as edX, offers a large variety of courses in a broad range of subjects that are delivered by faculty from universities around the world.¹⁴

There is no reason why an analogous course/module sharing initiative could not be established by PME institutions. Lectures could be delivered in a synchronous (live via video conferencing) or asynchronous (pre-recorded) format.¹⁵ Either format would afford an opportunity for networked seminar discussions involving multinational participants following the lecture. Internationalized on-line courses could be provided to broader or restricted groups of institutions based upon the desirability and suitability of sharing the material. For example, it may be deemed prudent for particular classes or courses to be restricted to established relationships, such as NATO or the Five Eyes network. Entire programs or degrees would not need to be standardized, but it may be beneficial for certain topics, such as multinational operations, to be considered from a range of perspectives. Any such initiative would not be without cost, as it would need to be underpinned by highly-qualified teaching staff with a sound understanding of the pedagogy of distance learning, but it would bring a number of benefits, including generating diplomatic capital. Networked multinational classes, most importantly, would enable students to reach beyond cloistered national viewpoints and better understand the perspectives of allies and adversaries alike—either through the teaching of international staff, or the input of students from various nations. Civilian education is now operating at the cutting edge of technology, and PME needs to do the same.

While formal PME at military institutions dominates the debate, locally-organized initiatives (such as at unit level) and informal endeavours provide a number of valuable opportunities. The Australian website, *The Cove*, for example, has organized a series of talks delivered by eminent academics from around the world.¹⁶ International lectures can be observed live via video conferencing to enable participants to pose questions and to interact with the speaker, but they can also be recorded to enable personnel that cannot 'attend' to benefit from the activity.



NATO Headquarters, Brussels, Belgium.



Air Chief-Marshal Sir Brian Burridge prior to promotion.

Equally, there is ongoing disagreement about the merits of civilian teaching staff delivering PME, as evidenced by Lieutenant Colonel Ralph Peters' particularly pointed description of academics as "professors who couldn't swim in real world currents without dragging down every lifeguard in sight," and his assertion that "you should never let a rising officer near a professor."¹⁷ Murray Simons, New Zealand Defence Force, has contended, conversely, that academics are "...good for developing deeper cognitive skills and promoting a holistic understanding of the profession from the civilian academic perspective."¹⁸ The existence of a civilian-military divide is both unnecessary and detrimental to the provision of PME.¹⁹

Military personnel—either serving or retired—are not the sole arbiters of PME, but they do have a wealth of professional experience that they can share with students, where it is relevant. Videoconferencing technology offers an opportunity to bridge another divide, as military personnel with relevant experience can contribute to the students' understanding of particular topics in both a domestic and an international context. An academic lecture—delivered by a civilian academic or a serving or retired practitioner—on a particular multinational operation, for example, can be supplemented by presentations by senior national commanders from the key participating nations. Increased participation by guest speakers would enable students to reap the benefits of presentations from a diverse array of staff and practitioners. Each contributor would have a role to play as part a collective whole. The maximization of technology would enhance both the formal and informal learning experience, and increase opportunities for cross-cultural multinational understanding.

Have Lecture, Will Travel

The increasing involvement of international students or lecturers within physical classrooms, while more expensive, has been advantageous. The RAF's Air Chief-Marshal Sir Brian Burridge observed, while serving as the Commandant of the Joint Services Command and Staff College in the UK as an air vice-marshal in 2001, that officers "...need to recognise that other nations may approach problems differently, a particular requirement in the context of multinational crisis management."²⁰ Establishments, such as the Daniel K. Inouye Asia-Pacific Center for Security Studies in Hawaii, which facilitates an expansive educational program to encourage exchanges between military and civilian representatives from Asia-Pacific nations, affords a valuable precedent.

The current system of military exchanges in the PME environment is long-established and extensive. The unfettered exchange of ideas and beliefs through a variety of means—from small group work to social interaction—provides a platform to enhance cultural understanding. One study assessed that sustained contact between "culturally dissimilar people" in a PME context creates an opportunity to develop "cross-cultural competence."²¹ Dr. Charles Moskos, a distinguished sociologist and policy advisor, has argued that interaction between multinational personnel can "make a big difference" in invalidating hostile feelings and building bridges.²²

Smaller nations can obtain a better appreciation of the culture and approach of likely multinational partners through PME, while larger nations that are likely to lead coalitions are provided with an indication of the viewpoints, skills and limitations of potential

junior contributors. Dr. Erik Hedlund, an associate professor at the Swedish National Defence University, has assessed that:

"...the fact that most nations need help from other nation's armed forces to defend themselves and participate in international operations...requires some kind of convergence, harmonization, and transparency of officer competence and officer education to achieve interoperability and be effective."²³

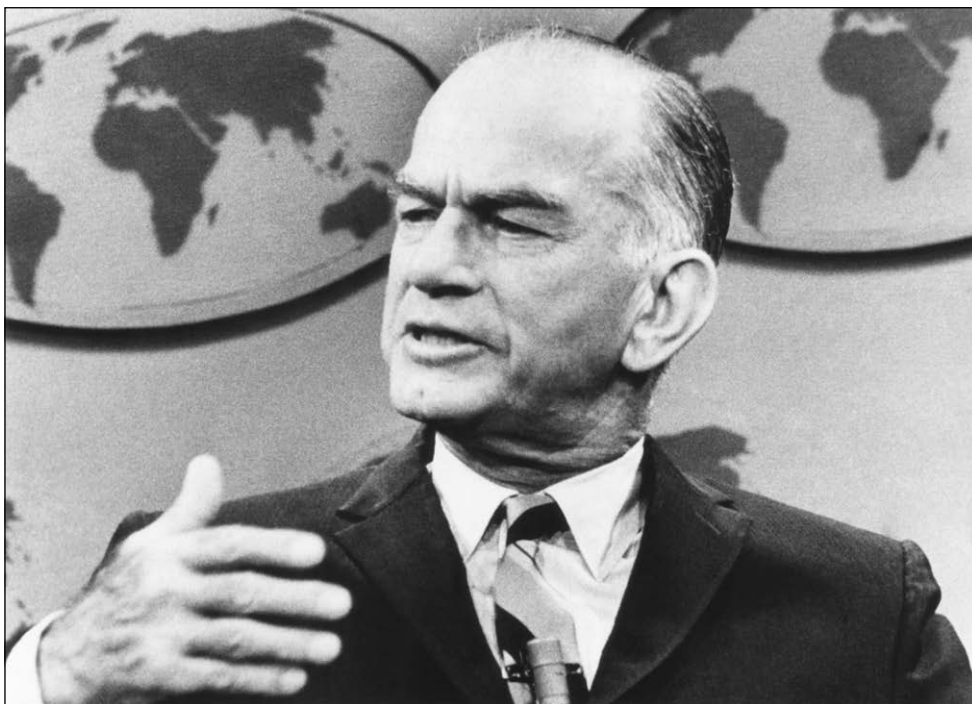
The "bedrock for human and cultural interoperability" is, ultimately, being "consciously or, in some cases, subconsciously developed" during exchanges between multinational personnel in the PME environment.²⁴ Even though only a small number of international personnel, relative to the overall size of militaries, will participate in overseas PME, the selection of the most able officers to attend the most prestigious institutions means that a disproportionate effect upon interoperability can be achieved as those individuals rise to the top of their respective services.²⁵

"The current system of military exchanges in the PME environment is long-established and extensive."

A straightforward enhancement of PME—for both staff and students alike—could be achieved through an expansion of exchange programs, which are currently focused on students predominantly. A coordinated and systematic exchange of staff at PME institutions could contribute to breaking down cultural barriers and increasing understanding between

nations. That idea is not new to PME institutions, as demonstrated by the engagement of Royal Navy officers as faculty on exchange at the US Naval War College, and the establishment of visiting chairs at the US war colleges. There is scope, however, to expand both international inclusivity and the scale of exchanges, particularly in relation to civilian staff.

In reference to the creation of the Fulbright Commission, which was established by treaty in 1948, Senator William Fulbright declared: "The simple purpose of the exchange program...is to erode the culturally rooted mistrust that sets nations against one another. The exchange program is not a panacea but an avenue of hope."²⁶ A coordinated exchange program for PME, supported by each of the nations involved, would facilitate increased opportunities for internationalization. Importantly, while students can choose to limit interaction with classmates from overseas, the involvement of international faculty is a forcing function for multinational engagement in the PME environment. Ideas are both disseminated and absorbed through the medium of teaching



Senator J. William Fulbright as Chairman of the Senate Foreign Relations Committee.



General James N. Mattis.

by faculty and students alike. The regular interchange of teaching personnel—either military, civilian or both—offers the potential to reap mutual benefits for both individuals and institutions. Without any desire to generate uniformity, academic exchanges between PME institutions could enlighten perspectives and improve efforts to enhance the delivery of education in the military environment. Equally, the presence of international exchange faculty from civilian universities that are partnered with particular PME institutions may help to erode any tendency towards insularism, and assist in breaking down the “sealed-in military culture.”²⁷

As a subsidiary benefit, the establishment of a regular exchange initiative would demonstrate a genuine commitment to promoting progress in education, a notion that has been met with a significant degree of scepticism in some quarters. Furthermore, in an effort to diminish staff turnover, which can be ‘conveyor belt-like’ in PME, the prospect of international collaboration and research would help with the retention of high-performing faculty who are sometimes drawn to the often more bountiful opportunities offered by traditional civilian universities. Canadian researchers with international experience in the academic world, Harald Bauder, Charity-Ann Hannan and Omar Lujan, have summarized that “... international experience and mobility can provide the producers of this knowledge—that is, academics—with prestige and symbolic value.”²⁸ Aside from encouraging research and teaching collaboration, exchanges would help to boost the

“Personal drive and self-direction are important, but there are opportunities to accompany them with structure, even in an informal manner.”

reputation of academics and improve their future career prospects. The end result of such an exchange program, ultimately, would be a broader, more varied education for students, and better-equipped and more-knowledgeable staff.

Exercising the Body and the Mind

Emphasizing that soldiers write more and better in their daily operations, as well as professionally, is a way for the Army to maximize returns—in the form of increased soldier competence, innovation, and critical thinking—on its investments in education. Major Hassan Kamara, US Army, who recently served as a Strategic Study Fellow on the Army Future Studies Group, believes that the encouragement of military personnel to “write more and better” is occurring around the world. The education of military personnel must operate on a ‘push and pull’ basis. While information and knowledge will be imparted by teaching staff at PME institutions, it must also be drawn out by personnel through a process of interrogation, discussion, and reflection. The process may rely more upon pushing than pulling (although in an ideal world the balance would be shifted) during formal PME, but outside of the classroom, the emphasis must be upon self-development.²⁹

New Zealander Dr. Emmet McElhatton has concluded that “...career-long professional reading, by supplying content in breadth and depth, clearly offers an important supplement to the professional content gained through formal education, training and experience.”³⁰ This has been borne out by the experience of personnel during recent operations. The former soldier and US Defense Secretary General James Mattis asserted:

“Thanks to my reading, I have never been caught flat-footed by any situation, never at a loss for how any problem has been addressed (successfully or unsuccessfully) before. It doesn’t give me all the answers, but it lights what is often a dark path ahead.”³¹

Although militaries can attempt to push learning through projects such as the provision of reading lists by senior commanders, it is incumbent on personnel to seize the initiative and broaden their knowledge of issues both inside and outside of the military domain. Captain Andrew Hastie, Australian Defence Force, has advocated

“a self-directed program of education where students are imbued with more responsibility for their own learning, promoting both initiative and independent thought.”³² Personal drive and self-direction are important, but there are opportunities to accompany them with structure, even in an informal manner.

The role of essay competitions in encouraging writing has a long lineage in the US military, but the approach could be broadened. Multinational exercises such as RIMPAC, for example, offer opportunities for personnel to write about relevant issues. Voluntary writing competitions that encourage self-reflection, including the benefits and challenges of working with multinational partners, and essay



DVIDS/U.S. Navy/Chief Mass Communication Specialist James E. Feehl/Z146301

U.S. Naval War College students.

contests that tackle issues of the author's choosing that are relevant to the particular exercise have great potential. By incentivizing participation through professional recognition, essay competitions offer an opportunity to develop the writing skills of personnel. It would also help to generate multinational thinking on issues of relevance, as well as encourage a multinational mind-set. Former US military strategist, now the Director of the Business and Organizational Leadership at the Kansas University School of Business, Steve Leonard, has pointed out that "writing can influence change," and the generation of differing viewpoints from personnel of varying ranks and from diverse countries can only be beneficial.³³ Furthermore, essay competitions that are opened to entrants from all participating nations would have inherent diplomatic value. The ongoing debate about balancing training and education will inevitably continue, but there is the potential to combine both in some areas. In merging the education and training elements of personal and organizational development, writing competitions based around multinational endeavours would offer an opportunity to exercise both the body and the mind in a practical setting.

Conclusion

Internationalization has already begun to shape the PME environment, but there are opportunities for it to be embraced more fully. The exchange of PME staff offers the same benefits as military personnel, but it potentially has greater reach due to the capacity of educators to access entire student cohorts. Nevertheless, technological developments mean that the physical movement of people is not a necessary precursor to making PME more multinational. The rise of MOOCs is a clear demonstration of the potential of technology to network a global educational environment. Essay contests attached to major multinational exercises would incentivize continuing professional development and encourage thinking across cultural boundaries. Existing precedents could be built upon and tailored to the PME environment to suit contemporary military needs.

Internationalization endeavours are not about "absolutes and forced homogenization," as it must be recognized that each PME institution is different from another—whether domestically or internationally.³⁴ Internationalization endeavours are intended

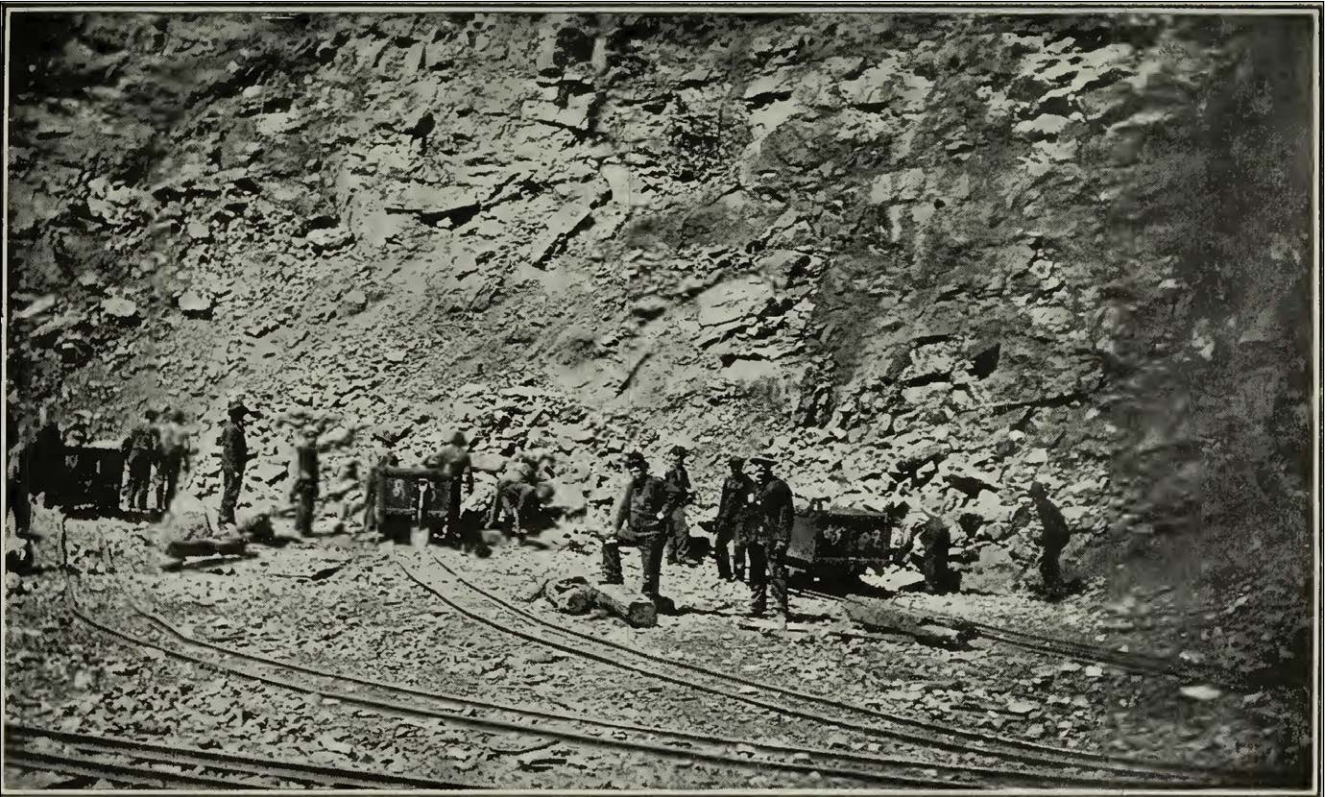
to *complement* rather than *supersede* the domestic emphasis of PME, which will remain the primary focus. PME institutions, equally, need not replicate civilian universities, as they are not the same thing, and direct comparisons are not valid. That does not mean, however, that civilian academia does not offer important lessons that could enhance the PME experience. In the quest to improve PME, no stone should remain unturned. Commitments to students and staff alike in the form of time, financial investment, and innovation will be essential in improving the PME experience. While far from an exhaustive list of ideas, technologically-enabled

multinational classes, PME staff exchanges and multinational writing contests paired to exercises provide opportunities to promote cross-cultural thinking and conceptual interoperability. These endeavours, taken collectively, merge the military and civilian; the formal and informal; and the practical and the academic. Internationalization of PME, ultimately, offers an opportunity to adopt a “truly global approach,” which has the potential to result in ‘multinationally-minded’ personnel.³⁵



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Workers at INCO's Creighton Mine in Sudbury (c. 1914).

Devil Copper: War and the Canadian Nickel Industry, 1883–1970

by Scott Miller

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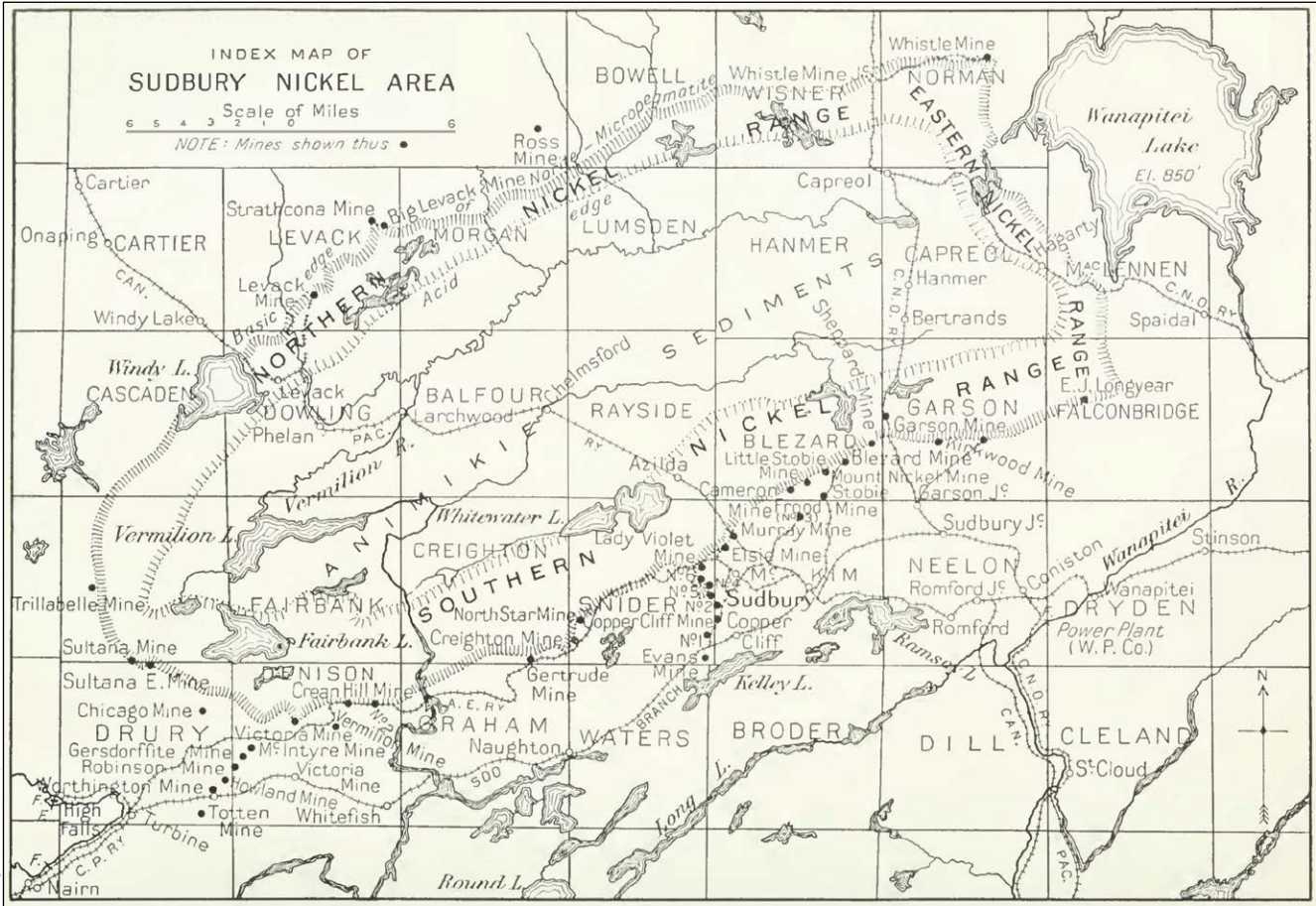
Introduction

Located in the heart of northeastern Ontario, the city of Sudbury is often referred to as the 'Nickel Capital' for its historic relationship with this particular metal. Indeed, by the eve of the First World War, it had become the world's leading producer of nickel, and by 1950, its share of the global supply peaked at 95 percent.¹ Also known as 'devil copper,' worldwide demand for nickel remained strong throughout much of the 20th Century, largely as a result of its far-reaching military applications. While the citizens of Sudbury are generally well aware of this mining legacy, others may not be as familiar with the significance of nickel in Canadian political and military history. This is hardly surprising. As renowned historian J.L. Granatstein once asserted, there is a lack of "...serious scholarship on Canada's industrial [war effort]," including its

mineral and mining sectors.² The following article attempts to address, albeit briefly, this gap in the historical literature. More specifically, it traces the evolution of the Canadian nickel industry from relative obscurity to an essential wartime enterprise, and highlights how it, in turn, influenced domestic and international affairs from the late-19th-to-mid-20th Centuries.

Birth of an Industry: Canadian Nickel and the United States Navy, 1883–1898

The discovery of Sudbury's wealth of nickel initially aroused feelings of *uncertainty*, rather than *excitement*. The town itself began in 1883 as merely a camp for workers who were building the Canadian Pacific Railway, but within a few short years, it was realized that the area possessed valuable copper ore bodies. By January 1886, Sudbury's first mining firm, the Canadian Copper Company (CCC), had been formed by Ohio businessman Samuel J. Ritchie. Within a matter of months, however, the nature of the situation had changed entirely. A substantial amount of nickel was found in the copper ores taken from Sudbury's mines, a realization that was problematic for two main reasons. First, there was



Map of Sudbury's nickel-copper area (1917), Ontario, Canada, showing the location of the mines. The outlines of the norite-micropegmatite are also indicated.

virtually no demand for nickel at the time. Second, the standard refining process could not effectively separate nickel from copper ore bodies. For the time being, the situation looked bleak for the CCC.³

Ritchie managed to find a solution to both of these problems by using his connections within the United States Navy (USN). The only known method for separating nickel-copper ores was held in secrecy by the Orford Copper Company in New Jersey, an organization headed by senior Navy officer Robert M. Thompson. Ritchie successfully orchestrated a deal with Thompson whereby the CCC would ship its product to New Jersey to be refined.⁴ With this technical issue solved, Ritchie turned his attention toward the market itself. Upon the discovery of Sudbury's nickel deposits, he immediately recalled having personally witnessed an experiment conducted in Washington in 1876, which apparently demonstrated the incredible durability of nickel-steel alloys. Ritchie claimed that it "...occurred to me that nickel could be used with success in the manufacture of guns and for many other purposes as an alloy with iron and steel."⁵

"The United States' nickel-plated warships were put to their first major test in the Spanish-American War of 1898."

By 1889, Ritchie had communicated this revelation to General Benjamin F. Tracy, Secretary of the USN, who was immediately intrigued. That summer, Ritchie, accompanied by former Prime Minister Sir Charles Tupper, then the Canadian High Commissioner in London, and Lieutenant B.H. Buckingham of the USN, travelled to Europe to study the utility of nickel-steel as a strategic war metal. Following their return, the American government conducted test trials comparing nickel-steel versus plain steel armour. The results were ground-breaking; nickel-steel was deemed far superior to its traditional counterpart. As Ritchie himself recounted: "Tracy, by this Government test, sent all the common steel armour plate to the junk heap, and completely revolutionized the offensive and defensive efficiency of the navies of the world." The United States government promptly committed a sum of \$1,000,000 to purchase nickel from Sudbury to construct nickel-steel armour for its Navy.⁶ This marked the beginning of a massive modernization program for the USN, which had been rather stagnant since the Civil War. Over the next fifteen years, the United States embarked upon a shipbuilding spree which culminated in a fresh fleet of twenty battleships, twenty coastal defence vessels, and sixty cruisers.⁷



Dept of Mines and Technical Surveys/Library and Archives Canada/PA-015313

INCO Creighton Mine, method of drilling in stopes.

ultimately became a reality. The USN was a dominant force throughout the war, led by first-class ships such as the *Indiana*, *Iowa*, and *Massachusetts*.¹⁰ One of the Navy's most notable accomplishments came on 3 July, when it soundly defeated Spanish forces at the Battle of Santiago de Cuba and essentially secured an American victory. By August the conflict was over, and the resulting 1898 Treaty of Paris transferred the territories of Puerto Rico, Guam, and the Philippine Islands to the United States. For the USN in particular, the Spanish-American War was "one of remarkable achievement."¹¹ Indeed, the United States' modernized battleships, forged with Canadian nickel, had certainly been a critical factor in its triumph over the Spanish Empire.

Era of Expansion: Sudbury Nickel on the World Stage, 1901–1939

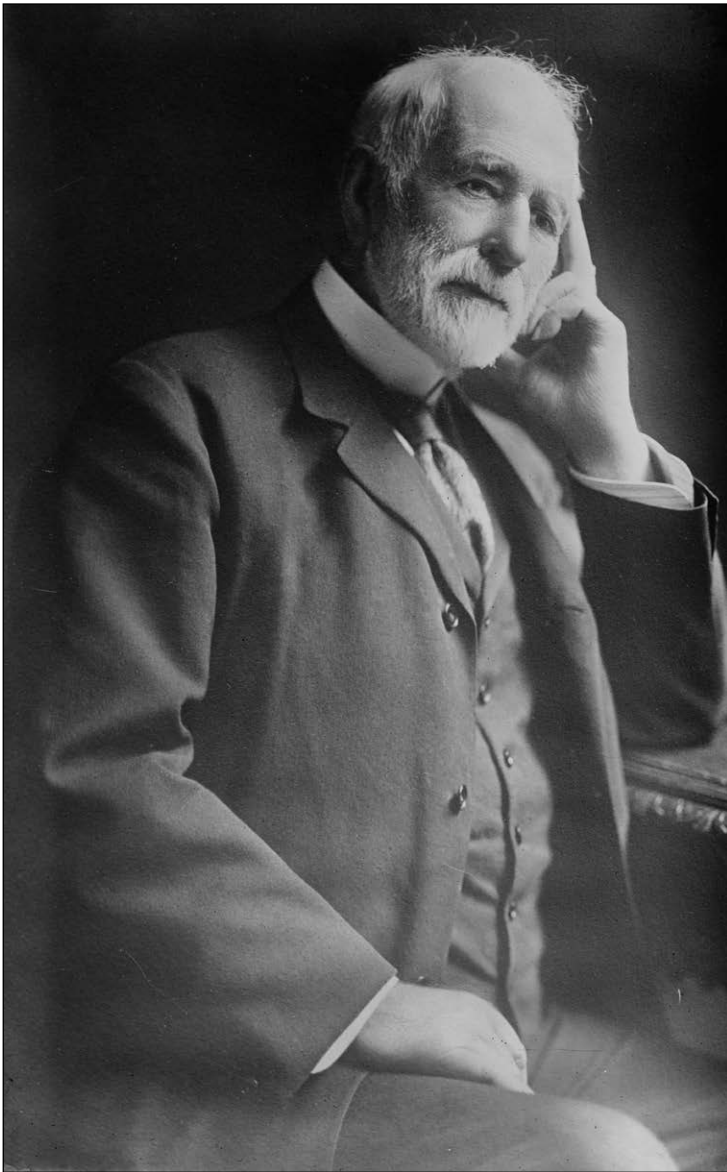
The early-20th Century was an eventful period for Sudbury's nickel companies. The British-owned Mond Nickel Company emerged as the first serious challenger to the CCC's stranglehold over the Sudbury area when it began operations in 1901. Then, in 1902, a new mining giant burst onto the scene. Formed through an amalgamation of the CCC, Orford, and other operating firms, International Nickel (INCO) was an American corporation headed by the legendary New York magnate J.P. Morgan. For much of the early-20th Century, INCO practically held a monopoly in the nickel industry, in large part

Years later, Ritchie proclaimed that this deal with the USN had "...advertised the Sudbury mines all over the commercial world ... In short, the Government's action through the Secretary of the Navy put a new enterprise upon its feet."⁸

The United States' nickel-plated warships were put to their first major test in the Spanish-American War of 1898. Mainly centered upon the issue of Cuban independence, the two nations went to war in April after years of political and diplomatic tension. Although the conflict did not directly involve Canada, and was taking place thousands of kilometers away in the Caribbean and the Pacific, the nation's nickel industry was nonetheless interested in its outcome. In May 1898, *The Globe* stated: "...the good people of Sudbury ... would like to see the nickel of Uncle Sam's armour plate, the chief alloy of which comes from this place, make a good showing against Spanish shells."⁹ This vision

due to its ability to cartelize [combine to form a business cartel – Ed.] the market. In 1928, it firmly established itself as the absolute global power in the nickel business. That year, INCO absorbed Mond as a wholly-owned subsidiary, and then engaged in an "intricate but ingenious corporate gymnastic exercise" to circumvent anti-trust laws in the United States.¹² Another noteworthy Sudbury-based company, Falconbridge Nickel, was also founded in 1928, but INCO would still maintain its elite position for the next number of decades.¹³

The onslaught of the First World War generated an unprecedented demand for the precious minerals and ores found in Canada's mines. Home to approximately 80 percent of the world's nickel, the city of Sudbury proved to be an invaluable asset to the Allied war effort, providing much-needed material for the production of armour plate, guns, and other military equipment.



Alpha Stock/Alamy Stock Photo/WA1HWR

General Benjamin F. Tracy.

From 1914 to 1918, annual nickel extraction in Ontario more than doubled, while its corresponding yearly value increased from \$5.7 million to over \$27 million.¹⁴ The conflict also solidified a profound shift in production from New Caledonia, a French territory which had previously supplied much of the world's nickel, to Sudbury, and thereby further concentrated control of the market in the hands of INCO.¹⁵

The importance of this particular sector of the economy during wartime did not go unnoticed by contemporaries. In August 1916, for example, *The Globe* explained that INCO had the capacity "...to provide all the refined nickel required in the British Empire for the manufacture of munitions of war and for industrial purposes."¹⁶ Likewise, with regard to a landmark 1917 trial dealing with the damaging effects of mining pollution in Sudbury,

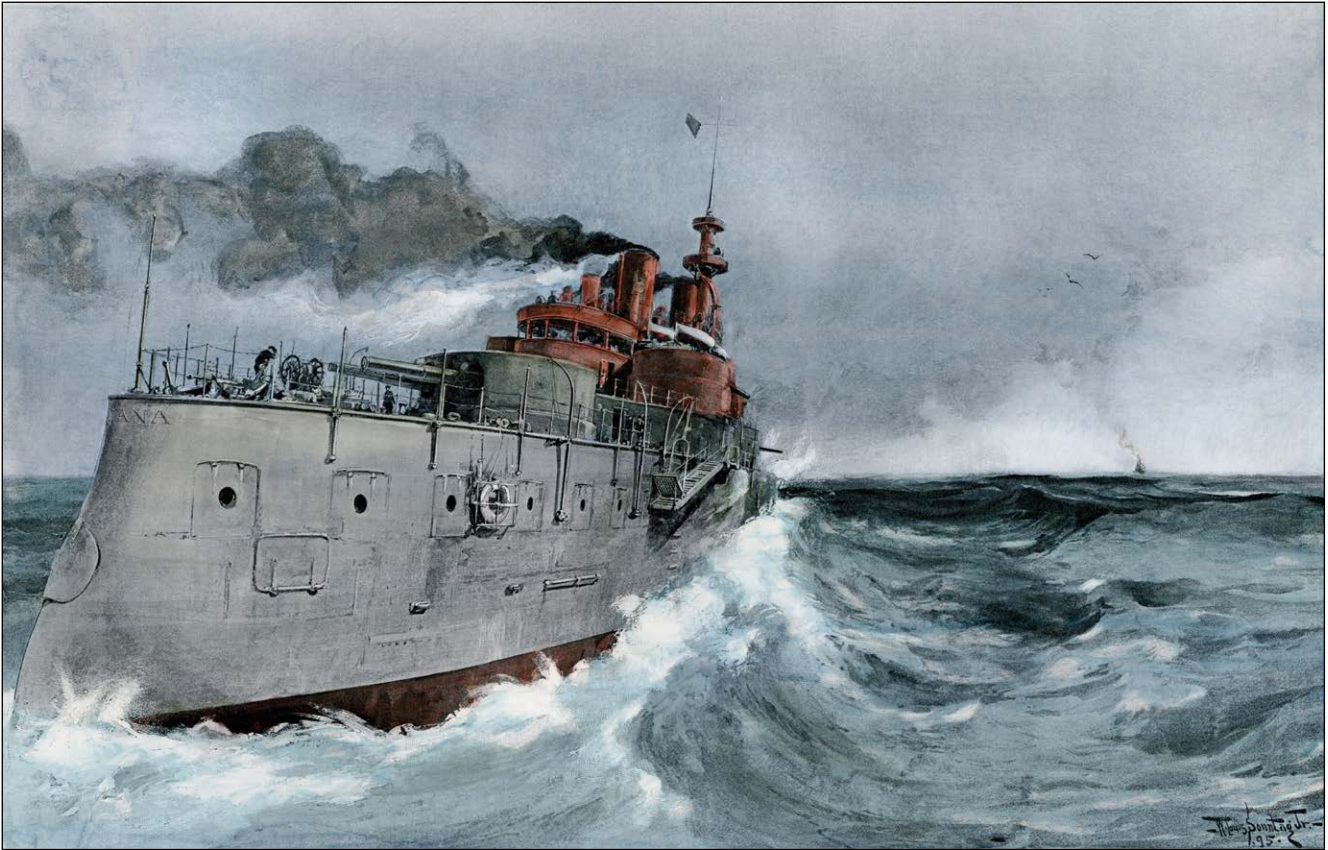
the local *Sudbury Star* noted that the possibility of an injunction being issued against either INCO or Mond was not even "...entertained by the trial judge on account of the pressing need for the unimpaired production of nickel as a war metal."¹⁷ That same year, the Royal Ontario Nickel Commission also made numerous references to its military significance.¹⁸ In terms of employment, both the CCC and Mond expanded their work force to meet growing wartime demand, reaching a combined total of about 5,000 men by 1918. Within six months of the war's end, however, the number of workers at both CCC and Mond decreased by more than half.¹⁹

Despite receiving widespread recognition for its indispensable role in helping fight the Great War, INCO found its reputation in jeopardy when a serious scandal arose during the summer of 1916. In July, an American newspaper reported that the *Deutschland*, a German cargo submarine, had transported Sudbury nickel from the United States to Germany, apparently without INCO's knowledge.²⁰ The situation was especially suspicious, given that Germany had been INCO's second-largest customer during the pre-war years.²¹ Over the course of two trips, the *Deutschland* allegedly delivered 500 tons of Canadian nickel to its motherland.²²

Unsurprisingly, INCO and both the Canadian and Ontario governments faced swift public and political backlash. On 15 August 1916, G. Howard Ferguson, Ontario's Minister of Lands, Forests and Mines, downplayed the scenario in front of a congregation of concerned citizens in Toronto and affirmed that the "Dominion and Provincial governments today know just how much nickel there was on the *Deutschland* ... and we know it never came from INCO."²³ The people of Canada were not so easily convinced, however. Later that winter, *The Globe* challenged Prime Minister Robert Borden's government to prove to "...the public that Germany is not using Canadian nickel to shoot down Canadian soldiers."²⁴ INCO attempted to draw attention away from the controversy by announcing that it was going to start refining its ores in Ontario, something it had long resisted in the face of protectionist pressures at both the federal and provincial levels.²⁵ Nevertheless, even with the Allied victory in 1918, the *Deutschland* affair did not fade completely from public consciousness. In 1919, for instance, an organization representing Great War veterans lamented the idea that "...during the war Canadian nickel came 'right out of Sudbury mines and through Germany right into us Canadians in Flanders.'" The group consequently insisted that the government conduct a public enquiry into the situation.²⁶

Nickel continued to have an impact upon Canada's military and political landscape during the inter-war years. The years immediately following the First World War revealed that peacetime applications for nickel had yet to be fully developed, with demand for this mineral declining considerably in the early-1920s.²⁷ Nonetheless, technological advancements, ranging from motor

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U.S. battleship *Indiana* during sea trials, 1895.

vehicles to home appliances, allowed the international nickel market to remain relatively solid during this period, and remarkably so in the wake of the Great Depression.²⁸ Furthermore, the Canadian government found that nickel could still serve as a point of contention in political and diplomatic matters, even when the nation was not at war. In 1934, Parliament introduced legislation to ban the export of nickel for “war purposes,” but the bill never passed because there was concern it might offend the interests of the industry. When Italy invaded Ethiopia the following year, the government of Canada faced internal and international pressure to levy economic sanctions against Italy, Japan, and Hitler’s Germany. It ultimately refused to do so, citing already high unemployment rates as the main reason why it did not want to decrease the country’s nickel exports.²⁹ The Canadian government would seriously reconsider its position on nickel exports just five years later, when another record-setting war broke out in Europe.

Coming of Age: Canada’s Nickel Industry Reaches its Peak, 1939–1970

The military needs of the Second World War led to another boom in armament manufacturing and subsequent soaring demand for nickel. In August 1940, *The Sudbury Star*

“Nickel continued to have an impact upon Canada’s military and political landscape during the inter-war years.”

insightfully pronounced: “Modern war is a war of metals as much as of men, and with the outbreak of the present conflict last September, it was not surprising prospectors across the Dominion foresaw an immediate demand and renewed search for minerals of strategic importance in waging today’s kind of war.”³⁰ With vast stores of nickel that had a combined market share of nearly 90 percent, INCO and Falconbridge soon found themselves under great pressure to provide this military necessity.³¹

Canada’s politicians and its mining industrialists forged a tight-knit relationship throughout the war. Gleaning from the lessons of the Great War, the federal government made a concerted effort to oversee the economic allocation of the nation’s resources during the Second World War, which included nickel. The Government of Canada exercised strict control over this strategic war metal and the companies that cultivated it, largely in order to limit the supply available to the Axis powers. It also helped INCO address its labour shortage, leading to the creation of 5,000 new jobs at the company between December 1939 and April 1944.³² In return, INCO, as well as Falconbridge, undertook costly expansion programs to meet pressing wartime requirements, and fully cooperated with the Canadian and American authorities in all aspects of policy. In fact, it has been suggested



John Pierpont Morgan, financier/banker (c. 1900).

that the companies practically acted as “agents of the government rather than private sector corporations” during the Second World War, especially INCO.³³ Indeed, INCO went so far as to investigate and report upon its own trading partners that were suspected of violating the Canadian government’s wartime nickel export regulations. On numerous occasions, this led to certain entities being barred from accessing further nickel supplies.³⁴ More generally, by 1943, INCO had raised its production by approximately 50 million pounds over its 1940 level, and was responsible for refining virtually all Allied nickel for the duration of the war.³⁵

A significant episode relating to nickel production during the Second World War was the controversy surrounding one

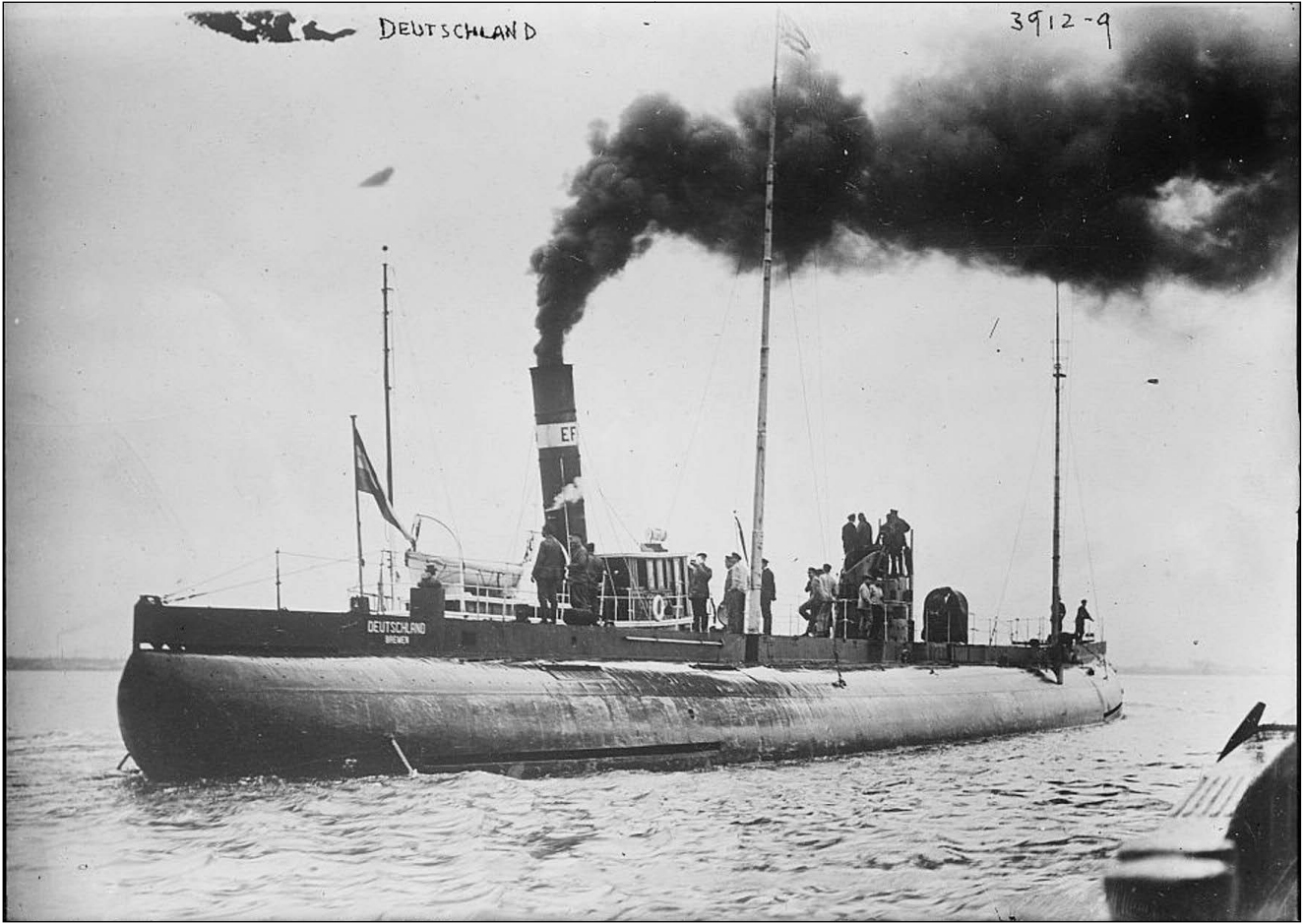
of INCO’s mining operations in northern Finland. In 1934, the company acquired the rights to a valuable nickel concession from the Finnish government in the Petsamo district. INCO established a Finnish subsidiary referred to as Petsamon Nikkeli O.Y. (PNO) to handle this overseas operation. Over the next number of years, INCO invested considerable money and manpower at Petsamo, culminating in the construction of sophisticated mining and smelting facilities in the area by the late-1930s.³⁶ The company was now in firm control of what was reported to be the largest nickel mine outside of Canada.³⁷

The outbreak of war in Europe altered the course of INCO’s Petsamo project. Specifically, the Russian invasion of Finland and the commencement of the Winter War in November 1939 brought the venture to a sudden halt. Fortunately, the Red Army did not cause irreparable damage to PNO’s property, and by the time the conflict had concluded in March 1940, the Soviets had restored Petsamo to Finland. Shortly thereafter, however, Germany began demanding access to Petsamo nickel. The initially-reluctant Finnish government eventually started pressuring INCO to concede to this request, or threatened it would take over the concession itself.³⁸

Predictably, INCO was hesitant to provide the Nazis with Petsamo nickel, but the Finns soon found an unexpected ally in the negotiations: Great Britain. Indeed, the United Kingdom asserted that it preferred if INCO delivered nickel to the Germans and maintained its control over Petsamo, as opposed to potentially losing its hold over the area altogether. Moreover, it reasoned that this would allow the company to restrict the flow of ore to Germany, rather than give it unfettered access. Interestingly, a similar situation had played out in 1939, when Falconbridge agreed to provide the Germans with a limited amount of nickel from its refinery in Norway. This arrangement had been fully supported by Canada and the United Kingdom.³⁹

Petsamo, on the other hand, was a different story. Perhaps due to the drastically-changed circumstances of the war, or possibly because it was INCO instead of Falconbridge involved, the Canadian government was not so convinced of the United Kingdom’s plan this time around. When Prime Minister William Lyon Mackenzie King caught wind of Britain’s stance in June 1940, he made it clear he was firmly opposed, undoubtedly with the *Deutschland* incident of 1916 still fresh in his mind. Soon thereafter, INCO’s senior management concluded it would not co-operate with the Germans. Cognisant of the fact that INCO was clearly following the Canadian Prime Minister’s lead, the British tried their best to sway King, but to no avail. He argued that the “political and psychological effects” of the arrangement would be far too damaging, and that in any event, the Germans would struggle to mine the ores efficiently without INCO’s expertise.⁴⁰

What followed was the exact opposite of what the British had hoped. On 23 July 1940, the government of Finland ordered PNO to prepare Petsamo ore for sale to Germany. Although PNO was not officially acquired by the Finnish government until August 1941, communications between PNO and INCO formally ceased during the summer of 1940. By the following February, Finland



LOC/Alamy Stock Photo/E09679

The German cargo submarine *Deutschland*.

and Germany, drawn together by a mutual desire to defeat Russia, had signed a nickel agreement, leading to the German occupation of Petsamo.⁴¹

The Petsamo affair and its aftermath is noteworthy for a number of reasons. First, on 8 October 1944, the Soviet Union was granted title to INCO's Petsamo properties in exchange for a modest sum of \$20 million, a deal which was brokered by the Canadian and British governments.⁴² In the ensuing decades, INCO's shares of the international nickel market plummeted, while Russia's mines in Pechenga (formerly Petsamo) allowed it to blossom into a leading nickel producer.⁴³ More importantly, the diplomatic battle over Petsamo provided an early indication of Canada's rising middle power status. The Government of Canada's refusal to bend to the whims of foreign governments, particularly the British, was partly a result of its gradual maturation from a former colony into a truly independent nation. Finally, the case of Petsamo further illustrates just how vital nickel was as a militaristic metal to countries worldwide.

“The two decades immediately following the Second World War witnessed the final phase of the Canadian nickel industry’s golden age.”

The two decades immediately following the Second World War witnessed the final phase of the Canadian nickel industry's golden age. The policies of the United States government were once again a crucial factor in this prosperity. American defence officials believed nickel was “the world's most critical material,” leading the country to spend \$789 million between 1950 and 1957 to stockpile nickel and diversify its suppliers through special purchase agreements.

Moreover, both INCO and Falconbridge benefitted greatly from the outbreak of the Korean War, with the latter receiving a lucrative multimillion dollar contract from the United States as a result.⁴⁴ The full-scale participation of the United States in the Vietnam War after 1965 brought even more activity and massive profits to the Canadian nickel industry. However, during the 1960s, INCO expanded its operations abroad, namely in Indonesia, Australia, and New Caledonia, leading Canada *in general* and Sudbury *in particular* to lose a sizeable share of the world supply.⁴⁵ In fact, in 1970, INCO chairman Henry S. Wingate openly acknowledged: “Canada's dominant position in the world nickel industry will

be reduced during the next decade.” While the country still held about 65 percent of the global nickel supply, Wingate predicted that its “...contribution to non-Communist world nickel supplies will be down to about 50 per cent” in a matter of years.⁴⁶ As the global economy increasingly shifted toward plastics and Third World nickel sources, by the early-1980s INCO’s powerful monopoly had vanished. The city of Sudbury, meanwhile, “...had been failed by nickel, a glittering false idol,” and rapidly began looking toward more diverse economic pillars to sustain itself.⁴⁷

Conclusion

Evidently, the nickel industry profoundly shaped Canada’s military, political, and diplomatic development throughout the 20th Century. Along with strengthening the national economy, Sudbury’s rich nickel supply helped bring, however minimally, international recognition to Canada. It helped foster closer economic ties with the United States, and on many occasions, it influenced how the Canadian government handled aspects of international affairs. Most of all, Canada’s almost-exclusive access to one of the planet’s most essential strategic war metals made it the envy of governments worldwide for many decades. With the country’s grip over the international nickel market long since released, it is time for historians to take a more thorough look at how this industry shaped Canadian political and military history.



Prime Minister William Lyon Mackenzie King in 1945.

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A 1956 industry exhibition commissioned by the INCO-Mond Group of Companies. Henry S. Wingate of New York is second from left.

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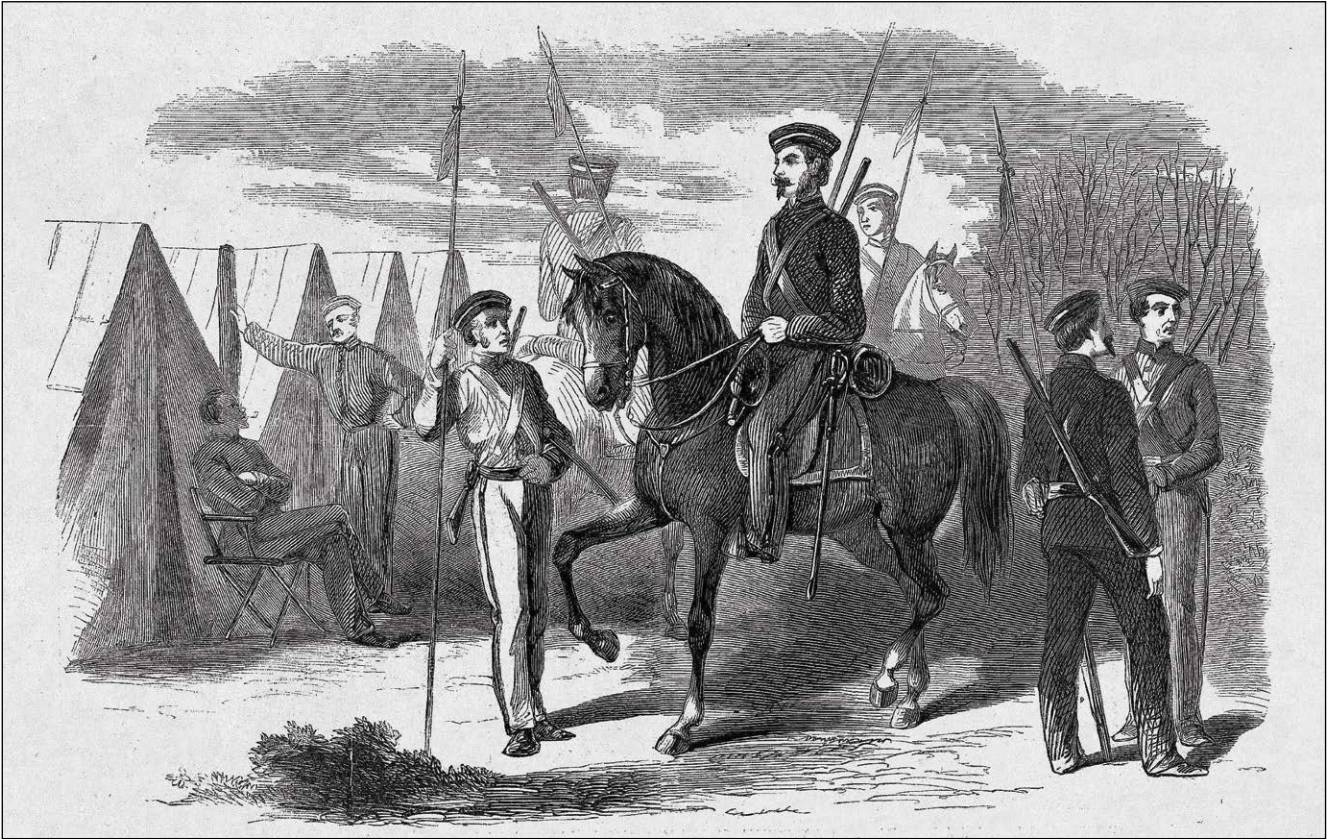
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Colonel Rankin's lancer regiment, sketched at Detroit in 1861 by Mr. B.R. Erman.

When Johnny (Canuck) Comes Marching Home Again: Canadians in the American Civil War, 1861–1865

by Geoff Tyrell

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Introduction

During the 19th Century, Canadians fought on numerous foreign battlefields, ranging from the Crimean Peninsula to the South African veldt. Less well-known is the story of Canadians serving south of the border during the American Civil War. Between 1861 and 1865, Americans fought a bloody conflict that was the culmination of decades of contention over both the state of the nation and its future. At its heart was the question of slavery, and whether African-Americans would live as free men or spend their lives in fear of forced bondage. The combination of westward expansion, the growing momentum of the Abolitionist movement, and increasingly-fractious debates over the limits of federal and state law finally exploded in the first shots fired by Confederate secessionists at Fort Sumter on 12 April 1861.

Over the next four years, more than three million Americans served in either the Union or Confederate armies. Of those who bore arms, more than 600,000—or twenty percent of the total number of enlistees—lost their lives to combat, wounds sustained in battle, or disease.¹ It was a transformative event in the history of America, and it can be regarded as the first modern war of the Industrial Age. Many of the key hallmarks of the struggle—conscription, strategic use of railways, and armoured warships, to name but a few—would come to feature prominently in major conflicts throughout the rest of the 19th Century, and on into the First World War.

The nation of Canada was still in its infancy during this time, and Canadian² attitudes with respect to the Civil War were complex. The British government abolished slavery across its empire in 1834, and popular Canadian sentiment opposed the continued practice of human bondage in the United States.³ Cross-border economic and cultural links between Canada and America were strong, and more than 250,000 Canadians were living in the United States as of 1860.⁴ While this suggests a prevailing affinity for the Union cause, support for the Confederacy was unabashed



McCord Museum/I-17901.1

Arthur Rankin in Montréal, 1865.

in many quarters of Canadian society. With Britain and her colonies officially neutral, but benefiting from commerce with the Confederacy, anti-British—and by extension, anti-*Canadian*—sentiment swelled throughout the Union states.⁵ Diplomatic incidents such as the *Trent* Affair, [discussed in depth later – Ed.] exacerbated tensions between the British and Union governments, and fears of an American invasion prompted the hasty reinforcement of Canada's defences. The spectre of another American invasion was daunting for Canadians, as America's Civil War threatened to spill beyond its national borders.

Despite Anglo-American animosity, tens of thousands of Canadians crossed the border to fight in the conflict. Exact numbers are impossible to determine,⁶ but conventional estimates suggest that somewhere between 35,000 and 50,000 Canadians bore arms in the American Civil War, the vast majority donning Union blue.⁷ Canadian reasons for participating in the struggle varied from belief in the cause, a desire for adventure or money, or victimization at the hands of ruthless recruiters. It is impossible to examine in detail the experiences of all those Canadians who served. Instead, this article will examine three examples of the many ways in which Canadians, by one road or another, became caught up in the conflict.

An Ambitious Failure: Arthur Rankin's Lancers

Arthur Rankin, the son of an Irish schoolteacher and the American-born daughter of a British Army officer, presents a fascinating character study. Born in Montreal in 1816, Rankin ran away from home as a young teenager to work as a cabin boy on a trans-Atlantic packet boat.⁸ He returned to Canada four years later, failed as a farmer and land surveyor, fought a duel with a Detroit lawyer over a woman's affections, and obtained an ensign's commission in the local militia. In September 1837, he achieved some notoriety when he freed a recaptured slave at gunpoint aboard a Cleveland-bound steamship.⁹ Rankin saw active service during the Patriot War of 1838, and fought against the insurgents of the Hunters' Lodges during the Battle of Windsor. Discharged from the militia five years later, he toured the British Isles with a group of Ojibway, worked as a mining surveyor and railroad investor,¹⁰ and entered local politics. Rankin was a well-known figure in Canada West by the time of the Civil War's outbreak.

In July 1861, Arthur Rankin was elected as Member of Provincial Parliament for Essex County. However, his interests lay beyond the mere representation of his constituents. That same month, he met with prominent Detroit Unionists and state government officials to explore ways in which he—and by extension, Canada—could come to the aid of the Union cause. Rankin planned to raise a regiment of cavalry for service in the Union Army, to be known as the First Michigan Regiment of Lancers.¹¹ Envisioned as a 1,600-man unit, the Lancers were to be led by Canadian officers with British Army experience and the ranks were to be filled by eager Canadian volunteers. Rankin's Michigan compatriots were so impressed by his proposal that he was taken to Washington in late-August to present his idea to no less a pair of prominent figures than President Lincoln and Secretary of State Seward. Lincoln was apparently charmed by Rankin's enthusiasm, and on 11 September 1861, a warrant was issued for the creation of the regiment.¹² Among varied (but limited) efforts by Canadians to create volunteer units for service during the Civil War, the Lancers were the most successful.

“Canadian reasons for participating in the struggle varied from belief in the cause, a desire for adventure or money, or victimization at the hands of ruthless recruiters.”

The Lancers were not Rankin's first brush with military adventurism. In 1854, at the outbreak of the Crimean War, he wrote to senior British officials offering to raise a battalion of Canadian volunteers for service in the campaign. In the end, he was not taken up on his offer. Throughout his life, Arthur Rankin developed a reputation for being a showman, revelling in public attention and notoriety. It should therefore come as no surprise that word of his Lancers was almost immediately leaked to the press, prompting mixed reactions on both sides of the border. For instance, the *Toronto Globe* enthused about the romantic image of the Canadian volunteer cavalryman, who "...with...revolver in his left hand, his sabre in his right, guiding his lance mainly with his leg, and a horse under good training can deal out death upon the front and each flank at the same time."¹³ The *Montreal Gazette* was somewhat more circumspect: "There



Recruiting poster, Rankin Lancers (c.1861).

are not many men in Canada better known, for his somewhat Quixotic eccentricities than Arthur Rankin.¹⁴

The regiment's organizers embarked upon an ambitious recruiting program, distributing handbills calling for volunteers, and making arrangements to stand up the unit in Detroit. Meanwhile, Rankin became the subject of furious debate in the leading Canadian newspapers of the day. The pro-Confederate Toronto *Leader* denounced him for violating the Foreign Enlistment Act, prompting Rankin to defend himself in print. On 5 October 1861, he wrote a rebuttal letter to the *Leader* denouncing it as "a tool of Jefferson Davis,"¹⁵ and claimed that the Act applied only to the British government and not to private British subjects. Despite censure in the press, Rankin was determined to press ahead with his regiment of volunteers.

Unfortunately for Rankin, Canadian authorities did not concur with his interpretation of the Foreign Enlistment Act. The day after his letter was published, he was arrested in Toronto for violating the legal ban on British subjects serving in foreign conflicts. Naturally, Rankin pleaded not guilty, and over the course of a three-day trial, the charges against him fizzled out for a want of evidence (despite the fact that his name was clearly listed on recruiting posters for the unit) and questions of jurisdiction. Although never convicted, Rankin suffered repercussions for his pro-Union enthusiasm: he was dismissed from his position as commander of the Ninth Military District and deprived of his

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militia commission. Following the *Trent* Affair, he resigned his American commission, writing to the Detroit *Free Press* that the possibility of a war between Great Britain and the United States forced him to return to his first loyalty as a British subject.¹⁶

But what of his Lancers? Despite official condemnation by Canadian officials, the regiment mustered more than six hundred men by December 1861. Bereft of its leader, the unit began to lose cohesion, and escalating hostilities between the United States and Britain deterred more Canadians from volunteering for service with the regiment. Between January and March 1862, it quietly disbanded and its soldiers either transferred to other Union cavalry regiments, or were discharged from service.

In the end, Arthur Rankin's Lancers never fought in defence of the Union, and created an embarrassing episode for both Canadian and British governments.¹⁷ Questions still linger over Rankin's motivation as, despite the Cleveland incident, he was never vocally abolitionist in his opinions. Most likely, the desire for fame and military glory influenced his enthusiasm, and ultimately condemned his Lancers to defeat without ever setting foot on the battlefield.

A Family Enterprise: The Wolverton Brothers Go to War

As Arthur Rankin concocted his plan to raise a volunteer cavalry unit for the Union Army in the summer of 1861, thousands of his countrymen were already south of the border and wearing federal blue. In the decade preceding the war, more than 100,000 Canadians had immigrated to the United States, largely in search of economic opportunity.¹⁸ This cadre furnished a number of volunteers for service during the conflict, among which were four brothers from the small village of Wolverton in Oxford County, Canada West: Alfred, Alonzo, Jasper, and Newton Wolverton.

The four Wolverton brothers were the sons of an American immigrant who had left New York State in the 1820s and settled south of present-day Kitchener.¹⁹ To support their father's cross-border lumber business and further their education, the brothers moved to Cleveland in 1858. On 21 July 1861—the day on which Union and Confederate forces clashed in the war's first major battle at Bull Run—Alfred, Jasper, and Newton enlisted as teamsters in the Union Army.²⁰ They ultimately found themselves serving in Washington with the Quartermaster's Department, transporting ammunition to the newly-created Army of the

Potomac as it sought to defend the approaches to the federal capital against the alarmingly-successful Confederate Army.

Jasper was the first of the Wolverton boys to perish during the war, succumbing to typhoid fever in Washington on 12 October 1861.²¹ Less than one month after his death, a Union warship seized a British mail steamer—the RMS *Trent*—that was carrying two Confederate diplomats to London, where they hoped to receive official recognition of the Confederacy from Lord Palmerston's government. The ensuing diplomatic confrontation between British and Union governments stoked fears that an American invasion of



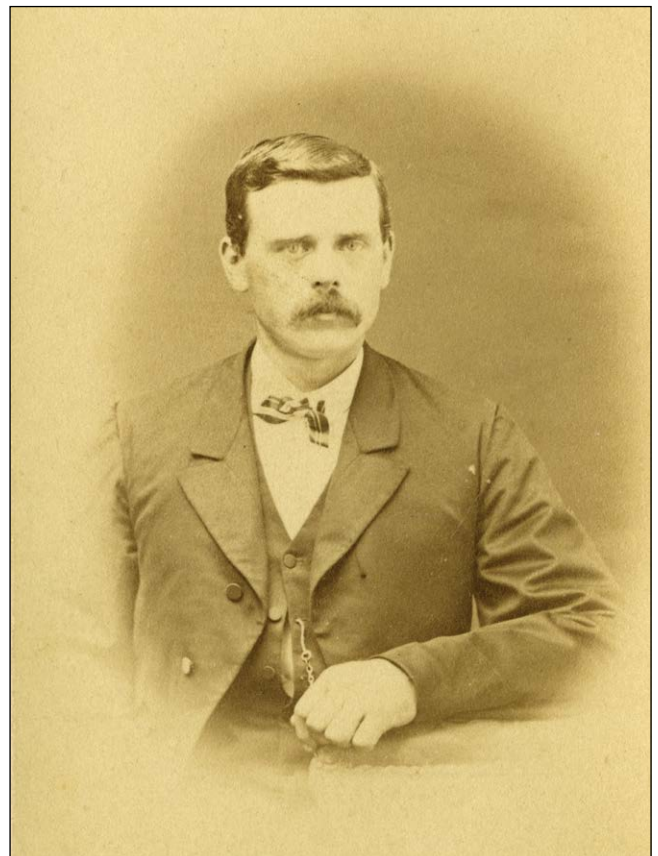
Library of Congress/LC-USZC4-1732

Battle of Franklin, 30 November 1864.

Canada was imminent, necessitating hasty preparations for war north of the border. More than 11,000 British regulars arrived in eastern Canadian ports and were dispersed inland, joining nearly 50,000 Canadian militia in varying states of preparedness.²²

The prospect of war between their motherland and the nation in whose army they served was unsettling for the thousands of Canadians in the Union Army. Some began to doubt their commitment to the Union cause when faced with the prospect of being ordered north to invade their own country, and they contemplated desertion. Amidst these tensions, a group of Canadian volunteers came together in Washington to present their concerns to the Union leadership. Surprisingly, the fifteen-year-old Newton Wolverton was elected as their spokesman. Leveraging his contacts in the Quartermaster's Department, the young Canadian from Oxford County secured a brief meeting with none other than Abraham Lincoln himself.²³ The President assured Wolverton that he had no intention of pursuing a war with either Britain or Canada, and cooler heads gradually prevailed in resolving the *Trent* Affair.²⁴

The Wolverton family suffered its second loss on 24 April 1863, when Alfred died of smallpox while serving in Washington.²⁵ By the end of that year, young Newton Wolverton was discharged from the Union Army and returned home to Oxford County. With his departure, Alonzo remained the only one of the four Wolvertons still bearing arms for the Union. Like his brothers, Alonzo began the war as a teamster, enlisting with the 20th Independent Battery of the Ohio Light Artillery in 1864. In the spring of that year, Alonzo



Archives of Ontario/F 4354-4-0-12

Alonzo Wolverton.



Francis Moses Wafer.

and his comrades were garrisoned in Chattanooga, Tennessee, and then joined the Union advance as General William Tecumseh Sherman launched his Atlanta Campaign, intent upon seizing the eponymous city and devastating the heartland of the Confederacy.

Alonzo and the 20th Independent Battery found themselves on the flank of Sherman's march, repelling attacks by Nathan Bedford Forrest's Confederate cavalry as the Union Army manoeuvred towards Atlanta. After Sherman captured the city in early September, Confederate General John Bell Hood counter-attacked through northern Georgia, resulting in Alonzo Wolverton and several of his comrades being taken prisoner. His captivity was short-lived, as he was paroled by his jailers and quickly re-joined Sherman's forces.²⁶ Alonzo saw action again at the Battle of Franklin, on 30 November, and the Battle of Nashville, 15–16 December, when Hood's Army of Tennessee was decisively destroyed. In a letter to his sister Roseltha, Wolverton described the fighting at Franklin as particularly brutal:

"[T]he rebs seemed determined to conquer or die. [T]hey made thirteen desperate charges, several times they planted their colors within feet of our cannon and our men would knock them down with their muskets or the artillerymen with their sponge staffs or handspikes."²⁷

The day following Hood's defeat at Nashville, Corporal Alonzo Wolverton accepted a commission as a Second Lieutenant in D Battery of the 9th Regiment, U.S. Colored Heavy Artillery.²⁸ The rest of his war passed by in comparative quiet, with his regiment remaining in garrison at Nashville. Robert E. Lee surrendered



Union field hospital (Second Corps) near Chancellorsville battlefield.



Science History Images/Alamy Stock Photo/HRP4FP

Battle of Gettysburg, Pickett's Charge, 1863.

his Army of Northern Virginia at Appomattox Court House on 9 April 1865, and the remaining Confederate commanders followed suit over that spring. Alonzo Wolverton was discharged on 2 August 1865, and made his way home to his family's village in Oxford County.

Of the four Wolverton brothers, two—Alfred and Jasper—died of disease during their service and were buried in the United States.²⁹ Newton, the youngest, took his discharge and left America in 1863. He was soon back in uniform, this time in the dark green of the 22nd Oxford Rifles, a Canadian militia unit. Newton spent the next several years on periodic duty with his regiment, guarding the Canadian border against a new threat from the south: the Fenian Brotherhood.³⁰

The story of the Wolverton brothers is perhaps typical of Canadians who found themselves serving in the Union Army during the Civil War. When the conflict began, they were already living in the United States. Both the desire for adventure and the financial incentive of recruiting bonuses led them to serve a country that was not their own. For Alonzo and Newton, the war left a lasting impression upon their lives, and it was the defining event of their youth.

In this they were not alone, as thousands more of their countrymen crossed the border to take up the Union's call to arms.

The Bloodiest of Classrooms: Frances Wafer Interns with the Army of the Potomac

Francis Moses Wafer was born near Kingston, Ontario on 31 July 1830, the son of a Roman Catholic farming family of Loyalist stock. The Civil War's outbreak found him a student in Kingston, studying at both Queen's University³¹ and the Kingston General Hospital. While his education made him much better prepared for his wartime role than many of his peers in blue,³² medicine was still an ill-paying profession by the standards of the 19th Century. Nonetheless, Wafer was intrigued by the prospect of furthering his practical medical skills by way of service with the Union Army, following the conclusion of the 1862–1863 school year at Queen's. At the end of the academic term, he made his way to the United States and was duly appointed as the assistant surgeon of the 108th New York Volunteer Infantry Regiment.

“The outbreak of the Civil War caught the Union Army woefully ‘flat-footed’ in many respects, from men to materiel.”

The outbreak of the Civil War caught the Union Army woefully ‘flat-footed’ in many respects, from men to materiel. Prior to the conflict’s outbreak, the American military was first and foremost a frontier force, safeguarding the nation’s borders and contributing to the country’s gradual expansion westward. Neither the Union nor the Confederacy were prepared for an industrialized clash of arms that would last for years, and systemic failures in both military medical organization and preparation had lethal consequences for those fighting on the battlefield.

The Union Army began the Civil War with a mere 114 doctors in service, of whom twenty-four resigned to join the Confederacy.³³ Even then, these medical professionals had spent much of their careers in isolated frontier garrisons, without access to the most current training, and with limited exposure to any larger community of medical practitioners. Following mobilization in the spring of 1863, the Union Army required each regiment to provide its own surgeon, a policy that guaranteed a frightening variation in the standard of care provided to wounded and ill soldiers.³⁴

The 108th was raised for Union service in the summer of 1862, and was bloodied at both Antietam (September 1862) and Fredericksburg (December 1862). Within the first three months of its service, the regiment sustained nearly 300 casualties.³⁵ By the time Wafer joined the unit in late-March 1863, it was already a veteran regiment of the Army of the Potomac. Along with tens of thousands of their fellow Union troops, Wafer and the 108th languished in camp through the spring of 1861, beset by typhoid fever and dysentery. During that time, the Army’s commander, General Joseph Hooker, prepared for a campaign that would destroy Robert E. Lee’s Army of Northern Virginia and open a path to the Confederate capital at Richmond.

Wafer’s own baptism by fire came at the Battle of Chancellorsville in early-May 1863. The 108th came into contact with Confederate forces on 2 May, and Wafer’s proximity to the front line gave him the grim realization that “...for the first time I felt that in a few moments I would be literally ‘Staring Death in the Face.’”³⁶ With his fellow surgeons in the 2nd Brigade,³⁷ Wafer withdrew to a hastily-established brigade medical station in the rear and began to treat casualties as they were evacuated from the front. Coming under artillery and rifle fire was a new and unnerving experience for the untried Wafer. Nonetheless, he persevered in treating his regiment’s casualties. The 108th went into battle numbering less than 400 soldiers, a dramatic decrease from the 950 who had enlisted less than one year before.³⁸

Chancellorsville was a defeat for the Army of the Potomac. Hooker failed to achieve his operational aims, and Lee’s counter-attack into Pennsylvania sent Union forces scrambling to both contain the Confederate Army of Northern Virginia, and to defend Washington. As the Gettysburg Campaign began on 3 June 1863, Lee’s forces began their advance north from Fredericksburg. The Confederates were shadowed by

the Army of the Potomac, albeit belatedly. Hooker was initially unaware of Lee’s intent, and the two armies came together in a meeting engagement at Gettysburg on the first of July.

Wafer spent the month following the federal disaster at Chancellorsville serving in a divisional field hospital near Potomac Creek. He re-joined the 108th New York on 7 June, and one week later, the regiment was ordered to march in pursuit of the Confederates. On the second day of the Battle of Gettysburg, the 108th was ordered to defend a battery of Union artillery in the centre left of the federal line. At around 7:00 AM that day, “a thin straggling line of men in brown slowly advanced through a wheat field about three-quarters of a mile to our front. These were the enemy’s skirmishers.”³⁹ Coming under heavy rifle and artillery fire, the 108th New York sustained an increasing number of casualties throughout the day until the Confederate attack ceased late that night.



Surrender at Appomattox Court House, 9 April 1865. Confederate Army of Northern Virginia commander Robert E. Lee (left) officially surrenders to Union commander Ulysses S. Grant, accompanied by Generals Merritt and Parker.

Lebrecht Music & Arts/Alamy Stock Photo/ERGBK3

As dawn broke on 3 July, Lee, determined to renew his assault, ordered General James Longstreet to take three Confederate divisions and attack the Union II Corps in force. Wafer witnessed what became known as the “high-water mark of the Confederacy:” Pickett’s Charge. More than 12,000 Confederate soldiers, “emerging from the woods immediately in front of the 2nd Corps...in solemn grandeur several lines deep...across the open plain more than half a mile of which was fully exposed to the fire of our artillery”⁴⁰ came under withering bombardment from Union troops. Although some Confederate soldiers advanced to within mere yards of the federal line, their advance was defeated, with more than half the rebels falling dead, wounded, or were captured. Pickett’s Charge failed and, exhausted, Lee’s forces began their withdrawal late the next day as news arrived of Grant’s victory at Vicksburg.

“Hostility between the Union government and Great Britain laid bare just how vulnerable British North America remained to American military aggression and expansion.”

Their role in halting the Confederates at the battle’s critical moment cost the 108th New York dearly: more than one-third of the roughly 250 men of the regiment who had joined the battle became casualties.⁴¹ As Wafer and his comrades began to grasp the impact of Lee’s defeat, the Union Army gained a renewed sense of confidence that their opponents were far from invincible. Lee never again launched a strategic offensive into the north, and spent much of the remainder of the conflict on the defensive against the Union Army as it penetrated deeper into the Confederacy.

Francis Wafer’s service to the Union did not end at Gettysburg.⁴² Remaining with the 108th, he campaigned through Virginia at such Battles as the Wilderness, Spotsylvania Court House, and Cold Harbor. He was likely present at Appomattox Court House on 9 April 1865, when Lee finally surrendered his much-diminished army to Grant, precipitating the final collapse and defeat of the Confederacy.



Battle of Ridgeway. Desperate charge of the American Fenians under Colonel O'Neill near Ridgeway Station, 2 June 1866.

Library and Archives Canada/Acc. No. 1946-35-1

The 108th New York was mustered out of service six weeks after Lee's surrender. Francis Wafer returned to Kingston in July and resumed his medical studies at Queen's. He graduated in March 1867 and entered private practice that same year. Although he survived his service in the Union Army, the war left its mark on Doctor Wafer. He was plagued by chronic ill-health beginning in 1865, and eventually died from illness on 9 April 1876. His surviving relatives spent years in the fruitless pursuit of a pension from the American government. Francis' contribution to the Union cause, like that of many of his fellow Canadians, passed largely unnoticed by the United States.

The End of the War and the Beginning of Canada

Canadian experiences during the American Civil War varied widely. Arthur Rankin never heard a shot fired in anger, although many of his volunteers did as they went on to serve in other regiments. The Wolverton brothers lost half their number to the conflict's greatest killer: disease. And finally, Francis Wafer was afforded a rare opportunity to apply his medical education in armed conflict, that most dire of circumstances. While it could be argued that Canadians did not make a grand impression on the Civil War, the Civil War certainly left its mark on Canadians.

Hostility between the Union government and Great Britain laid bare just how vulnerable British North America remained to American military aggression and expansion. The exorbitant cost of defending Canadian territory—and Canadians' own half-hearted interest in their defence—forced the British government to re-examine how far it was willing to invest in a remote colony on the far side of the Atlantic. Canadians themselves—caught in the middle, of varied opinion regarding America's masochistic struggle, and increasingly independent-minded—came to believe that taking their nation's destiny into their own hands was the best choice for its people.

The Dominion of Canada was born on 1 July 1867. Across the new nation, many of those celebrating would doubtless have been Canadian veterans of both the Union and Confederate armies, their lives forever shaped by their service in that conflict. While the role of Canadians in the American Civil War remains (and is likely to remain) a seldom-explored realm of Canada's history, it is no less worthy of recognition than the service of Canadians on other foreign battlefields throughout the 19th Century.



NOTES

- 1 The American Battlefield Trust, at <https://www.battlefields.org/learn/articles/civil-war-facts>. Accessed 13 August 2018.
- 2 As Canada did not exist as a nation during this time, the term British North American is more common in scholarship on the subject. However, the terms Canada and Canadian will be used for simplicity's sake.
- 3 John Graves Simcoe, the Lieutenant-Governor of Upper Canada from 1791-1796, was supportive of the Abolitionist cause and presided over the passage of the province's Act Against Slavery. Passed on 9 July 1793, the Act forbid the introduction of new slaves into Upper Canada and granted freedom to children born to female slaves once they reached the age of twenty-five.
- 4 Danny R. Jenkins, *British North Americans Who Fought in the American Civil War, 1861-1865* (Ottawa: MA thesis, University of Ottawa, 1993), p. 10.
- 5 William Seward, Lincoln's Secretary of State, warned the British minister to the U.S.A. that British recognition of the Confederacy would lead to war, beginning with an invasion of Canada. John Boyko, *Blood and Daring: How Canada Fought the American Civil War and Forged a Nation* (Toronto: Alfred A. Knopf Canada, 2013), p. 64.
- 6 Several factors preclude precision when it comes to determining how many Canadians fought in the war: record keeping was often faulty, recruits' hometowns were not always identified, and British invocation of the Foreign Enlistment Act of 1819 made it illegal for British subjects to participate in the conflict.
- 7 Jenkins, p. 23.
- 8 John E. Buja, *Arthur Rankin: A Political Biography* (Windsor: MA thesis, University of Windsor, 1982), p. 1.
- 9 *Ibid.*, p. 3.
- 10 Rankin was implicated in the so-called "Southern Railway Scandal" of 1857.
- 11 Boyko, p. 115.
- 12 Buja, p. 97.
- 13 Boyko, p. 116.
- 14 Buja, p. 98.
- 15 *Ibid.*, p. 99.
- 16 Robin W. Winks, *The Civil War Years: Canada and the United States* (Montreal and Kingston: McGill-Queen's University Press, 1998), p. 190.
- 17 Seward officially denied any involvement in the scheme, although he allowed that American authorities could not prevent immigrants from serving in the Union forces.
- 18 Boyko, p. 112.
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Trinity Mirror/Mirrorpix/Alamy Stock Photo/B4WR4N

Lord Trenchard, right, after the foundation stone of a new RAF College was laid at Cranwell in July 1935.

“Parallel Warfare” in Conflicts with Limited Political Aims

by Andrew McNaughton

Introduction

From the dawn of heavier-than-air flight, many individuals, strategic planners, and armed forces visualized a future where the devastations of terrestrial war could be solved from above. However, the airplane and air power theory did not entirely live up to expectations. Only in 1991 did technology catch up to theory. The precision dreamt of from Douhet to Trenchard was finally put on display in the First Gulf War. Air power theory was refined as well, including parallel warfare, where military forces could win the war before the enemy knew what hit them. Despite the coalescence of theory and technology, several problems exist with the nature of this concept, particularly recently, as limited political aims become the accepted norm for intervention.

After defining the theoretical concepts, this article will analyze the promise of parallel warfare and strategic analysis

against three limited operations that saw the decisive application of air power: *Desert Storm* in Iraq, *Allied Force* in Kosovo, and *Unified Protector* over Libya. As Western states shy away from ground-force commitments, air power continues to be the weapon of choice in foreign intervention. These operations are almost always limited in scope, and therefore, political considerations make the concept of parallel warfare less desirable when compared to a graduated campaign of coercion.

Theoretical Concepts

Like his air-minded predecessors, the American Colonel John Warden was inspired by the possibility of bypassing the front line altogether and striking the heart of the enemy. Warden envisaged independent air power achieving more than it had during the strategic bombing campaigns of the 20th Century.¹ This ‘new’ way of war would be executed first by thinking of the enemy as a system, and then through a targeting framework consisting of five rings.² At the centre of this *system*

DVIDS/USAF/Donna L. Burnett/4064836

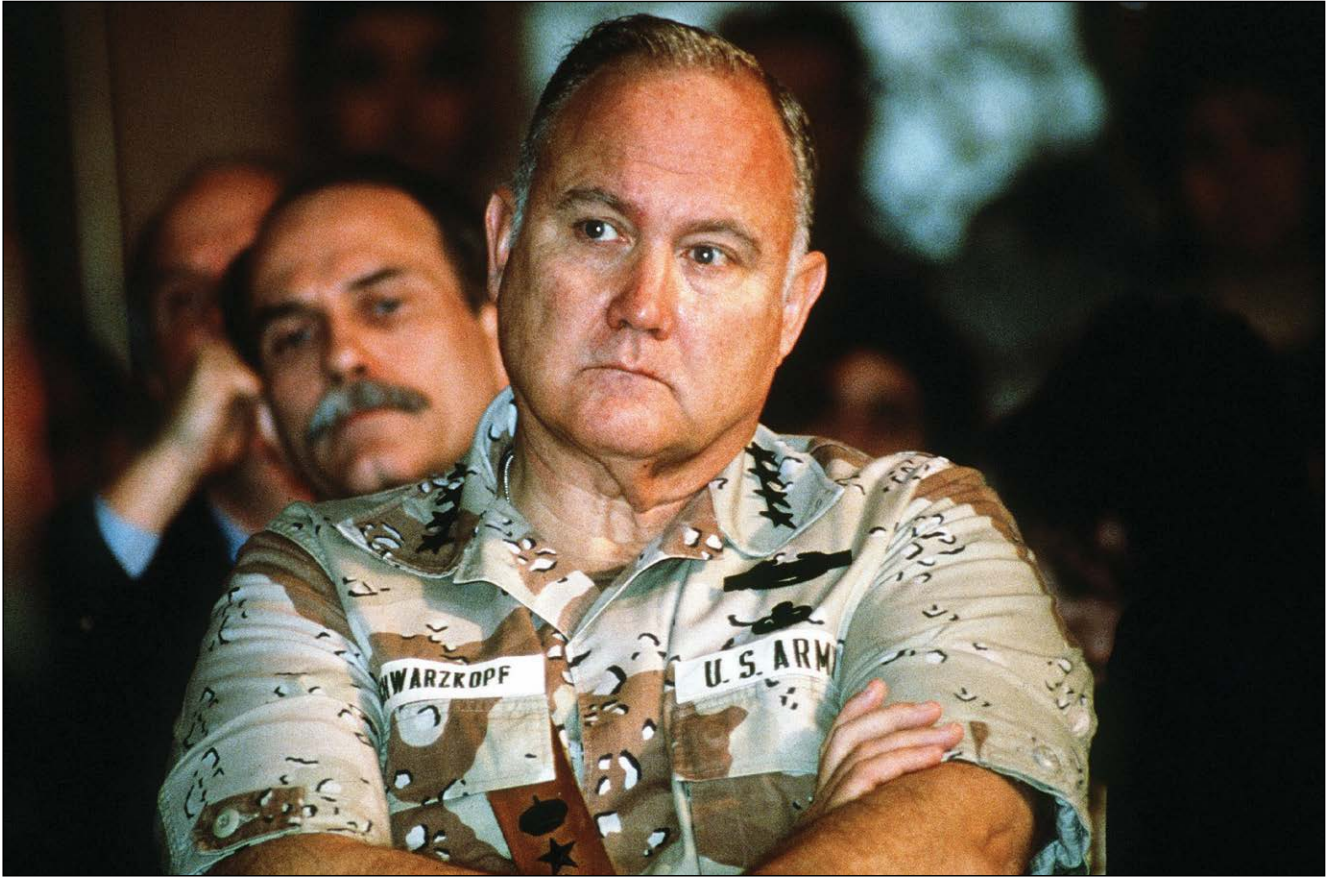


John A. Warden III.

DND photo ISC91-5112 by Sergeant C. Colombe



Canadian CF-18 pilots on the flight line in Qatar during Operation *Friction* (*Desert Storm*), January 1991.



Everett Collection, Inc./Alamy Stock Photo/C6153N

General Norman Schwarzkopf

lies enemy leadership. They not only direct the conflict, but are also the only entity that can make concessions, and thus, they are the primary target.³ When that is not possible, the focus then moves out one ring at a time, from leadership, to organic essentials, critical infrastructure, population, and lastly, to fielded forces. The enemy's centre of gravity in each ring should be determined, and then attacked simultaneously - in parallel - from the inside out. Warden strongly advocated that if military planners and their air forces followed his model, it would lead to the enemy forces freezing in a state of paralysis.⁴

The concept of parallel warfare has been defined as a simultaneous application of force at all three levels of war against key systems to effect strategic paralysis on the enemy.⁵ This contrasts with the more traditional form of serial warfare in three ways. First, military forces can now attack a larger number of targets in a shorter time frame. Second, distance is no longer an effective defence as technology enables targets to be attacked anywhere. Finally, it is argued that in serial warfare, *tactical effects* take time to amount to *strategic results*, whereas parallel warfare can generate effects across all three levels of conflict simultaneously.⁶ Warden's model provides a method through which to rank the enemy's centres of gravity. Once determined, they are targeted and defeated all at once. This eliminates time for the enemy to recover or re-assign assets, and ultimately, it paralyzes the enemy command apparatus.⁷ Warden theorized that once the enemy leadership was cut off from the remainder of its network,

the entire system would be ineffective. If this could be achieved quickly by air power, it was argued, then a bloody ground conflict could be avoided altogether.

Opposite to strategic paralysis is the concept of coercion. Rather than freezing the enemy's decision-making process, coercion works by "influencing the adversary's calculus" to "force the opponent to *alter* its behaviour."⁸ The distinguished American political scientist Dr. Robert Pape, a professor at the University of Chicago, breaks down coercion further into two strategies, *punishment* and *denial*. Coercion by punishment is designed to 'raise the price' to civilians, whereas coercion by denial is directed at thwarting the enemy's objectives.⁹ The stronger of the two, coercion by denial, requires a functioning enemy leadership to make concessions. Both seek to raise the price of a continued policy over time by using a graduated escalation of force.

The criticisms of these approaches are worth mentioning, as each has its own deficiencies. Of the three concepts, parallel warfare has the fewest criticisms. When detached from other ideas, the idea of transcending the levels of war in an efficient and devastating attack is enticing to the commander. However, where problems arise are in limited conflicts. The basis of this method is the destruction of targets across the system. In some conflicts, however, there may be entire industries or target bases missing, severely limiting the desired effect.



Saddam Hussein, fifth President of Iraq.

Strategic paralysis has some notable criticisms as well. First, several pundits argue that strategic paralysis is a misnomer. One author argues that the chosen method to achieve this paralysis is heavily *tactical* and *operational* in nature, making it "...not really a way of war but a way of battle."¹⁰ Another author furthers this thought that a collection of destroyed *tactical* targets does not necessarily constitute a leap to *strategic* effect.¹¹ The theory also considers the enemy as a "passive collection of targets" and discounts the enemy's language, culture, and politics.¹²

The second area of criticism for strategic paralysis is its legality. A strict adherence to strategic paralysis through Warden's model could lead to the illegal targeting of enemy leadership. Political leaders are protected through several articles of international law, and strict considerations apply for those individuals directly involved in hostilities.¹³ Another legal consequence is that a totally paralysed enemy state may not be able to legally terminate the conflict, and their military forces could end up still fighting on, negating the endeavour.¹⁴

Coercion depends greatly upon intelligence and a true understanding of the enemy's motivations.¹⁵ Another drawback is that commanders must be prepared for enemy "counter offers," and must be willing to risk the chance that a conflict could end up becoming a full-scale war.¹⁶ The largest drawback, however, is time. Pape argues that the time required to coerce an opposing

government is long, because governments hold on due to the implications of defeat, as well as due to a poor evaluation of their own military performance.¹⁷ Together, these reasons can become considerable disadvantages for Western governments looking for quick international engagements.

Decisive Air Campaigns

Parts of these concepts were applied in the following three air campaigns, in which air power played a decisive role. Each of these campaigns were subordinate to limited political aims, and therefore, they make an appropriate test for the theories.

Desert Storm

As the diplomatic tensions rose after the Iraqi invasion of Kuwait in 1990, a planning cell within the US Air Force called *Checkmate* began to develop plans for a military retaliation against Iraq.¹⁸ Lead by Warden, a plan for an air campaign entitled *Instant Thunder* was developed. This operation was based upon Warden's Five Ring Model, where in six days, aircraft would strike 84 targets to incapacitate key leadership and military capabilities.¹⁹ Although Warden promised this campaign would be sufficient, as planning progressed, it was met with high level opposition due to the fact it neglected the Iraqi forces already in Kuwait.²⁰ By August

DND photo CKD98-2029 by Master Corporal Danielle Bernier



A CF-18 awaiting takeoff at Aviano, Italy, as part of Operation Echo/Operation Allied Force.

1990, *Instant Thunder* was more-or-less incorporated into a more comprehensive plan consisting of four phases; revised *Instant Thunder* strategic targets, suppression of enemy air defences in Kuwait, preparation of the battlefield, and air support during the ground assault.²¹

Although conforming to the Clausewitzian focus of identifying the enemy centres of gravity, Warden and General Norman Schwarzkopf, the Coalition Commander, saw the situation in the Persian Gulf differently. Warden believed the solution rested in bombing targets in Iraq, whereas Schwarzkopf and his headquarters staff correctly identified Saddam Hussein's centre of gravity in the conflict, namely, his military forces in Kuwait.²² Due to the abundance of combat aircraft available when the air campaign began on 17 January 1991, the first three phases were started simultaneously. In this respect, the concept of parallel warfare was utilized. Iraqi defences were attacked simultaneously, with the neutralization of Iraqi command and control in the first eight hours and the dismantling of the air defence system within thirty-six hours.²³

Within days of the first bombs being dropped on Baghdad, Saddam's regime and its forces were effectively strategically paralysed. Nonetheless, his forces fought on. Due to advancements in bombing and new tactics, the Coalition's destruction of Iraqi

forces in Kuwait began to take a toll. Although falling short of Schwarzkopf's goal of 50% attrition, Iraq's forces were attacked day and night with ever-increasing losses. Tanks, artillery, and armoured vehicles were especially targeted, leading to the newsworthy "tank-plinking" flights, where Iraqi armoured forces were destroyed with precision bombs.²⁴ It was this battlefield focus that proved decisive in coercing Saddam to withdraw from Kuwait.²⁵ By mid-February, Saddam had accepted Soviet-brokered terms for a "full and unconditional withdrawal from Kuwait," dropping his previous list of conditions.²⁶ What this timing demonstrates is that if a centre of gravity is correctly identified and supporting targets are attacked, the concept of parallel warfare is a useful tool. Furthermore, the negotiations and the announcement of withdrawal happened long after Warden's strategic targets were destroyed, thus undermining the view of using a strategic paralysis campaign to win a conflict.²⁷

Allied Force

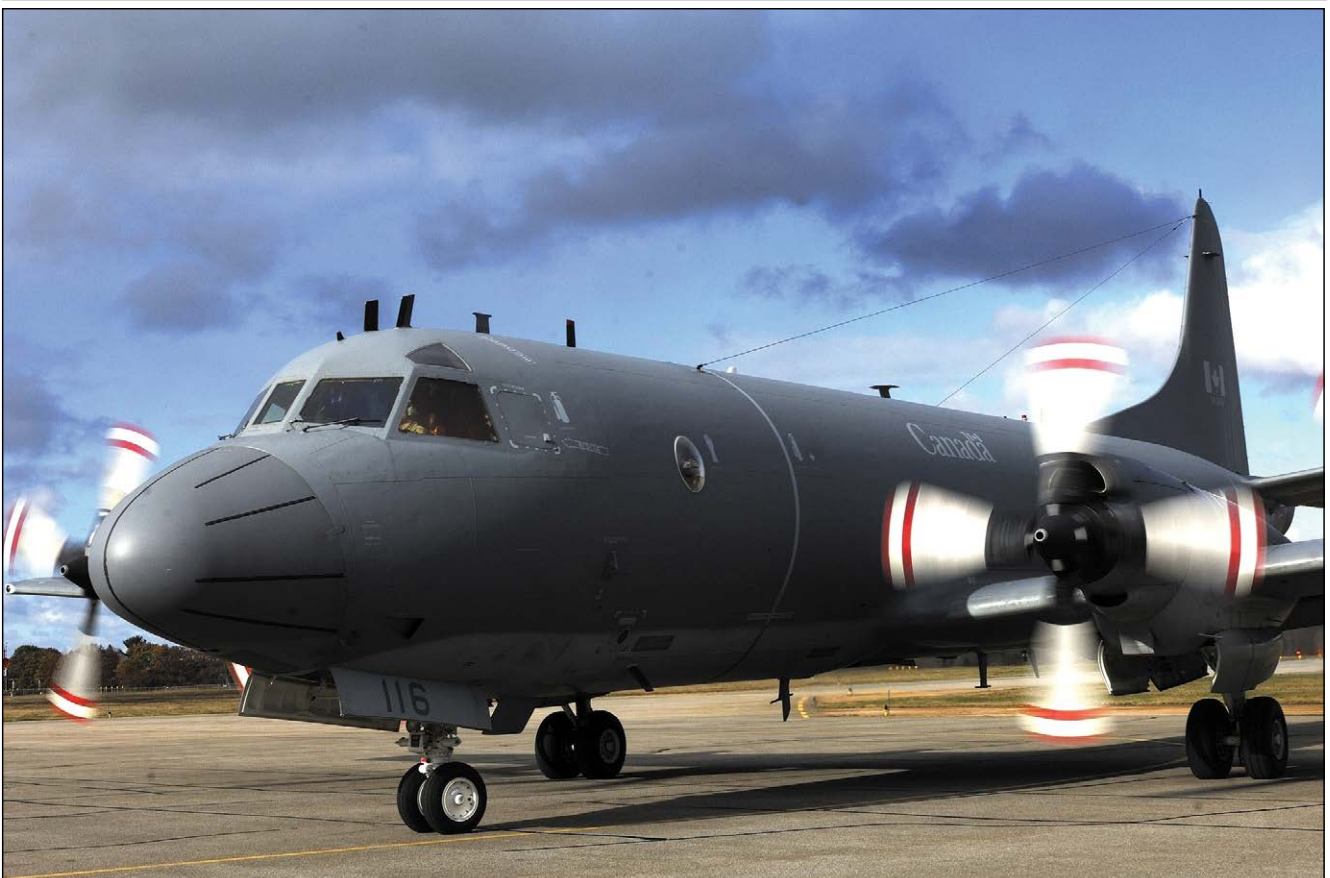
Air power played a role in many of the conflicts following the dissolution of Yugoslavia. However, it was during the Kosovo War that air power proved decisive. Armed clashes between the Kosovo Liberation Army, made up of oppressed Kosovar Albanians, and the military forces of the former Yugoslavia (Serbia) began in earnest in 1998, with Serbian troops arriving in Kosovo in force in 1999.²⁸

Mike Goldwater/Alamy Stock Photo/A2WYAS



President Slobodan Milosevic.

DND photo GD2011-0887-09 by Corporal Laura Brophy



A representative CP-140 *Aurora*, which were very active and productive during Operation *Unified Protector* / Operation *Mobile*.

eurokinias//Alamy Stock Photo/J1J340



Muammar Gaddafi in Tripoli, 2010.

Serbian forces continually committed human-rights abuses in Kosovo, leading to multiple diplomatic coercion efforts from both the US and NATO, including economic and diplomatic sanctions as well as a coercive military presence.²⁹ These efforts failed, and it became clear that unless the diplomatic efforts were paired with military force, they would be ineffective.³⁰ In February 1999, US officials presented a bombing campaign designed to coerce Slobodan Milosevic, the Serbian president, to stop the ethnic cleansing, and pave the way for the deployment of a NATO peacekeeping presence.³¹ The campaign consisted of three phases: soften the air defence system and command structure; strike military targets south of Belgrade; and finally, conduct attacks against targets within the city of Belgrade.³² Not only was it felt that a ground operation would produce greater casualties, but based upon experiences in Bosnia and the Gulf War, it was believed that air power could provide a clean victory for NATO.³³ Furthermore, in the beginning, the deployment of ground forces was completely ruled out, further constraining NATO military planners and commanders.³⁴

Serbian air defences were extensive, and their operators were well-trained, putting up a strong defence when air operations began on 24 March 1999. Despite extensive damage to phase one targets, there was no appreciable effect upon Milosevic's actions. In fact, atrocities increased, and it became clear that he was playing for time.³⁵ During the second phase, choke points, marshalling

areas, and lines of communication were attacked, as well as tank concentrations.³⁶ Interestingly, due to the lack of a ground threat, Serbian tanks were well-concealed in the mountainous terrain, and were rarely spotted out in the open, making them very difficult to locate and destroy.³⁷ Four weeks into the campaign, NATO began bombing Belgrade itself, focussing upon those elements that supported Milosevic's hold on power: the political machine, state media, security forces, and the economic system. After weeks of worries with respect to escalation, the campaign finally threatened the livelihood of Milosevic's friends in the political and media elite.³⁸ Heavy bombing operations continued, NATO announced air superiority had been attained at the end of April, and on 8 June, Milosevic finally agreed to all NATO demands for withdrawal.³⁹ Despite this progress, there had been difficulties in determining the Yugoslav centre of gravity, some authors even declaring that it was never found during the entire campaign.⁴⁰

Many pundits argue that an air campaign based upon Warden's model rather than a coercive model would have achieved more. The results of targeting Milosevic directly could have occurred at the beginning of the campaign, as opposed to a month into the campaign. One of the main detractors for using Warden's model in this conflict is the fact it relied upon unilateral action and did not take into consideration the many intricacies of alliance interventions. Furthermore, it was necessary for the Yugoslav state to remain intact during this conflict in order to prevent spillover into



A CF-18 *Hornet*, also very active during *Unified Protector*.

the other unstable nations.⁴¹ The benefit of the coercive campaign is that it may not always work, but the escalatory aspect is the more humane approach in circumstances less than total war.⁴² Indeed, the fact remains that there was no real threat of ground invasion in the 78-day NATO campaign, and it was successful.

Unified Protector

The third decisive air campaign was *Unified Protector*, NATO's intervention in the 2011 Libyan Civil War against Muammar Gaddafi. The non-violent protests that had marked similar Arab Spring's uprisings throughout northern Africa turned violent in late-February 2011, when Gaddafi directed his forces to quell the rebellion, rather than to capitulate.⁴³ It became clear that civilians were quickly becoming the target of the crackdown. At the UN, the US led the charge for intervention using the 'responsibility to protect' initiative as impetus, and on 17 March 2011, the resolution was granted "mandating 'all necessary measures' to protect civilians."⁴⁴ International sanctions and an arms embargo followed, as well as the establishment of a no-fly zone. The US quickly set up a task force to implement the resolution and then commenced air strikes on 19 March. These strikes destroyed the Libyan air defence system, as well as concentrated groupings of armoured vehicles besieging Benghazi.⁴⁵ To garner broader international support for interference in what was a civil war, the US diligently worked to hand-over control to an international

organization as soon as possible. To that end, on 31 March, NATO assumed operational control.⁴⁶

The campaign's focus was upon supporting the rebels, and upon identifying the enemy centre of gravity as the Libyan fielded forces.⁴⁷ There were many critics of this approach, arguing that air power's true value was undermined by not targeting Gaddafi and his headquarters in accordance with the Warden approach. These critics failed to realize the importance of the Libyan people deciding the outcome themselves, augmented with some precision-bombing support from NATO. The air strikes also importantly gave the rebellion time to organize and train, preventing a concerted Libyan intervention that would have quickly crushed the rebellion.⁴⁸ By 24 March, Libyan air defences, including the Libyan air force, had been destroyed or rendered non-effective, and the campaign shifted to interdicting Libyan army movements.⁴⁹

As the rebels grew more competent, they began to feed tactical strike information over Twitter to NATO. An unlikely forum, Twitter proved essential to aiding NATO in distinguishing rebels from regulars using the same vehicles, as well as in coordinating strikes for the rebel advance.⁵⁰ This too was aided by the deployment of NATO surveillance and targeting aircraft, providing a key data link from headquarters monitoring Twitter, to aircraft operating over the country.⁵¹ After 223 days of strikes in support of the rebel advance to Tripoli, air attacks halted a

convoy carrying Gaddafi, which was quickly converged upon by rebel fighters, ending the civil war.⁵²

In a very different campaign from *Desert Storm* and *Allied Force*, *Unified Protector* produced a decisive air intervention in support of a rebellion. Using a graduated approach in support of an untrained force, and leveling the playing field by removing heavy firepower from the aggressor made all the difference in a successful transition of power, and not leaving a power vacuum in an already-unstable region.⁵³ An attack against traditional strategic targets may have truly paralysed the Libyan state, especially with the overwhelming advantages possessed by NATO. The appropriateness of this approach is called into question, however, when the protagonist does not want to commit ground troops to occupy and rebuild from the destruction.

Conclusion

There have been many promises associated with air power and its war-winning capabilities. The reach afforded to commanders gave rise to the ability to affect strategic paralysis on their enemies through devastating attacks on parallel targets. Coalesced into Warden's model, these theories have driven many air power practitioners to utilize these concepts as the methods for downstream conflicts. In the time since

Warden's model gained traction, three decisive air campaigns have taken place. *Desert Storm* was unique from the others in that a ground invasion was both *threatened* and *conducted*. As the West shied away from committing ground troops for combat during the 1990s, as well as giving due consideration to the costs of occupation and rebuilding, the destruction wrought by parallel warfare and strategic paralysis became inappropriate for this level of conflict. Instead, coercive campaigns, such as *Allied Force* and *Unified Protector*, became more popular, limiting initial commitments and allowing for multi-faceted operations with complex goals. The use of precision-guided munitions allows for much greater accuracy, as demonstrated through the three air campaigns. However, their effectiveness is only as good as the associated strategy. In conclusion, these decisive air campaigns tends to demonstrate that the concept of parallel warfare is not the most effective method of warfare in future limited interventions.

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Islamic State of Iraq and Syria propaganda photo showing ISIS militants parading, 30 June 2014, in Raqqa, Syria.

Legal Implications of Canadian Foreign Fighters

by Michael Wickson

Introduction

The rise of the Islamic State of Iraq and Syria (ISIS) in 2014 captured international attention as the group captured much of Iraq and Syria, committing horrible atrocities in the process.¹ Many individuals ventured to join their cause, including many Canadians.² Many westerners also joined militant groups as foreign fighters to oppose the rise of ISIS in the Middle East, including a number of Canadians.³

In 2016, Dillon Hillier chronicled his adventure fighting ISIS in Kurdistan in a book entitled *One Soldier: A Canadian Soldier's Fight against the Islamic State*.⁴ Hillier travelled to Kurdistan from November 2014 to January 2015 and joined the Iraqi Kurdish armed forces, the “Peshmerga,” as a foreign fighter. Four criteria define a foreign fighter:⁵ i) joining a militant group; ii) lacking citizenship or kinship with the parties; iii) lacking affiliation with an official military organization; and iv) being unpaid.⁶

Kurdistan is a region that encompasses the areas occupied by ethnic Kurds and covers approximately 230,000 square miles.⁷ It sits at the confluences of Iraq, Iran, Syria, and Turkey.⁸ Despite lacking recognition as a state, the formal structure of Kurdistan

could impact the status of the Kurdish militant groups, such as the Peshmerga and the Kurdistan Workers' Party (PKK).

Hillier chose to travel to Kurdistan because the Peshmerga were the only force capable of stopping ISIS.⁹ The Peshmerga are the official armed force of the Kurdistan Regional Government under the Minister of Peshmerga Affairs.¹⁰ During his time there, he also fought alongside the PKK, a communist militant group that has been engaged in conflict with Turkey for several decades. The official nature of the Peshmerga contrasts sharply with the PKK. The PKK was formed in 1974 to establish a communist Kurdish state in southeastern Turkey.¹¹ Inspired by Lenin, the PKK operated in a military fashion by conducting insurgent attacks within Turkey and violently eliminating Kurdish rivals.¹² The PKK waged a campaign of terrorism against Turkey which lasted throughout the 1990s, killing thousands of Turks.¹³ As a result, the Canadian government placed the PKK on the list of terrorist groups.¹⁴ However, with the emergence of ISIS, the PKK cooperated with the Peshmerga to combat a common enemy.

Shortly after arriving in Kurdistan, Hillier grew impatient with the Peshmerga and found his way to the PKK in order to engage in combat. Unfortunately, by joining a listed terrorist entity, Hillier could be vulnerable to potential criminal jeopardy.

The Law

A general principle of international law is that a state’s domestic legislation cannot be applied outside of that state’s jurisdiction, which is formalized in section 6(2) of the *Criminal Code* whereby, “no person shall be convicted ... of an offence committed outside of Canada.”¹⁵

However, there are exceptions, including legislative exceptions and the nationality of the individual.

Extraterritorial exceptions permit a state to legislate regarding the conduct of its citizens while abroad, but must await that citizen’s return before enforcement.¹⁶ Canadian foreign fighters could be held criminally liable upon returning to Canada for actions taken while participating in a foreign conflict. The nationality principle could make Hillier criminally liable under Canadian law, due to his Canadian citizenship. There are also crimes that any state has the jurisdiction to prosecute regardless of where the offence occurred. These crimes are considered violations against all humanity, including torture, war crimes, crimes against humanity, and genocide.¹⁷ In addition, there are pieces of Canadian legislation applicable to Canadian foreign fighters, specifically the *Foreign Enlistment Act (FEA)*, and the treason and terrorism offences found in the *Criminal Code*.



Map of the region, including Kurdistan.



A Peshmerga soldier at the frontline.

Rainer Lesniewski/Alamy Stock Vector/HDG00DW

ZUMA Press, Inc./Alamy Stock Photo/GJ4BGR



Members of the Canadian Mackenzie-Papineau Battalion in the Spanish Civil War, 1936–1939.

The *FEA* was introduced in the 1937 in response to approximately 1600 Canadians volunteering to fight in the Spanish Civil War.¹⁸ The *FEA* makes it an offense to join, "...the armed forces of any foreign state at war with any friendly foreign state,"¹⁹ as well as other offences, such as leaving Canada with the intention to enlist, and recruiting others to enlist. However, the *FEA* requires a "state at war,"²⁰ a concept which is not particularly applicable to conflicts involving non-state actors. Also, the *FEA* does not include non-state actors in its definition of armed forces.²¹ Thus, joining groups such as the Peshmerga, the PKK, or even ISIS, would not violate the *FEA*.

The *Criminal Code* contains a few offences that could be applicable to foreign fighters. The first of these is high treason. High treason includes several sub-categories, including killing or threatening the life of Her Majesty, levying war against Canada, and assisting an enemy at war with Canada.²² In contrast to high treason, treason focusses upon violent attempts to overthrow the federal or a provincial government, providing information to an enemy state, or conspiring to commit high treason or treason.²³ The third provision of high treason is most applicable to foreign fighters:

*Every one commits high treason who, in Canada ... assists an enemy at war with Canada, or any armed forces against whom Canadian Forces are engaged in hostilities, whether or not a state of war exists between Canada and the country whose forces they are.*²⁴

High treason applies to everyone while in Canada, but Canadian citizens can be charged regardless of the location of the treasonous actions. Therefore, high treason includes any action taken within Canada, but is limited to Canadian citizens if the treasonous actions occur abroad.

High treason also requires the Canadian to assist an armed force with whom Canada is engaging in hostilities. A foreign fighter could be guilty of a very serious offence regardless of their legal status within the conflict. A Canadian could be a fully lawful combatant in an armed conflict, but vulnerable to criminal sanction in Canada if they were affiliated with an enemy of Canada. Although Hillier was affiliated with a listed terrorist organization, the PKK, he was not engaged in hostilities against the Canadian Armed Forces, and therefore, would not be liable for high treason.

In the wake of 9/11, many terrorism offences were added to the *Criminal Code*., terrorism offences including financing, facilitating, and harbouring.²⁵ There are some sections of the *Criminal Code* that are particularly applicable to foreign fighters, specifically, participating in a terrorist group, and the armed conflict exception.

A terrorist group is defined in two ways, either as having the purpose or intent to carry out terrorist actions, or to be a listed terrorist group.²⁶ Public Safety Canada maintains a list of groups suspected of terrorist activities, which includes the PKK. It is an offence to participate in the activity of a terrorist group. Section 83.18(1) reads:

*Every one who knowingly participates in or contributes to, directly or indirectly, any activity of a terrorist group for the purposes of enhancing the ability of any terrorist group to facilitate or carry out a terrorist activity is guilty of an indictable offence ...*²⁷

This section has two elements to consider in the case of Hillier. The first element is knowing participation in any activity of a terrorist group. Foreign fighters provide a direct contribution to the group during an armed conflict. While Hillier was fighting with the PKK, he was fighting closely with other soldiers, and the group benefited from his presence. The second element is the purpose of facilitating or carrying out terrorist activity. Section 83.01(1) contains a lengthy list of terrorist activities, and it would only be an offence if the foreign fighter helped carry out one of these activities.²⁸ Engaging in combat is not a terrorist offence according to this section. Hillier may have fought with the PKK against ISIS, but he did not contribute to any terrorist activities. Despite being a listed terrorist entity, the PKK was operating as an armed group to oppose ISIS when Hillier was associated with them. As such, he would not be liable under that section of the *Criminal Code*.

Section 83.01 of the *Criminal Code* also includes an armed conflict exception that would be useful to exclude him from criminal liability. According to the *Criminal Code*, a terrorist activity:

*... does not include an act or omission that is committed during an armed conflict ... in accordance with customary international law or conventional international law applicable to the conflict ... to the extent that those activities are governed by other rules of international law.*²⁹

If Canadian foreign fighters joined an armed group that complied with international law to participate in an armed conflict, they would not be liable for terrorism offences under the *Criminal Code*. Lacking a definition of armed conflict in both the *Criminal Code* and the *Interpretation Act*,³⁰ it is necessary to look at international law to define an armed conflict and to determine whether Hillier complied with the rules of international law.

To determine if an armed conflict truly exists, a test was developed by the International Criminal Tribunal for the Former Yugoslavia (ICTY). In *Prosecutor v Tadic* the ICTY held that:

*an armed conflict exists whenever there is resort to armed force between States or protracted armed violence between governmental authorities and organized armed groups or between such groups within a State.*³¹

This decision established a two-part test for the existence of an armed conflict by assessing the intensity of the fighting and the organization of the belligerent groups involved.³² *Tadic*



Associated Press/Hussein Mallar/182472776500

Kurdish Peshmerga fighters are recruiting Westerners, including Canadian veterans, to fight with them against ISIS.



Women fighters with the Kurdish PKK guerrillas with rocket propelled grenades and a heavy machine gun shown in a propaganda photo released by the PPK, 8 August 2014, in Iraqi Kurdistan.

demonstrated that only the organizational level of the armed group was a necessary factor, and state affiliation was not required. In *Tadic*, the ICTY determined that, "...[the] protracted, large-scale violence" that occurred in 1991–1992 between the numerous organized armed groups met the definition of an armed conflict.³³

The conflict between Kurdish militant groups and ISIS was an armed conflict. In his book, Hillier described several combat situations, most notably a battle at a village called Tal al-Ward.³⁴ The intensity of the battle likely matched the level of fighting in the former Yugoslavia in the early-1990s. He described a few other skirmishes in which he participated, suggesting protracted, large-scale violence. The Peshmerga and the PKK were both involved in the battle of Tal al-Ward against ISIS. Therefore, the level of organization of the Peshmerga, PKK, and ISIS, plus the prolonged nature of the violence, suggests an armed conflict did exist. Next, it will be necessary to determine if Hillier had the requisite status to lawfully participate in the armed conflict.

The status of persons in an armed conflict has been historically defined by the Geneva and Hague Conventions, and was revised by the *Additional Protocols* in 1977. Under international law, there are only two categories of people on a battlefield: combatants and civilians.³⁵ Combatants can lawfully participate in an armed conflict, whereas civilians cannot, and they are subject to criminal liability if they do participate. In exchange, civilians receive greater protection under international law and cannot be targeted by military forces. In fact, everyone on a battlefield is a civilian unless they meet certain criteria to become a combatant.

Foreign fighters would be no exception, and would need to qualify as combatants to avoid criminal liability.

Article 4 of the *Third Geneva Convention* of 1949 defines lawful combatants as:

*Members of other militias and members of other volunteer corps, including those of organized resistance movements, belonging to a Party to the conflict and operating in or outside their own territory.*³⁶

Members of the Peshmerga and the PKK could fall into this class. However, there are additional conditions that must be met. Specifically: they must be commanded by a person of responsibility; they must be recognizable at a distance by a fixed distinct emblem; they must overtly carry weapons; and they must comply with the laws and customs of war when conducting military operations.³⁷ These conditions restricted combatant status to those who waged warfare in the traditional sense.

The *Additional Protocols* significantly broadened the definition of a lawful combatant:

The armed forces of a Party to a conflict consist of all organized armed forces, groups and units which are under a command responsible to that Party for the conduct or its subordinates, even if that Party is represented by a government or an authority not recognized by an adverse Party. Such armed forces shall be subject to

*an internal disciplinary system which, inter alia, shall enforce compliance with the rules of international law applicable in armed conflict.*³⁸

This modernized definition of combatant achieved two things. First, it removed the requirement for uniforms and for openly carrying weapons. Secondly, it reinforced the most important aspect of qualifying for combatant status: “compliance with the rules of international law.”³⁹ This definition makes anyone into a combatant if they are part of an organized group fighting in an armed conflict, as long as they comply with international law. Thus, members of the Peshmerga would likely be combatants, and the members of the PKK could be combatants if they demonstrate compliance with the second condition. The requirement to comply with international law would preclude any Canadian who joined ISIS from using the armed conflict exemption under the *Criminal Code*, regardless of their individual acts. They would not be lawful combatants because ISIS, as an armed group, failed to comply with international law, and so they would not be lawful participants in the conflict.

Hillier would be a combatant in an armed conflict and immune from criminal liability as long he did not participate in any crimes barred by international law, such as war crimes, crimes against humanity, or genocide.⁴⁰ Unfortunately, at one point in the book, Hillier described the “worst day of his life” when he witnessed a war crime. He was with a group of PKK soldiers following the battle at Tal al-Ward. The group encountered an unarmed villager, who the PKK soldiers shot in the street.⁴¹ There is no indication

that the act was “widespread or systematic,” and so it would be a war crime rather than a crime against humanity, specifically a willful killing under section 8(2)(a)(1) of the *Rome Statute*.⁴²

Witnessing this war crime placed Hillier in an awkward position for two reasons. First, he could be considered a party to the act of the PKK soldiers and subject to prosecution because he was actively working with the PKK. Second, the violation of international law could compromise the combatant status of the PKK and so jeopardize Hillier as a lawful combatant. Due to the limited extent of the incident, the PKK soldiers would likely retain the status of combatants and be charged with a war crime. However, there is no mention in the book of the PKK taking appropriate steps to discipline the guilty soldiers internally, suggesting that the responsible commanders of the PKK are accepting of such behavior. As a result, the PKK would lack the second condition of the combatant definition under *AP I*, would not be lawful combatants, and could be subject to criminal prosecution. As such, foreign fighters affiliated with the PKK would also not be considered lawful combatants. This was a startling development for Hillier, which exposed him to criminal liability because the armed conflict exception would not be applicable. It was important for him to return to the Peshmerga as quickly as possible to reacquire his combatant status, which he promptly did.⁴³

Conclusion

The recent conflict in the Middle East presented an interesting situation for the law regarding foreign fighters. Foreign



Kurdishstruggle/Alamy Stock Photo/G3F8G

Kurdish YPG special operation YAT fighters during operations on the front lines against the Islamic State in a propaganda photo released by the YPG, 10 June 2016, in Iraqi Kurdistan.

fighters travelled from many different countries to either join ISIS or fight against them, including many Canadians. In a world where conflicts increasingly include non-state actors and widespread use of social media, it is likely that foreign fighters, including Canadians, will be prevalent on the battlefields in the future.

The terrorism offences under the *Criminal Code* created numerous potential criminal charges for those affiliated with terrorist groups, which could be operating as belligerents to an armed conflict. However, in cases where an armed conflict exists, the terrorism provisions would not apply as long as foreign fighters were lawful combatants respecting international law. Under international law, foreign fighters may be considered combatants in an armed conflict if they are part of an organized group that respects international law. As combatants, they would evade criminal liability as long as they do not participate in violations of international law, such as genocide, crime against humanity, or war crimes.

By travelling to Kurdistan to fight ISIS, Dillon Hillier took a serious risk. He put himself into a very dangerous situation, but he also exposed himself to potential criminal liability, especially by joining the PKK. Hillier may not have known it at the time, but he avoided criminal sanction because he did not participate in terrorist activities while fighting with the PKK, and because he was a lawful combatant in an armed conflict as part of the Peshmerga. The adventure described by Dillon Hillier in his recent book showed that the current laws applicable to foreign fighters have a common denominator: compliance with international law.

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J6 Imaging/CFC

Canadian Forces College Toronto

Strengthening the Canadian Armed Forces Capacity to Address Child Soldiers

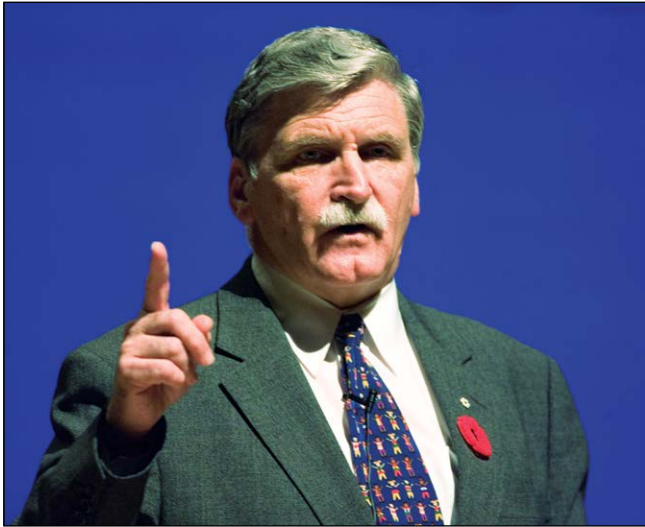
by Alan Okros

On 25 June 2019 at Canadian Forces College, Minister of National Defence Harjit Sajjan announced the establishment of the Dallaire Centre of Excellence for Peace and Security. Minister Sajjan stated that the Centre of Excellence’s initial focus will be to support the Canadian Armed Forces’ implementation of the Vancouver Principles on Peacekeeping and the Prevention of the Recruitment and Use of Child Soldiers, stating that “...this practical resource will have real world impacts and help to protect children.” In attendance, Lieutenant-General (ret’d) Roméo Dallaire stated: “I have dedicated my life to ensuring soldiers are prepared and children are protected in situations of armed conflict, because both are central to achieving peace. The establishment of the Dallaire Centre of Excellence for Peace and Security will have an impact on soldiers, on children, and on global peace and security.” This article provides the context for this initiative with a short summary of the Vancouver Principles; presentation of the concept of operations for the new Centre of Excellence; and, a description of the contributions being made by the Roméo Dallaire Child Soldier Initiative (RDCSI).

Context

The sad reality is that many conflicts around the world involve children serving in armed groups as child soldiers. Broadly defined, child soldiers “refers to any person below 18 years of age who is or who has been recruited or used by an armed force or armed group in any capacity, including but not limited to children, boys and girls, used as fighters, cooks, porters, messengers, spies or for sexual purposes. It does not only refer to a child who is taking or has taken a direct part in hostilities.”¹

Underpinned by evolving International Human Rights Law and International Humanitarian Law,² the United Nations Security Council has passed thirteen resolutions to address issues related to children and armed conflict,³ as well as having encouraged Member States to endorse a number of related principles and declarations. In November 2017, Canada hosted the UN Peacekeeping Defence Ministerial Conference leading to the articulation of the set of political commitments focused upon child protection in peacekeeping, the Vancouver Principles, as they were referred to by Minister Sajjan. These seventeen principles acknowledge the



Senator and Lieutenant-General (ret'd) Roméo Dallaire.

“In particular, the Paris Commitments and associated Paris Principles (2007), which built upon the Cape Town Principles (1997), lay out detailed guidelines for protecting children from recruitment and use by armed forces and armed groups, and for providing assistance to those already involved with armed forces and armed groups. The Safe Schools Declaration (2015) calls on states to protect schools and universities from military use during armed conflict. The Kigali Principles (2015) establishes a set of commitments on the protection of civilians in peacekeeping operations. Additionally, the UN’s Sustainable Development Goals recognize the dignity of children and their right to live free from violence and fear as a distinct priority in the international development agenda.”⁴

Following the launch of the Vancouver Principles, individuals from Global Affairs, National Defence, and Canada’s delegation to the UN, working with representatives from endorsing States and civil society organizations, developed implementation guidance. Published concurrently with the MND’s June announcement, this guidance is intended to assist endorsing States in translating the Vancouver Principles into national-level guidance, plans, and capabilities. The objective is to ensure that police and military members contributing to UN missions are provided the direction, resources, and the preparation required to prevent the recruitment and use of

unique challenges posed by child soldiers; prioritize the prevention of the recruitment and use of child soldiers in UN peacekeeping operations; and are intended to help ensure that all peacekeepers—military, police, and civilian—are prepared and directed to take appropriate action. Importantly, the Vancouver Principles extend upon previous agreements.



Child soldiers in the Sudan People's Liberation Army.

CFB Kingston Base Photo



Canadian Defence Academy, Kingston, Ontario.

child soldiers; to be able to respond effectively when encountering child soldiers in the context of UN peacekeeping operations; and to enable effective personal support post-deployment.

Dallaire Centre of Excellence for Peace and Security

Based upon MND direction and allocated resources, the Dallaire Centre of Excellence for Peace and Security is being established within the Canadian Defence Academy (CDA) to achieve initial operating capability (IOC) in 2020, and full operating capability (FOC) in 2021. The DCOE-PS will serve as a strategic Defence asset to advance related Government of Canada objectives through the *enhancement of*, and *contribution to*, Defence capabilities. With a focus in the first instance upon implementation of the Vancouver Principles within the CAF, the Centre conducts research and analyses of relevant policies, issues, perspectives, lessons learned, and best practices to enhance CAF operational and individual effectiveness by contributing to concepts, doctrine, professional military education, training, and related personnel readiness enablers.

Recognizing the complexity of the issues involved and the importance of collaborative approaches, core activities and engagements are conducted internally within DND and the CAF; horizontally, across associated Federal Government Departments and Agencies; and, externally, with international organizations, Vancouver Principles endorsing nations, academic researchers, civil society organizations, and other expert stakeholders. A range of funding mechanisms are applied to: harness extant external expertise; commission new research; engage in collaborative exchanges; and enable the development of the next generation of scholars and National Security practitioners. Through the use of flexible employment vehicles, including post-doctorate fellowships, short-term secondments, and interchange opportunities, the

Centre is designed to be innovative, creative, and adaptive with the capacity to quickly pivot to emerging issues, policy developments or key updates to international frameworks, such as those expressed through United Nations Security Council Resolutions on Children and Armed Conflict, or the Women, Peace and Security agenda.

As stated by Rear-Admiral Luc Cassivi, Commander Canadian Defence Academy (CDA), when DCOE-PS was announced, "... the Centre of Excellence will draw on a diversity of expertise and perspectives from across academia and civil society to effectively fulfill its mandate. Its flexible nature will also position the Canadian Defence Academy to consider other emerging human security topics, such as sexual exploitation and abuse, conflict-related sexual and gender-based violence, and human shields."

At FOC, the Centre will have an establishment of seventeen military and civilian personnel organized in three functional areas, and located in three cities. The Executive Director, along with staff responsible for key engagements are located in Ottawa, those responsible for concepts are at CDA Headquarters in Kingston, and those engaged in research are co-located at the Canadian Forces College in Toronto. The Deputy Director Engagements will monitor CAF/DND strategic objectives; conduct outreach and engagements; contribute to interdepartmental liaison; establish grant programs; design and deliver symposia, short courses, and seminars on COE-related topics, as well as serving as the Centre's Chief of Staff. The Deputy Director Concepts will support CAF OPIs responsible for Joint and Service concepts, doctrine, training, and lessons learned by identifying lessons learned and best practices, developing concepts, and conducting doctrinal gap analyses against CAF operational requirements in order to contribute to updates or to the development of doctrine. The Deputy Director Research will conduct research and analysis of current, emerging, and potential security policy areas; academic

and professional literatures; perspectives of the national security practitioner community; and civil society discourse to identify implications for CAF operational requirements and professional development.

As reflected in Rear-Admiral Cassivi's reference to the DCOE-PS 'flexible nature,' the majority of individuals will be employed on a rotational basis for two-or-three-year employment lengths, and are thus beyond typical posting cycles for Regular Force members. The civilian personnel employment strategies will include drawing upon policy experts from across National Defence or Global Affairs; employing researchers from internal academic faculty or Defence Research and Development Canada; attracting visiting faculty as Visiting Fellows and recent graduates with specific expertise for post-doctorate employment; and enabling shorter-term engagements where CAF personnel, members of the Public Service, or current graduate students could be embedded within DCOE-PS to draw upon the resident expertise and resources.

Roméo Dallaire Child Soldier Initiative

In his June 2019 announcement, Minister Sajjan identified that National Defence will draw upon the expertise of the Roméo Dallaire Child Soldiers Initiative (RDCSI) through a five-year contribution agreement to enable research and to identify lessons learned and best practices regarding the prevention of the recruitment and use of child soldiers. RDCSI is

housed at Dalhousie University, Halifax, and is dedicated to the eradication of the use of child soldiers. The overarching philosophy is as follows:

The use of child soldiers is one of the farthest-reaching and most disturbing trends in contemporary conflict. Through viewing child soldiers as a security sector concern, we work to counteract the strategic and tactical advantages of child soldiers. By interrupting the reasons for their use, we can end the recruitment and use of child soldiers once and for all.⁵

A key contribution being made under the current agreement is to provide the CAF with valuable perspectives with respect to best practices in preparing troops to address child soldiers, as well as lessons learned from those who have completed training and encountered child soldiers when deployed. With over 5,000 military members from several African Union (AU) nations having completed courses, as well as training delivered with support from Wounded Warriors to CAF and RCMP veterans through the Veteran Trainers to Eradicate the Use of Child Soldiers (VTECS),⁶ RDCSI is a leading organization world-wide in designing, delivering, and evaluating relevant training. In his exchanges with DCOE-PS staff, General Dallaire has emphasized two critical points: that training must go beyond classroom delivery of factual information to the development of practical skills through realistic scenarios and exercises; and, the need to validate the effectiveness of learning, including gathering perspectives from deployed



A child soldier of the Union of Congolese Patriots (UPC) stands guard and holds a rifle in his hands in Bunia, Democratic Republic of Congo, 19 June 2003.



Jack Picone/Alamy Stock Photo/AX3JXF

A child soldier returns from the frontline in Luanda, Angola.

troops with respect to how they adapted techniques when dealing with encounters with child soldiers, or those who employ them. As one of the first significant activities conducted under the contribution agreement, the DCOE-PS acting-Deputy Director Concepts attended an informative evaluation meeting conducted by RDCSI in Kigali, Rwanda, with representatives from several AU nations on their insights and lessons learned following completion of RDCSI designed training and deployments.

While RDCSI remains an independent not-for-profit organization, the arrangements made with the CAF and DND enable DCOE-PS to assist the CAF to move forward quickly in assessing concepts, doctrine, and training related to child soldiers. Concurrently, the DCOE-PS research team is conducting analyses of complementary issues, since the issues of child soldiers are recognized to be a sub-set of the challenges of children affected by armed conflict and those populations encountering situations of vulnerability, usually referred to as vulnerable populations. It is also recognized that these topics are informed by the Women, Peace and Security Agenda, as well as considerations of Human Security.

Although significant work remains to be done to ensure that CAF members are effectively prepared, enabled, and supported to deal with child soldiers, DCOE-PS is working to support CAF OPIs and to provide all members of Defence with relevant references.

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Canada's new fixed-wing search and rescue aircraft, the Airbus CC-295.

Missing in Action: The Troubling Case of Defence and the Election of 2019

by Martin Shadwick

The federal election campaign of 2019—a rather testy, divisive and less than edifying affair—produced a curious amalgam of good news and bad news for Justin Trudeau (who remained Prime Minister but lost his majority), Andrew Scheer (whose Conservative Party added more seats but failed to defeat a government made vulnerable by an eclectic assortment of self-inflicted wounds), Jagmeet Singh (who turned in an impressive performance on the hustings and retained a critical mass of New Democrat MPs while being virtually shut out in Quebec), and Elizabeth May (whose Green Party advanced in the popular vote and acquired an additional MP but was unable to secure a major breakthrough). Indeed, as the *Globe and Mail's* Campbell Clark observed, the only leader who “really triumphed” was Bloc Quebecois Leader Yves-François Blanchet, who lifted “his party from the dead with a promise to speak for Quebec. The others have one main reason to be pleased: It could have been worse.”

If the Bloc Quebecois leader was a clear winner, a clear loser was Canadian foreign and defence policy. Although foreign

policy, and, in particular, defence policy, rarely figure prominently (or even moderately) in Canadian federal elections, the virtual disappearance of those public policy fields from electoral discourse should be a matter of grave concern and embarrassment for a supposed middle power that needs (and presumably still wishes) to retain a credible presence at the global table, be it the G7, the United Nations (particularly if it involves an occasional seat on the Security Council), NATO or myriad other international institutions. The election of only four years ago was no watershed in terms of foreign and defence policy discourse, but foreign and defence policy at least managed—in part due to an excellent Munk Debate on foreign affairs—to register on the electoral radar screen. That the election of 2019—when the country faces dramatically more serious challenges in terms of trade, climate change, defence and international security, multilateralism and relationships with the United States and China—should see foreign policy discourse reduced to negligible proportions and defence policy sink below the level of a cameo appearance is supremely ironic. There is, admittedly, more than a modicum of truth in the observation that Trumpian realities influenced how the Canadian foreign and defence policy discourse played out (or failed to play



dpa picture alliance/Alamy Stock Photo/FM66KY

Prime Minister Justin Trudeau.



DND photo by Corporal Colin Thompson, Imagery Technician, Joint Task Force

An advanced light armoured vehicle (LAV 6.0) from the Canadian contingent of the multinational enhanced Forward Presence Battlegroup Latvia on exercise at Camp Adazi, Latvia, 26 July 2017.

out) in an aberrant 2019 election campaign. As Stefanie von Hlatky asked in the waning days of the election: “Now that Canada sits uncomfortably in US President Donald Trump’s shadow, have candidates decided it’s safest to be evasive about foreign policy?”

the expertise of the Canadian Armed Forces in responding to natural disasters and humanitarian crises—to help other countries at greater risk of disasters due to climate change.” As part of a “responsible approach to security” and “to build on the important

In terms of the actual campaign, the Liberal Party stated that it would “continue to move forward with a principled approach that puts democracy, human rights, international law, and environmental protection at the heart of foreign policy.” It would consequently establish the Canadian Centre for Peace, Order, and Good Government (“which will lend expertise and help to people seeking to build peace, advance justice, promote human rights and democracy, and deliver good governance”), provide international institutions such as the International Criminal Court, the World Trade Organization, and others, with “additional resources to better enforce international law” and take a leadership role in “ensuring the ethical use of new technology, by developing and supporting international protocols to ban the development and use of fully autonomous weapons systems.” It also pledged to increase “Canada’s international development assistance every year towards 2030, reflecting our commitment to realizing the United Nations’ Sustainable Development Goals,” and to improve “the way that we manage and deliver international development assistance.”

To “ensure that Canada continues to make a positive contribution to international peace and security, we will move forward with new investments to support United Nations peacekeeping efforts—with more help to advance the women, peace, and security agenda; support conflict prevention and peacebuilding; and respond to grave human rights abuses. We will also expand our cooperation and training assistance—drawing on



The Honourable Andrew Scheer, leader of the Conservative Party.



The Honourable Jagmeet Singh, leader of the New Democratic Party.

contributions our Armed Forces members have made to critical missions around the world, we will move forward with expanding Canada's role in multilateral organizations—like the North Atlantic Treaty Organization and the United Nations—and will make sure that our Armed Forces have everything they need to continue to do their job well.”

acquire 360 combat support Light Armoured Vehicles to replace aging M113s and earlier-generation LAVs.

Although the Conservative's overall platform was not rolled out until very late in the campaign, the core of its defence plank had been unveiled in May 2019, as Murray Brewster notes,

In Canada's north, “we will continue to move forward toward a future where northern and Arctic people are thriving, strong, and safe. We will work closely with our partners through the Arctic and Northern Policy framework to make this a reality, and to protect Canada's rights and sovereignty in the Arctic, and to strengthen continental defence, we will move forward with better-developed surveillance and rapid-response capabilities.” The Liberal defence plank also pledged to “move forward with a new framework governing how Canada gathers, manages, and uses defence intelligence,” and, “to ensure that Canada's biggest and most complex defence procurement projects are delivered on time and with greater transparency to Parliament,” move forward with the creation of Defence Procurement Canada.

The defence component of the Liberal campaign platform was unorthodox in certain respects. Typically, the defence planks of incumbent governments offer relatively little in the way of new initiatives, but provide *staunch*, and sometimes *voluminous*, reaffirmations of their existing policy statements and fulsome recitations of their force structure, procurement, and other accomplishments. The Liberal defence plank, in contrast, had a decidedly modest word count, did not explicitly reference the 2017 policy statement—*Strong, Secure, Engaged*—and forewent mention of, for example, the ordering of the sixth Arctic Offshore Patrol Ship (thereby fulfilling a 2015 campaign pledge), the selection of the Type 26 frigate to meet the Canadian Surface Combatant requirement, and the decision to



dpa picture alliance/Alamy Stock Photo/JDOMFM

The Honourable Elizabeth May, leader of the Green Party.



The Canadian Press/Graham Hughes/22049368

The Honourable Yves-François Blanchet, leader of the Bloc Québécois Party.

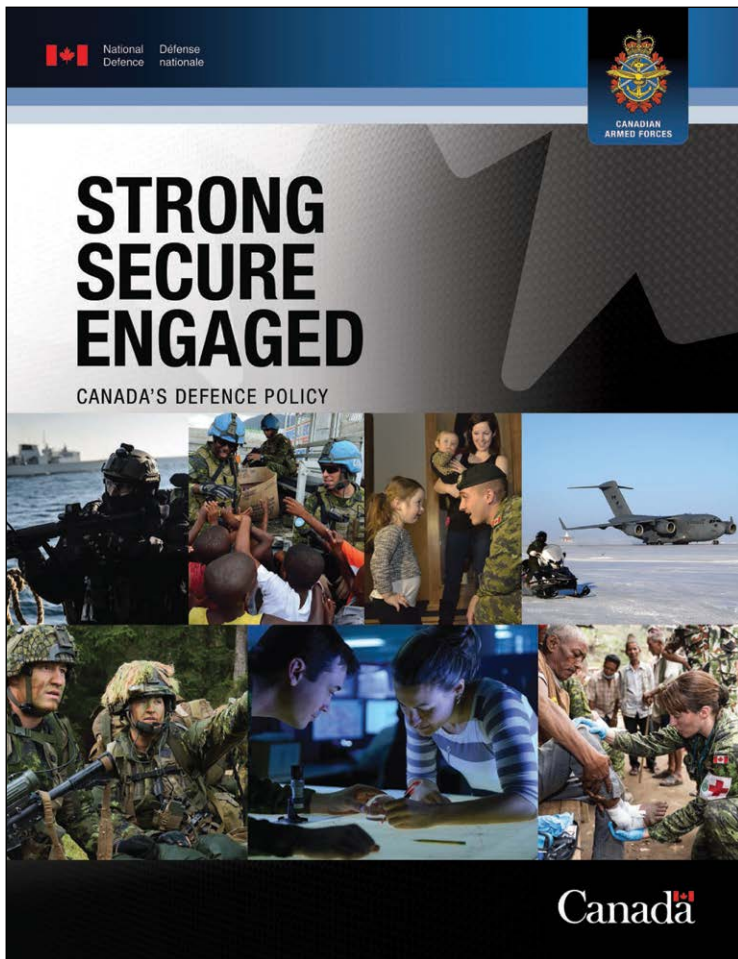
during “the first of a series of election-framing speeches” by party leader Andrew Scheer. In pursuit of “more strength abroad,” the Conservative platform signaled an intent to “revitalize important relationships with democratic countries” by ‘reclaiming’ “Canada’s role in NORAD, NATO, the Commonwealth, La Francophonie, and the Five Eyes,” provide “military defensive aid to Ukraine’s military,” and “push for Canadian leadership in a United Nations

Shipyards to [convert] a second interim supply ship. We cannot continue to rely on other countries to sustain operations by both our Atlantic and Pacific fleets and around the globe. Canada requires two Auxiliary [Oiler] Replenishment vessels to ensure our Navy can operate effectively abroad as it awaits the construction of the Joint Support Ships.”

peacekeeping mission to secure the borders of Ukraine,” and “diversify” Canada’s trading partners. To “make sure that foreign aid is only spent on the countries that need it most,” the party also pledged to “reprioritize Canada’s foreign aid budget and cut overall aid by 25 [percent].” The latter, arguably, was the only foreign policy pledge, by any party, that generated even a modicum of attention on the campaign.

The Conservatives pledged to expedite the replacement of the CF-18, acquire a second interim supply ship and, since “...submarine capability is vital to protecting Canada’s vast coastlines, particularly in the Arctic,” to replace the four *Victoria*-class submarines. It also pledged to “depoliticize” the defence procurement system and to provide “focused [defence procurement] leadership at the highest levels of the Canadian government” by restoring “the Cabinet Committee on Defence Procurement” and creating a “Defence Procurement Secretariat within the Privy Council Office”, to “enter discussions with the United States to join the Ballistic Missile Defence program and modernize the NORAD alliance,” and to enhance—albeit without much detail—the protection of Canadian sovereignty in the Arctic.

On the CF-18 replacement front, the Conservatives argued that “Justin Trudeau’s ill-considered commitment to run an ‘open’ fighter jet competition while excluding the F-35 has left Canada’s national defence vulnerable. He has repeatedly compounded his errors, first by inventing an alleged ‘capability gap’ that no defence expert agreed existed, then promising to purchase 18 [F/A-18E/F *Super Hornets*] on an ‘interim’ basis, and finally agreeing to purchase a couple-dozen 40-year-old [F/A-18A/B *Hornets*] from Australia.” Where “Justin Trudeau has failed, we will act immediately. We will select a replacement for the CF-18s in 2020, and have them enter service by 2025.” For the RCN, a Conservative government would “negotiate a contract with Davie



Government of Canada

In its 2019 campaign, the NDP argued that “Canadians are proud of our role in the world, and they want a government that will make the right choices to help people—but under Conservative and Liberal governments, decades of cynical politicking and cuts have meant that Canada is often on the wrong side of important global issues.” New Democrats “believe that Canadian interests are best served by a strong and principled foreign policy based on human rights, multilateralism and the best interests of global peace and security.” To that end, “Canada will be a force for peace. We will support nuclear disarmament, recommit to peacekeeping, make sure that Canadian-made weapons are not fuelling conflict and human rights abuses abroad” and commit “to boosting Canada’s international development assistance, with the goal of contributing 0.7 percent of our Gross National Income to international aid.”

The party’s defence plank acknowledged that “Canada’s military is responsible for three incredibly important roles—defending Canada, protecting Canadians at home, and contributing to a more stable, peaceful world through operations abroad,” but charged that “decades of Liberal and Conservative cuts and mismanagement” have left the military with “outdated equipment, inadequate support and an unclear strategic mandate.” Arguing that “we need to do

better for Canadians in uniform and for the [defence of] our country,” an NDP “government will make sure that our troops have the equipment”—largely unspecified—“training, and support they need to do the difficult and dangerous work we ask them to undertake. We will ensure that funding supports our national defence and international commitments, with a renewed priority of advancing multilateral peacekeeping initiatives around the world.” At home, “New Democrats are committed to bringing our search and rescue response times up to international standards, and ensuring that our capabilities are sufficient to meet the needs of the North.” In addition, an NDP government “will keep shipbuilding procurement on-time and on-budget, and ensure that the work is spread out fairly across the country. Fighter jet replacement will be based on a free and fair competition to make sure that we get the best fighters to meet Canada’s needs, at the best price.” An NDP government would “oppose the privatization of services on Canadian [Armed] Forces bases across the country.”

In the international relations and defence component of its platform, the Green Party pledged its adherence to the principles of multilateralism, its commitment to “building and keeping peace (including ‘post-conflict work to strengthen civil society and democratic institutions around the world’) and expanding Canada’s [peacekeeping] role internationally, and its support for the “the United Nations’ doctrine of the duty to protect...” It further pledged to re-establish the Canadian International Development Agency (CIDA) and increase Canada’s overseas development assistance budget to reach the goal of 0.7 percent of Gross National Income. It cautioned that “not since end of the Cold War...has global security seemed so precarious,” adding that climate change was contributing to this “disruption.”

The Green Party “understands that Canadian [military] personnel are appreciated worldwide for their degree of training, quality leadership at all levels and for the can-do and cooperative attitude they bring to international operations. Canada now needs a general purpose, combat capable force that can provide realistic options to the government in domestic security emergencies, continental defence and international operations. This includes protecting Canada’s northern borders as Arctic ice melts. A Green government will ensure that the Canadian Armed Forces are prepared to serve in both traditional and new capacities.” The party also pledged to ensure “a consistent capital investment plan with stable funding so that service personnel have the equipment and training they need to fulfill an expanded mandate” (including “naval and coast guard vessels that can operate in the Arctic Ocean, fixed-wing search and rescue aircraft, and helicopters”) and to “normalize the deployment of military personnel to protect civilians and communities from extreme forest fires, flooding and storms caused by climate change, and new pollution threats in Canada’s north”.

Although additional insights into the Green Party's troika of non-military, quasi-military and military responsibilities would have been useful, the Party's little-noticed Costing Notes brought insightful value to its campaign platform. The Costing Notes, for example, observed that "Canada's overall economic health is good. Relatively low unemployment, low rates of interest and inflation, an excellent debt-to-GDP ratio, large but seemingly controllable budget deficits, still-good export markets for various commodities and other indicators show an economy doing moderately well." However, the Green Party "has concerns that under these promising statistics lurk substantial risks. Prudence requires that government make allowance for these, and be prepared quickly to react wherever possible."

In terms of defence, "there is substantial uncertainty around government's optimal response to rapidly shifting threats to international security and defence of the nation. Rising international tensions and reductions in control of development and deployment of nuclear armaments are a source of significant risk. Canada's commitments to NATO are firm but underfunded. It is not clear how or if a Canadian government should best meet them in a time of rapidly shifting requirements. Should international insecurity continue to rise, the government may need to devote more resources to and significantly shorten timelines for military procurement." Moreover, "the disruption caused by climate change is a threat multiplier. If not brought within the 1.5 [degree] limit, tens of millions of people will be displaced from the places they currently live to places where tens of millions of other people already live. The potential for conflict is apparent. It is not clear how or if the Canadian Armed Forces might be best deployed in such conflict."

Climate change "presents particular risks to Canada's north. Other countries, notably the United States and Russia, do not accept Canada's claims of territorial sovereignty over waters in the Arctic Archipelago. Given the loss of Arctic sea ice, it would be imprudent for the government of Canada to fail to plan for increased surveillance and interception of unpermitted foreign shipping in the north, and for deterrence of oil and gas exploration activities by foreign companies and governments. Increased expenditures, not shown in this [proposed] budget, will be required."

In its platform, the resurgent Bloc Quebecois drew particular attention to the need for continuity of employment at Davie Shipbuilding. To that end, it urged that Davie be designated as the third shipyard under the national shipbuilding strategy, that the firm receive a fair share of federal shipbuilding contracts, and that a second supply ship be ordered from the firm. The People's Party of Canada, which failed to elect any of its candidates, argued that "Canada needs a common-sense foreign policy focused on the security and prosperity of Canadians, not an ideological approach that compromises our interests." The PPC pledged to "continue to

work closely with our allies to maintain a peaceful international order" but offered no specifics on defence policy.

At a time of uncertainty in the domestic political environment and at a time when, as Rob Huebert has reminded us, "the most dangerous geopolitical environment we've seen in our lifetime" requires "the clearest, most strategic thinking since the end of the Second World War, in terms of how we do Canadian security," how are Canadian defence policy and the Canadian Forces likely to fare? The Liberal's 2017 policy statement—*Strong, Secure, Engaged*—may still provide a reasonably solid foundation for the defence of Canada, but clearly needs to be revisited, and, where appropriate, modified or enhanced in light of an even more challenging and less predictable geo-strategic environment. As in 2017, however, questions will surround the timely availability of adequate capital and other funding. The answers, as always, will reflect political will, competing fiscal priorities, and the health of the economy, but the minority government dynamic could raise new issues. If, as some observers speculate, fiscal discipline is sacrificed in a bid to garner the political support of another party (or parties), will that inevitably siphon money from defence in a country whose politicians are well aware that the public constituency for defence is weak? Or might DND actually benefit financially if, in this minority environment, certain capital projects can be "marketed" as middle class job-creating, economic wealth-creating and industrial and technology base-enhancing mega-projects?

A second question, clearly not unrelated to the first, is how to deepen and broaden public/attentive public *interest in* and *knowledge of* defence and international security issues and thereby help to reinvigorate the discourse on those issues—and not just at election time. Some adjustments, such as routinely holding a Munk or Munk-style debate on foreign (and by extension defence) policy during election campaigns should, at least in theory, be achievable. The decision of Justin Trudeau to eschew the proposed 2019 Munk Debate on foreign policy, thereby leading to its cancellation by the organizers, was perhaps understandable but deeply regrettable. Elevating the country's knowledge base and generating well-informed, meaningful and year-round discourse with respect to issues of defence and international security, however, is a far more ambitious goal and will require much more vigorous and sustained action—and no little imagination—from a host of actors, both governmental and non-governmental. Exceptionally difficult? Yes, but the status quo is untenable and unsupportable.

Martin Shadwick *has taught Canadian Defence Policy at York University for many years. He is a former editor of Canadian Defence Quarterly, and he is the resident Defence Commentator for the Canadian Military Journal.*



Collapse of a Country

by Nicholas Coghlan

McGill-Queen's University Press, 2017

283 pages, \$39.00

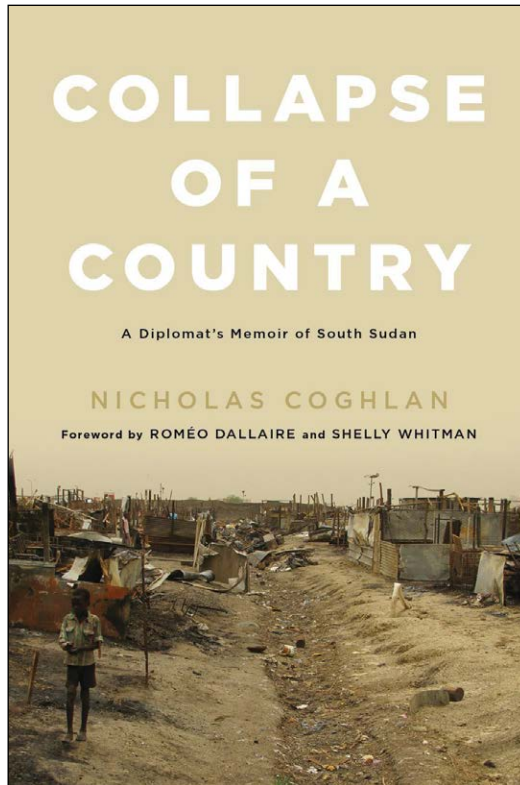
ISBN 978-0-7735-5126-8

Reviewed by Roy Thomas

Collapse of a Country provides some rationale as to why the present Canadian Government has failed to deploy 'military elements' to a UN mission in Africa as promptly as promised. This book accounts for why helicopters, not 'boots on the ground,' were Canada's contribution to Mali, where the United Nations Multidimensional Integrated Stabilization Mission in Mali (MINUSMA) has over 11,000 soldiers, not counting the French. In the case of South Sudan, an even larger UN force of soldiers, including tanks and 2000 police, did not prevent collapse. 'Boots on the ground' do not necessarily translate into either *success* or *stability*. Mali and South Sudan have something in common. Canadians are advised *not to travel* to either. Ten Canadian soldiers serve in the South Sudan under the auspices of Operation Soprano, and the United Nations Mission in South Sudan (UNMISS) has suffered 55 fatalities to date.

Collapse of a Country is a memoir written by Canada's first official representative to South Sudan upon that entity becoming the 193rd sovereign state to join the UN in 2011. Ambassador Nicholas Coghlan was well qualified for this appointment in the new capital, Juba. He had been the sole Canadian diplomatic presence in the capital of the Sudan, Khartoum, from 2000 until 2003. As outlined by Coghlan, *Big Men* seeking political power at any price contributed to the demise of peace in the fledgling state within two years of its birth.

Ambassador Coghlan was an 'audio witness' to the clash that sparked outright war between the Dinka supporters of one *Big Man*, the President, Salva Kiir, and Nuer supporters of the next *Biggest Man*, Vice President, Riek Machar, in Juba, just before Christmas, 2013. The book's prologue testifies to what Coghlan heard and first reported to Ottawa on 16 December 2013. *Big Men* seeking power were the cause of the conflict, and the resort to weapons is no surprise in a country which 'our man on the ground' described as a "...lawless wasteland where all that matters is your ethnicity and the calibre of your weapon." Recent history, demographics, and geography, combined with an almost-complete lack of infrastructure all played roles in the Dinka/Nuer civil war that followed. There are mentions of other smaller tribes who either had to fight (Chapter 4, The Murle War), or flee to an UN-protected enclave



(locally-labelled POC), which did not necessarily provide safety (covered in other chapters).

Ambassador Coghlan was familiar with the historical and physical landscape, as well as being the "Head of Office," a title used to conceal ambassadorial duties in both Khartoum and Juba, in the face of the downsizing of Canada's Foreign Service. Although on arrival in Juba Nicholas found his "embassy" was in a garage, he states early in his book that the substance of his work was more important than any title or trappings. Ambassador Coghlan's role was to 'try to figure out the political scene,' as well as to provide the oversight of over 100 million dollars in Canadian humanitarian and development aid. Communications were a problem... In South Sudan, there were no land lines, only cell phones. The Embassy's means for contacting Ottawa are an embarrassment to read about. There were almost no roads, except in towns and also from Juba to

Kenya. The United Nations Humanitarian Air Service (UNHAS) was used by the Ambassador to go almost anywhere outside the capital, to any South Sudan destination. There are maps on the covers of this book that are very useful for reader situational awareness, as are the three pages dedicated to maps. Two maps depict what we might consider a form of gerrymandering, when the President expanded the ten Provinces into 28 provinces.

Ambassador Coghlan provides some additional facts. "Southerners," i.e. South Sudanese, were in the Khartoum Government (AKA, the enemy). South Sudan did have a source of revenue from the oil fields found primarily in Unity and Upper Nile provinces. That oil reached the sea through the Sudan, which charged a "fixed passage" fee, which, in times of low prices for oil, substantially lowered the government's revenue stream. With an estimated 180 non-governmental organizations (NGOs) in country, there was substantial 'tied' money coming into the Sudan, not to mention a significantly well-off foreign presence. There were also refugees coming in from the two areas which had not been allowed to join the "South," where fighting continued with the Sudanese government. Fortunately for the reader, there is an excellent chronology of four pages in this book, as well as eight pages of acronyms, such as for "POC" in context. Further, many of Coghlan's insights are well-indexed.

The situation Coghlan faced during his tenure is captured in the acronym list. The simple acronym for the Sudan People's Liberation Movement, (SPLM) founded in 1983 by John Garang as the political wing of the Sudan People's Liberation Army, (SPLA) has several modifiers, starting with the states that did not join the new country, the SPLA (N) and the SPLM (N). Then there is the SPLM-DC, as well as the SPLM/A-10. The latter is often referred

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to simply as the “10.” The South Sudan Liberation Movement/Army (SSLA) which resisted integration into the SPLM and SPLA until 2013, is a very similar acronym.

The Ambassador did his best to see as much of the country as possible, especially where Canadian aid or development dollars were at work. This involved some risk, as he tells us in the chapter labelled, “Maybe You Should Leave.” A UNHAS helicopter had landed Coghlan and an accompanying NGO team close to the village of Leer. No crowds rushed out to greet them, as was the norm when a helicopter landed. Instead, a surprising silence greeted the team, and it was interspersed with gunfire. No wonder... The village had just been assaulted. The leader of the attackers used the words that give this chapter its title. Mopping up was still ongoing when the helicopter departed.

There is no happy ending. There is no suggestion for success. No ‘good guy’ is seen on the horizon, only more villains and victims. Only retirement could have permitted publication of these memoirs in this easy-to-read but difficult-to-digest memoir of being our first man in Juba.

Major (ret’d) Roy Thomas, MSC, CD, MA, *was awarded Force Commander Commendations for distinguished service in both the United Nations Protection Force (UNPROFOR) and the United Nations Multinational Interception Force (UNMIF). A veteran of Canadian Forces service in seven UN mission areas, he has also served tours in the NDHQ Planning Directorate (NATO and J3 Contingency Plans). Roy has written about his UN experiences, particularly about his nine months as Senior UN Military Observer, Sector Sarajevo, 1993–1994, and he has testified at four separate International Criminal Tribunal for the former Yugoslavia (ICTY) trials.*

Rise and Kill First: The Secret History of Israel’s Targeted Assassinations

by Ronen Bergman

New York: Random House, 2018
xxiv + 753 pages, \$47.00 (hardcover)
ISBN: 978-1-4000-6971-2

Reviewed by R. Geoffrey St. John

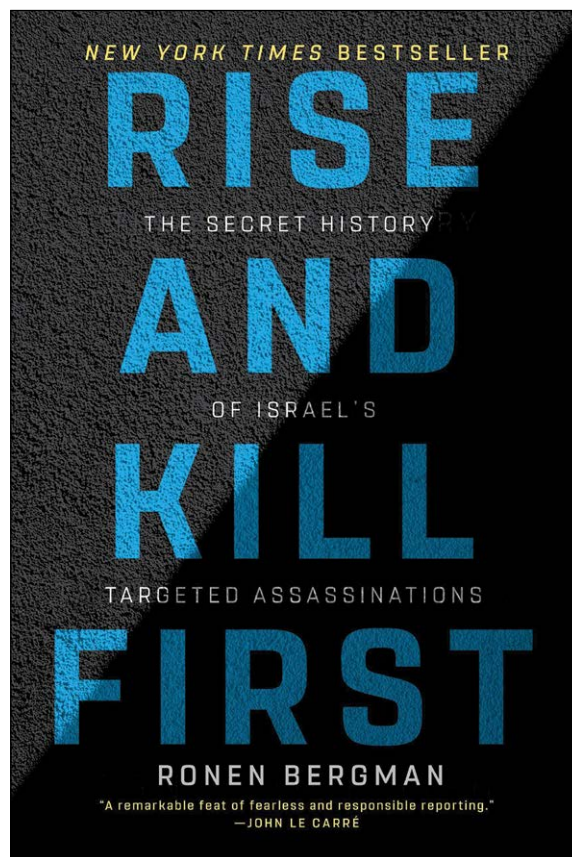
In its brief history as a nation, Israel has relied heavily on targeted killing—assassination—for its security. Infrequent headlines, like those referring to the killing of a key Hamas arms dealer in Dubai in 2010,¹ only hint at the scale of the program. The book’s author is an Israeli investigative reporter who has leveraged his extensive contacts within the Israeli intelligence and defence communities to produce this narrative. The result is revelatory, filling a gap in Middle East historiography.

The assassination campaign should be viewed in the larger context of Israel’s broad security policy, which might also be summed up as ‘rise up and kill him first.’ Twice Israel has destroyed nuclear facilities in Arab countries (Iraq 1981, Syria 2007) to prevent them from making nuclear weapons (no bad thing, in my view). In both the 1956 and 1967 Arab-Israeli wars, Israel ‘pulled the trigger’ first—although

in the second case, Israel genuinely feared an Arab attack was about to occur, and so, elected to pre-empt.

The Israeli assassination program had its genesis in the targeted killings of British troops and officials, and Arabs, by two Jewish terrorist groups, the Irgun and the Lehi, before the State of Israel came into being in 1948. From this point of departure, Bergman devotes most of his attention to describing, in considerable detail, a number of the more important assassinations since the establishment of the State of Israel, and their consequences, sometimes good for Israel, and sometimes bad for Israel.

Some key points brought out by Bergman merit particular attention, although he could have placed more stress upon them. It is insufficiently appreciated that, unlike regular armies, many if not most terrorist groups do not have structured, agreed succession plans and well-groomed individuals ready to take over immediately should their current leaders die. More likely is a period of turbulence and diminished operational capacity as new would-be leaders compete for command, and as the newly-emerged leader endeavours to cement his control of the group’s members and tries to learn his operational business.² And also not well-appreciated is the fact that the assassination of a leader, despite considerable security measures, leads surviving members to view their comrades suspiciously—which one provided to the Israelis the intelligence on the leader’s whereabouts that led to his killing?³ Finally, the amount



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of time and energy required to remain safely hidden from Israeli assassins is time and energy not devoted to planning and executing attacks. The assassination of Hizballah's operations chief, Imad Mughniyeh, in downtown Damascus in 2008—virtually 'under the noses' of Syrian security—sent the clear message that Israel's enemies are not safe from attack anywhere, and hence, must devote much effort merely to staying alive.⁴

Bergman does not make an estimate about the future of Israel's targeted killing campaign, perhaps because he sees no evidence that it has ended. We do not know if some of the ongoing Israeli Air Force strikes on targets in the Gaza Strip, in Syria, and in the Sinai Desert of Egypt are targeted killings. But it would be, I believe, most surprising if none of the Israeli missiles had a jihadist leader's name on it. (Readers may be surprised to learn that these Israeli attacks number in the many dozens, perhaps several hundred, over the past decade or so, including reportedly about a hundred attacks in the Sinai.)⁵

Nor does Bergman make a *detailed* global judgement about the strategic impact of the campaign, as opposed to the tactical

and (sometimes) strategic impacts of each operation. Rather, he simply asserts: "On numerous occasions, it was targeted killing that saved Israel from very grave crises."⁶ Does targeted killing work at least well enough to justify itself, practically speaking? Meir Dagan, the head of Israel's Mossad for eight years, **actually** considered targeted killings to be morally preferable to war, although it is hard to identify just what war or wars (if any) have been prevented by the assassinations; and in some cases they have exacerbated conflict.⁷

Still, that Israel has apparently persisted with assassinations to this day leads one to conclude that the Israeli leadership considers the campaign has worked well enough, despite some glaring failures and some dire outcomes, to warrant a continuation of the killing. Israel—and its enemies—will continue to play according to 'big boy' rules. Bergman's book spells out these rules.

Colonel (ret'd) R. Geoffrey St. John, MSM, CD, *of the Intelligence Branch, was Canadian Defence Attaché to Israel from 2004 to 2008.*

NOTES

1 pp. 610-621

2 pp. 323, 336, 500

3 pp. 336

4 pp. xxiii, 328, 595-604, 602

5 <https://www.timesofisrael.com/israel-carrying-out-secret-air-strike-campaign-in-sinai-to-help-egypt-report/>

6 p. xxiii

7 p. xx



DND photo GN2019-1045-127 by Corporal M.D. Leblanc

Pilots from 403 Helicopter Operational Training Squadron (HOTS), participate in Exercise *Scorpion Sting*, a challenging final training exercise consisting mainly of long range patrolling through difficult terrain, at the Infantry School Combat Training Centre, Canadian Forces Base Gagetown, 3 July 2019.